DISSERTATION

EXAMINING THE POLICY DIFFUSION OF ORGANIC FOOD AND AGRICULTURE LEGISLATION IN THE U.S. – THE ROLE OF THE STATES IN DEVELOPING ORGANIC STANDARDS

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ABSTRACT

EXAMINING THE POLICY DIFFUSION OF ORGANIC FOOD AND AGRICULTURE LEGISLATION IN THE U.S. – THE ROLE OF THE STATES IN DEVELOPING ORGANIC STANDARDS

From 1976-2010, 38 states created and passed legislation regarding the regulation of organic food and agriculture. Most legislation was passed during the time period of 1985-1990, a period that ended with Congress passing the Organic Food Production Act [OFPA] in 1990. OFPA was passed to eliminate the patchwork of state and private third-party organic standards regulating the market and to maintain access to international markets by assuring U.S. standards were harmonized with key markets. Subsequently, it may have been expected that state adoption of organic policies would cease after federal action in 1990. However, many states continued to adopt and modify existing policies after the passage of OFPA. This research examines the diffusion of organic food and agriculture legislation and dynamics of legislative refinement in the United States both prior to and after federal adoption of organic legislation.

With both theoretical and applied implications to be derived, this research uses the policy diffusion literature to examine the diffusion of organic legislation. A mixed-methods approach is utilized to answer the central research question of why do some states adopt organic food and agriculture legislation while others do not? The quantitative portion of this research uses time-series logistical regressions to test an enhanced unified model of policy diffusion. Time controls were used to evaluate the nationwide dynamics across several time periods. In addition, regional models were constructed for four statistically significant regions to further examine regional variations in diffusion factors. The qualitative portion of this research consists of a comparative case study between a leader and laggard state adopters. California and Georgia were the state cases selected for analysis.

The results of this analysis suggest that wealth, political culture, partisan control of state government, state vegetable production, third-party certification organizations, horizontal pressures, national-scale pressures, and salience are key explanatory factors for state adoption of organic food and agriculture legislature from 1976-2010. Per capita wealth, issue salience, and regional effects are the most robust explanatory power over the 35-year time period and for each adoption-type. Pre-1990 state adoptions were also strongly influenced by the presence of third-party certifiers and the policy type design. Post-1990 state adoptions were additionally influenced by federal adoption and implementation, partisan control of state government, and state vegetable production.

Action at the federal level, including federal adoption and implementation, did not dramatically deter state adoption or cause the repeal of state organic food and agriculture statutes. Across all time periods, certain regions remain distinctive in terms of diffusion dynamics including the Far West, North Central, Southeast, and Mid-Atlantic regions. Two case studies, California and Georgia, shed some light on how adoption of organic food and agriculture legislation occurred in the Far West and Southeast regions.

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CHAPTER I
Introduction

Since the 1960s, political science scholars have studied the diffusion of innovative government policies and programs. The foci of scholarly investigation range from speed of adoption, conditions likely to lead to innovation, and the application of policy diffusion models to explain contemporary problems in politics. While the development of the literature has been substantial in the past 50 years, this dissertation seeks to advance the policy diffusion literature by examining the diffusion of organic food and agriculture legislation in U.S. states from 1976-2010. During the 35-year time period, 38 states adopted organic food and agriculture legislation (see Appendix A). Why did some states adopt organic food and agriculture legislation while others did not? Answering this question not only improves our understanding on the substantive issue area, but it also further develops our understanding of policy diffusion, as well. There are both theoretical and practical implications to be derived from this research.

Theoretically, I am advancing the policy diffusion literature by developing and testing an enhanced unified policy diffusion model. The unified policy diffusion model draws from Berry and Berry's (2007) unified model of diffusion and Boushey's (2010) contagion model of diffusion. There are inherent strengths and weaknesses in each model. The weaknesses of the existing models limit scholars' ability to address long- and short-term time periods of policy diffusion simultaneously. Furthermore, each model lacks the ability to contend with endogenous policy conditions including policy type and pre-existing policy in the same substantive issue area. Using a mixed-methods research design, this dissertation provides a more fully developed understanding of the policy diffusion process by addresses both the breadth and depth of how and why policy diffusion occurs.

From an applied or practical application standpoint, the issue area of organic food and agriculture legislation not only aids in advancing the policy diffusion literature, given the long history of the innovative policy in the U.S., but it also improves our understanding of organic policy development. While there are numerous scholarly, government and practitioner pieces on organic policy, there is no comprehensive study examining the development of organic policy in the United States accounting for state-federal interaction. Furthermore, there are substantial discrepancies in the literature on which states passed organic regulation, what year regulation passed, and what exactly the content of the regulation entailed for implementation. The lack of a cohesive and comprehensive historical evaluation creates challenges in assessing current implementation challenges in the National Organic Program, assessing why there is variation in regional production of organic agriculture, and how to keep organic competitive with local, natural, fair trade, and GMO-labeled foods. The remainder of this chapter provides a broad overview on organic food and agriculture policy development in the United States.

History of Organic Food and Agriculture Policy in the United States

The United States represents the single largest organic market globally.[1] In 2011, U.S. organic sales reached 31.5 billion representing approximately 3-percent of U.S. food sales (Economic Research Service [ERS] 2012a; FiBL and IFOAM 2013). The demand for organic products in the U.S. began in the 1960s and has grown steadily since.[2] While organic consumers are often wealthier, well-educated and Caucasian (Dettman and Dimitri 2007), demand for organic products is driven by a wide range of salient consumer issue groups including environmentalists, food phobics (i.e. food safety), healthy eaters, welfare enthusiast, and hedonists (Bonti-Ankomah and Yiridoe 2006; Davies, Titterington, and Cochrane 1995; Hughner et al. 2007). Many of these modern organic consumer groups coincide with social movements that initially influenced the emergence of the organic market and demand for organic food and agriculture regulation.

The present U.S. market for organic food is regulated by the United States Department of Agriculture [USDA] National Organic Program, housed in the Agricultural Marketing Service, which sets the standards for the production and labeling of organic goods. The current third-party implementation scheme, co-regulatory policy, is based on prior state policies on organic food and agriculture. Starting in

[1] European and North American consumers represent about 90-percent of all global demand (FiBL and IFOAM 2013).
[2] Organic produce (i.e. fruits and vegetables) and dairy were and remain the largest sector of organic products.

the 1970s in the United States, local and state governments were the first to enact organic regulatory policies. Earlier regulations were relatively straightforward to implement as legislation provided a detailed definition and the appropriate use of the term organic on food and agriculture products. By the passage of the National Organic Food Production Act [NOFPA] in 1990, regulation had shifted to a more collaborative scheme among both public and private entities. Post-1990 organic policy legislation at the federal and state levels would delegate power to the bureaucracy to develop an appropriate regulatory scheme. This resulted in the third-party certification scheme in place today.

To further detail the influences and development of organic policy in the U.S., a historical overview will be provided starting with the organic movement and early state regulation activity from 1976 to 1989. To conclude, an overview of the current organic market and regulatory system will be provided.

The Organic Movement and Early Regulation in the States (1976-1989)

The Organic Movement

The organic farming movement in the U.S. has an extensive history dating back to the beginning of the 20th century. Considered to be one type of sustainable or alternative agriculture,[3] organic agriculture can be broadly defined as a "holistic production management system which promotes and enhances agroecosystem health, including biodiversity, biological cycles and soil biological activity" (FAO/WHO Codex Alimentarius Commission 1999/2001). According to Guthman (2004, 4), four broadly conceived social movements, which have substantial overlap, influenced the emergence of the organic market in the U.S.

The first social movement is linked to soil conservation and alternative production technologies. Depressed agricultural prices in the 1930s and poor soil management practices that contributed to the

[3] According to Lejano, Ingram, and Ingram (2013) there are several alternative farming networks that have operated since the 1940s including eco-agriculture, biodynamic, and organic farming. Each network subscribes to a particular set of organic techniques and is influential in a number of movements for organics. For additional information about the rise of specific organic farming practices see Lockeretz's (2007) "What Explains the Rise of Organic Farming?" However, despite the identified differences in alternative agricultural production, this analysis will take a broadly conceived notion of the organic agriculture industry.

Dust Bowl led to concern about the direction and consequences of conventional agricultural practices (Guthman 2004, 4-5). Key figures within this movement, such as Edward Faulkner, Jerome Rodale, Louis Bromfield and Aldo Leopold, were largely concerned with improving agricultural practices to address the negative consequences, including poor soil quality, that could result from conventional agriculture methods. The primary concern of this movement was that conventional farming was ineffective and could result in additional environmental disasters like the Dust Bowl.

The second social movement is tied to efforts to promote pure food (Guthman 2004, 5-6). The range of scholars and journalists within this movement are primarily concerned with the contamination and adulteration of foods. Yet, this movement has expanded to include concern over working conditions in food production and manufacturing. For example, Upton Sinclair (1906) and Eric Schlosser (2001) both connect working conditions and a sub-optimal food supply to creating a number of human health problems. The arguments presented within the food safety movement indicate a need to critically evaluate the entire food system from farm-to-table.

The 1960s counterculture, a third social movement, influenced organic agriculture through the establishment of communes, food cooperatives, and utopian experiments inspired by back-to-the-land movements (Guthman 2004, 6-7). References to organic agriculture as a fringe, "hippie" practice are the result of the counterculture movement's involvement in producing organic foods. However, the counterculture movement is also responsible for attempts to distinguish the differences between organic and natural foods, a concern that is now reemerging.

Finally, the environmental movement is considered by Guthman (2004, 7-9) to have a less direct influence on organic farming. Beginning with Rachel Carson's (1962) *Silent Spring*, the environmental movement's focus on sustainable development has led to indirect influences on organic practices such a questioning dietary choices, consideration appropriate technology and bioregionalism, and questioning how energy is linked to agricultural production. Yet, environmental concerns directly pertaining to organic farming, and food remained largely indirect in the 1970s and 1980s.

While it could be argued that these social movements could be expanded or consolidated, it is evident in each movement that there is a concern for how food is produced, processed, and distributed, as well as its interface with natural resources and human health. Yet it is important to remember that organic farming largely remained at the fringes of the agricultural community and was unpopular in political circles for most of the twentieth century (Blobaum 2010; Ingram and Ingram 2005; Lipson 1998; Youngberg, Schaller, and Merrigan 1993). Conventional agriculture is often seen as the solution to addressing food insecurity and hunger. In contrast, organic production methods have been viewed in the past as antiquated and out-of-touch with modern demands of feeding a large population. Indeed, in his dissertation on the diffusion of innovative agricultural practices, Rogers' considered organic farmers as laggards in agricultural innovation (1957; 2003, 193-194). Yet in hindsight, he admits that early organic farmers were perhaps pioneers in the market.

It was only the late 1980s that the organic market growth "took off" (Rawson 1998). Consumer concerns over chemical residues on foods and an increase in the number of organic farms led to explosive growth in sales starting in 1989. According to an industry survey, retail organic foods sales in 1990 reached $1 billion in the U.S. (Organic Trade Association [OTA] 2011a). Sales would continue to increase by approximately 20% each year after the passage of the Organic Food Production Act in 1990. Prior to the 1990s, a patchwork of state and third-party standards regulated a market where federal policy was absent.

Federal Policy

In the 1970s, organic agriculture was not promoted as a viable industry at the federal level. An iron triangle[4] existed between commodity agriculture interests, Congressional agricultural committees, and the USDA (see Figure 1.1).[5] The iron triangle maintained support for conventional agricultural practices and resulted in limited federal support for alternative production methods including organic

[4] The iron triangle concept refers to the stable relationship between congressional committees, an executive branch administrative agency, and interest groups to maintain a particular policy or program. The iron triangle is believed to result in a monopoly of power in a particular policy area.
[5] Winders and Scott (2009, 80) note that eventually as farmers' power in policy-making declines the power of urban, consumers rises.

farming (Ingram and Ingram 2005). Earl Butz, the Secretary of Agriculture from 1971-1976,[6] served as a gatekeeper for the USDA by preventing any action on organic production during his tenure. In an infamous response to proponents of organic agriculture, Butz (1971) remarked, "Before we go back to organic agriculture, somebody is going to have to decide what 50 million people we are going to let starve."

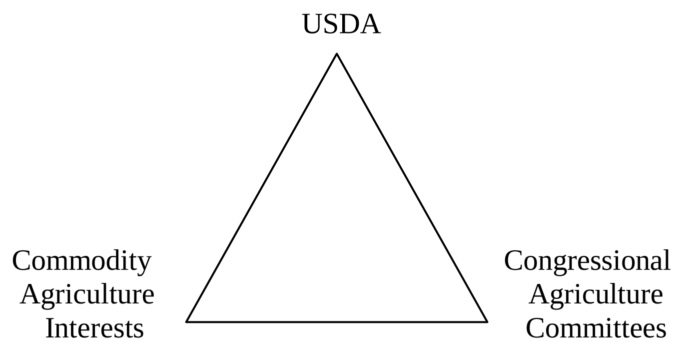

Figure 1.1: 1970s Conventional Agriculture Iron Triangle

Even after the end of Butz's term, it would be a few years before the USDA or Congress demonstrated support for organic agricultural practices.[7] Amidst pressures from the oil crises and environmental concerns, Congress commissioned the USDA to do a study on uses of organic waste to improve soil productivity in 1977 (Rawson 1998). In 1980, under the leadership of Agricultural Secretary Bob Bergland, the USDA published its own commissioned report, *Report and Recommendations on Organic Farming*, and created the Office of Organic Resources Coordinator to oversee organic research and education programs (Rawson 1998; Rich 2008; USDA Study Team 1980). However, the organic

[6] Butz is credited as being one of the best-known and controversial Secretaries of agriculture. His remark on organic agriculture is only one of many controversial statements made during his five-year term (*see* Goldstein 2008). His service as secretary of agriculture came to an end during the 1976 presidential election after he made a series of insensitive racial remarks regarding blacks' "sexual, dress and bathroom preferences" (Associated Press 1976).
[7] One exception to federal support is the Federal Trade Commission. In 1979, the Federal Trade commission had a proposed rule for regulations regarding food advertising including defining organic and natural food (Federal Trade Commission 1979; USDA Study Team 1980, 6)

resource coordinator position and office would be abolished by Reagan in 1981, effectively ending organic agriculture programs and research in the USDA until the 1990s.

State and Third-Party Regulations

Despite being kept at the fringes at the national level, organic farmers had success in promoting organic agriculture at the state level. In 1976, New York was the first state to pass organic legislation by creating a set of organic labeling laws. California, Connecticut, and Maine would follow New York's lead in developing organic labeling rules in 1979.[8] By 1990, twenty-six states had passed organic legislation ranging from labeling, certification programs, or agreements with third-party certifiers.

Coinciding with state action in the 1970s and 1980s, several organic farmers' associations were also moving to self-regulate the emerging market. The Rodale Institute,[9] Oregon Tilth,[10] and California Certified Organic Farmers (CCOF)[11] were three prominent organic farming organizations that sought to improve organic methods and influence policy at the state and federal level. In addition, each organization offered organic certification of products.

The earliest certification program was operated and paid for by Rodale Press' *Organic Gardening and Farming Magazine* in the early 1970s (CCOF 1988). The West Coast editor of the magazine, Floyd Allen, oversaw the examination of 34 California farms for organic certification. CCOF's organic certification program would emerge a few years later in 1973 at the direction of Floyd Allen. It would be several years later before Oregon Tilth's first certification program was organized in 1982 by the Willamette Valley chapter (Oregon Tilth N.A.). The requirements for these certification programs were often more simplistic than the requirements set forth by states. Yet, these early efforts by farmers to self-

[8] Oregon passed administrative rules in 1973. Similarly, Massachusetts passed administrative rules in 1978.
[9] The Rodale Institute is the oldest organic farmer institution. Founded in 1947 as the Soil and Health Foundation by Jerome Rodale, the institute provided authoritative information on organic management practices to farmers (Rodale Institute ND). The institute expanded in the 1970s with the acquisition of a 333-acre farm in Pennsylvania and dedication to researching sustainable organic methods.
[10] Oregon Tilth began as Regional Tilty in 1974 with chapters in Oregon, Washington, Idaho, and Northern California (Oregon Tilth N.A.). The Willamette Valley chapter became Oregon Tilth in 1986.
[11] CCOF emerged from the California Organic Farmers Association (COFA), which formed in 1972 (CCOF 1988). COFA was primarily focused on marketing instead of certification.

regulate had profound implications for the federal regulatory structure that would emerge in the 1990s by pushing for collaboration among farmers and policymakers in developing unified national standards.

The Organic Food Production Act & Current Developments (1990-Present)

The Organic Foods Production Act [OFPA] was passed by Congress as Title XXI of the 1990 Farm Bill.[12] State agency associations and several industry groups petitioned Congress in the late 1980s to eliminate problems in the market. These groups were collectively seeking to eliminate the differences in standards and to address newly emerging concerns in the market (1990 U.S.C.C.A.N. 4656, 493-44; Johnson 2008).[13] OFPA aimed to eliminate consumer confusion and improve interstate commerce, problems created by differing standards, by establishing national standards for governing the organic market (7 U.S.C. 6501).

The bill authorized the creation of the National Organic Program [NOP] and the National Organic Standards Board [NOSB] to be implemented by the USDA Agricultural Marketing Service. The NOP is responsible for setting the standards for organic production, handling and processing. In addition, the NOP oversees organic certification to ensure compliance with set standards. Private certifiers and state certification programs would have to be accredited under the new national standards to certify organic producers, processors and handlers. As another key element of the legislation, the NOSB is an advisory committee for setting the standards by which the NOP operates. There are 15 members of the board that advise the Secretary of Agriculture.[14] The first board was appointed in 1992[15] and submitted

[12] Three congressional bills were introduced in 1989 to federally regulate the organic market (Lathrop 1991).
[13] Newly emerging concerns included a burgeoning international organic market, multi-ingredient organic products, and addressing organic production methods for meat, poultry and seafood.
[14] Members of the board are appointed by the Secretary of Agriculture and serve 5-year terms. The board is comprised of the following members: four farmers/growers; three environmentalists/resource conservationists; three consumer/public interest advocates; two handlers/processors; one retailer; one scientist; and one USDA accredited certifying agent (NOP 2012).
[15] The years between passage of legislation and appointment of the board have been referenced as "the lost years" (Gershuny 2002 as referenced by Ingram and Ingram 2005).Lack of funds contributed to the delay of implementation (Gershumy 2002; Rawson 1998)

recommendations from June 1994 to September 1996 to the NOP staff (Rawson 1998). On December 16, 1997, the proposed rule[16] appeared in the *Federal Register* (62 FR 65850).

By the end of the extended public comment period in April 1998, the USDA received over 275,000 comments on the proposed rule. According to Rawson (1998), the Organic Trade Association identified nine specific problem areas with the proposed rules, inferring that a majority of the comments related to these concerns (see Table 1.1). There are two explanations for the controversy surrounding the 1997 proposed rule including a changing USDA constituency base and international trade dilemmas (related to harmonization of standards) between the U.S. and Europe. Since the 1950s, the USDA's key constituents were farmers that "eagerly adopted the stream of new technologies that flowed from the research labs of the land grant colleges of agriculture and from private agribusiness firms" (Rawson 1998). However, by the 1990s, the USDA became responsible for food safety regulation along with the Food and Drug Administration and the Environmental Protection Agency. A new domestic constituency emerged that approached conventional agricultural practices with greater caution.

This cautious approach to conventional methods was also present in the international community. By the 1990s, the U.S. was actively working to ensure U.S. agricultural products would be accepted into international markets. The European Union was denying the import of genetically engineered soybeans and corn from the U.S. on the basis of environmental and health concerns. The 1997 proposed rules were reflective of these precarious policy scenarios. The USDA was deliberative in distinguishing GMOs and synthetic pesticides as being different but equally safe to organic practices.

On May 8, 1998, the USDA announced it would revise the proposed standards and specified it would not permit irradiation, GMOs, or use of sewage sludge in organic production.[17] Two years later,

[16] The National Archives and Records Administration (*see* https://www.federalregister.gov/) defines proposed rules as the following: "This category contains proposed regulations. These documents announce and explain agencies' plans to solve problems and accomplish goals, and give interested persons an opportunity to submit comments to prove the final regulation. It also includes advance notices of proposed rulemaking, petitions for rulemakings, and various proposed determinations and interpretations."

[17] A majority of the comments received by the USDA addressed concerns permitting the "Big Three" (i.e. irradiation, GMOs, and sewage sludge) into organic production. The concern over the "Big Three" was

Table 1.1: Identified Problem Areas with 1997 NOP Proposed Rule	
1	The proposed rule would eliminate key concepts (ex: ecosystem health, biodiversity) from the definition of organic agriculture.
2	The proposed rule undermines the authority of the NOSB. The USDA's recommendations on organic practices and materials substituted the recommendations of the NOSB.
3	The proposed rule allows genetically engineered crops and organisms in organic agriculture.
4	The proposed rule permits irradiation of organically produced foods.
5	The proposed rule allows potentially toxic municipal sewage sludge to be used a fertilizer.
6	The proposed rule is too lax in organic livestock production standards.
7	The proposed rules create unnecessary loopholes for the use of synthetic materials to be used in organic production.
8	The proposed rule undermines the integrity of the organic label by giving the USDA the sole authority to decertify organic operations, which could lead to long delays.
9	The proposed rule does not consider land history as part of its certification requirements. Some soils may be used in organic production that are unacceptably contaminated.

Source: Rawson 1998

the USDA published a revised proposed rule on March 13, 2000 (65 FR 13512) and published a final rule[18] on December 21, 2000 (65 FR 80548) in the *Federal Register*. On October 12, 2002, twelve years after the passage of OFPA and nearly ten years after the expected implementation date,[19] the NOP was officially and fully implemented. Under the final rule, organic production is defined as "a production system that is managed in accordance with the Act and regulations in this part to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity" (7 C.F.R. pt. 205.2). This definition reflected the philosophical, ecological, and biological concerns raised by the USDA's new organic constituents and the

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raised because the USDA did not explicitly condemn the use of these practices, which have negative environmental and health effects (Manoochehri, 1998).

[18] The National Archives and Records Administration (*see* https://www.federalregister.gov/) defines final rules as the following: "This category contains regulations that apply to the general public and have final legal effect. It also includes interim final rules, direct final rules, and various determinations, interpretive rules, and policy statements. The documents cite to the *Code of Federal Regulations*, which contains the codified text of final rules, and is published annually in 50 titles."

[19] The original implementation date was expected to be October 1, 1993.

international community.[20] Since the final rule, the NOP has published nearly 900 notifications, rules, and proposed rules to continuously improve and maintain the integrity of the organic program.

Operating in the International Market: The Structure of the National Organic Program

The current global organic market is regulated by a combination of voluntary and compulsory international, state, and local policies and agreements. At the international level, voluntary guidelines and standards are established by the International Federation of Organic Agriculture Movements [IFOAM][21] and the Codex Alimentarius Commission.[22] Both sets of guidelines are considered international voluntary standards meant to guide states, producers and consumers to identifying acceptable organic management principles.[23] Compulsory measures are currently in place in eighty-six countries including the U.S. (FibL and IFOAM 2013). The NOP, a third-party or co-regulation scheme, is considered to be the premier labeling and accreditation system globally and has arrangements with several nations to facilitate trade (National Organic Program [NOP] 2013a). In 2012, the U.S. and European Union,

Figure 1.2: USDA Organic Seal

[20] After official implementation in 2002, a civil lawsuit was filed by Arthur Harvey with 9 counts challenging the NOP as not in compliance with OFPA. In January 2005, The U.S. Court of Appeals for the First Circuit rules in favor of Harvey on three issues, which required the USDA NOP to revise existing rules in 2006. For more detailed information see http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV3013543

[21] IFOAM formed in 1972 in Versailles, France. In 1980, IFOAM passed the International Basic Standards for Organic Production and Processing, which the FAO considers as “the private sector’s equivalent to the Codex Alimentarius guidelines” (FAO ND).

[22] The Codex Alimentarius Commission was created in 1963 as a joint effort between the U.N. Food and Agriculture Organization [FAO] and the World Health Organization [WHO] to harmonize international food standards, guidelines, and codes of practice. In 1999, the commission first adopted the Guidelines for Production, Processing, Labeling and Marketing of Organically Produced Foods.

[23] In 2003, a joint venture was undertaken by the FAO, IFOAM, and the United Nations Conference on Trade and Development to reconcile the differences between two sets of guidelines in light of many standards, regulations, and certification requirements that created trade barriers. The joint venture resulted in the development of the Common Objectives and Requirements of Organic Standards (COROS) in 2010, which seeks to provide equivalence assessments of organic standards and regulations. For more information see http://www.goma-organic.org/news-from-goma/common-objectives-and-requirements-for-organic-standards-coros-makes-its-debut/

representing the second largest global market, reached an agreement to mutually recognize standards and systems (FibL and IFOAM 2013).

Under the current NOP framework, producers, handlers and processors that desire to use the word "organic" or the USDA organic seal (see Figure 1.2) must be certified by USDA-accredited third-party agents. Agricultural products, alcohol, textiles, and cosmetics and personal care products can be labeled with organic claims as long as the item meets all requirements as outlined by the USDA and related governing agencies.[24] As of February, 2013, there were 2,503 certified operations and 85 certifying agents domestically and abroad (NOP 2013b, 2013c).[25] To become a certifying agent, private and government entities must apply to the USDA Grading and Verification Division for a desk audit. After the desk audit, the NOP Accreditation Committee makes a recommendation to approve or deny accreditation. Accreditation must be renewed every five years. Non-compliance or failure to enforce standards during the five year accreditation period may result in suspension or revocation of an agent's accreditation status. Similarly, non-compliance by a certified organic operation may result in suspension or revocation of certification status.

A Redefined Role for the States

When the NOP was officially implemented in 2002, the role of the states in organic policy changed dramatically. Some states, like California, were actively engaged in NOP rule-making and sought to influence the direction and structure of the national program. California and Alaska even passed legislation in 1998 urging the USDA to reconsider aspects of the proposed rule. Yet, despite a state's decision to influence the development of the NOP, only a few policy options would be available after 2002. According to Miles McEvoy, current Deputy Administrator of the NOP, there are three options for states to support the national program (Personal Communications, Telephone, 1/29/2013). First, states

[24] The USDA is in the process of developing standards for organic aquaculture, honey, mushrooms, and pet food.

[25] Some farms and businesses are "exempt" operations. Those whose gross agricultural income from organic sales does not exceed $5,000 per year do not need to be certified to "sell, label or represent their product as organic." See http://www.ams.usda.gov/AMSv1.0/NOPExemptOperations for more information.

may apply to operate their own organic program. OFPA required for minimum standards to be set and allowed for the option of states and certifiers to have additional and more stringent requirements or standards. However, additional requirements must comply and not conflict with the minimum standards. California is the only state approved to operate a state organic program. Thus, certifiers and operations within California must meet the state's requirements and standards to be labeled as organic.

A second role for the states is to become certifying agents. Like private entities, states may seek to certify organic operations. State departments of agriculture are often the government entity that operates as a certifying agent. Sixteen states are currently accredited certifying agents (see Table 1.2) and vary in the certification scopes (AMS 2013a).

Table 1.2: State Certifying Agents as of April 4, 2013

State Agency	Certification Scopes
Colorado Department of Agriculture	Crop, Livestock, Wild Crop, Handling
Iowa Department of Agriculture and Land Stewardship	Crop, Livestock, Wild crop, Handling
Idaho State Department of Agriculture	Crop, Livestock, Handling
Kentucky Department of Agriculture	Crop, Livestock, Wild crop, Handling
Maryland Department of Agriculture	Crop, Livestock, Wild crop, Handling
Montana Department of Agriculture	Crop, Livestock, Wild crop, Handling
Nevada Department of Agriculture	Crop, Handling
New Hampshire Department of Agriculture, Markets & Food	Crop, Livestock, Wild crop, Handling
New Jersey Department of Agriculture	Crop, Livestock, Wild crop, Handling
New Mexico Department of Agriculture	Crop, Livestock, Wild crop, Handling
Oklahoma Department of Agriculture, Food and Forestry	Crop, Livestock, Handling
Oregon Department of Agriculture	Crop, Handling
Rhode Island Department of Environmental Management	Crop, Handling
Texas Department of Agriculture	Crop, Livestock, Handling
Utah Department of Agriculture	Crop, Livestock, Wild crop, Handling
Washington State Department of Agriculture	Crop, Livestock, Wild crop, Handling

The third role for states in supporting the national program is participation in one of two certification cost-share programs. The 2002 and 2008 Farm Bills authorized funds for the National Organic Certification [NOC] Cost-Share Program. The Agricultural Management Assistance [AMA] Cost-Share Program received mandatory funding from section 2801 of the Farm Bill's Conservation title as created by Section 1524 of the Federal Crop Insurance Act (Johnson 2008). While funding for the NOC ended in FY 2012, both programs offered financial assistance to operators seeking organic certification to off-set costs. The NOC offered assistance to producers and handlers in all 50 states where agreed upon, whereas the AMA offers assistance to producers in sixteen states.[26]

Contemporary Concerns: Regional Variation in Production & Label Competition

The organic market has changed dramatically since the first organic policy passed in 1976 by New York. Aside from compliance and enforcement concerns, there are two broader challenges in the market relevant for future examinations of organic policy in the U.S. at both the federal and state levels. First, the organic market is facing increasing pressures from emerging labeling scheme in the marketplace such as local, fair trade, GMO-free, and natural (Brush and Link 2012; Costanigro et al. 2014; ERS 2009; Onozaka and Thilmany-McFadden 2011; Renner 2012). Historically, natural and organic labels have competed in the market with early organic advocates attempting to distinguish between the two (Knorr 1982, 1984; Price 1985). However, the fair trade, GMO-free, and local-labeled goods are more recent developments. Some would argue these label strategies are in response to the belief that the organic label has lost some the connotation of representing small-farm and locally produced goods or equitable sustainability practices globally (Adams and Salois 2010; Guthman 2004; Popoff 2010; Rigby and Bown 2003; Raynolds 2000; Yue and Tong 2009; Zepeda and Deal 2009). Indeed, consumers may have different motivations for buying organic goods, as opposed to local, non-GMO, or fair trade goods

[26] States covered in the AMA program include Connecticut, Delaware, Hawaii, Maine, Maryland, Massachusetts, Nevada, New Hampshire, New Jersey ,New York, Pennsylvania, Rhode Island, Utah, Vermont, West Virginia, and Wyoming.

(Guthman 2004; Loureiro and Hine 2001; Onozaka, Nurse, and Thilmany-McFadden 2011; Raynolds 2000).

A second and related concern is what Miles McEvoy terms "geographic-specific challenges" (2012). U.S. organic acreage has doubled since the late 1990s (ERS 2009). However, certified organic operations remain concentrated in certain states and regions. For example, while there are numerous certified operations in California and Washington, the southeast region has less than 50 certified operations in each state. Hooker and Shanahan (2012) confirm spatial concentration of the organic supply chain has increased over-time. The concentration of production may impact the market for locally-labeled foods and small-scale farmers.

Collectively, these two emerging concerns represent policy programs that cannot be adequately addressed without examining the initial development and evolution of U.S. organic policy. Accounting for regional variations requires consideration of how states and constituents in these areas were, and are, stakeholders in the policy process.

Organization of Dissertation

This dissertation is organized into seven additional chapters. Chapter II provides of an overview of the policy diffusion literature, the theoretical grounding of this research, and details how this research is contributing to the theoretical development of policy diffusion. Particular attention is allotted to combined models (e.g. the event history analysis and contagion models) of policy diffusion.

Chapters III and V outline the research methods used to examine the diffusion of organic food and agriculture policy in the U.S. Chapter III details the research question, justification for a mixed-methods approach, the policy diffusion model used in this analysis, hypotheses, and the quantitative methods. Chapter V details the qualitative method portion of the study by justifying the selection of two case studies.

The statistical examination of organic policy diffusion is included in Chapter IV. This chapter begins with a descriptive overview of national and regional pictures of legislative adoption. Next, the chapter covers pre-federal state adoption, post-federal state adoption, and a comprehensive 35-year modeling of diffusion. Regional models are then evaluated. Finally, the chapter concludes with the overall findings from the statistical modeling.

Chapters VI and VII present the findings of two case studies. Chapter VI examines the case of California. California was a leading adopter of organic legislation and is currently an exemplary case for organic food and agriculture policy. Chapter VII examines the case of Georgia. Georgia is a laggard adopter of organic legislation. In addition, Georgia is located within the Southeastern region, a region with low certified-organic production overall and unique diffusion dynamics based on Chapter V's analysis (McEvoy 2012).

Finally, the dissertation concludes with Chapter VIII. Chapter VIII bridges the findings from the quantitative and qualitative research findings. The results suggest the policy diffusion model developed and tested in this dissertation provides a more comprehensive understanding of how and why policy diffusion occurs. The mixed-methods research design aided in providing a deeper understanding to why particular conditions matter for the diffusion of policy innovation.

CHAPTER II
An Overview of the Policy Diffusion Literature

The diffusion of innovation[27] has been the focus of academic inquiries in a variety of disciplines including anthropology, sociology, education, communication, marketing and business, geography, economics, public administration, political science, and psychology. Likewise, the innovation diffusion research also covers a variety of substantive issue areas such as media studies, technological innovations, agricultural technology, form of government, tax policy, and educational trends.[28] Since Walker (1969)[29] and Gray's (1973a) seminal work in diffusion of innovation,[30] political science scholars have continued to examine how and why certain innovations are adopted among governmental entities over a given time period. To date, there are numerous academic inquiries in political science, public policy, and public administration journals on the diffusion of innovative policies and practices under the umbrella of policy diffusion literature.

This chapter covers the development and current state of the of the policy diffusion literature. First, this chapter will cover the formative debate in the political science policy diffusion literature. Second, this chapter will cover the pertinent models of policy diffusion. Specifically, several models will be detailed including external determinants, internal determinants, unified models, and policy attributes and change research. Three of these categories are identified and discussed in-depth by Berry and Berry

[27] One of the most common definitions used for innovation is "an idea, practice, or object that is perceived as new by an individual or other unit of adoption" (Rogers 2003, 12). Innovation should not be confused with invention, which suggests refers to "the process by which a new idea is discovered or created" (Rogers 2003, 43).

[28] Rogers' *Diffusion of Innovations* provides a comprehensive overview of the diffusion literature. However, it should be noted that Rogers classifies political science and public administration as minor disciplines in the diffusion literature. Therefore, Rogers lacks a comprehensive discussion of the diffusion literature in all minor disciplines even in the most recent edition of the book in 2003.

[29] Walker's (1969) article was not the first diffusion of innovation article written by a political scientist. In the first issue of *The American Political Science Review* in 1969, Mohr's work on innovation in public agencies was published. Mohr's (1969) worked would largely be ignored until Berry and Berry (1990) used Mohr's work as a foundational piece for their unified model of diffusion.

[30] Diffusion refers to the spread of innovation (e.g. legislative adoption of a policy or program) from one adopting entity to the next. Innovation diffusion has also been referred to as policy diffusion in political science research.

(2007). This overview will include more recent investigations in these areas but will consider investigations on policy attributes and modifications separately. Finally, this chapter will conclude with future directions for research.

Policy Diffusion –
The Diffusion of Innovation Literature in Political Science

Within the discipline of political science, innovation is most often defined using Walker's definition. Walker (1969, 881) defines innovation as "a program or policy which is new to the state adopting it, no matter how old the program may be or how many other states may have adopted it." Historically, the policy diffusion research is diverse and incohesive (*see* Eyestone 1977; Savage 1985). Research varies in focus, method, and conclusions over time. The earliest debate within the literature was between Jack L. Walker and Virginia Gray. The two scholars differed on the trajectory of diffusion research.

The Walker-Gray Debate: Early Roots of Policy Diffusion Literature

The Walker-Gray policy diffusion debate appeared in the pages of *The American Political Science Review* in 1973. The debate centered on the trajectory of research on policy diffusion. Walker (1969, 1973) argued that the diffusion research should focus on innovativeness as a state characteristic as well as the origin of innovation. He was specifically interested in the speed of legislative action in innovation (i.e. why some states adopt innovations sooner than other states) along spatial dimensions. Walker was not particularly concerned with innovation in public organizations or the courts.

Gray (1973a, 1973b), however, argued for theories of diffusion that would examine both how and what factors influenced the spread of adopting innovations.[31] She did not find innovativeness as a consistent state characteristic in her own study. Whereas Walker (1969) found regional pace-setters such as New York, California, Massachusetts, and Michigan across several policy domains, Gray claimed that innovativeness in states was time and issue-specific at best. Therefore, the focus of policy diffusion

[31] Gray (1973b) likened the disagreement between Walker (1969, 1973) and herself to that of a disagreement "over a half-glass of water, where it is half full or half empty." She shows no reason why policy diffusion theory development couldn't include examination of general innovativeness.

research should be on conditions that lead to the adoption of an innovation and not innovativeness as a state characteristic.

After the Walker-Gray Debate

Several theoretical models of policy diffusion have been developed since the Walker-Gray debate. The diffusion literature has predominantly moved away from studying innovativeness as a state characteristic (*exceptions* Boehmke and Skinner 2012; Boushey 2010; Canon and Baum 1981;Savage 1978, 1983, 1985) and has focused instead on how innovation spreads from one adopting unit to the next.

While the diffusion research remains diverse, the literature has become more cohesive since 1990 due to the development of the event history analysis model, the initial unified model, developed by Berry and Berry (1990, 1992, 1994, 2007).[32] Models of policy diffusion in the 1970s and 1980s either focused solely on regional pressures for adoption or on how state characteristics influenced adoption. The unified model presented by Berry and Berry marked a key turning point in the literature. As a result of the Berry and Berry model, scholars would examine how both internal state characteristics and external pressures led to the diffusion of innovative policies.

Since the EHA model emerged, scholars have continued to improve upon the unified model. Improvements include the inclusion of policy entrepreneur activity, interest group activities, and a broader spectrum of pertinent adopter internal characteristics. Furthermore, scholars have also sought to examine how policy attributes influence diffusion patterns. In the section that follows, each model of diffusion will be discussed in depth.

Policy Diffusion Models

External Determinant Models

External determinant models, or what Berry and Berry (2007) refer to as diffusion models, examine how non-adopters are influenced by adopters of an innovation through a number of

[32] A majority of political science diffusion research focuses on U.S. states, including both horizontal and vertical studies. Studies on courts, organizational innovation, local-level adoption, and global diffusion patterns are more limited. For examples of these foci see Dye and Davidson (1981), Glick (1981), Tolbert and Zucker (1983), and Weyland (2004). The literature review will predominantly focus on U.S. state diffusion literature given the nature of organic labeling policy originated in the states.

communication channels.[33] Competition, learning, and pressure from other adopting states may lead to emulation among adopting entities. To date, five different external determinant models have been identified in the political science literature by Berry and Berry (see Table 2.1 for outline). A debate common to all these models is how policies are communicated through the identified communication channels and the consequences of communication styles. In other words, scholars are still investigating whether emulation among states or adopting units is the result of learning or mere mimicking due to external pressure. Of particular concern is the depth of adoption (*see* Clark 1985; Glick and Hays 1991) and the consequences associated with coercion and mimicking (i.e. non-learning) adoptions (Sharman 2010; Shipan and Volden 2008; Soule 1999; Weissert and Scheller 2008; Weyland 2007).

The two oldest identified external determinant models, the regional diffusion and national interaction model, originate from the Walker-Gray debate. The regional diffusion model, initially proposed by Walker (1969), suggests states or other adopting entities are influenced by those that are geographically closest to them. Therefore, the probability of adoption increases as other nearby states adopt an innovation. Walker developed a tree model of diffusion (see Figure 2.1) that has two basic steps for tracing the spread of innovation. First, at the base of the tree model there is a set of pioneer states, or the most innovative states, that compete and emulate each other at a national level. For each region in the country, there is at least one pioneer state. According to Walker (1969, 893), "States like New York,

Table 2.1: External Determinant Models

Model	**Description**
Regional Diffusion	Examines how states within a region influence each other. Evaluations can be neighbor-based or follow a fixed-region approach.
National Interaction Model	Examines how states interact through national communication networks.
Leader-Laggard	Examines how pioneer states are emulated by other states.
Isomorphism	Examines how states (or other adopting units) look toward states with similar characteristics for adoption cues.
Vertical	Accounts for federalism in the diffusion process.

[33] The dependent variable in external determinant models is most often binary (e.g. adoption, non-adoption).

Massachusetts, California and Michigan should be seen as regional pace setters." Second, there is a set of followers for each region, some considered quick adopters and other considered laggards that usually only adopt a given innovation after the regional pioneer state has had success with the adopted innovation. This emulation occurs because, after observation of the early-adopting state, the perceived risk associated with departing from the status quo policy or program is diminished. These follower states typically have lower innovativeness scores than their regional pioneer state. One assumption of the model is that follower states will not look outside their own region for innovation cues. This assumption has been challenged and is a key focal point for improving upon regional models of diffusion.

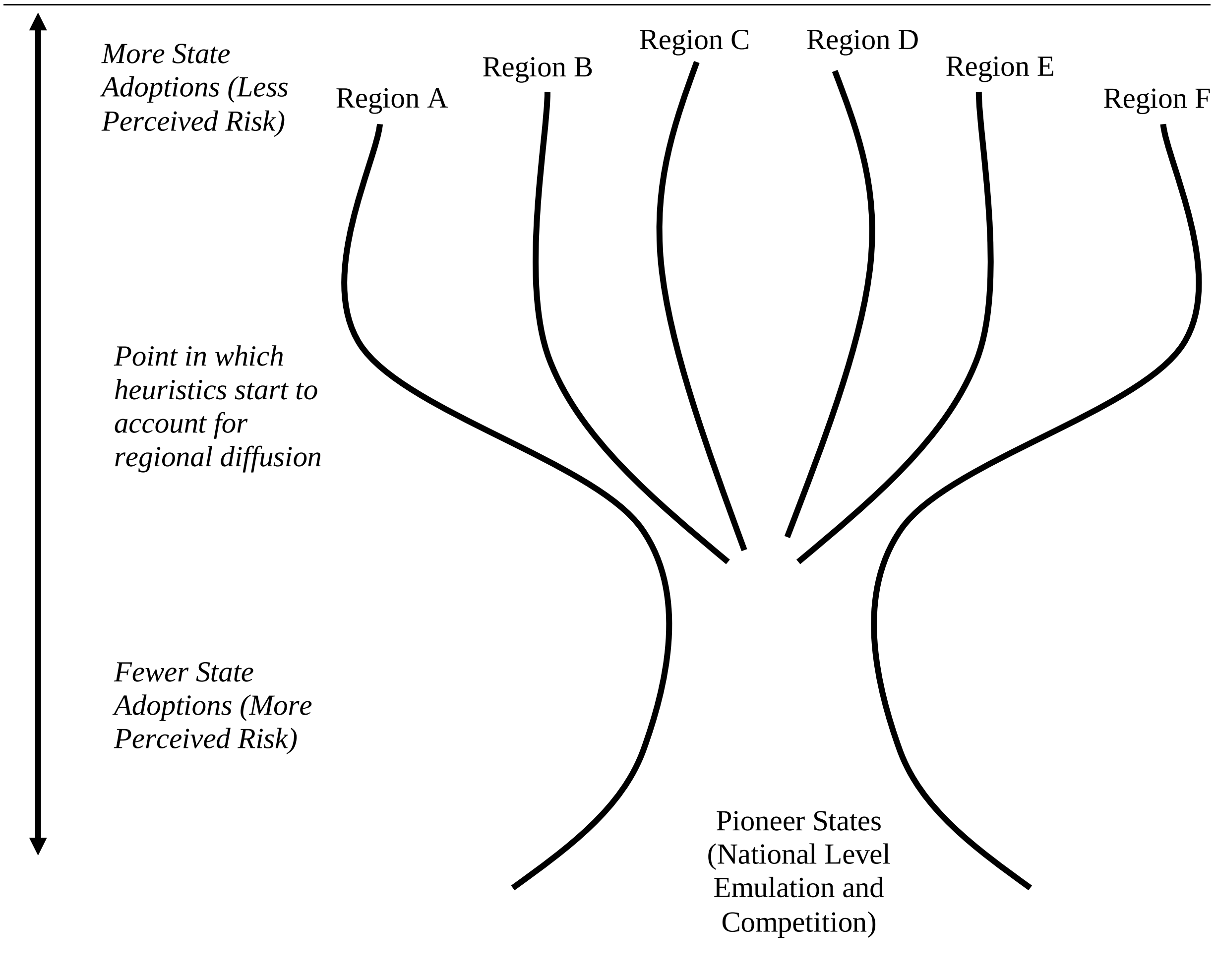

Figure 2.1: Tree Model of Diffusion

Since the tree model, scholars have used two approaches for assessing regional influence. Some scholars use a fixed-region approach, which suggests those states or entities within the same geographical area (e.g. the South, New England) are influenced by similar channels of communication (*for example see* Mooney and Lee 1995). Other scholars use a neighbor-based approach, which examines only how bordering states or entities influence each other (*for example see* Berry and Berry 1990).[34] The neighbor-based approach is used in most models. Yet, a number of scholars suggest a decline in regional diffusion because of rapid technology advances that make communication and travel quicker than they were a century ago (Boekmke and Skinner 2012; Shipan and Volden 2012; Weyland 2007). However, some evidence suggests that neighbor influence may be stronger or weaker depending on the stage the state is in the policy process (Cohen-Vogel and Ingle 2007). Therefore, regional diffusion models may present limitations in explaining diffusion patterns among states or governmental entities, but cannot be altogether disregarded.

The national interaction model overcomes some of the limitations of the regional model by suggesting states interact in national communication networks where there is free and equal opportunity to interact with all other states. According to Gray (1973a) and as stated by Berry and Berry (2007), "the probability a state will adopt is proportional to the number of interactions its officials have had with those that have already adopted." Gray's observations for three issue areas (education, welfare and civil rights) lead her to conclude adopters influence non-adopters on a national level, thereby resulting in an s-shaped curve[35] in cumulative adoptions when plotted (see Figure 2.2). Scholars that have used the national-interaction model generally find that national platforms for state policy maker interaction may lead to diffusion but a nonrandom pattern of diffusion (Balla 2001; Glick and Hays 1991; Menzel and Feller 1977).

[34] Alaska and Hawaii are often excluded from neighbor-based approaches.
[35] The s-shaped curve demonstrates how the cumulative total number of adopters increases over time as the interaction between adopters and non-adopters occur. It is considered as the normal distribution of the cumulative number of adopters when plotted. It has been observed in all disciplines that study diffusion. Gabriel Tarde (1903), a forefather of sociology and social psychology, was the first to observer the s-shape curve of adoption over time.

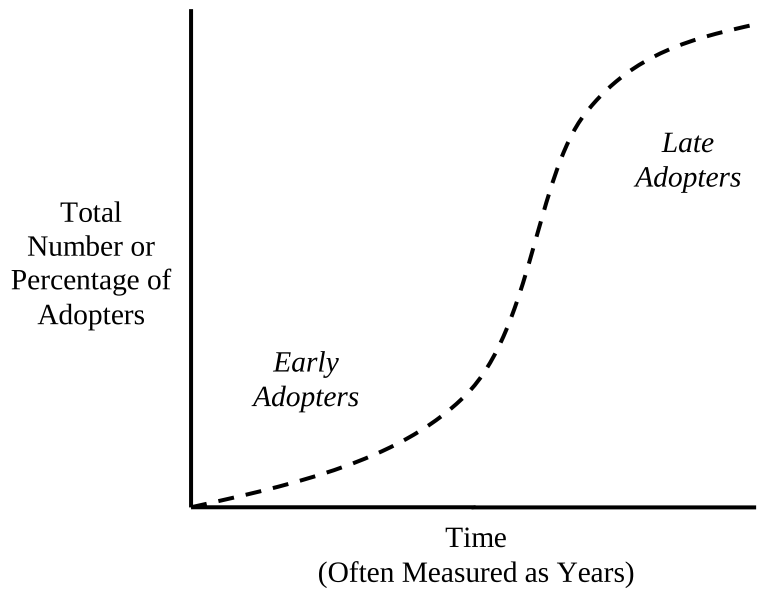

Figure 2.2: S-Shaped Curve of Cumulative Innovation Adoption

Beyond the regional diffusion and national interaction model, three other external determinant models have been identified – leader-laggard models, isomorphism models, and vertical models. Closely related to the regional diffusion model are the leader-laggard models. Leader-laggard models posit that there are pioneer states that other states seek to emulate. Walker's (1969) tree model of diffusion contains elements of both regional diffusion and leader-laggard models by assuming regional pioneers. However, leader-laggard models are not always spatially confined and can encompass the communication channels present in vertical diffusion, national-interaction, and isomorphism models (Berry and Berry 2007).

Studies that use the isomorphism model examine how states or countries with similar characteristics may emulate each other. Similarity characteristics can include population size, ideology, or economic conditions. Regionalism can play a factor in isomorphism models as states or countries in the same regions could share similar social, political, or economic values (Brooks 2005; Nicholson-Crotty 2004; Weyland 2004).

The vertical influence models account for federalism in the diffusion process by moving beyond mere horizontal diffusion among equitable adopting units. In the U.S. context, diffusion researchers have sought to explain how localities (including cities and counties), states, and the federal government may all influence each other. Initially, it was argued state influence on federal adoption was limited (Rose 1973). However, both bottom-up and top-down influences have been observed in the U.S. in the past several decades (Allen, Pettus, and Haider-Markel 2004; Boeckelman 1992; Daley and Garand 2005; Gray, Gray, and Williams 1981; Karch 2006; Shipan and Volden 2006; Welch and Thompson 1980). From a bottom-up perspective, Shipan and Volden (2006) identified two particular effects local entities could have on state adoption of antismoking policies. A snowball effect occurs when more local adoption leads to momentum for state adoption. A pressure valve effect occurs when local adoption minimizes pressure for state adoption. Interest groups and state legislature capacity determine which effect is observed.

Internal Determinants Models

Internal determinant models focus on the adopter characteristics, including innovativeness and affluence, as the primary explanation for diffusion. Research examining internal determinants of diffusion has reached many of the same conclusions summarized nearly two decades ago by Savage (1985). Wealth, capacity, and size impact the adoption decision (Bailey and Rom 2004; Berry and Berry 1990, 2012).[36] In addition, election proximity, problem severity, policy entrepreneurs, and interest groups/advocacy coalitions have been identified as influencing internal conditions necessary for fostering adoption (*for example see* Haider-Markel 2001; Jacobsson and Lauber 2006; Karch 2007; Mintrom 1997). All of these variables have been identified in the broader policy process literature as critical to the passage or modification of policies. For example, Kingdon (2003) indicates the significance of policy entrepreneurs (*also see* Baumgartner and Jones 2009) and perceived problem severity in policies reaching high agenda status or passage. However, there is mixed evidence for how other characteristics, such as general innovativeness[37] or political culture, influence adoption or adoption proneness (see Savage 1985).

[36] Fairbanks' (1979) morality study, Regens' (1980) energy policy study, and Rosebaum's (1976) land use study are noted exceptions for finding a positive relationship between affluence and adoption likelihood.

[37] It is significant to note that only one article has been published since 1985 on innovativeness as a state characteristic. Boehmke and Skinner (2012) re-examine Walker's (1969) original scores and discover drastic changes in both aggregate and individual levels of innovativeness in the states.

Most research today,confers with the appropriate substantive issue area to identify internal independent variables to include for analysis.

The time-span and focus of the research conducted for this study spans across 35-years and must account for changes in state political conditions, in addition to socio-economic factors such as agricultural factors and wealth, since the mid-1970s. Politically, the American landscape has undergone extensive transformations including increasing party polarization and reinventing government. The political changes overtime affects the state and federal governments' approach to adopting and implementing regulatory policy. The election of Reagan ushered in a new government philosophy marked by privatization, less regulation, new federalism, and supply-sided economics. Policies and management emphasized efficiency and made government work more like the private sector. Barzelay (2001) outlines one distinguishable development of the new public management trend was the increase in governance, public-private contracts, voluntary organizations, and sale of publicly owned capital. Co-regulation is included as part of governance and this transformative period in government. The term refers to "a blend of voluntary initiatives and binding legislative acts" (Jordan, Wurzel, and Zito 2003). Scholars studying environmental and European policy have relatively extensive investigations into co-regulatory schemes. Indeed, European food policy scholars have already identified the potential use and implications of co-regulatory agreements on food safety (Martinez et al. 2007), and environmental scholarship identifies co-regulation as one of four broad categories of innovative arrangements (Steelman 2010).Therefore, the examination of how state political conditions affect adoption decisions from 1976-2010 must also contend with political changes that resulted in hostility toward bigger government and government regulations. As will be discussed below, policy type and policy change must also contend with changes in political attitudes over time. However, the literature does not discuss the nature of policy change over policy typology in the context of an extended time period, such as the 35-year focus of this study.

Unified Models

Unified models of policy diffusion unite external and internal determinants of diffusion under a singular analytical lens. Berry and Berry's (1990) unified model, also referred to as the EHA model, has been the predominant unified model applied in the recent diffusion literature. Berry and Berry claimed a "critical conceptual weakness" existed in the diffusion literature because of the separation of the external[38,39] and internal[40] determinant models. In isolation, each model could not fully explain diffusion and can only offer one potential explanation. However, if the two models were unified, scholars would be better equipped to predict adoption influences.[41]

Berry and Berry's unified model approach is methodologically grounded in event history analysis (EHA) but is theoretically grounded in Mohr's (1969) work on organizational innovation. EHA is used in biological and other social science research to account for risks and probability of certain event occurrences. Accordingly, EHA is incorporated into the unified model because of its ability to increase the methodological rigor and "substantive relevance of research findings" of policy diffusion research (Berry and Berry 1990). In particular, EHA can reduce spurious relationships by controlling for regional effects, allow for pooled cross-sectional data analysis, and adequately predict adoption probability. Prior diffusion studies did not control external/internal influences and used traditional cross-sectional

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[38] Berry and Berry (1990) outlined three methodology approaches to regional diffusion explanations including factor analysis (*see* Walker 1969; Canon and Baum 1981), assessing the relationship between adopters and non-adopters (*see* Lutz 1986), and surveying state officials on the influences of adoption (*see* Freeman 1985; Grupp and Richard 1975, Light 1978; Menzel and Feller 1977.) At the time, Berry and Berry did not include vertical diffusion studies, those studies focusing on local-state-federal influence (*for example see* Boeckelman 1992; Daley and Garand 2005; Karch 2006; Shipan and Volden 2006), as part of regional diffusion but would later include vertical diffusion studies as part of a broader "diffusion models" category (2007).

[39] At the time, Berry and Berry did not include vertical diffusion studies, those studies focusing on local-state-federal influence (*for example see* Boeckelman 1992; Daley and Garand; Karch 2006; Shipan and Volden 2006), as part of regional diffusion but would later include vertical diffusion studies as part of a broader "diffusion models" category (2007).

[40] At the time of publication in 1990, internal determinant models used cross-sectional analysis with the dependent variable either being year adopted or whether a state adopted a policy by a certain date.

[41] Berry and Berry (1990) indicated there were a number of studies that evaluated both internal determinants and regional diffusion models. However, scholars never combined the two models and kept evaluation of each model separated.

methods.[42] One potential explanation for avoiding pooled cross-sectional data is the limited variance in the dependent variable (e.g. adoption/non-adoption) on a yearly basis. However, Berry and Berry do not find low adoption rates, as adoptions are considered unusual and infrequent events, problematic for their analysis on state lottery adoption.

Mohr's work on organizational innovation was also incorporated into unified diffusion model because of its ability to drastically improve the diffusion research. Mohr (1969) developed and confirmed a three-dimensional hypothesis that predicted "innovation is directly related to the motivation to innovate, inversely related to the strength of obstacles to innovation, and directly related to the availability of resources for overcoming such obstacles." Berry and Berry argued that Mohr's work could integrate elements of regional and internal determinant models of diffusion. The motivation, obstacles, and resources presented to politicians account for internal determinants. Policy adoptions in other states provide information, an external resource, and reduce uncertainty, one perceived obstacle. To test the unified model, Berry and Berry examined state lottery adoptions by developing eleven hypotheses divided into three categories – motivation, obstacles, and resources. What they found confirmed the utility of a unified diffusion model and Mohr's evaluation of innovation in state organizations. Specifically, they found support of regional influence, fiscal health and election proximity as internal determinants for state lottery adoption. The unified model helped to bridge the significance of both internal and external conditions simultaneously.

The unified model developed by Berry and Berry (1990) not only closed a theoretical gap but a methodology gap, as well. The EHA unified model could account for year-to-year variations in external and internal variables that influence adoption decisions. Only minor adjustments of independent variables, such as region (*for example see* Haider-Markel 2004; Mooney and Lee 1995), or addition of vertical variables (*for example see* Allen, Pettus, and Haider-Markel 2004) have been made to address limitations

[42] Prior to Berry and Berry's (1990) unified model, no year-to-year variation of independent variable data was utilized in the diffusion literature.

of the model. No major adjustments of the basis of the EHA model have been made. The EHA model is the most utilized diffusion model since 1990.

Despite the theoretical rigor of the EHA model, a second unified model, the contagion model, has emerged in the political science literature in the past few years. According to Boushey (2010, 3), “the rapid and sudden adoption of innovations across states is not well explained by extant studies of policy diffusion.” Speed of adoption has increased overtime, and, more often than not, diffusion occurs in very short time frames that cannot be explained by mere incremental assessments like the EHA model. The commonly found s-shaped cumulative adoption curve does not exist in rapid- adoption scenarios and is replaced by an r-shaped cumulative adoption curve (see Figure 2.3). This leads to considerable challenges in determining which factors, whether internal or external, truly influenced sweeping policy adoptions (i.e. policy outbreaks). Borrowing from epidemiology, Boushey likens policies to diseases (and their spread) and develops a triad that explains factors that influence policy diffusion (see Figure 2.4).

The policy innovation diffusion triad rests on the components of state characteristics, innovation characteristics, and interest group and professional organizations. At the center of the triad is the political environment, including national mood and issue salience, which dictates conditions for adoption. Innovation characteristics, inspired by the agent on the epidemiology triad, refer to the attributes of the

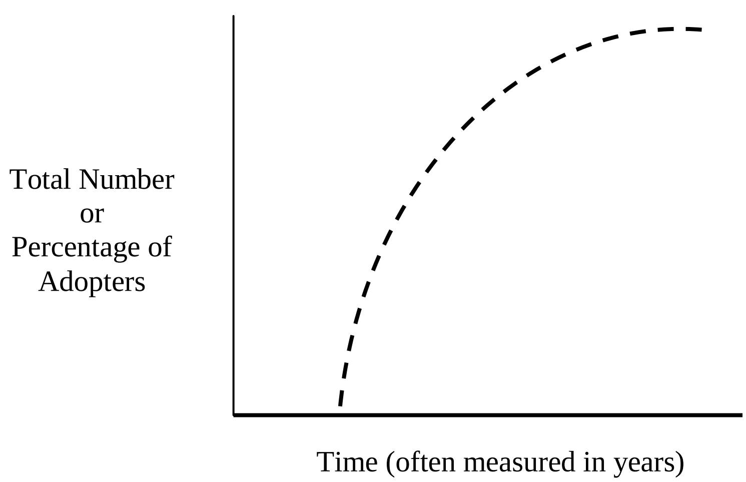
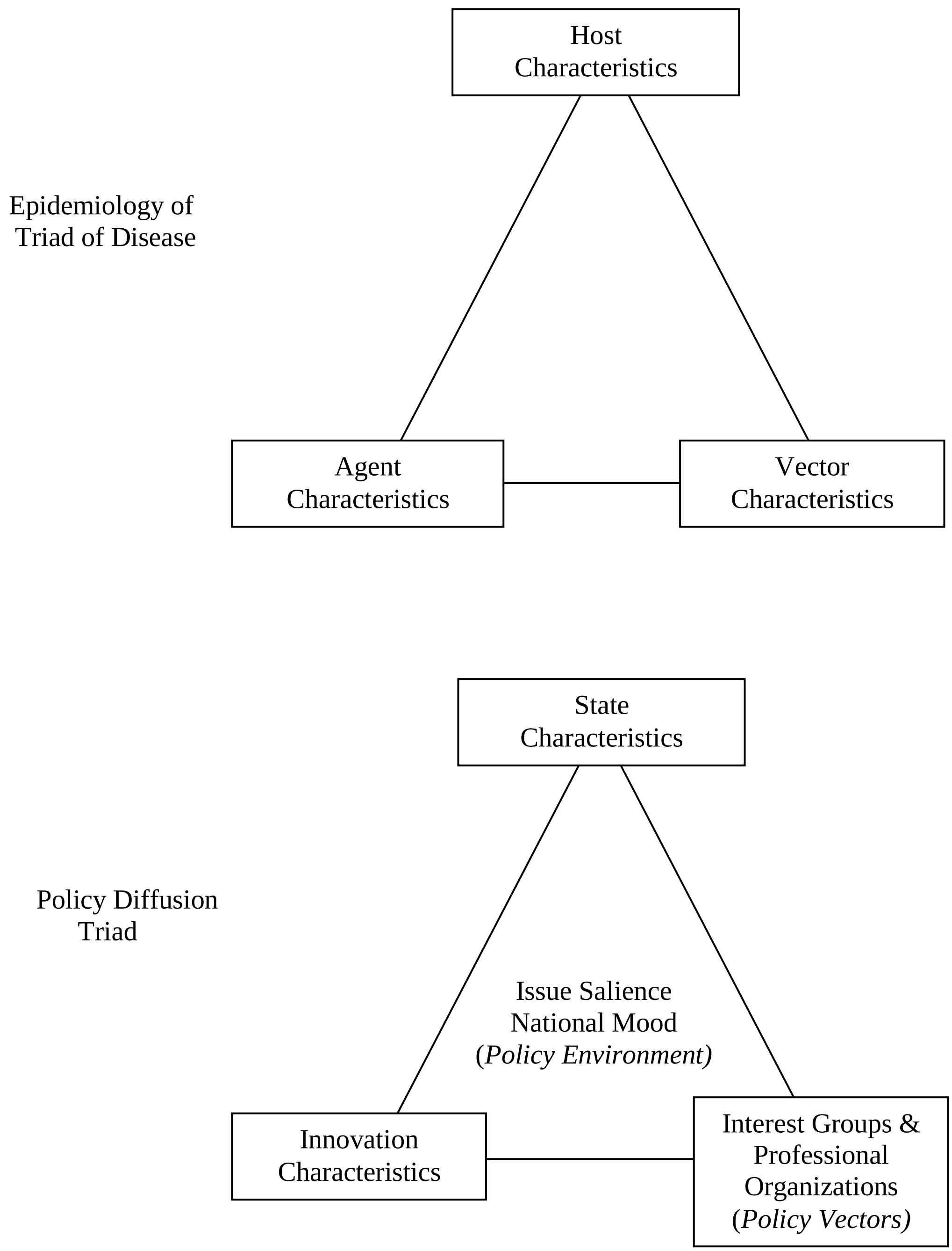


Figure 2.3: R-shaped Curve of Cumulative Innovation Adoption



Source: Boushey 2010, 11-21

Figure 2.4: Comparison of the Epidemiology Triad and Boushey's Policy Diffusion Triad

policy itself. It is argued that not all policies share characteristics that lead to ease of diffusion. Governance policies[43], for example, should be more prone to policy outbreaks than incremental policy decisions. State characteristics, equating to host characteristics on the epidemiology triad, generally refer to the impact of internal characteristics of adopting entities. Most of the factors identified by internal determinants models and the EHA model are included by Boushey. Interest groups and professional organizations, also referred to as policy vectors, are the agents that transmit ideas through the communication channels among the states. External determinants are incorporated into the model so far as policy entrepreneurs may seize upon outside knowledge, national organizations may coordinate on a national level, or focusing events shock the system.

To date, there has been very limited political science research using the contagion model (Pacheco 2012). However, some scholars believe the model provides a new direction for policy diffusion research both inside and outside of the political science discipline (Jones and Baumgartner 2012).

Policy Attributes and Change Research

Policy attributes and policy change are two diffusion conditions that are not completely accounted for in external determinants, internal determinants, or unified models (*exceptions include* Allen and Clark 1981; Boushey 2010). These two variables are challenging to scholars who seek to evaluate their impact in the diffusion process. The attributes of a policy may dictate the speed and appeal of innovation adoption. Policy change creates difficulties for scholars determining when a policy may transform to such an extent it becomes a new policy. In addition, there are also concerns for how policy learning versus economic competition influence change in policy. Until more recently, these conditions were largely ignored in most diffusion research. The significance in incorporating these conditions into diffusion research allows scholars to comprehensively examine how and why certain policies spread

[43] Boushey relies on Tolbert's (2002) definition of governance policies, which are identified as policies that "modify the behavior of the public sector and government officials." Governance policies are noted as being different than other regulatory policies for three reasons: 1) citizens regulate the behavior of government; 2) governance policies have high levels of salience and encourage mass political support; 3) governance policies are often drafted by citizen interest groups/coalitions and passed through direct democracy actions.

faster from one adopting unit to the next or are modified by adopting units. However, the literature generally fails to account for how changing political conditions (e.g. attitude towards regulation) has shifted overtime.

Policy Attributes

Lowi (1972) argued "policies determine politics" when developing a policy taxonomy that assesses how the behavior of political actors is determined from the policy itself. He departed from the traditional assumption that politics determined what policies were conceived. Within the diffusion literature, Lowi's policy typologies have never been tested in a diffusion model.[44] Instead, most researchers have focused on policy areas (e.g. morality or economic policies) and policy attributes (e.g. salience, complexity, compatibility). For example, Mooney and Lee (1995, 1999, and 2000) found that morality policies and economic policies each have similar diffusion patterns. Nicholson-Crotty (2009) and Boushey (2010) find the salience of the issue increases the rate of diffusion.

In the most comprehensive evaluation of policy attributes in the political science literature, Makse and Volden (2011) use the five innovation attributes identified by Rogers (2003) to test 27 criminal justice laws adopted by states over a 30-year period. All five attributes were confirmed in influencing adoption and diffusion patterns. "Specifically, policies with high relative advantages, high compatibility, low complexity, high observability, and high triability[45] all spread across the states at a greater rate" (Makse and Volden 2011). Future research, of course, is needed to confirm how the attributes of the policy itself influence diffusion.

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[44] Clark (1985) hypothesized that redistributive policies may be more popular in certain political cultures. Mooney and Lee (1995, 1999, 2000) argued morality policies differed from the economic policies that Lowi's policy typology configured. Their work is considered an extended study on Lowi's policy typology. Many scholars, like Mooney and Lee, often reference Lowi's policy typology but none have yet to directly use the identified variables in a diffusion study.

[45] Triability is defined by Rogers (2003, 243) as "the degree to which an innovation may be experimented with on a limited basis." Some policies may be easier to experiment with and would cause less problems if abandoned.

Policy Change

Warner (1974) was one of the earliest scholars in political science journal to question when modifications of an innovation technically constitute a new innovation. He specifically asks, "which of these changes constitute 'modifications' and which are actually themselves new innovations?" Furthermore, "how does the existence (and the number) of items or programs competing with the innovation affect its diffusion?" The fine distinction between modifications to an existing innovative policy or program versus a new innovation could be arbitrary. An existing innovative policy can be improved upon in terms of scope and depth of the program or policy without changing the fundamental purpose of the policy itself. Improvements in an innovative policy can signify learning behavior among states instead of drastic departure from the original intent of the policy.

Variation in innovation adoptions could be related to speed and depth of adoption (Clark 1985; Glick and Hays 1991). In three policy areas, Clark (1985) found early and late adopters were found to prefer broader program adoptions than the middle-range adopters. Middle-range adopters preferred a narrower scope on program adoption. No reason was identified for why the relationship between early/late adoption and scope of program adoption was found. Glick and Hays (1991), however, found that early adopters of living will laws were likely to amend policies to be similar in scope to later adopters. It is believed that the political struggle over the language and imagery constructed in a policy may result in later amendments to correct how a policy is being implemented. Implementation is considered just as significant in policy innovation as the adoption itself. The suggestion that some states may have "deep" adoptions is to suggest learning in the diffusion process leading to small modifications to improve implementation of policies. "Superficial" adoptions, on the other hand, suggest largely symbolic efforts rather than any real attempt to learn from others. This suggests that diffusion may be more of mimicking rather than learning and adopting innovative policies according to the state's own needs and capabilities.

Other studies on policy modification have discovered a number of additional insights into the causes for modification. For example, more successfully modified policies spread quicker than less successful policies (Volden 2006). In other studies, economic competition increases the likelihood of adoption and modification in certain policy areas (Berry and Baybeck 2005; Boehmke and Witmer 2004). Finally, the opportunity for managers to modify adopted policies resulted in the reinvention in public organizations (Zbaracki 1998). Yet despite the numerous studies in policy modification or reinvention, the diffusion literature has yet to find any universal patterns or causes for reinventing an innovation. As Karch (2007, 151) points out, "the most problematic characteristic of the reinvention concept is that it describes a mechanical process in which the order of adoption over-rides political factors." In other words, political conditions can still determine the breath or depth of a policy at any given time.

Filling the Gaps – Theoretical and Applied Contributions of this Research

There are both applied and theoretical contributions to be derived from this research. From a theoretical perspective, this project is advancing the policy diffusion literature. Despite the extensive and rich variety of the policy diffusion literature, there still remain a number of directions future research should elaborate upon. There are four ways this research advances our knowledge and understanding of how and what factors contribute to policy diffusion. From an applied standpoint, this project seeks to provide a comprehensive history of organic food and agriculture legislation in the U.S. Furthermore, based on the development of a comprehensive history and the results of this analysis, this research may help to address contemporary concerns in the organic industry including increasing competitive in the market and geographic-specific challenges as discussed in Chapter I.

Theoretical Contributions

Shipan and Volden (2012) outline a number of challenges to improving the policy diffusion literature including fine-tuning our understanding of diffusion mechanisms; policy attributes; capacity to learn; the role of competition and coercion in the diffusion process; exploring other stages of the policy process such as implementation; and moving beyond a dichotomous dependent variable. Shipan and Volden's list is not exhaustive. Innovativeness as a state characteristic (*see* Boehmke and Skinner 2012), testing Boushey's contagion model, and incorporating more rigorous mixed-methods are also research areas with a number of unanswered questions.

This dissertation seeks to fill a number of gaps in the diffusion literature by answering the overarching question of why do some states adopt organic food and agriculture legislation while others do not? There are four key goals of this research to advance the policy diffusion literature.

First, the primary contribution of this research is the development and testing of an enhanced policy diffusion model. Chapter III details the enhanced unified policy diffusion model. The enhanced model draws from both the strengths, weaknesses, and gaps present in the two unified policy diffusion models identified within the literature, the EHA model and the contagion model. The enhanced unified model will be able to address the conditions identified by previous research that are more robust explanations for why policy diffusion occurs. However, the enhanced model also considers a number of conditions that have not been considered within policy diffusion research, but are significant within the broader public policy process literature. Specifically, this model accounts for the factors of policy typology, as designated by Lowi (1972), and existing policy are endogenous variables and are simultaneously influenced and are influenced by adoption. As will be further discussed in Chapter III, the role of policy typology and existing policy tap into assumption of the policy process that deal with risk or perception of risk, the policy design influencing probability of adoption, and incremental notions of policy making.

A second theoretical contribution of this research is assessing how policy typology is established and how policy typology may shift overtime. Many policy diffusion scholars have focused on Lowi's (1972) assumption"policy dictates politics." However, It is particularly troublesome that scholars in the diffusion literature have never explicitly used Lowi's policy typology or the refocusing of Lowi's typology (Spitzer 1987) to examine how policies may dictate politics. Furthermore, there is scarce attention to how the interaction of policy and politics may lead to change in the type of policy observed overtime. Scholars that have examined the role of policy attributes have either focused on broad conceptions of policy type (e.g. economic policy or social policy) or have used Rogers' (2003) five innovation attributes. This research seeks to give explicit consideration for how policy can dictate politics while assessing the modification of existing policy. In the case of organic legislation, this may explain how organic policy ended in less-coercive, co-regulatory form of policy design. Specific consideration for the policy design will be analyzed through the two case studies evaluated in Chapter VI and VII. For the early adopter, California, the case presents an opportunity to examine the effect of policy design over the span of 33 years. Georgia, conversely, presents an opportunity to examine a late adopter and determine if policy design was significant after several years of policy development by other states.

A third advancement goal is the longitudinal examination of the effects of federalism. Specifically, this research examines how federal adoption and implementation in a policy area can alter state policy trajectories. While intergovernmental relations and federalism have been discussed in the broader diffusion literature, there has not been an evaluation examining a policy area both prior and after federal adoption of an innovation. Furthermore, the literature does not examine how delayed federal implementation may impact state adoption decisions. Examining organic policy represents an opportunity to examine how states behave in the diffusion policy prior to and after federal adoption, after federal implementation, and during an extended period between federal adoption and implementation where state laws still regulated the market. Based on the results, this research contributes to a better understanding of federal-state policy interaction in the diffusion process. The effects of federalism are analyzed through both quantitative and qualitative methods.

A final theoretical goal of this analysis is to improve the methods used in policy diffusion research. This analysis will use mixed methods to give both breadth and depth to our understanding of policy diffusion. Most research to date has failed to combine quantitative analysis with in-depth case studies, limiting the ability of scholars to contend with variables not easily quantified.

Applied Contributions

For practitioners or those studying organic policy, this research serves as a foundation for improving our understanding of organic policy development as well as addressing a couple of contemporary concerns in the organic market. While there are numerous scholarly, government and practitioner pieces on organic policy, there is no comprehensive study examining the development of organic policy in the U.S. accounting for state-federal interaction. Moreover, there are substantial discrepancies in the literature on which states passed organic regulation, how that regulation became law, what year regulation was passed, and what the content of the regulation entailed for implementation. While establishing a comprehensive history may be a contribution of itself, the history of organic food and agriculture legislation among U.S. states from a policy diffusion perspective may help address a number of contemporary concerns in the organic market.

As identified in Chapter I, two current concerns in the organic market include increasing competition in the marketplace with other food labeling schemes and geographic-specific challenges. The historical development in policy in U.S. states may help to address these concerns. In particular, the results of this research can help to address how organics' biggest market competition stems from locally-grown food as opposed to natural, GMO-identified, or other food labeling schemes. The local versus organic competitions may be based not only on different consumer driven demands but by negative perceptions of organic. This may be particularly true in light of geographic-specific challenges. In essence, the lower figures for certified organic operations in Southeast may be attributed to consumer preference for local food but also historic investment by farmers and policymakers into organic food and agriculture policy.

CHAPTER III
Research Methods Part 1

This chapter will give an overview of the research methods used in this study and will detail the quantitative methodology. However, discussion of the comparative case study methods, the qualitative portion of the research, willed be detailed in Chapter V. This chapter will begin by covering the research questions of this study. Second, the justification for using a mixed methods research approach will be covered. Next, this chapter will cover the policy diffusion model utilized for this study and identify each hypothesis tested. Finally, the chapter will conclude with a description of the quantitative methods used. Specifically, the chapter concludes with an explanation for the time-series analysis conducted to determine what factors contributed to the diffusion of organic food and agriculture legislation in U.S. states.

Research Questions

This study seeks to answer one broad question and a series of more specific questions aimed to give more depth to the analysis. The following research questions are asked:

- Why do some states adopt organic food and agriculture legislation while others do not?
    - What conditions (i.e. political, economic, and industry-related variables) influence the initial adoption of organic policies?
    - What conditions influence the modification of organic policies?
    - What conditions influence the type of regulatory organic policy adopted?

To explore these research questions, state- and time-specific data was collected, used to create some new variables, and assessed for each of the fifty American states for the calendar years 1976-2010. Additional years will be considered through qualitative inquiry where appropriate.

Justification for Mixed Methods

This research uses a mixed methods approach to strengthen the analysis and to overcome some of the limitations that stem from using only quantitative or qualitative methods. A mixed method research design can refer to use of a combination of either philosophical assumptions or data collection and analysis techniques (Creswell and Clark 2007, 5). For this analysis, the mixed methods design emphasizes the dynamic of data triangulation (i.e. the methods of inquiry) by using a combination of quantitative and qualitative approaches to collecting and analyzing data.

It is widely recognized that mixed methods research designs have significant benefits (Creswell, 2009; George and Bennett 2005; Gerring 2007; King, Keohane, and Verba, 1994; Patton 2001; Riccucci 2010; Tashakkori and Teddlie 2003; Yang, Zhang, and Holzer 2008). Specifically, a mixed methods approach can overcome the shortcomings that arise by solely relying on quantitative or qualitative methods and increase the validity and credibility of research findings). Quantitative techniques are ideal for deriving broader generalizations but generally lack the ability for specificity or in-depth analysis of underlying causal mechanisms. Qualitative methods, however, can provide specific details and in-depth analysis of a few cases but lacks the ability to derive broad generalizations from research findings (George and Bennett 2005; Riccucci 2010).

The ability of researchers to achieve both breadth and depth within the analysis is crucial for improving the quality of research findings. This type of analysis is intended to serve both theoretical and applied purposes because a mixed methods approach can help to deliver the best results for both scholars and practitioners. Several scholars claim that mixed methods research in applied fields, such as public administration, is crucial for deriving significance of research results (Gerring 2007; Patton 2001; Riccucci 2010). As Riccucci (2010, 109) states, “Triangulation, or mixed methods, becomes particularly important in applied fields in that it provides flexibility in efforts to find solutions to practical, real-world problems.” Using a mixed methods approach for this research aids in improving public policy and public administration theory but also informs practitioners and those interested in organic and alternative agricultural policy.

In addition to improving the validity of the research findings, using mixed methods can also overcome limitations encountered with collecting data. There are a number of limitations of this research design. First and foremost, the element of time presents a number of challenges in collecting and analyzing data in this study. The availability of data ranging from 1976-2010 is limited; especially for a quantitative investigation. Subsequently, a small number of the variables used in the analysis contain missing information for certain years. Furthermore, statistical documentation was not collected for particular variables for most years included within this analysis. For example, the inclusion of measures for state environmental performance or state health quality may have proved statistically significant in the adoption of organic legislation given the characteristics of consumers and farming methods. However, no continuous state environmental or health index exists, which could explain how other policy areas or concerns coincide with organic adoption. Likewise, detailed information pertaining to organic cropland, existence of certifiers, and state agency rulings are also lacking. To statistically construct any of these measures under the time limitations of this project is insurmountable if not impossible.

A number of additional variables were excluded for quantitative evaluation due to access and subjectivity concerns. Specifically, policy entrepreneurs, organic agricultural networks, and the influence of other related policies are difficult to quantify. While legislative and academic archives have documented the organic movement and subsequent legislation, it is difficult to measure the presence of industry networks and policy entrepreneurs. In particular, many of the events of interest occurred almost forty years ago. This presents extensive opportunity for subjectivity and bias to enter a statistical analysis of policy diffusion. On a similar note, the ability to access older legislative archives to assess proposed, or other related, legislation is challenging. For example, other policies related to organic regulation adoption could reasonably include policies geared toward natural, local, free-trade, and GMO labeling. Yet, a wide array of environmental and health policies could also be linked to organic policies including farm bills, food safety regulations, and restrictions on pesticide use. While narrowing the scope of related issues would be manageable if even imperfect, collecting data for each proposed or passed policy would be time-intensive and likely impossible for earlier years of this analysis.

A second limitation regards the scope of the analysis. A comprehensive evaluation of organic policy diffusion could incorporate bureaucratic rule-making, U.S. localities, and other countries as influences on state and federal adoption. The creation of standards by Yolo County, California, EU countries, IFOAM, and Codex Alimentarius represent the creation of standards on a sub-national, national, supranational, and international scale from the 1970s to today. However, incorporation of these additional governmental levels in this investigation would eliminate or dilute the theoretical improvements to the diffusion model in assessing state-federal interaction in policy diffusion.

An Enhanced Unified Policy Diffusion Model

As discussed in chapter II of this dissertation, there are two unified models of policy diffusion in the political science literature. Berry and Berry's event history analysis [EHA] policy diffusion model[46] is the oldest and most tested unified model. Based on Mohr's (1969) work on organizational innovation, Berry and Berry (1990; 1992) developed the EHA policy diffusion model to assess motivation, obstacles and resources for innovation adoption. Using pooled cross-sectional data, the EHA model suggests policy adoption is the function of motivation to innovate, obstacles to innovate, resources available to innovate, other policies, and external events. Berry and Berry's (2007) EHA policy diffusion model equation is as follows:

$$\text{ADOPT}_{i,t} = f(\text{MOTIVATION}_{i,t}, \text{RESOURCES/OBSTACLES}_{i,t}, \\ \text{OTHERPOLICIES}_{i,t}, \text{EXTERNAL}_{i,t})$$

Berry and Berry's model borrows from event history analysis techniques used in biostatistics. Like medical research, examination of policy diffusion account for longitudinal examination of the probability of an event occurring over a period of time for entities within a designated population. In medical research, individuals are at risk for the given event occurring at some point in time. For policy diffusion studies, government entities, including states, are at risk for adopting an innovative policy or program. The probability of adoption occurring is called the hazard rate. According to Berry and Berry (1990, 399), in policy diffusion hazard rate is defined as "the probability of a state adopting a policy during a particular period, given that it has not already adopted it in a previous period." In the model above, each variable represents a set of conditions likely to affect the probability of adoption. Table 3.1 identifies each model variable, what it measures, and examples of factors used to determine its effect.

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[46] Berry and Berry's model may be referred to as the EHA model. However, EHA is a truly a methodological technique. Most policy diffusion scholars use EHA models in their research.

Table 3.1: EHA Model Variables		
Model Variable	**Measuring**	**Included Factors/Conditions**
$\text{ADOPT}_{i,t}$	The adoption of a policy as broadly defined	Adoption of a policy in a given year or timeframe
$\text{MOTIVATION}_{i,t}$	The factors that motivate public or elected official to act on a particular problem	Problem severity, public opinion, electoral competition, focusing events
$\text{RESOURCES/ OBSTACLES}_{i,t}$	The factors that prevent or create barriers to adoption	State legislature professionalism, skill of policy entrepreneur, strength of advocacy coalition, economic development level
$\text{OTHERPOLICIES}_{i,t}$	The presence of other adopted policies that could influence adoption outcome	A set of dummy variables for related issue-specific policies
$\text{EXTERNAL}_{i,t}$	The behavior of other governmental entities (e.g. state, local, federal)that would influence adoption decision	Adoption or other governmental decisions

The EHA diffusion equation identified above is the culmination of the original 1990 EHA model and the subsequent modifications made to address its limitations related to vertical diffusion, policy modification, understanding policy learning v. mimicking, and quality of policy (Berry and Berry 2007; Karch 2006; Karch and Cravens 2011; Shipan and Volden 2006, 2008). The factors composing each model variable have been identified by referencing the policy process literature and relevant substantive policy literature. To date, there is no agreement on which measurements should be used to test the model for all issue areas.

Boushey's contagion model represents a second unified model of policy diffusion. The contagion model works to address some of the limitations not addressed by the EHA model. However, the contagion model has not been rigorously tested by scholars. While Boushey does not provide an equation like Berry and Berry, a testable equation for the contagion model would look like the following:

$$\text{ADOPT}_{i,t} = f(\text{INNOVATIONCHARAC}_{i,t}, \text{INTEREST/PROFESSIONALGROUPS}_{i,t}, \text{STATECHARAC}_{i,t}, \text{ISSUESALIENCE/NATMOOD}_{i,t})$$

Like the Berry and Berry's EHA model, $\text{ADOPT}_{i,t}$ remains the probability of adoption, and the model variables represents a set of conditions likely to influence adoption. Table 3.2 outlines each contagion model variable, what it is measuring, and factors used to determine its effect. The biggest

Table 3.2: Contagion Model Variables		
Model Variable	**Measuring**	**Included Factors/Conditions**
$ADOPT_{i,t}$	The adoption of a policy as broadly defined	Adoption of legislation in a given year or timeframe
$INNOVATIONCHARAC_{i,t}$	Issue complexity	Program costs, emotional appeal
INTEREST/ $PROFESSIONALGROUPS_{i,t}$	The presence and magnitude effect of interest groups	Interest group advocates, presence of interest groups
$STATECHARAC_{i,t}$	State characteristics	Economic conditions, political conditions, social conditions
ISSUESALIENCE/ $NATMOOD_{i,t}$	Attention and perception of the issue	Citizen opinion, media attention, frequency of media attention

departure from Berry and Berry's model is the inclusion of innovation characteristics, which incorporates the element of policy type. Boushey examines the passage of three types of policies, each with varying degrees of complexity or conflict. An additional departure from Berry and Berry's model is the exclusion of external pressures created by other state governments, federal policy, or regional pressures. The contagion model does not explicitly address regional or isomorphic patterns of diffusion.

This analysis combines elements of the Berry and Berry's policy diffusion model and Boushey's contagion model to examine the diffusion of organic food and agriculture legislation. Combining the two models is significant because it accounts for the influence of policy typology and modification into the diffusion process while maintaining representation of internal and external conditions that influence adoption. Three equations were developed for this analysis. Each equation demonstrates that external conditions, internal conditions, and salience each uniquely affect adoption, enacted statutes, and policy type. During the policy process, policy typology is determined prior to the adoption decision. Furthermore, drawing from Simon's (1947) bounded rationality, the existence of previously adopted legislation may influence future modifications of the policy by constraining alternative choices, but also through reducing risk associated with adopting innovative policy. The proposed equations to be used in this analysis include the following:

$$ADOPT_{i,t} = f(INTERNAL_{i,t}, EXTERNAL_{i,t}, SALIENCE_{i,t}, EXSPOLICY_{i,t}, POLICYTYPE_{i,t})$$
$$POLICYTYPE_{i,t} = f(INTERNAL_{i,t}, EXTERNAL_{i,t}, SALIENCE_{i,t}, EXSPOLICY_{i,t},)$$
$$EXSPOLICY_{i,t} = f(ADOPT_{i,t}, POLICYTYPE_{i,t})$$

The primary dependent variable in this analysis is adoption of organic policy (ADOPT$_{i,t}$), which is broadly conceived as legislation passed in regards to regulating the organic food and agriculture market. As will be discussed later, my coding for ADOPT$_{i,t}$ departs from the hazard rate approach of the original EHA model and most other policy diffusion studies. Specifically, variables were calculated for all adoption, initial adoption, and amending adoptions. For all adoption models, once a state adopts organic policy it does not lead to exclusion of that state being at risk for further adoptions. States can continue to remain at risk to adopt organic policy even after initial adoption or subsequent modifications because states may continue to adopt legislation for every additional year included with the model thereby never diminish the risk of adoption or hazard rate.

Table 3.3: Enhanced Unified Model Variables

Model Variable	**Measuring**	**Included Factors/Conditions**
ADOPT$_{i,t}$	The adoption of a policy as broadly defined	For this analysis, adoption includes adoption of legislation pertaining to regulating the organic food and agriculture market.
POLICYTYPE$_{i,t}$	Type of policy adopted	Type of policy (e.g. regulatory, redistributive) with consideration of complexity and implementation measures
EXSPOLICY$_{i,t}$	Measures years in which statutes are enacted for the policy	Enacted state statutes in a given year and could include administrative rules if necessary
INTERNAL$_{i,t}$	State characteristics or internal conditions of state	Socio-economic conditions, political factors, local government activity
EXTERNAL$_{i,t}$	Influences of other governmental entities outside of the state	Federal, regional, and other state pressures
SALIENCE$_{i,t}$	Attention and perception of the issue	Citizen opinion, media attention, frequency of media attention

Policy type **(**POLICYTYPE$_{i,t}$) and the existence of policy (EXSPOLICY$_{i,t}$) are two endogenous variables. Each simultaneously influences adoption decisions but is also determined by the adoption outcome. In Boushey's contagion model of diffusion, he discusses the policy type as a function of the innovation characteristics itself including whether it is governance, regulatory, or morality policy. This analysis is not based on Boushey's innovation qualities, but rather the policy typology presented by Lowi (1972) and redefined by Spitzer (1987). Furthermore, this study includes the potential for existing policy limiting the options and behavior for change overtime. As it relates to epidemiology, a host that has been infected by the disease once before may either develop immunity, as in the case of chicken pox, or change behavior to avoid further outbreaks (e.g. washing hands during cold season). For states, this could translate into behavioral patterns that explain why some states may be more likely to adopt amending legislation than others. While innovation is not necessarily a terrible "disease," some states may be more open to transmitting the policy and even modifying its content, which can either increase the spread of innovation or decrease it. The change of the innovation overtime is akin to adaptation of viruses and disease to changing conditions in the environment and potential hosts. Chapter V, which details the specifics the qualitative methods used this analysis, provides further detail on how each variable is conceptualized. In sum, the inclusion of these variables aids in overcoming the shortcoming of the EHA model in appropriately addressing policy type as an influential factor of adoption. Both variables allow for ease in determining how modification over time results in different forms of organic regulation. In addition, each variable aids in assessing how federal adoption impacted state organic policy action.

In light of previous versions of the EHA model and the contagion model, internal conditions, external conditions, and salience were constructed as separate model variables. The external conditions ($\text{EXTERNAL}_{i,t}$) is based on the EHA external determinants variable. The internal determinant variable ($\text{INTERNAL}_{i,t}$) draws upon state characteristics, presence of interest groups, resources, and motivation to adopt as components of internal determinants. Finally, the assessment of issue salience ($\text{SALIENCE}_{i,t}$) was constructed as neither an internal nor external variable because of difficulties in determining how information may spatially spread or be used. Assessing issue salience contends with the local and national attention to a particular issue without the potential problem of limiting the effects to one particular state or region.

A notable exclusion from the model formula used for this research is a variable considering other related policies ($\text{OTHERPOLICIES}_{i,t}$) that was used in Berry and Berry's EHA model formula. Several reasons led to the exclusion of this variable in this initial investigation. First and foremost, organic food and agriculture sits at the crossroads of many related policies in public health, the environment, and agricultural considerations including economic considerations, as well. Disentangling which related policies may relate or influence the adoption of organic legislation may detract from the primary focus of this research. Specifically, this research clarifies and provides a comprehensive history and evaluation of organic policy in U.S. states. Before investigating related issue areas, there is more immediate need to fully explore the diffusion pattern and causes of organic food and agriculture legislation. However, future research should address how other related policies or issue areas, such as policies that address local foods, water and land conservation, may influence adoption, amendments, and termination of innovative policies in the states. In addition, this research is also improving the policy diffusion literature by improving the model, expanding the methods utilized, fully examining policy typology change, and assessing federal impact on state policy trajectories.

Hypotheses

Eighteen hypotheses were developed based upon the policy diffusion literature, the policy process literature, and the history of the organic food and agriculture industry. The hypotheses are categorized under one of the several model variables identified above. Table 3.4 lists each hypothesis and coordinating model variable. As will be discussed later, some hypotheses will be tested using mixed methods while others may rely solely on a qualitative evaluation. For those tested through mixed methods, variables included to test each hypothesis in the time-series analysis will be discussed in the quantitative methods subsection of this chapter.

INTERNAL$_{i,t}$ Hypotheses

Nine hypotheses were developed to test how state internal characteristics may influence adoption of organic legislation. The hypotheses examine how a state's socio-economic, political, and general innovativeness contributes to the adoption probability.

The first hypothesis is based upon Walker's (1969) conclusion that certain states like New York, California, Massachusetts, and Michigan are more innovative states that set regional pace of adoption. This hypothesis is significant because it is testing if innovativeness is a state characteristic. In the early Walker-Gray debate, Gray (1973a, 1973b) claimed that innovativeness was issue and time specific at best. This analysis is predicting that innovativeness is a state characteristic, and it is more likely to lead to specific early adopters like New York, California, Massachusetts, and Michigan.

The next four hypotheses are used to examine political factors (see Table 3.4). While there is no agreed upon set of political hypotheses to test in policy diffusion studies, the collective evidence from the literature and the history of the organic food sector and agriculture point to a four key political hypotheses. In general, it is expected that states are more likely to adopt legislation if the state legislature is more professionalized,[47] state government is controlled by Democrats,[48] and the state government is not divided.[49] Each hypothesis demonstrates the capacity and underlying motivations to adopt innovative policies, such as organic food and agriculture legislation, both of which require consideration of the collective good but may go against contemporary beliefs.

The last four internal condition hypotheses pertain to economic and industry-related conditions within a state. As previous research found, wealthier states were more likely to adopt innovative policies. Similarly, it is found that wealthier individuals are more likely to purchase organic foods. Therefore, it is predicted that wealthier states are more likely to adopt organic food legislation than poorer states as predicted in H6.

The remaining internal determinant variables and hypotheses (H7, H8, and H9) each pertain to the agriculture industry within a state. All three hypotheses are based on broader agriculture and organic

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[47] This assumption has been tested by policy diffusion scholars with mixed-evidence. Shipan and Volden (2006) were the first to argue that state legislature professionalism may lead adoption of innovative policies.

[48] For organic policy, which is grounded in a number of environmental health movements, it is expected that more liberal states will adopt legislation. Democrats have been identified as being more sympathetic to environmental causes and policy than Republicans (*see* Kamieniecki 1997; Kraft 2012; McCright and Dunlap 2011; Shipan and Lowry 2001). Despite environmental concerns being weak in national elections, environmentalists often vote for Democratic candidates (Duffy 2003). Overtime, the two parties diverge in environmental policy positions with particular divergence during poor economic times where there is high unemployment (Shipan and Lowry 2001).

[49] While there is no conclusive evidence to demonstrate the effect of divided government on policy outcomes, this analysis does take into consideration the potential effects of divided government on adoption decisions. For more detailed examination of divided government consequence see Mayhew's (1991) *Divided We Govern*.

Table 3.4: Hypotheses	
Model Variable	**Hypothesis**
$INTERNAL_{i,t}$	H1: California, New York, Massachusetts, and Michigan are more likely to be early adopters of organic legislation.
	H2: More professionalized state legislatures are more likely to adopt organic legislation than less professionalized state legislatures.
	H3: States with divided government are less likely to adopt organic legislation.
	H4: States with Democratic partisan control are more likely to pass organic legislation than Republican or divided partisan control.
	H5: States with a moralistic political culture are more likely to adopt organic legislation than states with traditionalist political culture.
	H6: States with higher per capita income are more likely to adopt organic legislation than states with lower per capita income.
	H7: States with a higher percentage of total GDP resulting from agriculture are more likely to adopt organic legislation.
	H8: States with a higher percentage of total agriculture sales resulting from fruit and vegetable sales are more likely to adopt organic legislation.
	H9: States with third-party certification programs are more likely to adopt organic legislation than states with no certification programs.
$EXTERNAL_{i,t}$	H10: States are more likely to adopt organic legislation if a state within the same region adopts organic regulation.
	H11: States are more likely to adopt organic legislation when there is a higher percentage of states in the region that have existing organic statutes.
	H12: States are more likely to adopt organic regulation if states with similar economic and political conditions adopt organic policy.
	H13: States are more likely to adopt legislation during the post-federal adoption period between 1990-1992 than the 1993-2002 time period.
	H14: States are more likely to adopt legislation to terminate state organic statutes after official implementation of the NOP in 2002.
$SALIENCE_{i,t}$	H15: States are more likely to adopt legislation in years where organic issue salience is high.
$POLICYTYPE_{i,t}$	H16: States are more likely to adopt organic legislation that provides strict regulatory rules or guidelines in the 1970s than later decades.
	H17: States are more likely to adopt organic legislation that is co-regulatory in the 1980s.
$EXSPOLICY_{i,t}$	H18: More innovative states are more likely to amend organic food and agriculture statutes more often.

agriculture literature.H7 focuses on the size of the total agricultural industry relative to the state's total GDP. It is predicted that states are more likely to adopt organic legislation when there is a higher percentage of total GDP resulting from the agricultural industry. While this may be counterintuitive based on the historical rift between conventional and alternative agricultural practices, there are a few reasons for the direction of this hypothesis. First, states with larger agriculture industries may have more resources or climate-related ability to invest or experiment with alternative production methods. Second, the shift in organic agriculture from a fringe to mainstream industry means the total agriculture GDP does represent economic activity of the organic industry as well particularly starting in the 1990s as organic sales increased.

However, the effect of increased agricultural productivity may also increase the amount of money going into political lobbying and other activities on behalf of conventional agriculture. Evidence from studies on European Union Farmers suggests that the diffusion of organic farming practices from country to country is based on the dominant farm type such as arable or specialist animal farming (Gabriel et al. 2009; Kaufmanna et al. 2011; Kerselaers et al. 2007; Michelsen et al. 2001). If a similar pattern holds true for diffusion among U.S. states, organic agriculture growth may only be minimally contributing to the over GDP or GNP. Therefore, agricultural policy decisions may still be made through the iron triangle (see Figure 1.1) between the USDA, commodity agricultural interests, and Congressional agricultural committees (Bellemare and Carnes 2013; Ingram and Ingram 2005). Some policies may emerge to support alternative agricultural production methods, because of rising power in urban consumer groups in agricultural policy (Winders and Scott 2009), 80, but major agricultural policy developments would be in support of conventional agriculture.

H8 examines how production and sales of specialty crops, like fruits and vegetables, influences adoption decisions. This hypothesis is partially the result of limitations in more pertinent data being unavailable overtime but is meant to be a proxy for a state's relative levels of specialty crop production. Alston and Pardey (2008) argue for more research to be directed toward specialty crop production because of the "social rate of return" to making fruit and vegetables more affordable and available to include in healthy diets. While organic food sales still remain as only a small percentage of total food sales in the past decade,[50] organic fruit and vegetables historically constitute the largest percentage of organic food sales in the U.S. According to OTA (2011a), organic fruit and vegetable sales constitute 39.7% of all organic sales in 2010. While there are many consumer reasons for purchasing organic foods, health is often a primary consideration (OTA 2011b). Therefore, it is expected that states with higher sales of fruit and vegetables are more likely to potentially benefit from the margins that can be gained with certification, and thus, may be more likely to adopt organic legislation.

Finally, H9 considers the role and existence of certification programs within a state on adoption decisions. Lee (2009) claims that third-party certifiers influenced adoption in an earlier period; his data ran from 1973-2000.[51] Therefore, it would also be expected that the presence of an organic certifying program operating within a state would more likely lead to adoption of regulating policy than states with no certifying organizations.

EXTERNAL$_{i,t}$ Hypotheses

The diffusion literature identified both horizontal and vertical dimensions of external influence. Five hypotheses address the two dimensions. The first three external determinant hypotheses (H10, H11, and H12) examine the horizontal dimension of diffusion. H10 and H11 are based on the regional model of diffusion. While H10 considers the influence of more adopting states, H11 contends with the numbers states that have existing organic food statutes. Both predict a positive relationship but H11 gives consideration to how termination of the policy in one state or region may decrease the pressure on non-adopting states.

[50] OTA (2011a) estimated 4% of all food sales were organic food sales in 2010.
[51] Due to discrepancies in Lee's data set and concerns over measurements of adoption and certification organizations, this research cautiously references his work. Lee considered administrative rules as an equivalent adoption to legislation and did not include several state adoptions, such as New York, as part of his research. This research considers legislative rulemaking a separate form of adoption as it involves a different set of decision-makers. In addition, Lee's work does not provide details on the certification organizations he used in his analysis. Considering his exclusion of a state such as New York, there may be reason to believe he also may have missed critical data for certifying organizations.

H12 is based on an isomorphism model of diffusion. It is expected that states that share similar economic and political conditions will be more likely to adopt organic policy. The inclusion of an isomorphism model of diffusion and a regional diffusion model is meant to overcome the limitations of geographic clustering (Shipan and Volden 2012; Volden, Ting, and Carpenter 2008). States in the same geographic area may share similar political, economic and demographic characteristics, which may undermine explanations for regional diffusion. Therefore, both an isomorphic and regional hypotheses are included in this analysis.

The last two external determinant hypotheses (H13 and H14) test vertical dimensions of diffusion over time. H13 tests the time period between initial federal adoption and the effective date of the final rule in 2002. The 1990-1992 time period is expected to have more state adoptions than the 1993-2002 period. The early 1990s period had more uncertainty regarding implementation given a delay developing rules until 1993. Uncertainty of when official implementation would begin could theoretically deter state investment in developing or modifying existing policies. The decline in adoption after 1992 is expected because official rule development finally began. States adoptions from 1993-2002 would be operating under more certainty of federal law eventually being established.

H14 examines the post-final rule era. It is expected that states are more likely to terminate legislation after the 2002 implementation of the final rule. Official implementation of the federal program denotes the need for states to assess and appropriately realign policy to comply with federal law.

SALIENCE$_{i,t}$, Hypothesis

As noted by numerous public policy scholars (*see* Baumgartner and Jones 2009; Kingdon 2003; Sabatier and Weible 2007), high issue salience, also described as the national mood, is associated with elevated attention to a policy problem and the potential to lead to change in the policy system. For this analysis, salience is neither an external variable nor confined as an internal determinant. Both national events and local/state events can contribute to mass media attention to organic food and agricultural issues. H15 predicts that an increase in salience of organic food and agriculture increases the probability of adoption.

POLICYTYPE $_{i,t}$ & EXSPOLICY$_{i,t}$ Hypotheses

Based on the changing nature of policy development and reduced risk of modifying existing policies (*see* Simon 1947; Walker 1969), three hypotheses are proposed based on the underlying premises of POLICYTYPE $_{i,t}$ and EXSPOLICY$_{i,t.}$. Two hypotheses, H16 and H17, were developed regarding policy type. First, it is expected that organic legislation in the 1970s is more likely to provide strict rules and regulatory guidelines for the production and sale of organic foods. This expectation is grounded in changes in political attitudes towards regulations in the 1980s. The Reagan administration downsized the size of government and sought to deregulation to create a more efficient government. The Clinton administration continued to carry the emphasis on more efficient government in the 1990s. Therefore, the expectation is more strict regulatory policy would be more likely to occur in the 1970s prior to downsizing and deregulation. Second, it is expected that organic legislation in the 1980s is more likely to shift to a co-regulatory or less coercive policy type as a result of deregulation and emphasis on smaller government.. Specifically, using Sptizer's (1987) refocusing of the Lowi policy typology (see Chapter V for detailed conceptualization), the movement from more coercive regulatory policy to less coercive policy would theoretically confirm to increased regulation without increasing the size of government. These two hypotheses are informed by the historical shift in regulatory policy where governments began to seek less-coercive and more cooperative arrangements with industry.

The final hypothesis, H18, assesses how more innovative states are more likely to continually adjust existing organic policy. It is expected that current state leaders in organic food and agriculture policy are more likely to consistently amend policy, indicating a fine-tuning and reassessment of policy performance.

Quantitative Methods

The quantitative methods used in this research includes analysis of state-annual annual data from 1976-2010. A total of 37 variables[52] were utilized to test 14 of the 18 hypotheses. H9, H16, H17, and H18

[52] The variables time and statenum (i.e. state identification numbers) are not included in the 37 variable count. These variables are included in univariate descriptive statistics and correlation assessment.

will be tested through the comparative case studies. While the comprehensive model includes $\text{POLICYTYPE}_{i,t}$ and $\text{EXSPOLICY}_{i,t}$, the model used for the quantitative portion of this research does not include either variable due to limitations in statistical measurements.

Data Collection

Data for both independent and dependent variables was collected through archived materials. The independent variables are based on available data from government and academic sources. Government sources include the United State Department of Agriculture, the Bureau of Economic Analysis, and the Census Bureau.

For the dependent variables, archived materials were cross-referenced with law library staff, career civil servants, or organic agriculture interest groups. Initial information was collected through surveying the current organic policy literature and evaluating current and historical state statutes and administrative rules. After compiling a list of states that had either passed legislation or administrative rules, a list of states to further examine was generated, and dates of initial legislative adoption, amending legislative adoption, and effective dates for statutes were confirmed.

Dependent Variables

Three binary dependent variables are used in this analysis to give a dynamic evaluation of adoption and appropriately answer the research questions of this project (see Table 3.5). The first dependent variable (adopt) measures all adoptions of organic legislation in a calendar year. The second dependent variable (iadopt) measures only the adoption of initial organic legislation in calendar year. Finally, the amending adoption variable (aadopt) measures only the adoption of amending organic legislation in a calendar year. For each measure of adoption, total annual adoption numbers are calculated under three separate variables (totadopt, totiadopt, and totaadopt).

Passed legislation was counted as an adoption if it outlined organic food and agriculture regulations, delegated policy-making power to administrative agencies, created task forces, or some combination of regulations, task forces, or delegated power. Non-substantive legislation, legislation funding organic agriculture research to universities, or legislation that was proposed but never passed was not included as an adoption.

For this analysis, administrative rules are considered a separate form of law than state statutes or code created by legislative action. Previous policy diffusion studies have used varying combinations of law in assessing adoption. Some scholars may consider administrative rules as interchangeable with legislative bills or resolutions. Yet, administrative law has a different set of decision-makers and a separate decision-making process than the legislative bills or resolutions. Therefore, states that only had organic administrative rules but no state statutory code were excluded from this analysis. Massachusetts, Ohio, Rhode Island, and Utah are states identified as having administrative rules developed not based on organic food and agriculture statutes. For states where administrative rules pre-dated legislative action, the initial adoption and amending adoption dates are reflected. Texas and Oregon were identified in having administrative rules pre-dating legislative action.

Independent Variables

A total of 28 independent variables were included this analysis. Table 3.5 details each independent variable and how it is included within the broader diffusion model.

INTERNAL$_{i,t}$ Variables

Thirteen independent variables are used to test internal condition hypotheses. State legislative professionalism (stlegprof) is calculated using Squire's (2007) assessment of data from 1960, 1979, 1986, 1996, 2004, and 2009. For missing years, legislative professionalism was calculated through interpolation and extrapolation as needed. Under this variable, states that have more professionalized state legislatures would have scores closer to 1 whereas less professional legislatures would be scored closer to 0. Squire's measure uses member pay, staff members per legislator and total days in session to calculate the professionalism rate. U.S. Congress is used a baseline for an ideal professionalized legislature; States are compared to the U.S. congressional baseline.

This analysis elects to use scaled version Elazar's political cultures (sharkculmeas) to assess the influence of political beliefs on adoption. Unlike other political ideology measures, political culture encompasses broader conceptualization for the scope of government and moves beyond the Republican-Democrat dichotomous categorization. Sharkansky's (1969) scaled version of political cultures eliminates some of the problems in relying on a dichotomous assessment of each state's culture. In particular, the political cultures were not envisioned as a continuum but rather a circular reference. Dichotomous measures lack the ability to contend with dominant moralistic cultures that contain strong individualistic or traditionalist strains. The scaled version accounts for the presence of strong contradictory strains in culture with 1 equal to a perfect moralistic culture, 5 equal to a perfect individualistic culture, and 9 equal to a perfect traditionalist culture. According to Elazar (1972), moralistic cultures value government service as a public good whereas traditionalists political cultures (i.e. the South) favor a more limited role of government. Individualistic cultures are more utilitarian in nature and politics is seen as a business. A state's political culture can be predominantly one culture but contain strong strains of another culture. While there are inherent limitations to using political culture (Lieske 1993; Nardulli 1990), scholars have found moralistic states to be more likely to adopt policy innovations (Boushey 2010; Karch and Cravens 2011).

Two final internal political variables are partisan control (parcont) and divided government (dividedgov). Each variable originates from Klaner's (2013) state partisan balance data set. Partisan control is Klaner's (2013) true government control variable (true_government_cont_a2), which "ignores the part of the governor when there are veto proof majorities in the state legislature." Divided government is a binary variable where 1 indicated divided government and 0 equals unified control of the governor's office and both chambers of the legislature.

The last three internal conditions variables test the economic and industry hypotheses. Per capita income (pcwealth) is measured through both a raw number and logged version. The industry variables include assessments of market value sales percentages and logged variables of the market value sales. The log of fruit and vegetable sales (logfru & logveg) were created by logging the raw figure of market values

The last three internal conditions variables test the economic and industry hypotheses. Per capita income (pcwealth) is measured through both a raw number and logged version. The industry variables

Table 3.5: Description of Variables			
Model Variable	**Variable**	**Description**	**Level of Measurement**
$ADOPT_{i,t}$	adopt	State adoption of organic legislation (whether initial or amending)	0 = No Adoption 1 = Adoption
	iadopt	State initial adoption of organic legislation	0 = No Adoption 1 = Initial Adoption
	aadopt	State adoption of organic legislation that amends state statutes	0 = No Adoption 1 = Amending Adoption
	totstadopt	Total number of state adoptions (initial or amending) in a year	Interval (0-50)
	totiadopt	Total number of state initial adoptions in a year	Interval (0-50)
	totaadopt	Total number of state amending adoptions in a year	Interval (0-50)
EXS-$POLICY_{i,t}$	stenact	Total number of state statutes officially enacted in a year	0 = No Enacted Statutes 1 = Enacted Statutes
$INTERNAL_{i,t}$	stlegprof	State legislative professionalism	Interval (0-1) *0 = Less Professional* *1 = More Professional*
	sharkculmeas	Sharkansky's measurement of Elazar's political cultures (Moralistic, Individualistic, Traditionalist)	Interval (1-9) *1 = Perfectly Moralistic* *5 = Perfectly Individualistic* *9 = Perfectly Traditionalist*
	Parcont	Party that truly controls state government (ignores governor's party when veto-proof majority)	-1 = Republican Control 0 = Neither Party in Control 1 = Democratic Control
	dividedgov	Divided government – control of state government institutions (two chambers of legislature and governor's office)	0 = All 3 Institutions Controlled by Same Party 1 = All 3 Institutions Not Controlled by Same Party
	pcweatlh	Per capita income of residents in a state	Interval
	logpcw	Log of pcwealth	--
	Peraggdp	Percentage of state's gdp that results from the agriculture industry	Interval (0-100%)

Model Variable	Variable	Description	Level of Measurement
	logpagdp	Log of peraggdp	--
	fruper	Percentage of state agricultural market value sales resulting from fruit, tree nuts, and berries	Interval (0-100%)
INTERNAL$_{i,t}$	logfru	Log of fruper	--
	vegper	Percentage of state agricultural market value sales resulting from vegetables, melons, potatoes and sweet potatoes	Interval (0-100%)
	logveg	Log of vegper	--
	amsregion7	Agricultural Marketing Service seven agricultural regions designation	1 = Far West 2 = Rocky Mountain 3 = Southwest 4 = North Central 5 = Southeast 6 = Mid-Atlantic 7 = Northeast
	ar71	Far West Dummy Variable (Alaska, California, Hawaii, Nevada, Oregon, Washington)	0 = Not in Region 1 = In Region
	ar72	Rocky Mountain Dummy Variable (Arizona, Colorado, Idaho, New Mexico, Montana, Utah, Wyoming)	0 = Not in Region 1 = In Region
EXTERNAL$_{i,t}$	ar73	Southwest Dummy Variable (Arkansas, Louisiana, Oklahoma, Texas)	0 = Not in Region 1 = In Region
	ar74	North Central Dummy Variable (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin)	0 = Not in Region 1 = In Region
	ar75	Southeast Dummy Variable (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee)	0 = Not in Region 1 = In Region
	ar76	Mid-Atlantic Dummy Variable (Delaware, Maryland, New Jersey, Pennsylvania, Virginia, West Virginia)	0 = Not in Region 1 = In Region

Model Variable	Variable	Description	Level of Measurement
	ar77	Northeast Dummy Variable (Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont)	0 = Not in Region 1 = In Region
	regiadoptper	Percentage of all states in a region that have adopted organic legislation up to and including a given year	Interval (0-100%)
	retgexistper	Percentage of all states in a region that have enacted statutes in a year	Interval (0-100%)
$EXTERNAL_{i,t}$	natiadoptper	Percentage of all states that have adopted organic legislation up to and including a given year	Interval (0-100%)
	natexistper	Percentage of all states that have enacted statutes in a year	Interval (0-100%)
	fedadopt	Federal adoption of organic legislation (initial or amending)	0 = No Adoption 1 = Adoption
	fedimpl	Federal statutes officially enacted/in effect	0 = No Enacted Statutes 1 = Enacted Statutes
$SALIENCE_{i,t}$	salience	Issue salience - number articles published in *The New York Times* in a year	Interval
	logsali	Log of salience	--

include assessments of market value sales percentages and logged variables of the market value sales. The log of fruit and vegetable sales (logfru & logveg) were created by logging the raw figure of market values sales for the categories of fruit, tree nuts, and berries and vegetables, melons, potatoes and sweet potatoes. The sales percentages are calculated by dividing the fruit and vegetable market value sales by total agriculture market sales. Since the Census of Agriculture was only available every four to five years, extrapolation and interpolation were used to fill in missing yearly values.

$EXTERNAL_{i,t}$ Variables

Fourteen variables are used to assess external conditions of adoption. To evaluate regional horizontal patterns of diffusion, the AMS 7-region designation used by the Sustainable Agriculture Research and Education Program (see Figure 3.1 for visual representation) is used to control for and examine the influence of regional adoption and existing policy patterns. Dummy variables (ar71-ar75) were created for each region. In addition, adoption percentages and percentages of enacted statutes were also calculated at the national (natiadoptper and natexistper) and regional levels (regiadoptper and regexistper). Enacted statutes percentages were derived from the enacted statutes variable (stenact*),* a binary endogenous variable that assesses absence or presence of enacted statutes in a year. To examine isomorphism, internal variables were assessed as needed and the national total of adoption and enacted statutes will be modeled.

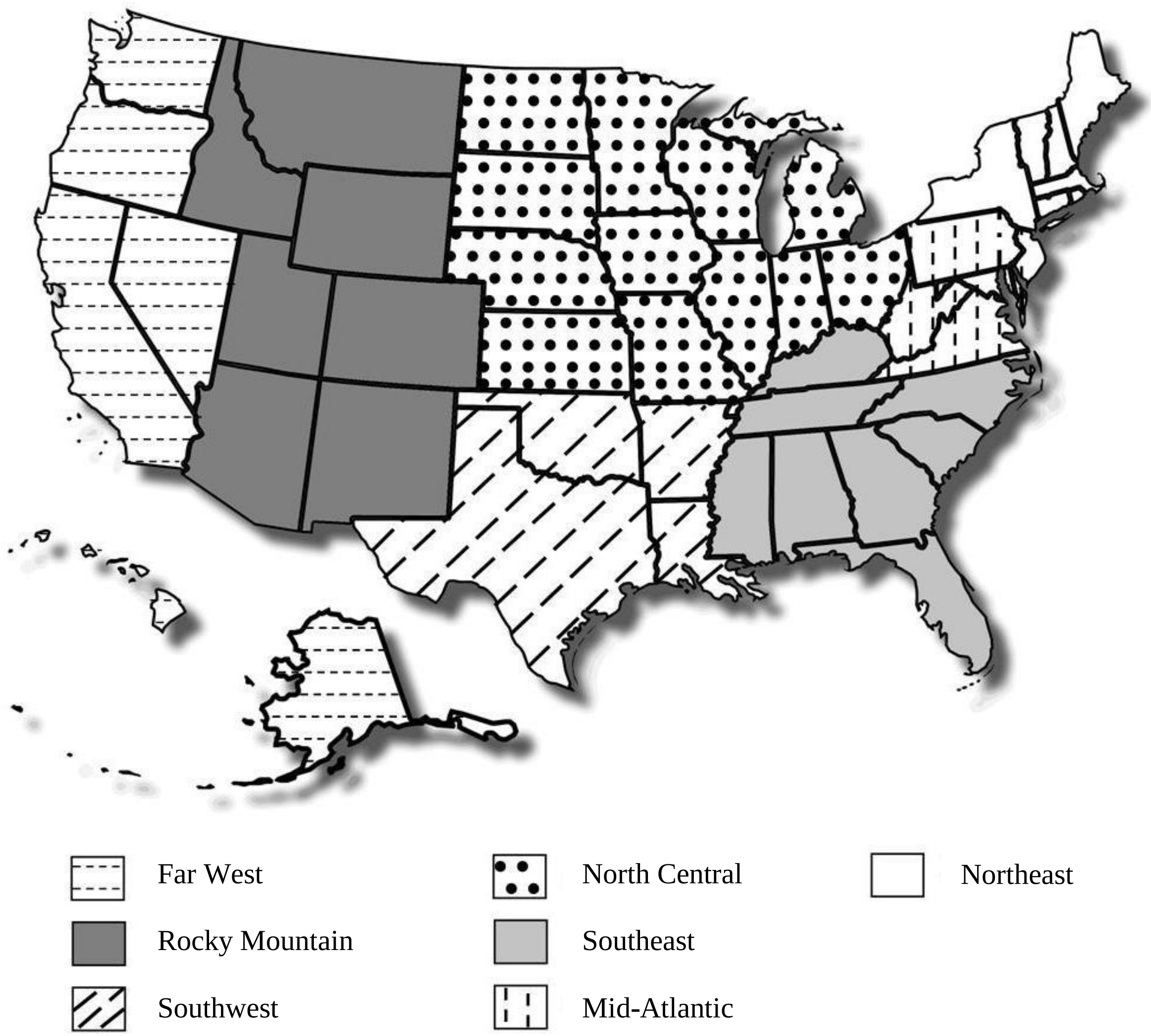

Figure 3.1: AMS 7-Region Map

The vertical dimension of diffusion is examined through federal adoption (fedadopt) and federal implementation (fedimpl). Federal adoption of organic legislation is a dichotomous measure. Any year Congress passed organic legislation, whether initial or amending, is marked as a 1. Any year federal policy is officially implemented are marked as 1.

. **SALIENCE$_{i,t}$ Variable**

Salience is measured according to the number of articles that mention organic food and agriculture printed in the *New York Times* for each year from 1976-2010. Relevant articles were identified through three different keyword and title searches under two different *New York Times* newspaper archive databases. Articles were included in the final count if references to organic food, farming, or agriculture were mention at some point in the article. Article types range from clear discussions on organic food and farming to lifestyle pieces such as food editor columns or lists of organic Thanksgiving turkey brands.

While a number of approaches have been used to construct an issue salience measure, the decision to use *New York Times* is based on availability of archived articles and validity of the method itself. Specifically, not all newspapers, such as the *Los Angeles Times*, have archived materials reaching the entire span on the study. Furthermore, a dispute with freelance writers (see *New York Times v. Tasini)* with most major newspapers on full-text online databases create substantial difficulties with obtaining older materials. The *New York Times* has resolved most of the freelance writer disputes but in 2002 had approximately 8% of all articles missing from online archive databases, a figure that is lower than most newspapers (Chen 2002). Therefore obtaining an accurate article count using multiple newspapers sources may not be and achievable or accurate measure. However, reliance on just the *New York Times* is not an invalid measure. Several scholars have identified the *New York Times* as a key and prominent source for identifying the national pulse and setting the agenda (Dearing and Rogers 1996; Epstein and Segal 2000; Kiousis 2004; Reese and Danielien 1989; Roberts Wanta, and Dzwo 2002; Rogers and Chang 1991). Methods vary and include both the number of articles within the paper or on the front page.

Procedure

Step 1: Univariate Descriptive Statistics

Table 3.6 provides the descriptive statistics for each variable. The minimum number of observations is 1715 while the maximum number observed is 1750. The minimum observation number is created by the exclusion of Nebraska for partisan control and divided government variables. Chapter IV will provide a more detailed analysis of trends over time for each dependent variable.

Step 2: Bivariate Analysis

Appendix B contains the correlations between each variable. Strong correlations were found between key independent variables and time. Time had a strong positive correlation with regional and national adoption percentages, regional and national enacted statute percentages, wealth, and salience. Similarly, strong correlations were found between the same key independent variables.

Appendix C contains time-series logistic regressions between each dependent variable and the independent variables. The results collectively confirm statistically significant relationships among the dependent variables for regional and national adoption percentages, regional and national enacted statute percentages, percentage of fruit sales, log of vegetable sales, salience measures, per capita wealth measures, federal adoption, and federal implementation. When comparing the bivariate results for each dependent variable, initial adoption only demonstrates a statistically significant relationship with federal implementation.

Step 3: Constructing a Collapsed Data Model

Based on the results of the bivariate analysis, an initial step in this analysis was to construct a collapsed data model to inform the construction of the state year models. This model collapses the state year data into national year variables. Variables that are not constant among all states were excluded from the national year model. One national year model was constructed for each dependent variable due to the high correlation between salience measures with the national adoption and enacted statutes percentages (see Appendix D for correlations and bivariate regressions). Table 3.7-3.9 outlines the results of each

Table 3.6: Descriptive Univariate Statistics					
Variable	**Observations**	**Mean**	**Std. Dev.**	**Min**	**Max**
year	1750	1993	10.10	1976	2010
statenum	1750	25.5	14.43	1	50
adopt	1750	.08	.27	0	1
iadopt	1750	.02	.14	0	1
aadopt	1750	.06	.24	0	1
stenact	1750	.42	.49	0	1
amsregion7	1750	4.1	1.90	1	7
ar71	1750	.12	.32	0	1
ar72	1750	.14	.35	0	1
ar73	1750	.08	.27	0	1
ar74	1750	.24	.43	0	1
ar75	1750	.16	.37	0	1
ar76	1750	.12	.32	0	1
ar77	1750	.14	.35	0	1
fedadopt	1750	.23	.42	0	1
fedimpl	1750	.26	.44	0	
regiadoptper	1750	.44	.31	0	.85
regexistper	1750	.42	.29	0	.85
natexistper	1750	.42	.25	.02	.70
natiadoptper	1750	.44	.27	.02	.76
salience	1750	31.37	36.45	0	151
logsali	1750	2.57	1.53	0	5.02
pcwealth	1750	21882.09	10621.14	4746	56959
logpcw	1750	9.86	.54	8.46	10.95
stlegprof	1750	.20	.12	.03	.66
sharkculmeas	1750	5.06	2.56	1	9
parcont	1715	.15	.65	-1	1
dividedgov	1715	.55	.50	0	1
peraggdp	1750	.06	1.43	.00	60
logpagdp	1750	-2.39	.18	-4.46	-.15
fruper	1750	.05	.08	3.77	.35
logfru	1750	9.50	2.54	.69	16.30
vegper	1750	.05	.10	.00	1.59
logveg	1750	10.28	2.01	4.19	16.13

regression. The results of each model demonstrate that salience and federal actions explain nearly half of the variation across all adoption and amending adoptions can be explained by four independent variables. Despite the results, two concerns emerge from these models. First, federal adoption and federal implementation have different effects on amending versus initial adoption. Second, the fit of the initial adoption model demonstrates that the need to investigate other variables in the state year models.

Step 4: Constructing State Year Models

The final step in the analysis was to construct a number of state year models based on consideration a time and regional variations. Three basic models were constructed to be used across time periods and regional examinations (see Table 3.10). Model 1 includes the regional and national adoption percentages. Model 2 includes the enacted statutes percentages. Model 3 excludes both adoption and enacted statute percentages. Chapter IV will detail the findings of time series logistic regressions.

Table 3.7: Total Annual of All Adoptions

Source	SS	df	MS		
Model	194.0535	4	48.5133	# of obs	35
Residual	176.2322	30	5.8744	R-squared	0.5241
Total	370.2857	34	10.8907	Adj R-squared	0.4606

totstadopt	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
fedadopt	2.2588	1.068	2.11	0.043	0.0774	4.4401
fedimpl	1.2792	1.6729	0.76	0.45	-2.1373	4.6958
salience	-0.0757	0.026	-2.91	0.007	-0.1288	-0.0226
logsali	2.0786	0.4868	4.27	0	1.0844	3.072
_cons	0.3203	0.8882	0.36	0.721	-1.4937	2.1345

Table 3.8: Total Annual of Initial Adoptions

Source	SS	df	MS		
Model	14.2822	4	3.5705	# of obs	35
Residual	92.4605	30	3.082	R-squared	0.1338
Total	106.7428	34	3.1394	Adj R-squared	1.7556

totstadopt	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
fedadopt	0.7549	0.7736	0.98	0.337	-0.825	2.3349
fedimpl	-1.6668	1.2117	-1.38	0.179	-4.141	0.8078
salience	-0.0029	0.0188	-0.16	0.876	-0.0414	0.0355
logsali	0.2724	0.3526	0.77	0.446	-0.4477	0.9926
_cons	0.7332	0.6434	1.14	0.263	-0.5807	2.0473

Table 3.9: Total Annual of Amending Adoptions

Source	SS	df	MS		
Model	165.5714	4	41.3928	# of obs	35
Residual	132.3142	30	4.4104	R-squared	0.5558
Total	297.8857	34	8.7613	Adj R-squared	0.4966

totstadopt	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
fedadopt	1.5039	0.9254	1.62	0.115	-0.3861	3.394
fedimpl	2.9461	1.449	2.03	0.051	-0.0142	5.9066
salience	-0.0727	0.0225	-3.23	0.003	-0.1188	-0.0267
logsali	1.8062	0.4218	4.28	0	0.9447	2.6677
_cons	-0.4129	0.7696	-0.054	0.596	-1.9848	1.159

Table 3.10: State Year Models		
Model 1 (Adoption Percentages)	**Model 2 (Enacted Statutes Percentages)**	**Model 3**
fedadopt	fedadopt	fedadopt
fedimpl	fedimpl	fedimpl
salience	salience	salience
logsali	logsali	logsali
pcwealth	pcwealth	pcwealth
logpcw	logpcw	logpcw
stlegprof	stlegprof	stlegprof
sharkculmeas	sharkculmeas	sharkculmeas
parcont	parcont	parcont
dividedgov	dividedgov	dividedgov
peraggdp	peraggdp	peraggdp
logpagdp	logpagdp	logpagdp
fruper	fruper	fruper
logveg	logveg	logveg
natiadoptper	natexistper	ar72
regiadoptper	regexistper	ar73
ar72	ar72	ar74
ar73	ar73	ar75
ar74	ar74	ar76
ar75	ar75	(ar71 = cons)
ar76	ar76	
(ar71 = cons)	(ar71 = cons)	

CHAPTER IV
A Quantitative Evaluation of Organic Policy Diffusion

This chapter presents the statistical examination of the diffusion of organic food and agriculture legislation. The quantitative analysis presented in this chapter begins by describing the variation over time in organic policy adoption among the states. Next, this chapter evaluates the results from the cross-sectional time-series logistic regression models of diffusion. Three eras, covering five different time periods, are analyzed including pre-federal adoption, post-federal adoption, and a comprehensive 35-year time period model. In addition, four regions (Far West, North Central, Southeast, and Mid-Atlantic) are modeled based upon the results of the comprehensive 35-year time period model.

A National Picture

From 1976-2010, a total of 38 U.S. states passed legislation regarding organic food and agriculture (see Appendix A for state adoptions). The earliest initial adoption of organic legislation was in 1976 and the most recent initial adoption in the analysis timeframe occurred in 2009. Adoption of amending legislation varies from state to state. Some states did not adopt any amending legislation while other states frequently amended existing statutes. According to this data, California reported the most amending adoptions of any state. In total, California made 17 amending adoptions over the course of 29 years; Most amending adoptions occurred during the 1990s.

The S-Curve and R-Curve: Assessing the Speed of Diffusion

As discussed in Chapter II, policy diffusion scholars have observed both a gradual adoption (i.e. the s-curve) and rapid adoption patterns (i.e. the r-curve). The r-curve is expected to occur during a short time period, which would result in a sharp increase in the cumulative total of adoptions in a one- to three-year time period. A key difference between Berry and Berry's policy diffusion model and Boushey's policy diffusion model rests on the speed of diffusion. For U.S. state organic food and agriculture legislation, speed of adoption over time is slower but there is a window of time in which diffusion is rapid and fast. Figure 4.1 illustrates the cumulative percentage of total adopters from 1976-2010. The curve can be evaluated as both an s-curve and an r-curve for the 35-year time period evaluated.

The s-curve for organic adoption is clearly present when examining all 35 years in the study. Prior to 1985, there are several years when no state adopted organic legislation. Similarly, there is minimal growth at the end of the s-curve after 2000. The r-curve is clearly present from 1988-1990 with approximately a 30% growth in the total number of adopters. In isolation, this 3-year time period may suggest a contagion diffusion pattern due to the rapid rate of adoption, which would confirm Boushey's (2010) contagion model of diffusion. However, a comprehensive 35 year analysis suggests an extended period of diffusion, represented through the s-curve, which is consistent with most of the diffusion of innovation literature.

What is the significance of finding both an s-curve and an r-curve? It signifies the development of a diffusion model that can explain both long- and short-term diffusion patterns is necessary. Furthermore, it signifies the need to consider more than just a broader comprehensive analysis. Any policy diffusion

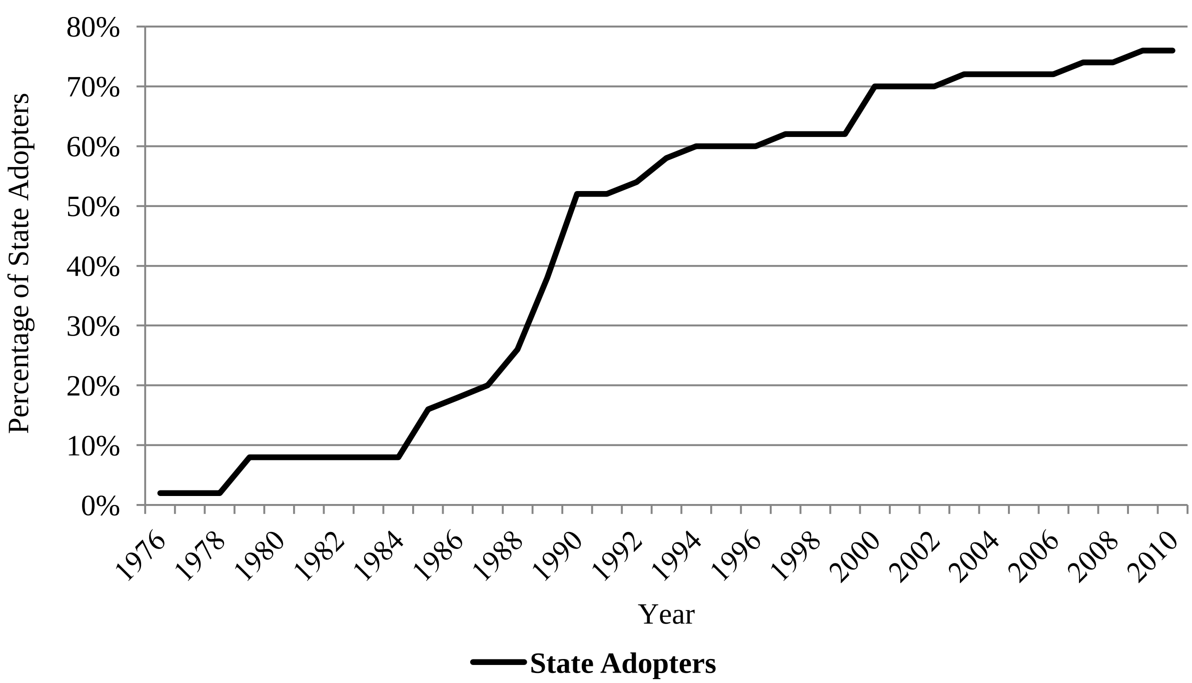

Figure 4.1: Cumulative Percentage of State Adopters

analysis should consider different time frames based on the speed of adoption. In this particular case, the speed of diffusion creates the need to examine adoptions before and after 1990 in solidarity. In addition, by focusing on the period of 1985-1990, when most initial state adoption occurred, aids in identifying the difference between the slower periods of diffusion versus the period of rapid adoption. The statistical models developed below are based the speed of adoption, which also happens to coincide with the goal of determining the effect of federal adoption in 1990.

Cumulative Totals of Initial and All Adoptions

In addition to examining the speed of diffusion through an s-curve or r-curve assessment, adoption patterns and shifts in adoption type can be examined through the cumulative totals of initial and all adoptions. Figure 4.2 plots the cumulative totals of initial and amending adoption. As also confirmed by Figure 4.1, most initial adoption occurred from 1988-1990 with slow growth both before and after. This pattern further confirms the s-curve and r-curve patterns in the cumulative percentage of state

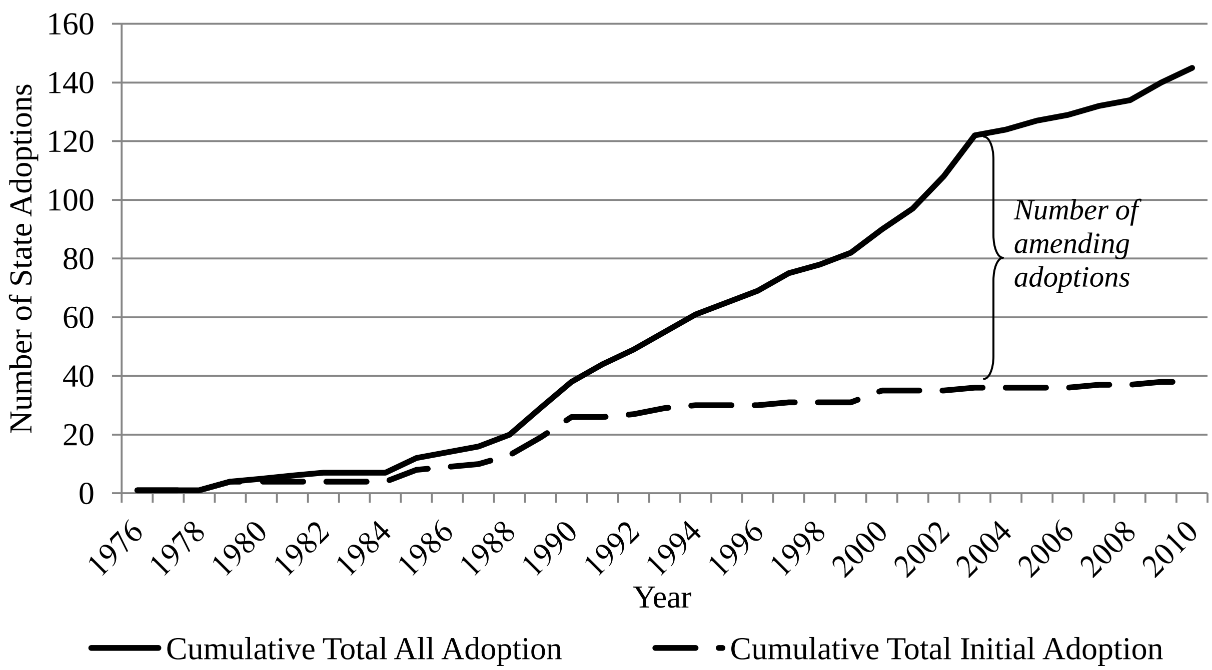

Figure 4.2: Cumulative Total of State All Adoption and Initial Adoption

adopters. However, Figure 4.1 cannot demonstrate how initial adoption growth compares to growth in amending adoptions as illustrated in Figure 4.2. Most early adoptions were initial legislation whereas post-1990 adoption growth is primarily attributed to amending legislation. The gap between the cumulative initial adoption line and the cumulative total adoption line demonstrates the total cumulative number of amending adoptions. The number of amending adoptions suggests state legislatures continued to reassess state organic policy. Of particular significance is the sharp increase in amending adoptions in the years leading up to 2002, the year when the NOP was officially implemented. This amending adoption pattern is more than likely in response to federal implementation suggesting vertical influence on adoption decisions in the states. The significance of these findings demonstrates the need for the analysis to differentiate between initial and amending adoptions within the same analysis.

An Annual Picture of Adoptions and Enacted Statutes

In addition to the cumulative total of adoption and state adopters, calculating annual totals of adoption and enacted statutes provide a more detailed picture of overtime variation in adoption decisions. Figure 4.3 illustrates the annual variation in all adoptions, initial adoptions, and enacted state statutes for each year from 1976 to 2010. Annual total of amending adoptions can be observed as the space between the initial adoption and all adoption lines.

This graph is significant to deriving more descriptive depth for two reasons. First, Figure 4.3 highlights three primary periods of initial adoption and one peak of amending adoption. The three periods of initial adoption were in 1979, 1985-1990, and 2000.[53] These three periods denote leading adoptions (c. 1979), lagging adopters (c. 2000), and middle-of-the pack of adopters (c. 1984-1990). It is the second period (1985-1990) of initial adoption that contains the most initial adoptions. Also of interest in this second time period are the two spikes in adoption in 1985 and from 1989-1990. A lull of initial adoption activity existed in 1986 and 1987. There does not appear to be a clear explanation for the lull from 1986-1987 or the sudden inactivity in 1991 based on the descriptive statistics alone. However, the presence of

[53] A moderate peak exists from 1992-1994. However, this time period does not have a year in which the annual total of initial adoption is more than two states.

a large group of adopters between 1985 and1990 suggests that organic food and agriculture began having traction as a significant state policy issue in the U.S.

Comparatively, the first and third primary periods of adoption also convey some important information about state level organic policy diffusion. The third initial adoption period is followed by a spike in amending legislation adoption in 2003, one year after official enactment of the NOP final rule.[54] This peak in amending adoptions is likely the result of federal implementation. Conversely, the first period of initial adoption has minimal amending adoption in the years following. However, it is clear some states delayed the enactment of statutes by a year.[55] This point leads to secondary significance of the plotted data in Figure 4.3.

In addition to the confirmation of annual totals of adoptions, it can also be confirmed that most states did not terminate enacted statutes after official implementation of NOP. Despite a significant

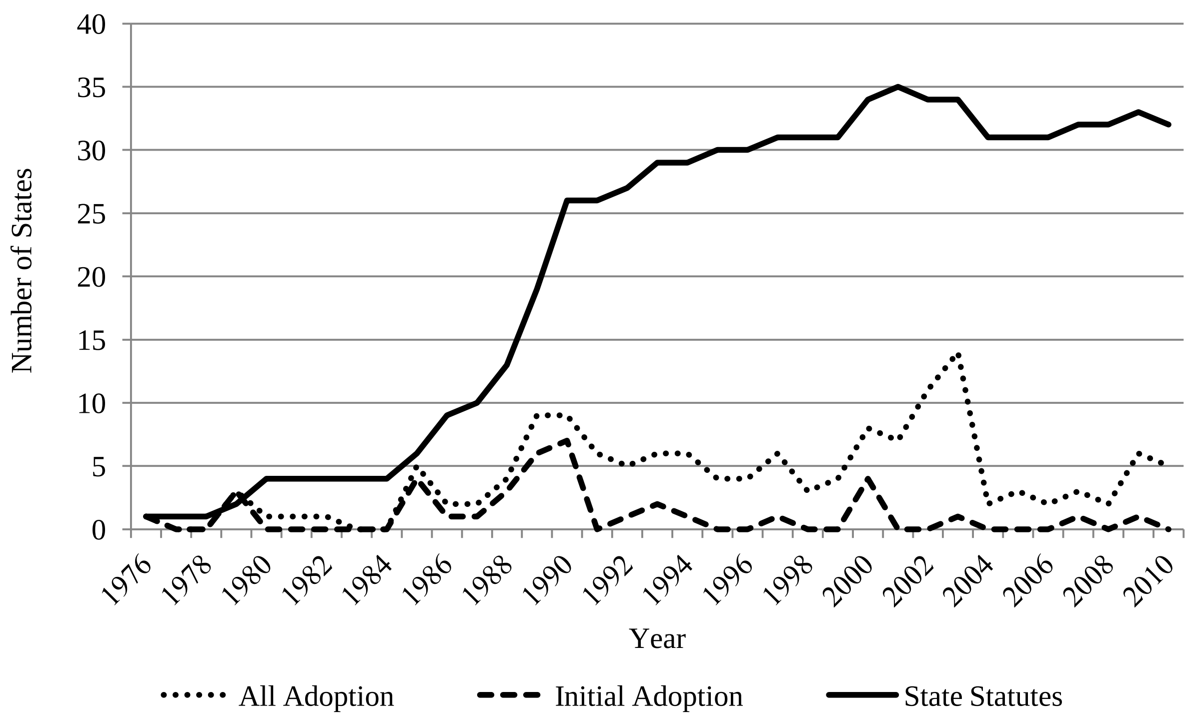

Figure 4.3: Total State Adoption and Statutes by Year

[54] Amending adoption annual totals can be calculated as the space between initial and total adoption.
[55] Several initial adopting states in 1985 and 1986 also delayed the enactment of statutes by a year.

number of amending adoptions from 2001 through2004, there is only a slight decline in the number of states with enacted statutes. This is contrary to what was expected to occur as indicated in H14, which predicted states would be more likely to terminate state statutes after federal implementation. Instead, most states modified legislation to allow for federal supremacy in the policy domain. This suggests that official implementation at the federal level did not deter most states from maintaining existing statutes on organic food and agriculture.

Regional Pictures

The picture of adoption at the regional level provides a spatial perspective to the spread of organic legislation diffusion in the U.S. Figure 4.4 and Table 4.1 provide snapshots of adoption and enacted state statute percentages for each region for six key years during the 35-year time period.

Two regions emerge as leaders. New York, Connecticut, and Maine were the first to adopt in the Northeast. California led the Far West region. This pattern in early adoption partially confirms the first

Table 4.1: Regional Adoption and Enacted State Statute Percentages

Region	Percentages	1979	1985	1990	2000	2010
Far West	Adoption %	17%	33%	67%	83%	83%
	Statute %	0%	33%	67%	83%	67%
Rocky Mountain	Adoption %	0%	14%	57%	71%	86%
	Statute %	0%	0%	57%	71%	86%
Southwest	Adoption %	0%	0%	75%	75%	75%
	Statute %	0%	0%	75%	75%	75%
North Central	Adoption %	0%	0%	50%	75%	83%
	Statute %	0%	0%	50%	67%	75%
Southeast	Adoption %	0%	0%	25%	63%	63%
	Statute %	0%	0%	25%	63%	50%
Mid-Atlantic	Adoption %	0%	0%	33%	50%	67%
	Statute %	0%	0%	33%	50%	50%
Northeast	Adoption %	43%	57%	71%	71%	71%
	Statute %	28%	57%	71%	71%	43%

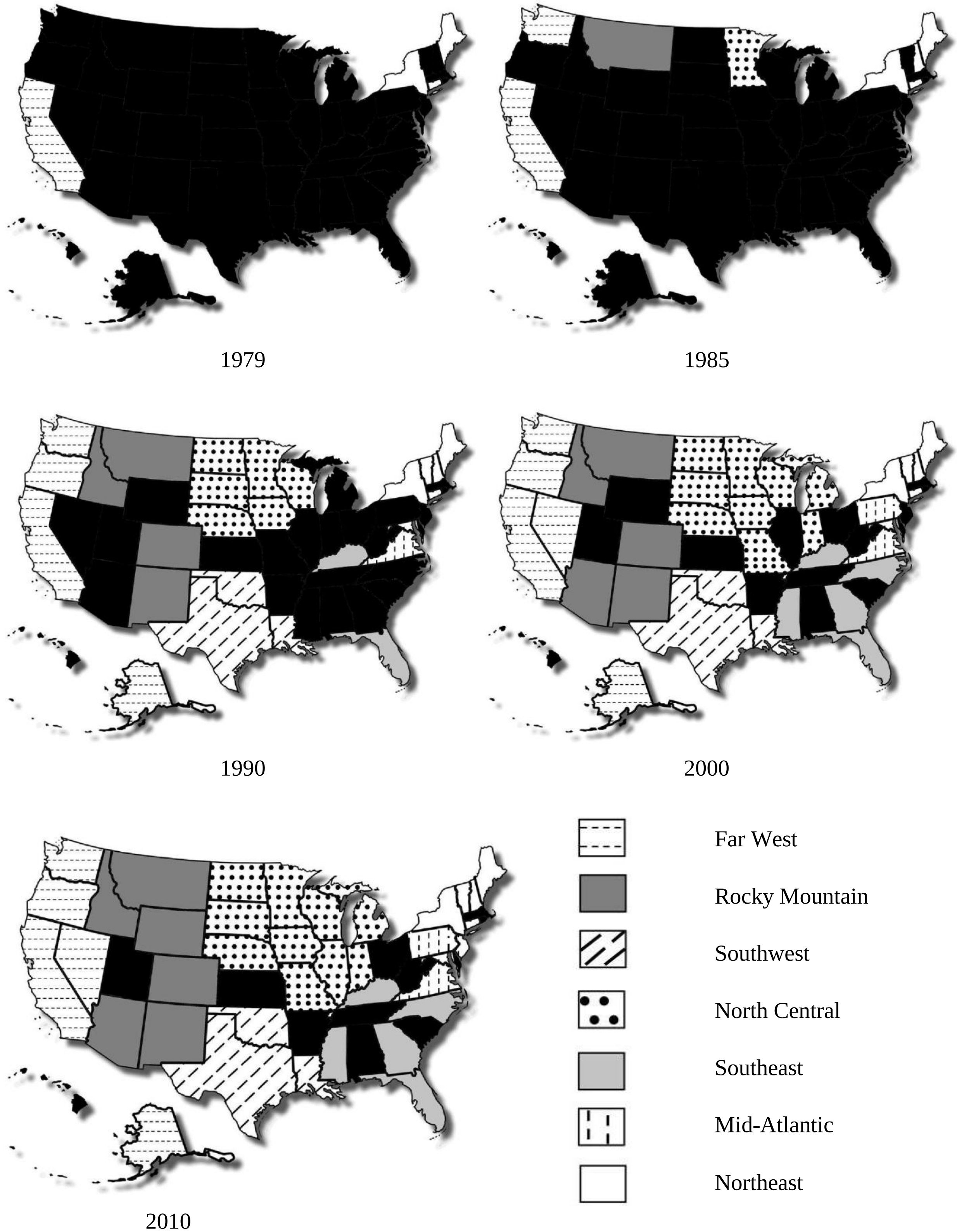

Figure 4.4: Regional Adoption Maps

hypothesis of this study that claims states like California, Massachusetts, Michigan, and New York are more likely to be early adopters. New York and California set the paces in their region with initial adoptions in 1976 and 1979. Michigan did not adopt legislation until 2000, and Massachusetts has never passed legislation. However, if the scope of the law is expanded to include administrative rules, Massachusetts would be considered an early adopter of organic food and agriculture policy. In 1978, the Massachusetts' Department of Public Health enacted organic food regulations. Therefore, evidence exists to support both Walker and Gray's conclusions about innovativeness as a state characteristic. Specifically, Walker was correct in his assumption that innovativeness can be a state characteristic with particular states acting as trendsetters. New York, Massachusetts, and California all had adopted policies regulating organic food and agriculture prior to 1980. Yet evidence also supports Gray's assumption that innovativeness may be issue and time specific. Walker identified Michigan as being an early adopter and regional trend-setter. By the time Michigan adopted in 2000, seven other states in the North Central region had already adopted legislation. The case of Michigan signifies that innovativeness as a state characteristic may fluctuate based on the issue itself.

Laggard regions include the Southeast and Mid-Atlantic. Neither region experienced an initial state adoption until 1990. Middle-of-the-pack regions include the Rocky Mountain, Southwest, and North Central regions. The North Central region, which contains 13 states, experienced the most growth in the 1980s.

By 2010, regional decline in enacted state statutes declined for all regions except Rocky Mountain and the Southwest.[56] The Northeast had the most dramatic decline with 28% of the states in the region repealing state organic statutes. Most state statute repeals occurred in 2003 and 2004. While not conclusive, it could be argued that federal implementation led to some repeals but not a drastic, across-the-nation decline. Instead, the effect of federal implementation may have different regional impacts as

[56] Discrepancies in percentage of adopters and percentage of enacted statutes in 1979 and 1985 are caused by delayed enactment of legislation. For example, California passed legislation in 1979 but was not enacted until 1980.

the Northeast and Far West regions have the greatest decline in enacted state statutes after 2000 (see Figure 4.1).

Another explanation for the decline in enacted state statutes may relate to the life-cycle of innovative policies. The Northeast and Far West regions were the earliest regional adopters. The decline in enacted regional percentages of enacted state statutes since 2000 may be the result of replacing the organic food policy with a new innovative policy. For example, this dataset ends at 2010, but several states adopted amending legislation in 2009 and 2010 that subsequently terminated organic statutes. In Kentucky, organic statutes were replaced with the Kentucky Proud program, a local food program, and administrative rules remained. While there is not a similar and clear example in the Northeast or Far West regions, there is the potential that local food and community-based agriculture movements push for the policy replacement of organic state statutes. As more recent data becomes available, the decline of enacted statutes may continue as state legislators focus attention on new issues, such as local food, and remove older innovative policies.[57]

Modeling Results of Organic Policy Diffusion in the U.S.

To identify causes and drivers of organic policy diffusion in the U.S., three adoption-type models are developed (as discussed in Chapter III), and adoption activity is tested for five different time periods representing three different eras of analysis. This section will cover the results of the 45 statistical models completed in this study. The model results are divided into four subsections – pre-federal adoption, post-federal adoption, comprehensive 35-year model, and statistically significant regional models. To begin, the results from the pre-federal adoption era are analyzed including adoption activity from 1976-1989 and initial adoptions from 1985-1990. Evaluation of post-federal adoption activity in the states will follow with models examining adoptions from 1990-2010 and 1990-2004. Finally, a comprehensive evaluation of adoptions from 1976-2010 will conclude the section focused on modeling at the national level. The

[57] In the construction of the salience measure, it was found that articles on local foods and community-based agriculture began to replace attention once allotted organic food. Starting in 2007, a number of articles questions if organic had lost its meaning and suggested local and community-based agriculture as having being clearer and more meaningful.

data is assessed for each time frame to illuminate the dynamic relationships between dependent and independent variables given the patterns of adoption highlighted above. It allows for particular consideration of pre- versus post-federal state adoption activity being motivated by a different set of factors in consideration speed of adoption over time. The section concludes with the presentation of regional model results. Four regions that were statistically significant in the comprehensive models are examined. Analysis of how the results from those segmented analyses confirm or reject the expectations framed in the earlier hypotheses of the study will follow.

Pre-Federal State Adoption Activity (1976-1989)

State adoption activity prior to the passage of NOFPA in 1990 covers a 14 year time period from 1976-1989. Two time frames are used to analyze the causes for state adoption prior to federal adoption of organic legislation. The first time frame examines the results from all adoptions from 1976-1989. The second time frame focuses on initial adoptions from 1985-1990, when the majority of states adopted organic legislation for the first time.

Table 4.2 outlines each model tested for all adoptions, initial adoptions, and amending adoptions in the pre-federal adoption era (1976-1989). The results indicate a number of factors including; salience, per capita wealth, political culture, agricultural GDP, regional adoption and enacted state statutes, as well as the Far West region, are statistically significant variables for state adoption decisions prior to 1990. However, initial versus amending adoptions are impacted by different variables. For initial adoptions, issue salience, political culture, and regional adoption and enacted state statutes[58] are significant. The direction of the relationships suggests that states experiencing increasing issue salience, classification as moralistic/individualistic political culture, and facing regional pressures are more likely to adopt organic legislation. For amending adoptions, the Far West region, decreases in agricultural GDP, and per capita wealth are explanations for why adopting states would be more likely to adjust existing policy.

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[58] It is expected that the regional percentage of adoption and regional percentage of enacted state statutes would have similar results in the pre-federal adoption era. The divergence between the percentages mirror each other until 2000 when there is a decline in the number of states with enacted state statutes.

Table 4.2: Adoption Models 1976-1989									
	All Adoptions			**Initial Adoptions**			**Amending Adoptions**		
	Model 1	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***
Federal Adoption	(omit)	(omit)	(omit)	(omit)	(omit)	(omit)	(omit)	(omit)	(omit)
Federal Implementation	(omit)	(omit)	(omit)	(omit)	(omit)	(omit)	(omit)	(omit)	(omit)
Salience	-.061 (.089)	-.007 (.090)	.003 (.070)	-.171 (.111)	-.068 (.111)	-.062 (.086)	.133 (.158)	.099 (.161)	.166 (.135)
Log of Salience	.882 (.636)	.813 (.638)	1.02† (.627)	1.52† (.861)	1.44† (.855)	1.51† (.811)	.006 (1.06)	.047 (1.05)	.106 (1.06)
Per Capita Wealth	-.001 (.000)	.000 (.000)	.000† (.000)	-.000 (.001)	-.000 (.001)	-.000 (.000)	-.007* (.004)	-.007† (.004)	-.005* (.003)
Log of Per Capita Wealth	7.39 (6.12)	6.84 (5.87)	12.17* (5.90)	.748 (6.17)	.959 (5.81)	4.55 (5.80)	89.54* (50.31)	91.89† (53.43)	75.68* (38.16)
State Legislature Professionalism	.157 (3.31)	-.935 (3.16)	-.584 (2.84)	2.04 (3.59)	.254 (3.34)	.625 (3.04)	-8.79 (11.35)	-7.01 (11.35)	-10.46 (10.15)
Political Culture	-.805* (.345)	-.718* (.319)	-.655* (.293)	-.721† (.390)	-.671† (.371)	-.633† (.347)	-1.01 (.965)	-1.12 (1.07)	-.863 (.872)
Partisan Control	.331 (436)	.333 (.423)	.306 (.412)	-.135 (.547)	-.149 (.523)	-.088 (.507)	.881 (1.46)	.703 (1.42)	1.11 (1.35)
Divided Government	-.404 (.560)	-.342 (.549)	-.345 (.523)	-.133 (.645)	-.133 (.635)	-.130 (.600)	.036 (1.60)	-.167 (1.59)	-.202 (1.45)
% of State GDP from Agriculture	3.18 (12.90)	2.27 (12.47)	-1.37 (12.16)	.959 (13.65)	-.962 (13.51)	-5.21 (13.43)	46.49 (56.00)	40.58 (54.46)	46.98 (50.46)
Log of Agriculture GDP	-1.92 (2.95)	-.295 (2.80)	.632 (2.36)	1.20 (3.37)	3.48 (3.19)	3.50 (2.70)	-14.76* (7.32)	-15.34* (7.23)	-12.62† (6.75)
% of Ag Sales from Fruit	-.099 (7.31)	.474 (7.12)	1.28 (6.65)	-5.43 (9.47)	-5.07 (9.33)	-4.32 (9.00)	21.75 (17.50)	22.07 (17.73)	19.19 (16.34)
Log of Fruit Sales Market Value	-.247 (.362)	-.198 (.340)	-.189 (.308)	-.305 (.392)	-.193 (.365)	-.194 (.340)	-.643 (1.43)	-.828 (1.42)	-.200 (16.34)
% of Ag Sales from Vegetables	1.09 (15.49)	2.53 (14.84)	.337 (14.20)	13.05 (18.28)	14.39 (17.49)	11.26 (16.71)	-38.95 (56.08)	-43.77 (55.54)	-24.09 (49.87)

	All Adoptions			Initial Adoptions			Amending Adoptions		
	Model 1	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***
Log of Vegetable Sales Market Value	.319 (.509)	.258 (.480)	.197 (.426)	.214 (.525)	.074 (.489)	.054 (.452)	.214 (.525)	2.32 (2.26)	1.43 (2.06)
National Adoption %	-2.93 (9.44)			-.626 (11.80)			-1.54 (18.77)		
Regional Adoption %	0.37** (3.14)			10.00** (3.40)			8.941 (6.15)		
% National Enacted Statute		-8.38 (8.18)			-13.08 (10.43)			4.62 (15.82)	
% Regional Enacted Statute		9.00** (2.72)			9.16** (3.08)			8.24 (5.53)	
Far West Region (_cons)	-68.73 (53.01)	-61.04 (51.14)	-103.48* (51.16)	-4.30 (53.63)	-2.20 (50.94)	-31.31 (50.43)	-817.52† (439.26)	-837.02† (466.28)	-693.24* (333.95)
Rocky Mountain Region	.157 (.385)	.348 (1.33)	-1.77 (1.10)	.159 (1.44)	.589 (1.43)	-1.70 (1.17)	-31.70 (2381429)	-32.12 (2122182)	-31.75 (1928523)
Southwest Region	2.12 (2.27)	2.61 (2.15)	2.28 (1.81)	3.24 (2.71)	4.30 (2.66)	3.32 (2.22)	-30.61 (3046622)	-30.65 (2652369)	-26.38 (1164646)
North Central Region	-.986 (1.31)	-.384 (1.27)	-1.08 (1.11)	-1.07 (1.41)	-.045 (1.40)	-.969 (1.20)	-.975 (4.97)	-1.76 (4.84)	-.539 (4.28)
Southeast Region	20.91 (238461)	-27.13 (4296216)	-25.41 (412205)	-23.56 (916145)	-24.62 (1712052)	-25.95 (816337)	-23.50 (2008071)	-23.27 (1666272)	-27.41 (2061050)
Mid-Atlantic Region	-207.29 (122479)	-156.93 (579801)	-26.46 (443733)	-77.19 (287087)	-27.37 (1430476)	-27.89 (800692)	-2796.66 (333650)	-2441.07 (347305)	-2833.57 (701058)
Northeast Region	-2.077 (1.41)	-1.51 (1.30)	.274 (1.07)	-2.25 (1.49)	-1.85 (1.39)	-.165 (1.18)	-817.52 (439.26)	1.18 (3.58)	2.85 (3.50)

Standard errors in parenthesis; † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 4.3 exhibits the results from the 1985-1990 initial adoption models. Political culture, state legislative professionalism, national and regional percentages of adoption and enacted state statutes, and two regions, the Southeast and Mid-Atlantic, are statistically significant. The results suggest that moralistic-leaning political cultures and regions with higher percentages of state adoption and enacted statutes are more likely to adopt organic legislation. Furthermore, the results suggest that national pressures may have influenced state adoption decisions during this period.

Table 4.3: Initial State Adoptions 1985-1990

Variable	Model 1	Model 2	Model 3
Federal Adoption	2.83 (2.64)	2.02 (1.88)	-.335 (.905)
Federal Implementation	(omit)	(omit)	(omit)
Salience	.078 (.132)	.061 (.118)	-.132 (.147)
Log of Salience	.672 (.894)	.566 (.915)	1.92 (1.63)
Per Capita Wealth	.000 (.001)	.000 (.000)	-.000 (.001)
Log of Per Capita Wealth	.172 (13.65)	.433 (13.55)	5.14 (15.21)
State Legislature Professionalism	-6.82* (3.25)	-6.75* (3.23)	-4.65 (4.00)
Political Culture	-.485** (.189)	-.468* (.186)	-.314† (.188)
Partisan Control	.292 (.480)	.280 (.478)	.167 (.517)
Divided Government	.187 (.586)	.194 (.580)	.229 (.621)
Percent of State GDP from Agriculture	-.068 (.502)	-.066 (.508)	-.083 (.617)
Log of Agriculture GDP	4.43 (2.82)	4.32 (2.79)	3.54 (2.86)
Percentage of Agriculture Sales from Fruit	9.42 (2.82)	4.32 (2.79)	-2.75 (8.60)
Log of Fruit Sales Market Value	-.214 (.353)	8.90 (7.01)	-.041 (.349)
Percentage of Agriculture Sales from Vegetables	-11.51 (10.15)	-11.10 (9.95)	1.77 (9.75)
Log of Vegetable Sales Market Value	.473 (.489)	.416 (.484)	.100 (.450)

Variable	Model 1	Model 2	Model 3
National Adoption Percentage	-24.24* (12.36)		
Regional Adoption Percentage	13.28** (3.35)		
National Enacted Statute Percentage		-18.59* (8.40)	
Regional Enacted Statute Percentage		10.88** (2.90)	
Far West Region (_cons)	2.21 (118.46)	-.635 (117.55)	-41.04 (132.46)
Rocky Mountain Region	2.21* (1.32)	2.00 (1.28)	-.733 (1.18)
Southwest Region	2.02 (1.64)	2.38 (1.62)	1.92 (1.52)
North Central Region	1.74 (1.16)	1.64 (1.12)	-.376 (1.10)
Southeast Region	6.96** (2.26)	5.88** (2.09)	.454 (1.51)
Mid-Atlantic Region	6.35** (1.99)	5.28** (1.85)	.371 (1.43)
Northeast Region	-.981 (1.33)	-.745 (1.31)	-.567 (1.44)

Standard errors in parenthesis; † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$,

Post-Federal State Adoption Activity (1990-2010) Results

Two different time frames are analyzed to examine adoption decisions after federal adoption of organic food and agriculture legislation in 1990. The first set of models examine adoptions from 1990-2010. The second set of models examine adoptions decisions from 1990-2004. In the second set of models, the key focus is to examine how states reacted to lag development of federal rules from 1990-2002 and hone in on the effect of official federal implementation in 2002. During this 12-year gap in federal policy, states and third-party certification programs were responsible for regulating the market. The years of 2003 and 2004 are included to account for delayed state responses.[59]

[59] Not all states meet annually. Some states meet biannually. Adding 2003 and 2004 also accounts for the biannual meeting and potential delayed responses from state legislatures.

Table 4.4 demonstrates the model results for state activity from 1990-2010, the post-federal adoption era. Federal activity (i.e. adoption and implementation), per capita wealth measures, the vegetable sale measures, regional and national adoption and enacted statute percentages, and four regional designations are statistically significant among all of the adoption models. Initial adoptions during the post-federal adoption era are positively influenced by federal adoption, per capita wealth, and regional adoption and enacted statute percentages. The federal implementation and per capita wealth measures have a negative relationship with adoption. The Far West, North Central, Southeast, and Mid-Atlantic regions are also statistically significant. Amending adoptions during the post-federal adoption era are positively influenced by national and state enacted statutes, increase in the log of vegetable sales, and federal implementation. Negative relationships are found for decreases in the percentage of vegetable sales and the North Central Region.

Table 4.5 outlines the results for 1990-2004 adoption models. For all adoptions from 1990-2004, federal adoption, salience measures, political culture, partisan control, both vegetable sale measures, and adoption/enacted statute percentages were significant. The Far West and North Central Regions were also significant. However, many of these variables were not significant in the initial and amending adoption models. Federal implementation, salience measures, regional adoption and enacted statute percentages, and three regional designations are found to be statistically significant for initial adoptions. Positive relationships are found for salience, the three regions, and regional adoption and enacted statutes percentages. Negative relationships are found with federal implementation and the logged salience variable.

For amending adoptions, federal implementation, salience, vegetable sales measures, and the North Central region were statistically significant. The directional relationships for federal implementation and salience differ from those reported in the initial adoptions model.

Comprehensive Model (1976-2010) Results

The comprehensive models results (see Table 4.6) provide a complete picture of significant variables from 1976-2010. The Far West, North Central, Southeast, Mid-Atlantic regions remain

Table 4.4: Adoption Models 1990-2010									
	All Adoptions			**Initial Adoptions**			**Amending Adoptions**		
	Model 1	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***
Federal Adoption	.474*	.341	.431†	1.32*	1.18*	1.04*	.237	.272	.218
	(.233)	(.240)	(.231)	(.565)	(.547)	(.515)	(.258)	(.210)	(.256)
Federal Implementation	.295	.727†	.499	-2.15†	-2.30†	-1.746	.639	1.12*	.815†
	(422)	(.423)	(.423)	(1.16)	(1.27)	(1.20)	(.462)	(.466)	(.463)
Salience	.002	.000	-.006	.027	.014	.012	-.003	-.004	-.010
	(.013)	(.133)	(.013)	(.031)	(.031)	(.027)	(.015)	(.015)	(.015)
Log of Salience	-1.17	-.565	-.483	-2.69	-1.90	-1.00	-.836	-.176	-.284
	(.914)	(.865)	(.863)	(2.00)	(1.85)	(1.71)	(1.02)	(.976)	(.971)
Per Capita Wealth	.000	.000	2.10	.001*	.001*	.000	.000	.000	.000
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Log of Per Capita Wealth	-4.72	-8.50*	-.458	-16.43*	-17.18*	-7.76	-.567	-5.76	3.37
	(.3.72)	(.3.94)	(3.13)	(7.56)	(7.73)	(5.83)	(4.40)	(4.68)	(3.78)
State Legislature Professionalism	-1.19	-.868	-1.83	-.383	-.739	-1.27	-1.02	-.520	-1.64
	(1.90)	(1.96)	(1.85)	(3.66)	(3.71)	(3.60)	(2.16)	(2.28)	(2.08)
Political Culture	-.114	-.117	-.086	.073	.104	.106	-.163	-.176	-.135
	(.111)	(.114)	(.107)	(.185)	(.186)	(.171)	(.130)	(.136)	(.125)
Partisan Control	.380*	.388*	.334	.972	.917	1.00	.245	.260	.218
	(.223)	(.227)	(.217)	(.632)	(.627)	(.627)	(.240)	(.247)	(.235)
Divided Government	.010	.010	-.016	.334	.400	.342	-.029	-.032	-.040
	(.258)	(.261)	(.253)	(.678)	(.671)	(.668)	(.281)	(.287)	(.276)
% of State GDP from Agriculture	4.00	4.36	4.85	-2.73	-1.05	2.68	4.60	5.07	5.24
	(5.62)	(5.67)	(5.46)	(19.11)	(19.11)	(17.66)	(5.79)	(5.89)	(5.66)
Log of Agriculture GDP	-.649	-.710	-.322	-2.73	-2.23	-1.18	-.431	-.570	-.142
	(.961)	(1.01)	(.774)	(2.68)	(2.64)	(2.18)	(.959)	(1.05)	(.805)
% of Ag Sales from Fruit	-.001	.111	-.426	-.921	-1.05	-1.70	-.266	-.178	-.508
	(3.52)	(3.60)	(3.40)	(6.84)	(6.182)	(6.48)	(4.04)	(4.25)	(3.87)
Log of Fruit Sales Market Value	-.148	-.154	-.125	-.156	-2.23	-.040	-.132	-.140	-.122
	(.150)	(.153)	(.146)	(.315)	(.328)	(.318)	(.171)	(.178)	(.165)

	All Adoptions			Initial Adoptions			Amending Adoptions		
	Model 1	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***
% of Ag Sales from Vegetables	-.255* (1.26)	-2.57* (1.23)	-2.81* (1.29)	1.45 (3.71)	-1.22 (3.44)	.167 (3.82)	-2.88* (1.36)	-2.86* (1.32)	-3.07* (1.37)
Log of Vegetable Sales Market Value	.708** (.195)	.719** (.198)	.698** (.192)	.394 (.398)	-.085 (.406)	.287 (.404)	.704** (.221)	.714** (.228)	.708** (.216)
National Adoption %	7.70 (5.47)			-7.61 (13.74)			7.71 (6.09)		
Regional Adoption %	3.65* (1.82)			17.29** (5.78)			2.85 (2.06)		
% National Enacted Statute		8.57* (4.26)			-10.68 (12.27)			10.92* (4.76)	
% Regional Enacted Statute		4.66** (1.55)			14.89** (5.03)			4.40** (1.72)	
Far West Region (_cons)	-.185 (.801)	-.188 (.816)	-1.91 (27.98)	136.98* (64.60)	144.96* (66.29)	62.71 (50.86)	-4.94 (38.73)	38.82 (40.96)	-37.26 (33.83)
Rocky Mountain Region	-.047 (.818)	-.372 (.834)	-.117 (.771)	2.25 (1.60)	2.05 (1.61)	1.35 (1.52)	-.353 (.939)	-.742 (.986)	-.354 (.876)
Southwest Region	-.759 (1.05)	-1.16 (1.09)	-.610 (1.00)	-27.97 (310985)	-27.77 (335938)	-25.43 (240391)	-.436 (1.20)	-.899 (1.27)	-.325 (1.14)
North Central Region	-.838 (.784)	-1.08 (.787)	-1.14 (.731)	3.37† (1.75)	2.93† (1.71)	.912 (1.44)	-1.37 (.900)	-1.66† (.929)	-1.54† (.836)
Southeast Region	.252 (1.05)	.328 (1.02)	-.658 (.879)	6.10* (2.53)	5.38* (2.39)	.403 (1.53)	-.115 (1.20)	.029 (1.20)	-.751 (1.02)
Mid-Atlantic Region	.552 (.960)	.731 (.945)	-.568 (.825)	6.10** (2.90)	5.51** (2.18)	.915 (1.47)	-.021 (1.12)	.289 (1.12)	-.900 (.853)
Northeast Region	-.185 (.801)	-.188 (.817)	-.498 (.770)	.319 (1.73)	.279 (1.73	-.027 (1.72)	-.264 (.894)	-.222 (.934)	-.519 (.853)

Standard errors in parenthesis; † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 4.5: Adoption Models 1990-2004

	All Adoptions			Initial Adoptions			Amending Adoptions		
	Model 1	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***
Federal Adoption	.421† (.223)	.384† (.228)	.404† (.212)	1.09 (.769)	.755 (.712)	.640 (.735)	.230 (.309)	.161 (.316)	.226 (.308)
Federal Implementation	.344 (.371)	.507 (.391)	.392 (.361)	-4.87* (2.36)	-4.68* (2.28)	-5.30* (2.49)	1.19* (.517)	1.29** (.507)	1.28** (.506)
Salience	-.019* (.008)	-.017* (.009)	-.019** (.007)	.394* (.180)	.453** (.181)	.462** (.188)	-.117† (.062)	-.085 (.068)	-.121* (.061)
Log of Salience	.635† (.339)	.554† (.330)	.848** (.246)	-12.26* (5.02)	-13.44** (5.24)	-12.52** (5.07)	3.29 (2.25)	2.44 (2.39)	3.54 (2.21)
Per Capita Wealth	.000 (.000)	.000 (.000)	.000* (.000)	.001 (.000)	.001 (.000)	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)
Log of Per Capita Wealth	.701 (1.47)	-.078 (1.45)	2.10 (1.35)	-18.97† (10.59)	-16.03 (9.95)	-6.88 (8.53)	.623 (5.97)	-.995 (6.01)	2.08 (5.55)
State Legislature Professionalism	-1.61 (1.63)	-1.33 (1.64)	-1.24 (1.51)	-2.51 (3.94)	-2.59 (3.86)	-2.95 (3.91)	-2.11 (2.58)	-1.85 (2.60)	-2.44 (2.53)
Political Culture	-.225* (.103)	-.227* (.103)	-.209* (.096)	.135 (.220)	.126 (.218)	.123 (.200)	-.130 (.151)	-.140 (.153)	-.116 (.149)
Partisan Control	.424* (.194)	.425* (.195)	.337† (.188)	.779 (.700)	.907 (.704)	.882 (.686)	.330 (.314)	.353 (.317)	.317 (.313)
Divided Government	-.049 (.226)	-.036 (.225)	-.110 (.216)	.381 (.762)	.507 (.764)	.473 (.744)	-.017 (.329)	-.002 (.331)	-.033 (.327)
% of State GDP from Agriculture	-.028 (.344)	-.028 (.336)	-.051 (.393)	12.91 (21.27)	11.95 (21.49)	9.63 (18.39)	6.04 (6.06)	6.22 (6.12)	6.30 (6.01)
Log of Agriculture GDP	-.376 (.785)	-.429 (.799)	-.365 (.740)	-2.90 (3.09)	-2.50 (2.97)	-1.35 (2.63)	.099 (1.13)	.029 (1.23)	.179 (1.02)
% of Ag Sales from Fruit	-.879 (3.12)	-.118 (3.04)	.189 (2.87)	-6.69 (8.14)	-5.66 (7.87)	-6.84 (7.72)	1.65 (4.51)	1.77 (4.58)	1.50 (4.46)
Log of Fruit Sales Market Value	-.054 (.135)	-.072 (.134)	-.087 (.129)	.116 (.411)	.173 (.418)	.309 (.415)	-.213 (.204)	-.224 (.206)	-.204 (.203)

	All Adoptions			Initial Adoptions			Amending Adoptions		
	Model 1	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***
% of Ag Sales from Vegetables	-1.50 (1.09)	-1.81† (1.08)	-2.04† (1.19)	6.18 (4.11)	4.43 (4.77)	3.04 (5.20)	-5.57† (3.41)	-5.52† (3.39)	-5.73† (3.33)
Log of Vegetable Sales Market Value	.433** (.167)	.434** (.168)	.440** (.162)	.564 (.510)	.452 (.521)	.196 (.505)	.826** (.278)	.832** (.279)	.826** (.276)
National Adoption %	-5.21* (2.29)			-11.62 (16.93)			2.93 (6.65)		
Regional Adoption %	7.46** (1.24)			21.37** (7.14)			1.20 (2.35)		
% National Enacted Statute		-3.20 (2.06)			.301 (14.34)			5.16 (6.28)	
% Regional Enacted Statute		6.56** (1.15)			12.01* (5.41)			2.47 (2.13)	
Far West Region (_cons)	-14.01 (13.01)	-6.79 (12.85)	-25.16* (12.10)	176.34* (90.91)	153.02* (86.67)	77.48 (74.67)	-21.74 (52.30)	-6.62 (53.08)	-33.86 (49.03)
Rocky Mountain Region	.096 (.715)	-.254 (.706)	-.338 (.650)	1.11 (1.85)	.831 (1.80)	.542 (1.69)	-.491 (1.04)	-.599 (1.05)	-.493 (1.01)
Southwest Region	-.195 (.925)	-.448 (.920)	-.158 (.845)	-29.21 (305273)	-29.17 (591913)	-27.98 (735250)	-.588 (1.33)	-.768 (1.36)	-.543 (1.31)
North Central Region	-.353 (.677)	-.747 (.668)	-1.02† (.614)	3.65† (1.99)	2.38 (1.82)	.505 (1.56)	-2.06* (1.05)	-2.09† (1.04)	-2.17* (.998)
Southeast Region	1.47† (.884)	1.16 (.870)	-.482 (.764)	6.88* (3.00)	3.81 (2.46)	.084 (1.68)	-.748 (1.40)	-.506 (1.34)	-1.07 (1.18)
Mid-Atlantic Region	1.15 (.824)	.962 (.815)	-.621 (.719)	7.93** (2.82)	5.13* (2.39)	.954 (1.61)	-.824 (1.33)	-.485 (1.29)	-1.26 (1.15)
Northeast Region	-.671 (.699)	-.643 (.694)	-.382 (.643)	.571 (1.95)	.827 (1.89)	.088 (1.77)	-.126 (.979)	-.097 (.987)	-.240 (.965

Standard errors in parenthesis; † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 4.6: Adoption Models 1976-2010

	All Adoptions			Initial Adoptions			Amending Adoptions		
	Model 1	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***
Federal Adoption	.420† (.223)	.384† (.228)	.404† (.212)	1.07* (.456)	1.12** (.455)	.646† (.396)	.212 (.253)	.081 (.265)	.279 (.245
Federal Implementation	.343 (.371)	.507 (.391)	.392 (.361)	-1.68† (.991)	-2.19* (1.08)	-1.30 (1.01)	.771† (.415)	1.22** (.450)	.691† (.404)
Salience	-.019* (.008)	-.017* (.009)	-.019* (.007)	-.010 (.018)	-.017 (.019)	.003 (.017)	-.011 (.010)	-.005 (.010)	-.019* (.009)
Log of Salience	.635† (.339)	.554† (.330)	.848** (.246)	1.05* (.463)	1.26** (.480)	.657† (.347)	-.036 (.471)	-.200 (.446)	.673* (.341)
Per Capita Wealth	-.000 (.000)	-.000 (.000)	-.000* (.000)	.000 (.000)	.000 (.000)	.000 (.000)	.000† (.000)	.000 (.000)	.000** (.000)
Log of Per Capita Wealth	.701 (1.47)	-.078 (1.45)	2.10 (1.35)	1.64 (2.03)	1.82 (2.05)	1.52 (1.98)	2.24 (2.48)	.221 (2.41)	5.66* (2.34)
State Legislature Professionalism	-1.61 (1.63)	-1.33 (1.64)	-1.24 (1.51)	-1.20 (2.04)	-1.36 (2.04)	-.018 (1.93)	-1.73 (2.14)	-1.40 (2.22)	-2.04 (2.00)
Political Culture	-.225* (.102)	-.227* (.103)	-2.08* (.096)	-.125 (.113)	-.117 (.113)	-.133 (.112)	-.231† (.133)	-.240 (.137)	-.210† (.125)
Partisan Control	.424* (.194)	.425* (.195)	.337† (188)	.703† (.378)	.667† (.377)	.660† (.377)	.314 (.224)	.339 (.228)	.263 (.218)
Divided Government	-.049 (.225)	-.036 .225	-.110 (.216)	.357 (.425)	.340 (.424)	.163 (.412)	-.208 (.266)	-.222 (.269)	-.202 (.257)
% of State GDP from Agriculture	-.028 (.344)	-.028 (.336)	-.051 (.393)	-.042 (.520)	-.050 (.550)	-.073 (1.16)	-.007 (.384)	.004 (.361)	-.035 (.382)
Log of Agriculture GDP	-.376 (.785)	-.429 (.798)	-.365 (.740)	-.042 (1.19)	.102 (1.06)	-.581 (1.30)	-.449 (.943)	-.543 (1.00)	-.141 (.805)
% of Ag Sales from Fruit	-.878 (3.12)	-.118 (3.04)	.189 (2.87)	-3.76 (4.44)	-3.69 (4.42)	-2.44 (4.37)	-1.27 (4.05)	-.705 (4.06)	-.273 (3.72)
Log of Fruit Sales Market Value	-.054 (.135)	-.071 (.133)	-.087 (.129)	.051 (.194)	.055 (.193)	-.069 (.183)	-.060 (.172)	-.084 (.174)	-.074 (.164)

	All Adoptions			Initial Adoptions			Amending Adoptions		
	Model 1	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***
% of Ag Sales from Vegetables	-1.5 (1.09)	-1.81† (1.08)	-2.04† (1.19)	.655 (2.50)	.364 (2.48)	-.384 (2.82)	-2.67* (1.34)	-2.91* (1.32)	-3.11* (1.45)
Log of Vegetable Sales Market Value	.433* (.167)	.433* (.168)	.440* (.162)	.038 (.246)	.038 (.247)	.172 (.234)	.596** (.218)	.613** (.223)	.590** (.213)
National Adoption %	-5.21* (2.29)			-14.39** (3.56)			.692 (3.12)		
Regional Adoption %	7.46** (1.24)			10.35** (2.13)			5.97** (1.59)		
% National Enacted Statute		-3.20 (2.06)			-13.80** (3.36)			2.90 (2.79)	
% Regional Enacted Statute		6.56** (1.15)			8.31** (1.95)			6.29** (1.46)	
Far West Region (_cons)	-14.01 (13.01)	-6.79 (12.85)	-25.16* (12.10)	-20.75 (17.88)	-21.81 (18.09)	-18.46 (17.76)	-29.97 (22.10)	-12.00 (21.44)	-59.21** 21.00
Rocky Mountain Region	.096 (.715)	-.254 (.706)	-.338 (.650)	.965 (.840)	.783 (.828)	-.258 (.773)	-.341 (.938)	-.762 (.957)	-.461 (.857)
Southwest Region	-.194 (.925)	-.448 (.920)	-.158 (.845)	-.411 (1.10)	-.247 (1.08)	-.472 (1.02)	-.462 (1.22)	-.882 (1.25)	-.292 (1.13)
North Central Region	-.353 (.677	-.747 (.668)	-1.02† (.614)	1.10 (.807)	.885 (.800)	-.375 (.729)	-1.10 (.894)	-1.55† (.911)	-1.44† (.817)
Southeast Region	1.47† (.884)	1.16 (8.71)	-.482 (.764)	2.90** (1.18)	2.33* (1.14)	-.477 (.939)	.673 (1.15)	.594 (1.16)	-.657 (1.01)
Mid-Atlantic Region	1.15 (.824)	.962 (.815)	-.621 (.719)	2.66** (1.07)	2.13* (1.03)	-.141 (.854)	.521 (1.09)	.552 (1.10)	-.908 (.963)
Northeast Region	-.671 (.699)	-.643 (.693)	-.382 (.643)	-1.33 (.878)	-1.11 (.859)	-.164 (.780)	-.276 (.895)	-.316 (.919)	-.315 (.839)

Standard errors in parenthesis; † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

significant among the models. Similarly, statistical significance remains for federal action, salience measures, per capita wealth, political culture, partisan control, agriculture industry measures, and national and regional adoption and enacted statute percentages. All of the statistically significant variables in the comprehensive models appear in pre-federal and post-federal adopt models demonstrating the robustness of each variable.

Initial adoptions are positively influenced by federal adoption, federal implementation, salience, democratic partisan control, and regional pressures. Negative relationships exist for national adoption and enacted statute percentages. In addition, the Southeast and Mid-Atlantic region are distinctive regions for initial adoption. Amending adoptions are positively influenced by federal implementation, wealth,[60] increases in vegetable sales, and increases in regional adoption and enacted statutes. Negative relationships exist for political culture (e,g. traditionalist cultures less likely to adopt), issue salience, and annual vegetable sales. The Far West and North Central regions are distinctive regions for amending adoptions.

Modeling Significant Regions

Based on the results of the comprehensive models, four regions are further examined statistically. The Far West, North Central, Southeast, and Mid-Atlantic regions were statistically significant variables in the comprehensive models examining adoptions from 1976-2010. Table 4.7 outlines the results for each region. Only two models are developed for each region for the time frame of 1976-2010. The analysis for only three regions results in statistically significant findings. There are no significant variables found for the Mid-Atlantic region. The results demonstrate that each region is influenced by regional pressures, including both the percentage of regional adoptions and enacted statutes.

Yet beyond regional pressures, the Far West has little in common with other statistically significant regions. Adoptions in the Far West appear to be influenced by only two other explanatory factors – log of fruit sales and regional adoption. The only difference between the North Central and

[60] No directional relationship is indicated for per capita wealth. However, the logged per capital wealth measure demonstrates a positive relationship.

Southeast Regions exist in agricultural GDP and increases in the national percentage of adoption. For the North Central, the increase in adoptions and enacted statutes nationally appear to be a deterrent for adoption. For the Southeast, increases in agricultural GDP increase the likelihood for adoption. The similarities between the North Central and Southeast regions are based on legislature professionalism and political culture. The political culture factor is particularly interesting considering the significant polarized politics of the Southeast region. Southeastern states ranged from 7.4-9 on the Sharkansky's political culture scale. This means that even the slightest shift towards an individualistic or moralistic culture in a Southeastern state increases the probability of amending adoptions.

Discussion of Results - Explaining Adoption

The results of the policy diffusion models demonstrate both the consistency of a few explanatory variables over time and the time-dependent and adoption-type variance of some explanatory factors. Collectively, there are far fewer variables that influence pre-federal adoption behavior than post-federal adoption behavior. Furthermore, amending adoptions have fewer explanatory variables than initial adoptions. Table 4.8 summarizes the results and presents a comparison of significant variables by time era. Table 4.9 summarizes the results and presents a comparison of significant variables by region. In the following section, the discussion briefly revisits the expectations of this study and then turns to analyzing the results of the models. Table 4.10 identifies how results from each era confirm or rejects the hypotheses of the study.

Revisiting the Expectations of Study

This study set forth eighteen hypotheses indicating how internal determinants, external determinants, issue salience, existing policy, and policy typology influence state adoption decisions (see Table 4.10). Fourteen of the eighteen hypotheses can be statistically examined directly given variables included in the models. The role of policy typology, existing policy, and third-party certifiers cannot be quantitatively examined due to unavailability of relevant data. Nonetheless, it is expected that a host of political, economic, and social conditions can explain adoption behavior accounting for both vertical and horizontal diffusion pressures, some of which are explored with models and others through case studies.

Table 4.7: Regional Adoption Models 1976-2010

	Far West		North Central		Southeast		Mid-Atlantic	
	Model 1	***Model 2***	***Model 1***	***Model 2***	***Model 1***	***Model 2***	***Model 1***	***Model 2***
Federal Adoption	-.405 (.651)	-.418 (.662)	.618 (.525)	.825 (.537)	1.23 (.810)	.670 (.752)	.741 (.853)	.527 (.871)
Federal Implementation	2.31† (1.25)	5.18** (1.87)	.274 (.898)	-.642 (1.02)	-.616 (1.14)	1.08 (1.20)	.191 (1.45)	.834 (1.41)
Salience	.005 (.025)	.006 (.025)	-.005 (.018)	-.008 (.019)	.054 (.043)	.038 (.037)	-.020 (.042)	-.017 (.040)
Log of Salience	-.349 (.815)	-.408 (.807)	.527 (.752)	.384 (.722)	-4.02 (2.81)	-.898 (2.23)	-1.11 (2.62)	-.477 (2.25)
Per Capita Wealth	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.000)	.000 (.001)	.000 (.001)	.000 (.000)	.000 (.000)
Log of Per Capita Wealth	-2.14 (5.90)	-2.30 (5.87)	6.44 (5.59)	6.15 (5.50)	-16.59 (24.26)	-4.97 (17.29)	-9.73 (11.35)	-11.53 (11.52)
State Legislature Professionalism	7.56 (6.02)	7.80 (6.01)	-12.70* (5.25)	-12.43* (5.16)	-38.96† (23.31)	-41.57† (23.42)	14.95 (11.97)	16.22 (12.14)
Political Culture	-.793 (.633)	-.811 (.634)	-.398† (.214)	-.393† (.213)	-4.58** (1.63)	-4.59* (1.66)	1.19 (.881)	1.25 (.890)
Partisan Control	-.333 (.734)	-.315 (.733)	.740 (.537)	.737 (.529)	.004 (.913)	-.864 (.977)	1.10 (.787)	1.14 (.796)
Divided Government	-1.10 (.793)	-1.08 (.789)	.363 (.562)	.338 (.556)	-.103 (.953)	-.398 (.925)	-.800 (1.14)	-.636 (1.10)
% of State GDP from Agriculture	159.24 (124.62)	156.30 (123.99)	6.32 (9.57)	7.78 (9.74)	-160.71 (104.92)	-193.35† (106.31)	.030 (2.45)	-.009 (2.91)
Log of Agriculture GDP	-.565 (1.88)	-.556 (1.87)	-.827 (.843)	-.893 (.840)	7.20* (3.61)	9.46* (3.90)	-.155 (1.29)	.052 (1.19)
% of Ag Sales from Fruit	28.79* (12.28)	28.74* (12.20)	51.64 (41.24)	43.06 (40.17)	-31.61 (31.33)	-38.74 (31.11)	-40.66 (87.80)	-25.66 (78.18)
Log of Fruit Sales Market Value	-2.07† (1.12)	-2.07† (1.11)	-.118 (.255)	-.098 (.255)	-1.15 (1.86)	-1.90 (2.00)	.971 (1.47)	.794 (1.36)

	Far West		North Central		Southeast		Mid-Atlantic	
	Model 1	***Model 2***	***Model 1***	***Model 2***	***Model 1***	***Model 2***	***Model 1***	***Model 2***
% of Ag Sales from Vegetables	-17.79 (26.86)	-17.57 (26.45)	-35.72 (39.94)	-28.88 (39.66)	50.92 (51.94)	61.94 (49.59)	23.11 (48.50)	15.73 (42.92)
Log of Vegetable Sales Market Value	2.22 (1.92)	2.18 (1.89)	.477 (.343)	.440 (.340)	3.84 (2.65)	4.64 (2.86)	.785 (1.51)	.911 (1.47)
National Adoption %	-2.12 (5.98)		-15.30** (5.56)		53.41 (37.18)		19.94 (16.53)	
Regional Adoption %	17.85** (6.50)		10.62** (3.39)		10.82 (11.80)		1.57 (8.60)	
% National Enacted Statute		-.808 (5.49)		-13.39** (5.15)		15.20 (19.45)		19.71 (14.19)
% Regional Enacted Statute		17.31** (6.49)		9.87** (3.40)		20.05* (8.60)		.032 (7.35)

Standard errors in parenthesis; † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 4.8: Comparison of Results

Adoption Type	**Pre-Federal Adoption (1976-1990)**	**Post-Federal Adoption (1990-2010)**	**Comprehensive Evaluation (1976-2010)**
All Adoptions	Issue Salience (+) Per Capita Wealth (+/-) Political Culture (-) Regional Adoption % (+) Regional Statute % (+) Far West	Federal Adoption† (+) Federal Implementation† (+) Issue Salience (+) Per Capita Wealth (+/-) Political Culture†† (-) Partisan Control†† (+) Vegetable Sales† (+) Regional Adoption %† (+) Regional Statutes %†† (+) National Adoption %† (-) National Statute % (+) North Central Region†† Southeast Region††	Federal Adoption (+) Issue Salience (+/-) Per Capita Wealth (-) Political Culture (-) Partisan Control (+) Vegetable Sales (+/-) Regional Adoption % (+) Regional Statutes % (+) National Adoption % (-) Far West Region North Central Region Southeast Region
Initial Adoptions	Issue Salience (+) Political Culture* (-) State Legislature Professionalism**(-) Regional Adoption %*(+) Regional Statute %* (+) National Adoption %** (+) National Statute %** (+) Southeast Region** Mid-Atlantic-Region**	Federal Adoption (+) Federal Implementation†† (-) Issue Salience†† (+/-) Per Capita Wealth† (+) Regional Adoption %† (+) Regional Statute %† (+) Far West region North Central Region† Southeast Region† Mid-Atlantic Region†	Federal Adoption (+) Federal Implementation (-) Issue Salience (+) Partisan Control (+) Regional Adoption % (+) Regional Statutes % (+) National Adoption % (-) National Statutes % (-) Far West Region North Central Region Southeast Region Mid-Atlantic Region

Adoption Type	**Pre-Federal Adoption (1976-1990)**	**Post-Federal Adoption (1990-2010)**	**Comprehensive Evaluation (1976-2010)**
Amending Adoptions	Per Capita Wealth (+/-) Agriculture GDP (-) Far West Region	Federal Implementation† (+) Issue Salience†† (-) Vegetable Sales† (+/-) Regional Statute % (+) National Statute % (+) North Central Region†	Federal Implementation (+) Issue Salience (+/-) Per Capita Wealth (+) Vegetable Sales (+/-) Regional Adoption % (+) Regional Statutes % (+) Far West Region North Central Region

Direction Relationship in Parentheses. For (+/-) direction relationship conflicts between models or raw versus logged variable versions.
** Also significant in 1985-1990initial adoption models.*
*** Statistically significant only in the 1985-1990 initial adoption models.*
†Also significant in 1990-2004 adoption models.
††Statistically significant only in the 1990-2004 models.

Table 4.9: Comparison of Results for Significant Regions

Adoption Type	**Far West Region**	**North Central Region**	**Southeast Region**
All Adoptions	Federal Implementation (+) Fruit Sales (+/-) Regional Adoption % (+) Regional Statutes % (+)	State Legislature Professionalism (-) Political Culture (-) Regional Adoption % (+) Regional Statutes % (+) National Adoption % (-) National Statutes % (-)	State Legislature Professionalism (-) Political Culture (-) Agriculture GDP (+/-) Regional Statutes % (+)

Table 4.10: Hypotheses Results				
Model Variable	**Hypothesis**	**Pre-Federal Adoption (1979-1989)**	**Post-Federal Adoption (1990-2010)**	**Comprehensive Models (1976-2010)**
	H1: California, New York, Massachusetts, and Michigan are more likely to be early adopters of organic legislation.	Mixed Evidence	--	Mixed Evidence
	H2: More professionalized state legislatures are more likely to adopt organic legislation than less professionalized state legislatures.	Reject	Reject	Reject
	H3: States with divided government are less likely to adopt organic legislation.	Reject	Reject	Reject
	H4: States with Democratic partisan control are more likely to pass organic legislation than Republican or divided partisan control.	Supported	Reject	Supported
$INTERNAL_{i,t}$	H5: States with a moralistic political culture are more likely to adopt organic legislation than states with traditionalist political culture.	Supported	Reject	Supported
	H6: States with higher per capita income are more likely to adopt organic legislation than states with lower per capita income.	Supported	Supported	Supported
	H7: States with a higher percentage of total GDP resulting from agriculture are more likely to adopt organic legislation.	Reject	Reject	Reject
	H8: States with a higher percentage of total agriculture sales resulting from fruit and vegetable sales are more likely to adopt organic legislation.	Reject	Mixed Evidence	Mixed Evidence
	H9: States with third-party certification programs are more likely to adopt organic legislation than states with no certification programs.	*Not Statistically Tested*	*Not Statistically Tested*	*Not Statistically Tested*

Model Variable	Hypothesis	Pre-Federal Adoption (1979-1989)	Post-Federal Adoption (1990-2010)	Comprehensive Models (1976-2010)
	H10: States are more likely to adopt organic regulation if a state within the same region adopts organic regulation.	Supported	Supported	Supported
	H11: States are more likely to adopt organic regulation when there is a higher percentage of states in the region that have existing organic statutes.	Supported	Supported	Supported
$EXTERNAL_{i,t}$	H12: States are more likely to adopt organic regulation if states with similar economic and political conditions adopt organic policy.	Mixed Evidence	Mixed Evidence	Mixed Evidence
	H13: States are more likely to adopt legislation during the post-federal adoption period between 1990-1992 than the 1993-2002 time period.		Mixed Evidence	Mixed Evidence
	H14: States are more likely to adopt legislation to terminate state organic statutes after official implementation of the NOP in 2002.		Reject	Reject
$SALIENCE_{i,t}$	H15: States are more likely to adopt legislation in years where organic issue salience is high.	Supported	Supported	Supported
$POLICY\text{-}TYPE_{i,t}$	H16: States are more likely to adopt organic legislation that provides strict regulatory rules or guidelines in the 1970s than later decades.	*Not Statistically Tested*	*Not Statistically Tested*	*Not Statistically Tested*
	H17: States are more likely to adopt organic legislation that is co-regulatory in the 1980s.	*Not Statistically Tested*	*Not Statistically Tested*	*Not Statistically Tested*
$EXS\text{-}POLICY_{i,t}$	H18: More innovative states are more likely to amend organic food and agriculture statutes more often.	*Not Statistically Tested*	*Not Statistically Tested*	*Not Statistically Tested*

For internal characteristics, it is expected that adoption of organic food and agriculture legislation is more likely to occur in states that have a more professionalized state legislature, more progressive state politics (i.e. both Democratically controlled government and moralistic culture), undivided government, and high dependence on agricultural production, particularly in specialty crops where organic certification is more common (i.e. agricultural GDP, vegetable sales, fruit sales). For external conditions, it is expected that states are more likely to adopt when more states within the same region are adopters and have enacted state statutes or when states that share similar economic and political conditions are adopters and have enacted state statutes. In addition, two external hypotheses address the influence of federal adoption and implementation. Specifically, uncertainty of federal implementation will lead to more adoptions from 1990-1992 than the1993-2002 period. After federal implementation in 2002, it is expected that most states would terminate their organic food and agriculture statutes. Salience remains neither an internal nor external variable. It is an independent consideration and is expected to have a positive relationship with adoption.

Explaining Pre-Federal Adoption

The pre-federal adoption models are able to explain behavior of both early adopters (c. 1976-1979) and middle-of-the-pack adopters (c.1985-1990). Consistent across both groups are the influence of issue salience, political culture, per capita wealth, agricultural GDP, and horizontal pressures at both the regional and national level (see Table 4.8). Collectively, six hypotheses can be supported based on the results of the pre-federal adoption models (see Table 4.10). The remaining hypotheses are either rejected, cannot be guided by ambiguous or insignificant results, or cannot be directly statistically examined. For two rejected hypotheses, H2 and H7, the rejection is based on the statistically significant relationship being opposite of prior beliefs driven by past literature or concepts. Furthermore, descriptive statistics of early adopters and comparison across states leads to only partial confirmation of the H1 and H12.

Three internal determinant hypotheses (H4-H6), two external determinant hypotheses (H10 and H11), and the issue salience hypothesis (H15) are supported. For initial adopters, increased issue salience, moralistic-leaning cultures, and an increased percentage of state adopters within a region are conditions that are more likely to result in an adoption. Comparatively, amending adoptions during this time period had far fewer significant explanatory variables but confirmed the relationship predicted in H6. States with more wealth are more likely to amend existing policy. Three regions were significant during this time period. However, the statistical significance of the Southeast and Mid-Atlantic regions should not suggest these regions were leaders. Neither region had an initial adoption until 1990 (see Appendix A). The Northeast followed by the Far West region were regional leaders in initial adoption. Indeed, H1 is partially supported on the grounds that New York and California were two of the first states to adopt legislation. Similarly, the twelfth hypothesis can be partially supported when comparing of early adopters' economic and political conditions (see Appendix E). For example, New York and California share similar political cultures, legislative professionalism scores, per capita wealth scores, and agriculture GDP totals. However, further investigation qualitatively would confirm if states take cues within the region or from states that are similar on economic and political grounds.

Two hypotheses that warrant further examination are H2 and H7. It was predicted that adoption is more likely to occur in states that have more professionalized state legislatures and states with a larger percentage of GDP resulting from the agriculture industry. However, the results of pre-federal adoption suggest the opposite. Three potential causes may explain the negative relationship between adoption, but more specifically amending adoption, and aggregate agricultural GDP. First, only a few states passed amending legislation during the pre-federal adoption era. Four states had passed initial legislation up to 1984. With a minimal number of states able to pass amending legislation, the ability to see the variance in the dependent variable is limited. A second explanation rests in any perceived competition between conventional and alternative agriculture. Conventional agricultural interests were dominant until the late 1980s. State policymakers may have been more likely to respond to the concerns of conventional agriculture than alternative agriculture especially after the election of Ronald Reagan. A third possible explanation is the farming crisis of the 1980s. Poor weather and shifting economic conditions led to the collapse of the family farm and created turmoil in the agriculture industry from 1981-1986 (Barnett

2000). This may explain why a decrease in the agriculture GDP is negatively associated with amending adoptions. Positive growth and recovery in the agricultural sector would not occur until the late 1980s.

As for the relationship between initial adoption and state legislative professionalism, the cause for the relationship more than likely conditioned by time. The relationship was only statistically significant for initial adopters from 1985-1990. At first glance, it seems that the more professionalized legislatures did not possess a distinctive advantage for adoption. However, the state legislature professionalism scores for each state were exceptionally low from 1985-1990 for most states. Perhaps, like the farm crisis explanation, the negative relationship between adoption and legislature professionalism is a result of time bounded political events that decreased the professionalism of most state legislatures in the time period examined here.

Explaining Post-Federal Adoption

After federal adoption in 1990, states' adoption decisions are influenced by a wider range of factors. Initial adoptions during the post-federal adoption era have a positive relationship with federal adoption, per capita wealth, and regional adoption and enacted state statute percentages. The federal implementation and per capita wealth measures have a negative relationship with initial adoption. For amending adoptions, state adopters are positively influenced by national and state enacted statutes, increase of vegetable sales, and federal implementation. Negative relationships with adoption are found with the percentage of vegetable sales. The Far West, North Central, Southeast, and Mid-Atlantic regions are also statistically significant across the models. In total, four hypotheses are supported including H6, H10, H11, and H15. However, the evidence to support H15 is only for adoptions made from 1990-2004. Similarly, three hypotheses present mixed evidence or inconclusive evidence leading to neither support nor rejection.

The supported hypotheses confirm regional pressures, increasing issue salience, and increased wealth are more likely to lead to adoption. Yet, issue salience is a condition that only appears significant for adoptions made from 1990-2004. This suggests that adoptions made after 2004 are not influenced by organic issue salience. Instead, the nineteen initial and amending adoptions made from 2005-2010 are not impacted by the increase or decline of issue salience after federal law was implemented. Similarly, adoptions after 2004 are not impacted by federal implementation.

In examining adoptions from 1990-2004, federal implementation had a negative impact on initial adoption whereas federal adoption had a positive influence on initial adoption. However, both relationships may be more of a coincidence than providing true explanatory power. The positive relationship with federal adoption may be the result of the spike in initial state adoptions in 1990 coinciding with federal adoption that same year. Similarly, 70% of states had already passed initial legislation leaving only a small fraction of states as non-adopters by 2002. Inaction among these fifteen states may not have been the result of federal implementation, but rather general disinterest in adopting organic food and agriculture legislation.

What is clear about state adoption from 1990-2004 is that federal adoption and implementation did not deter states from maintaining state organic policies. Despite the spike in amending adoptions in 2003, most states maintained state statutes regulating organic food and agriculture (see Table 4.3). Therefore, H14 can be rejected. Less clear is how lagged federal response in implementing the 1990 federal organic law contributed to state adoption behavior. From 1990-1992, there were twenty total adoptions; eight were initial adoptions (see Table 4.11). From 1993-2002, there were a total of 59 adoptions, but there were only eight initial adoptions. Undoubtedly, the latter period contained more amending adoptions, but each period contained the same number of initial adoptions. This suggests that states may have been operating under more uncertainty in the earlier period or even riding the tail end of the second peak period of adoption that ended in 1990. Adoptions made after 1992 could be the result of anticipating federal implementation. Nevertheless, H13 cannot be supported or rejected.

Table 4.11: Adoptions From 1990-2004

Years	Amending Adoptions	Initial Adoptions	Total Adoption	Per Annual Adoption Rate
1990-1992	12	8	20	6.66
1993-2002	51	8	59	5.9

Two other hypotheses are also not supported or rejected. Post-federal state adoptions are positively influenced by an increase in vegetable sales. However, fruit sales did not register as a statistically significant variable across any of the national-level models. One potential explanation is that the vegetable crops can be grown annually whereas much of fruit production is in perennial crops (requiring a long lag in time for changes in production certification) and fruit is grown in a more limited set of regions.[61] Therefore, the statistical significance of vegetable sales only partially confirms the expectations of H8.

Likewise, H12 cannot be supported or rejected for the post-federal adoption time period based on the evidence presented. Similar to the pre-federal adoption era, the problem with definitely determining a national-interaction model is that there is not enough detail from the results alone for which states took cues from other states. The regional diffusion model, tested in the thirteenth and fourteenth hypotheses, can be supported as it is clear regional cues played a positive factor. The national-interaction model needs more evidentiary depth to inform discussion, which may be achievable through qualitative methods, to determine how and where states adoption cues are taken.

Explaining Adoption from 1976-2010

The results of the comprehensive adoption models confirm the outcomes of the pre-federal adoption and post-federal adoption era models. Many of the same variables from the time-constrained models remain statistically significant across the 35-year time span. Consistent over time and across adoption types is the significance of wealth, political culture, and regional pressures. Initial adoptions maintain a negative relationship with federal implementation and positive relationships with federal adoption, issue salience, regional adoption activity, and partisan control. Meanwhile, amending adoptions continue to be influenced by federal implementation, issue salience, per capita wealth, regional adoption activity, and vegetable sales. The Far West, North Central, Southeast, and Mid-Atlantic regions also continue to be statistically significant.

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[61] For more information about plant hardiness and differences in regional agricultural production see http://planthardiness.ars.usda.gov/PHZMWeb/Default.aspx

Six hypotheses are supported under the comprehensive models' evidence while four hypotheses remain neither supported nor rejected as there was mixed evidence. Comparatively, the comprehensive adoption models merely provide additional insight as to what variables matter across time. Specifically, H6, H10, H11, and H15 demonstrate the consistency of regional pressures, issue salience, and wealth as influential on adoption decisions. On the contrary, H4and H5 four and five demonstrate the partisan politics and political culture are more likely to influence state adopters prior to 1990. Post-1990 adoptions show some evidence of supporting H8. Growth in the vegetable crop sales is linked to a higher probability of amending adoptions.

Comparing Regional Adoption Decisions

The Far West, North Central, Southeast and Mid-Atlantic regions were statistically significant regions in the pre-federal adoption, post-federal adoption, and comprehensive model adoption models. In the comprehensive adoption models, the Far West and North Central regions were statistically significant across all adoption types. The exclusion of the Southeast region from amending adoptions may be attributed to lower amending adoption rates (see Appendix A), but there is no clear explanation for why the Mid-Atlantic is not statistically significant for amending adoption. The results of the regional adoption models may shed some light on why these four regions can be considered exceptional. However, for the Mid-Atlantic region, no variable included within the model provides insight. Speculatively, the significance of the region may be related to delayed initial adoption in the region until 1990.

Beyond regional pressures, California exhibits little in common with the North Central or Southeast region. The significant national role that fruit production in California plays, which is detailed in Chapter VII, may indicate why the Far West is positively influenced by increasing fruit sales. Furthermore, the timing of amending adoptions in the Far West occurs for every state except Hawaii, a non-adopter, and Oregon on or after 2003. California has five amending adoptions from 2002-2010.

The similarities between the North Central and Southeast regions may be attributed to timing of adoptions or even shared socio-economic and political characteristics. The results of the regional univariate and correlation outputs (see Appendix F) demonstrate similarities in wealth and agricultural

GDP. Yet, another potential rationalization for similarity could be that each region saw state initial adoption begin in the 1985-1990 time period. The Far West and Northeast regions adopted in the 1970s. This secondary explanation could indicate why the Far West model has minimal similarities with the other regions.

Final Remarks on the Hypotheses

In revisiting the hypotheses, five hypotheses are clearly rejected based on the comprehensive model outcomes (see Table 4.10 Comprehensive Models). H2, H3, H7, H13, and H14 are not supported by the evidence. On the other hand, H4, H5, H10, H11, and H15 are supported. The remaining hypotheses either could not be statistically determined or presented mixed evidentiary support.

$INTERNAL_{i,t}$ Hypotheses

Two internal characteristic hypotheses are clearly supported. Political culture and partisan control each demonstrated the expected directional relationship and were significant. Democratically controlled state governments were more likely to adopt initial organic legislation than divided or Republican controlled state governments. Similarly, states that are ranked closer to moralistic political cultures were more likely to adopt amending organic legislation than individualistic or traditionalist states.

Three internal characteristic hypotheses present mixed or inconclusive evidence that made rejection only partially correct. H1 could be rejected based on the scope of this research on just legislation as innovativeness could be argued as time and issue specific. However, if an expanded scope and interpretation of the law are used (e.g. inclusion of administrative rules), then the hypotheses could be supported. California, New York, and Massachusetts clearly set early regional cues and regional adoption paces.

H8 also presents mixed evidence because of the different significance of vegetable versus fruit sales. Vegetable sales presented statistically significant evidence at the national level. Fruit sales only appeared significant in the Far West region. On the basis of fruit sales alone, the hypothesis should be rejected. On the basis of vegetable sales measures, the hypothesis should be supported. The vegetable may have more substantive explanation as most states can produce vegetables and production decisions are made on an annual (not long-term) basis. Moreover, since not all climates within the U.S. support fruit production, the regional dynamics for that sector may be muted.

Finally, H6 does not provide enough evidence to support. Per capita wealth measures were significant, but there is limited evidence for the direction of the relationship. Both slightly negative and positive relationships are established. Therefore, it is difficult to assess how wealth impacts adoption decisions. Nonetheless, it can be argued that wealth matters but how it matters is elusive.

EXTERNAL$_{i,t.}$Hypotheses

Of the five external determinant hypotheses, one hypothesis is rejected, three are supported, and one is undetermined. H14 is rejected based on descriptive statistical evidence. Only three states terminated statutes from 2002-2004 with the year 2004 accounting for lagged reaction time (see Figure 4.3). This is not a substantial percentage of state enacted statutes considering the number of amending adoptions from 2002-2004 which suggest most states modified statutes. Therefore, it is clear that federal implementation did not negatively impact states' decisions to maintain organic food and agriculture state statutes.

H12 cannot be supported or rejected. The statistically significant internal characteristics demonstrate that wealth, political culture, and partisan control matters. The problem with definitely determining a national-interaction model is that there is not enough detail from the statistical results alone for which states took cues from other states. The regional diffusion model, tested in both H13 and H14, can be supported as it is clear regional cues played a positive factor. The national-interaction model needs more evidentiary depth, achievable through qualitative methods, to determine how and where states adoption cues are taken.

Lastly, H14 is supported based on the per annual adoption rates for each time period. There were 20 total adoptions from 1990-1992. Eight of those were initial adoptions. The per annual adoption rate is 6.66 adoptions. From 1993-2002, there were a total of 59 adoptions, but there were only eight initial adoptions. The per annual adoption rate for the latter period is 5.9. Undoubtedly, the latter period contained more amending adoptions, but each period contained the same number of initial adoptions. This suggests that states may have been operating under more uncertainty in the earlier period or even riding the tail end of the second peak period of adoption that ended in 1990.

$SALIENCE_{i,t.}$ Hypothesis

Both salience variables confirm the significance of media attention on organic food and agriculture. As logged version of salience indicates, states are more likely to adopt as issue salience increasing. While there is a slightly negation relationship with the raw measurement of salience, meaning the variable measured the total number of articles published annually, there is still confidence in rejecting the null hypothesis and supporting H15. In all comprehensive models, the logged version of issue salience is significant.

Conclusion of Results

The evidence presented in this chapter suggests that adoption of organic food and agriculture legislation is influenced by a variety of factors dependent on time period, region, and type of adoption (i.e. initial or amending). Consistent across time is the influence of per capita wealth, issue salience and regional pressures on state adoption decisions. Political culture also demonstrated some consistency overtime, as well. However, the 1990-2010 post-federal adoptions models did not find political culture as significant thereby eliminating it as statistically significant over time. As for per capita wealth, the majority of states have seen a steady increase in wealth overtime, thereby explaining low directional coefficients. Yet, despite the effect of wealth, states appear to be influenced more consistently by regional pressures and salience. Specifically, states appear to take cues from states within their own region and are responsive to increased salience of the policy issue at hand. While it may be possible that an isomorphism or a national-interaction pattern of adoption may also be occurring, further evidence is needed. National adoption percentages were statistically significant across the time-controlled models. However, the comprehensive models did not show significance of the national adoption and enacted state statutes percentages.

The significance of per capita wealth, issue salience, regional pressures, and political culture supports larger arguments within the policy diffusion literature as to what factors are more robust causes for the diffusion of innovative policies and programs among U.S. States. The quantitative results presented in this chapter confirm the significance of these factors for the diffusion of organic food and agriculture legislation, as well as, demonstrating how these conditions are more likely to predict diffusion of other innovations among U.S. states. However, scholars should be cautioned with how issue salience and regional pressures are evaluated in other issue areas. Specifically, this analysis used a narrowed and rigid measurement for assessing issue salience. Likewise, regions are designated according to industry standards and contemporary concerns set forth and identified by the USDA. Future policy diffusion evaluations should contend with how to incorporate each of these variables into an analysis but should be aware of differences between issue areas.

Aside from the robust explanations of per capita wealth, regional pressures, and political culture, adoptions are also influenced based on time and adoption-type specific considerations. Prior to 1990, state initial adoptions were more likely to occur in years when state legislative professionalism is low, Democrats control the state legislature, and the state political culture is more moralistic in nature. Amending adoptions prior to 1990 were more likely to occur in states where per capita wealth is higher and agricultural GDP is lower. These relationships appear to be a by-product of the decade in which conventional agriculture suffered an economic decline and political conditions were generally hostile to regulation and big government. State adopters from 1976-2010 each saw a decline in agriculture GDP and state legislative professionalism. However, political conditions remained stable with most states possessing moralistic-leaning cultures and having either Democratically-controlled or divided control state governments.

For initial state adoptions made from 1990-2010, vertical diffusion pressures emerged as the predominant explanation for adoption. Amending state adoptions post-1990 were more likely to occur in the years after federal implementation and when vegetable sales were increasing. Political culture and partisan control also demonstrated some significance but is limited to explaining all adoptions only. While the significance of federal adoption and implementation might be by chance, the results suggest that the effect of vertical pressure is highly significant in both the act of adopting legislation and the act of implementing the policy. Despite federal supremacy, states continued to adopt initial food and organic legislation after 1990 and, even 2002, after official implementation. Likewise, amending state adoptions spiked in 2003 but did not result in most states terminating statutory language regarding organic food and agriculture. States' adoption responses signify how innovative policies may diffuse and be modified in U.S. federalism system.

Given the time- and adoption-type specific significant of certain variables, the results demonstrate the importance of focusing on conditions that are significant across all years of the diffusion process, but also the importance of narrowing the focus of the analysis to key time periods of adoption. In this particular issue area, pre- versus post-federal adoption results demonstrate how political and economic changes occur both within states and at the national level, and the effect on state adoption of organic food and agriculture legislation. Yet, given the drastic variation in economic and political conditions from the 1970s to the 2000s, assessing the meaning behind the statistical findings is crucial to understanding how variations in diffusion in early versus later initial and amending adoptions are important to the diffusion process. If the quantitative results are any indication for what could occur in other policy diffusion scenarios, consideration of economic cycles and conditions, political attitudes towards the size and role of government, and when federal adoption and implementation occurs is just as important for understanding policy diffusion as per capita wealth, issue salience, and regional pressures to diffusion.

Future Directions for the Statistical Modeling Organic Diffusion

There are a number of additional variables and steps that should be included in future research. First, it would be very beneficial to examine how state administrative rules influenced adoption of legislation. The data set would have begun in 1973 had administrative rules been included as a variable in this analysis. Oregon was the first state, but not the only state, to pass administrative rules prior to legislative action. Similarly, explanatory power is also lost if not accounting for how administrative rules may have decreased pressure to adopt initial legislation or amend state statutes. Future statistical policy diffusion models should contend with how different forms of law impact decision making.

The second area of improvement is the consideration of the life-cycle of an innovation. Nearly twenty-two years after New York adopted legislation, some states decided to terminate organic statutes. While administrative law may still exist, it is questionable as to why this would occur. This question could be answered as additional data becomes available for more recent years. A number of the amending adoptions in 2009 and 2010 led the termination or replacement of organic statutes after 2010 in Louisiana, Missouri, New Jersey, and Pennsylvania. In Kentucky, delegation of rule-making power remained but the legislature commanded the replacement of the Kentucky Organic Program with the Kentucky Proud program, a local food initiative. Additional cases provide the opportunity to tease out regional patterns of termination and causes for the end of an innovative policy.

CHAPTER V
Research Methods Part 2

This chapter will give an overview of the qualitative research methodology used in this study. This chapter will first briefly revisit the hypotheses with particular attention to the hypotheses that required a qualitative investigation. Then this chapter will explain and justify the use of the comparative case study method, outline the case selection criteria, and identify the cases selected for further examination. Finally, this chapter will conclude with the data collection process and sources.

The Comparative Case Study Method

In addition to the quantitative analysis, the comparative case study method will be utilized for this research to help answer the research question of 'why do some states adopt organic food and agriculture legislation while others do not?' Because quantitative methods are limited by the data available, the frequency of data and the overly standardized coding that is usually required to categorize observations (states in this case), case studies can be used to complement those types of analyses.

A case study approach was selected because of its ability to answer 'why' questions. As Yin (2009) states, case studies are one qualitative method that can answer more explanatory questions such as 'why', which deal with operational and causal links rather than incident frequencies. While a single case study approach could be used, the approach cannot meet the systematic and rigorous procedures needed for this study. Specifically, there is a clear ebb and flow of initial and amending legislative adoption in states and regions overtime. A single case study would not holistically illuminate the variation over time among states or regions. Therefore, the comparative case study method is ideal to complete a complex time-series analysis of a singular phenomenon along spatial dimensions (*see* Yin 2009, 146-148).

The comparative case study method in the social sciences has a long-standing history and a number of strengths in enhancing research quality. As George and Bennett (2005, 19-22) indicate, case studies allow researchers to reach "high levels of conceptual validity", identify causal mechanisms, and develop new hypotheses for future research directions. Along similar grounds, Yin (2009, 19-20) outlines case studies as having, “a distinctive place in evaluation research,” through illustration, description, explanation of causal mechanisms, and enlightenment of multiple explanatory variables. For this study, the comparative case method is used for more than just description but to determine causality and identify additional directions for future research.

Many scholars have highlighted the comparative case method for its ability to determine causality (George and Bennett 2005; Gerring 2007; King, Keohane and Verba 1994; Mahoney, 2010; Yin 2009). There are a few techniques in case study research that can determine causality including historical evaluation and process-tracing. This research uses the process-tracing technique. Process-tracing is an excellent tool for theory development and testing because it can identify intervening causal processes (George and Bennett 2005, 206-207). The number of variables and the nature of some of the hypotheses in this study creates the need to evaluate intervening causal mechanisms. For example, H18 is based on the presumption that amending adoption is more likely because of existing legislation, and amending existing policy could result from a different set of causal mechanisms than initial adopting legislation. This could explain why many initial adoption models had no statistically significant variables compared to amending adoption models. Furthermore, as another example, the process-tracing technique could also help explain the differences between initial and amending adoption and evolution of policy-type over time. H16, H17, and H18 require a descriptive evaluation of policy type. For this analysis, Spitzer’s enhancement of Lowi’s policy typology, discussed previously, will be used to evaluate the policy type and shift in policy type in each case study.

In addition to the aforementioned benefits of process-tracing, the method can also aid in identifying causal mechanisms not identified or included in the statistical models. For instance, process-tracing could identify the presence and strength of influence of other issue areas or issue networks on adoption. Identification of these other issue areas can greatly enhance future research endeavors on organic food and agriculture policy.

Case Selection

Two cases are selected for analysis based on maximized variance of the independent variables with control for region and the time-based variation of the dependent variable. Selection of cases based on these criteria complements the quantitative analysis by addressing variation over time as well as addressing statistically significant regions. California and Georgia are state cases that represent a leader and a laggard in adoption the dimensions of time and space (i.e. regional and agriculture variation). There were a number of steps used in identifying and selecting each case.

First, only adopting states were considered. The cases were then further narrowed by selecting states that have existing enacted statutes. In other words, states that terminated enacted statutes were removed from consideration to increase comparability among cases. By using this filter, examining the termination and life-cycle of innovative policies is reserved for future research objective.

Second, states were grouped were grouped into leading, lagging, and middle-pack initial adoption cases. As identified in Figure 5.1, there are three key periods of initial adoption from 1976-2010. Leading cases are states that adopted between 1978 and 1980. Middle-pack cases, which include two peaks, includes adoptions from 1986 to 1990. Laggards are states that adopted in 2000. Leading and lagging adopters are of particular interest given the amount of time between passages for each group. Furthermore, a leader-laggard comparison can also enhance the pre- versus post-federal adoption of organic policy

Third, based on the time-period groupings, the states were further defined by region and then evaluated along the dimensions of current policies and variation in the independent variables that were found to be significant in the statistical models. The West was one leading adoption region, thereby leading to the selection of California. The Southeast was a laggard region with no state adopting legislation until 1990. Subsequently, Georgia, which was one the last states in the region to adopt legislation, was selected as an interesting case.

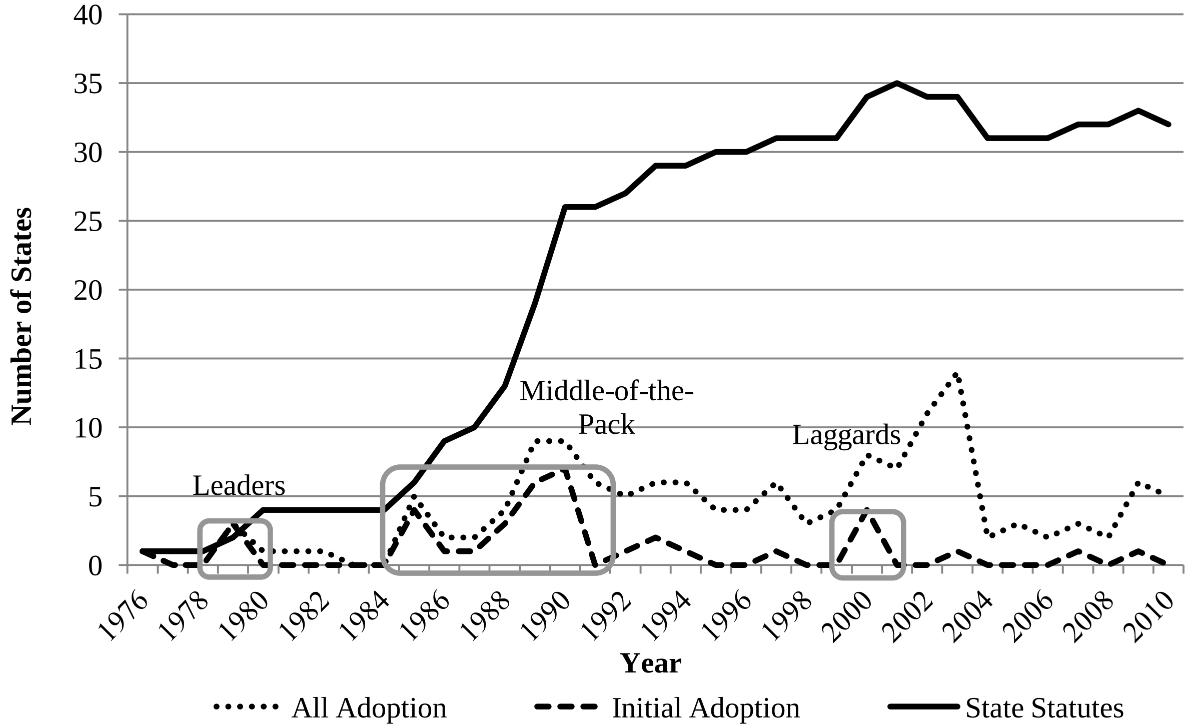


Figure 5.1: Total State Adoption and Statutes by Year

California: A Leader

California is an ideal leader case for several reasons. First, California is largely considered a leading innovator in organic food and agriculture policy. It is the only state to operate its own state organic program since the creation of the NOP. This factor is of particular interest in light of Walker's identification of California as a leading regional hub of innovation. Second, California has the most certified organic operations and has the most total acreage dedicated to organic production in addition to having organic certifiers operating within the states in the 1970s (ERS 2012b). The prevalence of these factors may help in answering questions about organic production and organic certifiers as influences on diffusion.

A third reason for selecting California is because it is the state with the most amending adoptions. Eighteen amending adoptions were made from 1982-2010. Yearly modifications were made from 1990-

1999, the period from initial federal adoption and the public of the NOP final rule. In addition, modifications were made in 2002 and 2003, the year of and the year after official enactment of the NOP final rule. These sequential adoptions may highlight the uncertainty and impact of federal action in this policy area.

Finally, California is a leading adopter and part of the Far West region. The Far West region is the second region in the U.S. to have state adoption of organic legislation. Furthermore, the Far West has maintained enacted state statutes above 50% since 2000. New York, located in the Northeast region, was the first adopter. However, examining the New York case is problematic for two reasons. First, the New York Agriculture Commissioner convened a meeting only once in 1978 to, "fulfill their statutory requirement," but never passed any rules (NY Organic Community Member, Personal Communications, E-mail, 6/3/2013). Second, state lawmakers never amended or addressed the issue after initial adoption in 1976, and, in 2010, the resulting statute chapter was eliminated as being outdated. Despite the elimination of New York as a case study, the sequence of adoption between the Northeast and Far West regions may indicate national competition between leading hubs of innovation in states like New York and California.

Georgia: A Laggard

Georgia was selected based on regional considerations. The Southeast region has the lowest percentage of state organic adoptions, and there was not an initial state adoption in the region until 1990. Also, from a theoretical standpoint, the Southeast is a unique region from a political ideology standpoint (*see* Elazar 1972) and is a lagging certified organic region (McEvoy 2012). A case from this region may confirm this regional political distinction in innovation and shed some light on the reasons behind low certified organic production levels in that state's ag sector.

Georgia emerged as the selected laggard case because it was one of the last adopting Southeastern states in 2000 and shares borders with three non-adopting states, Alabama, South Carolina, and Tennessee. Florida and North Carolina are the only states that adopted organic legislation in 1990 and 1993, respectively. Mississippi also adopted organic legislation in 2000. However, cross-regional influence may be present since the Southwest region shares a border and has a 75% adoption rate.

Data Collection and Sources

A combination of data sources are used to examine each case including archived and contemporary document review, review of archived multi-media sources, and interviews with individuals and organizations. Archived material was collected through online sources and field research trips to each state. Triangulation of data sources strengthens the ability to determine causal mechanisms and create a detailed process-tracking narrative (Yin 2009, 114-119). Initial data collection began with a review of oral histories and archived materials, both documents and multi-media collections, from government agencies, state legislatures, interest groups, and media sources. Then interviews were conducted with elected officials, government officials, interest group leaders, and other pertinent qualified experts on the development of organic food and agriculture policy in each state.

A "snowball" sampling method is used for identifying potential interview contacts (Lofland, Snow, Anderson and Lofland 2006, 43). Initial interview respondents are identified through the document and multi-media review. At the end of the interview, it is asked if they know of any additional contacts that may be willing to discuss their experience. This collection of additional contacts will only be asked to the first and second set of interview participants as diminishing returns are expected. Appendix G lists the organizations in each state that the interview participants were recruited. For California, 80 individuals were identified for interviews. For Georgia, 34 individuals were identified for interviews. Due to several logistical challenges, a total of ten individuals were interviewed for both cases.[62]

Each interview was conducted using a semi-structured or flexible interview format (Lofland, Snow, Anderson and Logland 2006, 105). A set of guiding questions was created to give direction for each interview (see Appendix H). However, depending on the information revealed during the interview, flexibility in asking unscripted questions is ideal and could reveal key data for determining causal mechanisms or revealing unknown variables of influence. For each type of interview participant (e.g.

[62] Due to the amount of time that has passed between initial adoptions and today, many interview participants are unable to recall information, have retired, or have passed away. Oral histories existed for California's organic movement and are included where appropriate. For Georgia, no oral history or archived material exists detailing the organic movement or any organic bill.

elected official, government official, etc.), a different question guide is developed. Questions are customized to the extent that specific dates or organizations vary from case to case. For example, initial and amending adoption dates vary for each case and implementing state organizations also vary by formal title (e.g. Georgia Department of Agriculture.)

Questions guides begin with questions which reveal the individual's expertise and then move towards broad questions intended to identify the broader economic, political, and social dynamic of the policymaking environment. The questions become more tailored at the end of the interview session to tease out nuanced differences or peculiarities of the policy environment.

Briefly Revisiting the Qualitatively Tested Hypotheses

As outlined in Chapter III, this dissertation includes 18 hypotheses. While most of the hypotheses could be tested quantitatively, four hypotheses are best tested with qualitative methods. Specifically, H9, H16, H17, and H18 all had variables that could not be constructed quantitatively for examination (see Table 5.1). Validity concerns and resource constraints, such as lack of historical documentation over time, creates challenges in quantitatively measuring organic certifiers, policy type, and identifying innovation leaders in organic food and agriculture policy. However, these variables can be examined qualitatively and provide some evidence to support or reject the four hypotheses not addressed with quantitative modeling. This permits a full examination of the policy diffusion model outlined in Chapter IV through the complete inclusion of all $\text{INTERNAL}_{i,t}$, $\text{POLICYTYPE}_{i,t}$, and $\text{EXSPOLICY}_{i,t}$ considerations.

In addition to testing H9, H16, H17, and H18, the comparative case study also strengthens this research in two ways. First, qualitative investigation permits further confirmation of the generalized findings from the time-series analysis. As discussed below, the cases selected for this research highlight the differences between a leader, a laggard, and a middle-of-the-pack adopter. The generalized quantitative results may not adequately or accurately explain the individual influences of adoption for each case. Some significant variables may not be significant in the leader case but are for the laggard case. Also, some variables not included in the models may appear as significant. In turn, a second benefit of the comparative case study method is to identify additional conditions that influence adoption or

Table 5.1: Non-Statistically Tested Hypotheses

Model Variable	Hypothesis
$INTERNAL_{i,t}$	H9: States with third-party certification programs are more likely to adopt organic legislation than states with no certification programs.
$POLICYTYPE_{i,t}$	H16: States are more likely to adopt organic legislation that provides strict regulatory rules or guidelines in the 1970s than later decades.
	H17: States are more likely to adopt organic legislation that is co-regulatory in the 1980s.
$EXSPOLICY_{i,t}$	H18: More innovative states are more likely to amend organic food and agriculture statutes more often.

change of policy overtime. For example, the comparative case study approach allows for exploratory investigation into other issue areas that influence adoption. Based on the results of the three cases, additional questions or hypotheses could be generated for future research.

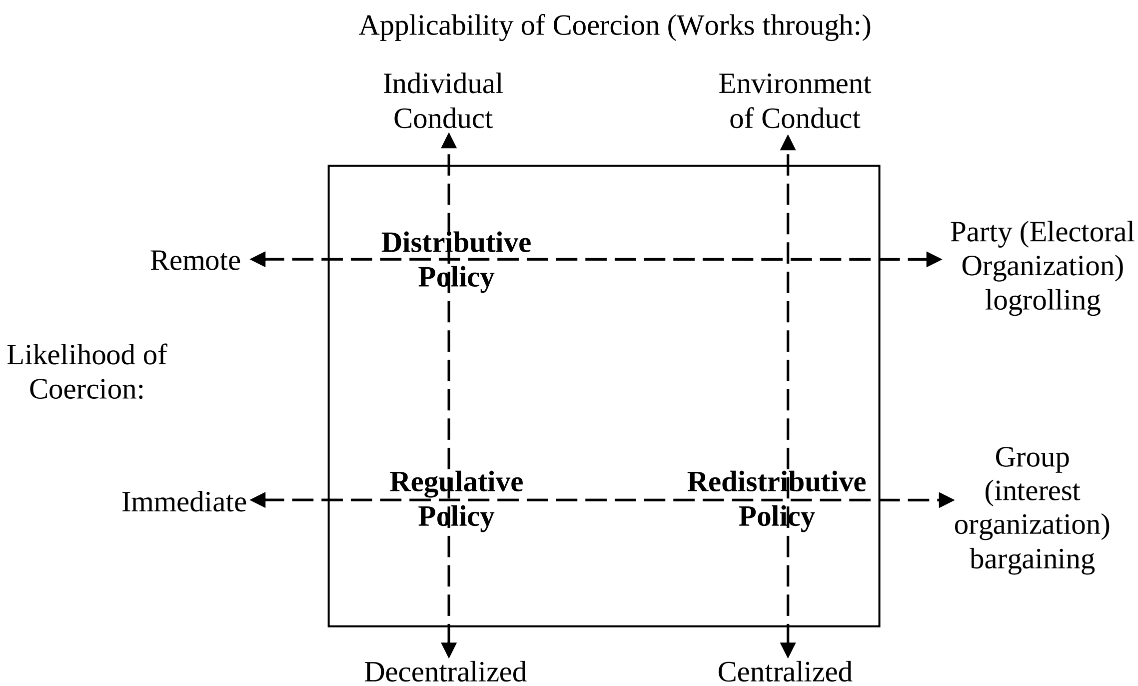
Measuring Third-Party Certification

The influence of third-party certification, tested in H9, will be assessed by examining the presence of third-party certifiers in the state associated with development and passage of organic food and agricultural legislation. Specific consideration will be given to third-party certifiers that sponsored legislation, wrote legislation, or were providing active feedback during legislative debate.

Measuring Policy Typology and Change

H16, H17, and H18 all require qualitative measuring of policy type and change over time. Within the diffusion literature, scholars have focused on the influence of policy typology on political decisions by citing Lowi. Lowi (1972) claims that policies determine politics, meaning that the design of policy may influence how political actors support or oppose the policy. Lowi's policy taxonomy contains four different policy types (see Figure 5.2). Each policy type is associated with a particular likelihood of coercion (either as remote or immediate) and applicability of coercion (influencing either individual or environment of conduct). Lowi is primarily concerned with identifying how policy conditions influence political patterns discovered. In 1987, Spitzer clarified Lowi's original policy typology scheme to address "persistent ambiguities." The policy typologies are modified from discrete to continuous by cutting each

Lowi's Policy Typology



Spitzer's Refocusing of the Lowi Policy Typology

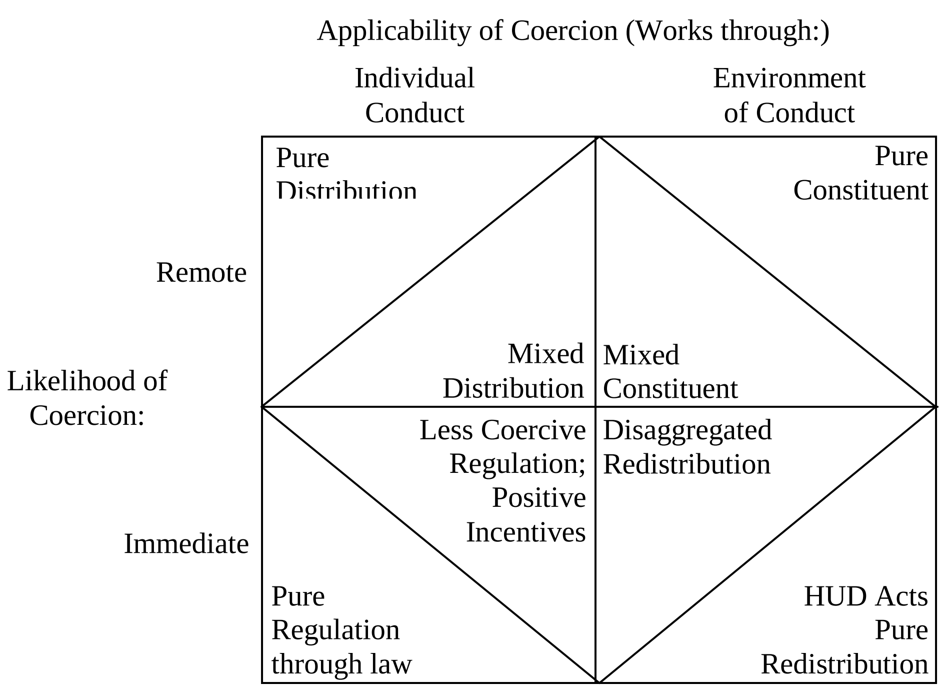


Figure 5.2: Lowi and Spitzer's Policy Taxonomies

figure in half to represent policies with mixed characteristics (see Figure 5.2). For example, regulatory policies can vary from pure regulation, which includes, “specific prohibitions back by firm sanctions,” to less coercive regulations, which may rely on fines, license withdrawal, or positive incentives to modify behavior. This analysis will focus on the varying types of organic regulatory policy and will use Spitzer’s re-focused policy taxonomy as a guide for distinguishing between more pure regulatory organic policies and less- coercive regulatory policies. However, this analysis will include co-regulatory schemes (e.g. third-party certification) as an extension of less coercive regulation with it bordering between more versus less coercive regulation.

Measuring Existing Policy

As indicated in the policy diffusion model, existing policy is expected to have an influence on adoption. The assessment of existing policy on adoption decisions is qualitative assessed through the number of adoptions. More frequent adjustments of existing policy may be the result of more innovative states but may also provide cues for the changing of policy typology shifting over time.

Case Study Procedure

The next two chapters detail the events in the two cases selected for analysis. Chapter 6 examines the events surrounding California from 1978-2010. Chapter 7 examines Georgia’s adoption of organic food and agriculture legislation from 2000-2010. For both cases, historical background about the state’s agriculture industry, including the emergence of the organic food and agriculture sector, is provided to establish the context of the industry’s power and status within each state. The analysis of significant variables concludes each chapter with the consideration of all quantitatively assessed hypotheses, as well as, the qualitatively analyzed hypotheses.

CHAPTER VI
A Leader – California

The story of organic agriculture in California spans over four decades. While not the first state to adopt organic food and agriculture legislation, California is considered a leading model state for organic policy development. California played an instrumental role in moving organic policy forward on a national and international scale, and it is the only state to be approved to operate its own state organic program post-NOP implementation in 2002.[63] Furthermore, since the initial adoption in 1979, California has amended its statutory code 17 times adjusting both the Health & Safety Code and the Food & Agricultural Code.[64] The number of amending adoption far exceeds other leading states in amending adoptions including Idaho, Minnesota, Texas, and Washington.[65]

The California case is an exceptional case to study, but also provides the opportunity to examine an early adopter of organic policy that remains a significant player in the policy domain today. There are many factors that influenced adoption decisions including the presence of a third-party certifier, political considerations, salience, regional influences, federal influences, and a growing and expanding market. The significance of each of these variables waxes and wanes over time. The variables that matter most during the initial adoption in 1979 are not likely the same set of factors that influenced reform in 1990, 2002 or amending adoptions in 2010.

This chapter is divided into six main sections. First, a brief introductory overview of California is provided followed by an overview of agricultural production and California agriculture industry is provided. Details of California's transition to specialty crops are included. Third, an overview of the emergence and growth of the organic industry is discussed. Next, an overview of California's organic

[63] State Organic Programs are partial pre-emption arrangements where states are given the opportunity "to oversee its production and handling operations per the USDA organic regulations," but can, "also add more restrictive requirements," if necessary (NOP 2011).
[64] This count is between 1976 and2010. It does not include any amendments that may have been adopted after 2010.
[65] Number of amending adoptions from 1976-2010 for each state is as follows: Idaho (8), Minnesota (9), Texas (9), and Washington (7).

legislative adoptions is provided. A total of eighteen bills were adopted from 1979-2010. The history of California organic policy is divided into three eras including the Organic Foods Act of 1979, the California Organic Foods Act of 1990, and the California Organic Products Act of 2003. Finally, this chapter then concludes with an evaluation of significant factors of adoption and an overview of the case study's contribution to the knowledge of organic policy and policy diffusion.

About California

California, also known as the Golden State, is the third largest geographical state in the U.S. with approximately 155,780 square miles of land area (U.S. Census Bureau 2010a). Located in the western U.S., California has 840 miles of Pacific coastline and shares borders with Mexico and three other U.S. states including Oregon, Nevada and Arizona. The California capital is Sacramento located in north central region of the state in Sacramento County, approximately 87 miles northeast of San Francisco (see Figure 6.1 for a map of California). According to the 2010 Census, the state's population grew to 37.3 million people from 33.8 million. The areas surrounding Los Angeles, Sacramento, San Diego San Francisco, and San Jose have higher population concentration. Furthermore, many of the counties in these metropolitan areas have higher median household income average than other areas of the state (see Appendix I).[66]

Key Industries

California has the largest U.S. state economy as measured by GDP and if one of the top ten largest global economies in 2011 (Center for Continuing Study of the California Economy 2013; Legislative Analyst's Office [LAO] 2013). According to California State University (2010), the state is dependent on seven core industries for driving the economy including; agriculture, information technology and electronics, media and cultural industries, business and professional services, tourism, life sciences, and transportation services/manufacturing. Collectively, these industries employ roughly 5 million Californians and the most to the state's overall economic productivity (see Table 6.1).

[66] It is important to note that no county in California has an average median household income lower than $35,000 a year as of 2012. See http://www.census.gov/censusexplorer/censusexplorer.html

Figure 6.1: California Map with Counties and Some Cities

Table 6.1: 2010 California Employment and GDP by Industry					
Industry	**Employment Number**	**GDP (in millions)**	**Industry**	**Employment Number**	**GDP (in millions)**
Agricultural, Forestry, Fishing and Hunting	382,800*	29,738	Professional, Scientific and Technical Services	2,074,400	168,610
Utilities	57,700	29,752	Administrative and Support/Waste Services	861,500	55,267
Construction	559,800	56,615	Educational Services	1,788,300	19,719
Manufacturing	1,241,000	191,793	Arts, Entertainment, and Recreation	243,400	24,538
Wholesale Trade	644,000	100,115	Health Care and Social Assistance	1,478,600	122,764
Retail Trade	1,513,300	114,231	Accommodation and Food Services	1,258,200	51,841
Transportation and Warehousing	408,600	45,625	Government	2,448,400	220,295
Information (Media)	427,700	123,403	**Figure represents reported total farm workers for 2010.*		

Source: Bureau of Economy Analysis, http://www.bea.gov/itable and /http://www.labormarketinfo.edd.ca.gov/LMID/Projections_of_Employment_by_Industry_and_Occupation.html

Future projections indicate the most growth in employment for educational services, health care, and professional and business services (Employment Development Department [EDD] 2012). The recovery since the Great Recession, however, is uneven statewide as coastal areas, such as San Francisco, have rebounded quicker than inland areas like Sacramento (Avalos 2013).

Political Environment

The political environment in California is complex, but in more recent years, there is more favoritism towards Democratic candidates rather than Republicans (Cook Political Report 2014). In more recent national elections, Democrats have fared well. However, the state hasn't always favored Democratic candidates and regional differences remain along a Republican-Democrat divide. Figure 6.2 provides a comparison of Presidential election years voting patterns by county. Since 2000, the coastal

Source: Cook Political Report 2014

Figure 6.2: California Presidential Election Results by County

areas of California have majority support for Democratic candidates whereas interior regions voted predominantly Republican. On average, Democratic-leaning areas are wealthier and have higher population densities (see Appendix I).

California shares similarities with other states regarding partisan control of state government (see Appendix J). Most states within the West region have been controlled by either Democrats or under split control. California shares a similar pattern with Nevada and Oregon of Democrat versus split government control over time. For much of the past three decades, California and Nevada have been under split government control, where neither part controls state government. California is also similar to Nevada with regards to political culture. California's political culture is identified as moralistic with a strong individualistic strain (Elazar 1994, 284), which correlates to a 3.55 ranking on Sharkansky's numeric scale (1969). California's political culture, therefore, has a concern for the public good but also supports the rights of the individual. In general, the broad designation of California's political culture demonstrates trust in government to address public concerns while there is an undertone of mistrust in government, as well. Comparatively, Nevada is the only other state in the region with a similar political culture with a 3.66 political culture ranking on Sharkansky's scale. Oregon and Washington have political cultures ranking more purely moralistic whereas Alaska has an individualistic culture and Hawaii has a political culture closer to being traditionalist.

California differs from other states in the West with regards to the level of state legislature professionalism. California's state legislature professionalism ranges from .626 as a peak in 2003 to a low of .526 in 1979. While California's professionalism score follows a similar increase and decrease pattern over time, Alaska, Hawaii, Nevada, Oregon, and Washington all have state legislature professionalism scores lower than California by at least .200. Nevada, with which California shares other similar political environmental conditions, maintains the lowest regional level of state legislature professionalism with a peak of .163 in 2010 and a low of .130 in 1979. California's higher level of state legislature professionalism indicates the state legislature spends more days in session, has more resources, has a larger staff, and is considered full-time. In sum, the political conditions in California are similar to other states in the region. Yet, Californian political conditions are distinctive with the state being more professionalized than other states.

A Brief Overview of Agricultural Production in California

Over the past century, California has consistently ranked as one of the top or the top agricultural producer(s) in the United States (Ball, Wang, and Nehring 2013). While agriculture barely contributes to the state's current overall GDP,[67] California's agricultural industry plays a significant role in the U.S. and global agricultural markets. The Golden State not only has the largest agricultural production and sales figures in the U.S., but it also has the most diversified set of crop production including nuts, fruits, vegetables, horticulture, dairy, poultry, and cattle products (Olmstead, and Rhode 2003). California is the leading producer for several products, contributing to 99% or more of U.S. production totals, of almonds, artichokes, dates, figs, raisins, kiwis, olives, pistachios, prunes, and walnuts among other commodity and specialty crops (Sumner, Bervejillo and Kuminoff 2003, 61). On the global market, top export destinations for California agricultural commodities in 2011 include; Canada, China, the European Union, India, Japan, and the United Arab Emirates (Agricultural Issues Center ND). Total value of the California's 2011 exports is $16.8 billion with almond exports being the foremost export valued at $2.8 billion (Agricultural Issues Center ND). California's share of total 2011 U.S. agricultural exports was 12.4%, only a slight decrease from 2010.

The agriculture industry is a vital part of California to the extent it can be argued that "California's politics, economy, culture, society, environment and technology are inextricably tied to agriculture" (University of California-Berkeley Library [UCB-Library] ND). The history of California agriculture is relatively short, complex, and inextricably linked to the regional climate and natural resources, in addition to migration patterns and use

[67] The percentage of California's total GDP resulting from agricultural industry from 1976 to 2010 ranges from a high of 3.1% in 1979 to a low of .1.3% in 2001 and 2006. In 2010, the percentage of California's GDP resulting from agriculture was 1.6%. These percentages were calculated using USDA's Ag Census Data.

of newer agricultural technology. In general, California can claim it has a Mediterranean climate with a two-season cycle of rainy winters and dry summers allowing for year-round production (UCB-Library ND). For example, Figure 6.3 demonstrates how leafy greens can be produced year-round in the state due to the unique 2-season growing cycle. However, California is also the second largest geographical state in the continental U.S., so it experiences extreme variations in natural resources and climatic patterns across its vast geography. For example, the state includes Death Valley, the Redwood Forest, and the Sierra Nevada mountain range, all of which represent extreme variations in temperatures, rainfall, and elevation among other climatic factors (National Park Service [NPS] 2013a, 2013b; 2013c).[68]

Source: CLGMA 2012

Figure 6.3: Year-Round Production of Leafy Greens in California

[68] Death Valley sits 282 feet below sea level, averages less than 2 inches of rainfall annually, and can reach temperatures of 120˚F during the summer (NPS 2013a). The Redwood National and State Parks average annual rainfalls of 60-80 inches and average high temperatures around 67˚F in the summer, typical for northern coastal climates (NPS 2013b). Yosemite, situated towards the north of the Sierra-Nevada mountain range, reaches up to 13,000 feet in elevation, receives 37 inches of average annual precipitation, and reports average high temperatures in the summer of 89 (NPS 2013c, 2013d).

There are several ways to demonstrate the regional variance of agricultural production in California. State agencies and universities have created several approaches to identifying agricultural regions within the state. State agricultural region maps have ranged from including 4 to 8 different regional designation based on production areas largely based on different resources, land uses, and climatic patterns in each county (EDD 2010; Johnston 2003). Figure 6.4 demonstrates one example of regional agriculture production. The Central Coast, Sacramento Valley and San Joaquin Valley are key agricultural production centers largely responsible for most of the state's agricultural production (Johnston 2003, 34-37). Yet none of the regions would be as productive today had it not been for regional settlement patterns and the use of agricultural technology.

It was only after the 1760s that California could be considered a "mecca for agriculture" (UCB-Library ND). Prior to early settlers in the region, the California region lacked native crop species. Settlers in the region, predominantly Spanish missionaries, were the first to introduce non-native crops including wheat, grapes, nuts, and cotton. For much of the eighteenth and nineteenth centuries, California agriculture was predominantly large-scale wheat farms (Olmstead and Rhode 2003, 2-3). After decades of poor agricultural management practices (e.g. lack of crop rotation and/or deep plowing), wheat farming became a fruitless endeavor with yields and crop quality sharply declining. According to Olmsted and Rhode (2003, 3-5), the farm economy shifted from large-scale operations to small-scale specialty crop production. The rapid growth of irrigated land[69] at the beginning of the twentieth century coincided with the sharp increase in specialty crop production.[70] Figure 6.5 demonstrates the decline of wheat cropland

[69] Irrigation is an agricultural practice that "makes agriculture possible in areas previously unsuitable for intensive crop production," by transporting water to cropland (Environmental Protection Agency 2012). Irrigation in California started as early as 1797 but irrigated lands remained at less than 1% until the 1890s (UCB-Library ND; Olmstead and Rhode 2003, 3)

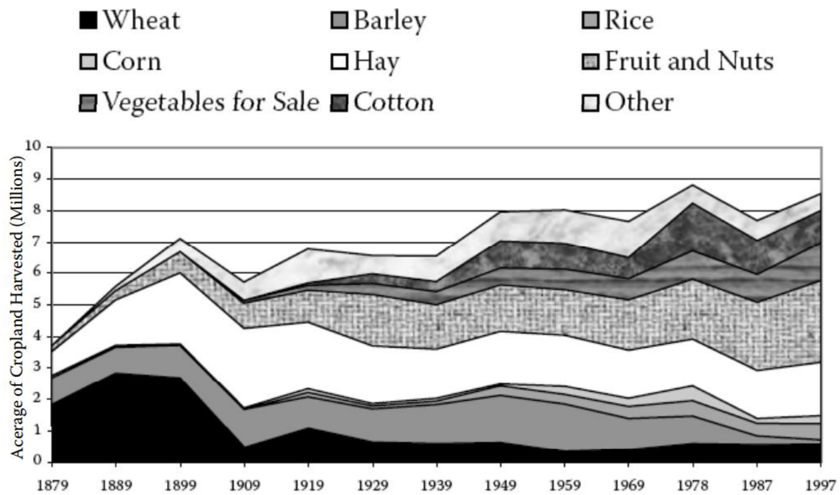
[70] The California Department of Food and Agriculture identifies specialty crops to include fruits, vegetables, tree nuts, dried fruits, horticulture, and nursery crops (California Department of Food and Agriculture 2013).

Region 1: North Coast
Region 2: North Mountain
Region 3: Northeast Mountain
Region 4: Central Coast
Region 5: Sacramento Valley
Region 6: San Joaquin Valley
Region 7: Sierra Nevada
Region 8: Southern California
a) South Coast
b) South Desert

** The Sacramento and San Joaquin Valley may be referenced as the Central Valley.*

Source: Johnston 2003

Figure 6.4: California's Eight Agricultural Production Regions



Source: Olmstead and Rhode 2003, 5

Figure 6.5: Distribution of California Cropland Harvested

and conversion to specialty crops. Many of the specialty crops were produced by emerging cooperatives.[71] For example, the Sunkist was a label developed by the California Fruit Growers Exchange established in 1905 (Olmstead and Rhode, 23).

Since the end of World War II, specialty crops are not the only area for rapid agricultural production growth. The cotton and livestock industries also grew substantially (Olmstead and Rhode 2003, 7-11). In part, the large growth of these three industry sectors can be attributed to the creation of cooperatives, increased prevalence of mechanized farms, which includes irrigation, and use of paid labor. However, not all California farmers were eager to adopt new, innovative farming practices post-WWII or had the ability for capital-intensive farming that denotes conventional agricultural practices today.

[71] The California Center for Cooperative Development identified cooperatives as user-owned and –controlled businesses intended to help farmers gain market power by providing marketing, supply or service benefits (California Center for Cooperative Development ND). Olmstead and Rhode (2003, 24) claim that the success and power of the California co-op model was not matched anywhere else in the country due to the state's dominance in producing many specialty crops like almonds and grapes.

California Organic Agriculture

The story of California organic agriculture is just as remarkable and distinctive as the rest of California's agricultural history. According to Guthman (2004, 14), California contained, "one of the most countercultural branches of the organic farming movement." Organic farming emerged in both rural and urban epicenters predominantly situated in the central coast and central valley.[72] Counter-culture in the late 1960s and 1970s deeply influenced cuisine served in San Francisco while Berkeley became notable because of Chez Panisse, a French-inspired restaurant opened in 1971 that serves fresh, local and sustainable ingredients (Belasco 2006; Chez Panisse 2012; Guthman 2003, 15). Two universities, the University California-Santa Cruz and the University of California-Davis, were also significant to the emergence of organic agriculture.

Officially established in 1980, the University of California-Davis Small Farm Center focuses on the small-scale farm operations including foci on specialty crops and rural cooperatives. The Center was the result of several years of amorphous existence and efforts to create a program on the campus that served small-scale rather than large, scale conventional farmers (Christensen et al. 1990).[73] The "Tomato Harvester" lawsuit, filed by the California Agrarian Action Project[74] and the California Rural Legal Assistance in Alameda County, spurred the creation of the Small Farm Center at the University of California-Davis campus (Martin and Olmstead 1985; Community Alliance with Family Farmers [CAFF] 2013). Plaintiffs, 19 farm workers, claimed "publicly funded mechanization research[75] displaced farm workers, eliminates small farmers, hurt consumers, impairs the quality of rural life, and impedes collective bargaining" (Martin and Olmstead 1985). While the "Tomato Harvester" lawsuit was

[72] Guthman (2003, 15) states that southern California experienced a health food movement several decades before the organic movement.
[73] The Small Farm Program was created in 1976 and was the predecessor the Small Farm Center (Christensen, Giraud et.al 1990). In 2010, the Small Farm Center closed and became the Small Farm Program (UCSFP 2014).
[74] The California Agrarian Action Project would eventually become the California Action Network in 1985, and, in 1993, the California Action Network would unite with the California Association of Family Farmers to become the Community Alliance with Family Farmers (CAFF 2013).
[75] According to Martin and Olmstead (1985), "Mechanization research is construed to include the development of machinery, crop varieties, chemical herbicides, growth regulators, and laborsaving methods of handling, transporting, and processing crops."

eventually lost on appeal in the California Supreme Court in 1989, the Small Farm Center was a response and surviving legacy from legal action taken by stakeholders from the Central Coast.

Before the establishment of the Small Farm Center, Alan Chadwick was the founding leader of "the Garden," an experimental agricultural endeavor, on the University of California-Santa Cruz campus in the late 1960s. The Garden was intended to give students a sense of place to, "to offset students' feelings of displacement and disruption" (Center for Agroecology and Sustainable Food Systems [CASFS] 2010a). Not only was the Santa Cruz campus being physically redesigned, leaving little outdoor space for reflection, but students were also seeking refuge from political and cultural struggles of the 1960s.[76] Chadwick, a student of Rudolf Steiner,[77] used a French-intensive, biodynamic style farming that would bridge the needs of the mind, body and spirit. Students and non-students alike were attracted to the Garden with many volunteers later operating their own farms. For example, Orin Martin, who would manage the Farm and Garden[78] starting in the late 1960s, left behind his counter-culture activism activities, like protesting the Vietnam War, in the Northeast. He drove across country to Santa Cruz and eventually started volunteering at the Garden. As he recalls,

> I had some friends who were going to school at UC Santa Cruz. They said, 'It's really nice here. Why don't you come out?' This was in 1969. I got a VW bus and drove out here. And there were two people that were living in their house that worked at this place called 'The Garden' on campus, and they were never there, I mean, rarely there. They came in late and left before light. So after a while, I thought I would investigate where this garden place was. (Martin 2008, 6)

The Farm and Garden at the University of California-Santa Cruz would eventually become the Center for Agroecology and Sustainable Food Systems [CASFS]. Many individuals that would play a key role in the development of California organic legislation and the development of the organic agriculture market, including Mark Scrowcroft and Mark Lipson, either attended or were a part of the network surrounding the Santa Cruz campus.

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[76] Referenced political and cultural events include the Vietnam War and the perception of a culture only concerned with the artificial (CASFS 2010a).

[77] Among his many accomplishments, Rudolf Steiner crafted the idea of biodynamic farming, which is part of Steiner's Anthroposophy philosophy (Uhrmacher 1995).

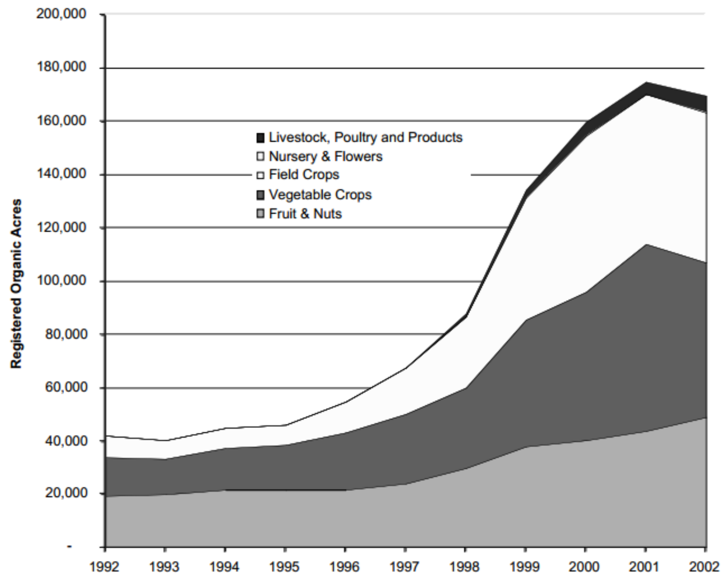
[78] The Farm is a separate operating entity from the Garden. The Farm Center was built under the premise of a class and founded in 1972 (Martin 2008, 17; CASFS 2010b).

At about the same time the Farm was established in Santa Cruz, the California Certified Organic Farmers [CCOF], a farmer-led chapter-based certification organization, was organized and operating out of Barney Bricmont's dining room (Brians and Brians 2007, 54; Bricmont 2007, 1; California Certified Organic Farmers [CCOF] 2013a). After efforts by the Rodale Institute, a rural Pennsylvania organic research group, failed to establish a certification program in California, Bricmont was one of six organic farmers from central California intent on creating a certification process for organic farms and products to define and protect the term organic from fraudulent use. For much of the 1970s and 1980s, CCOF was the only or at least the predominant certifier of organic operations in the state of California. In 1992, CCOF leading staff members, including Mark Scrowcorft and Mark Lipson, left CCOF to run the Organic Farming Research Foundation [OFRF]. OFRF was created by CCOF in 1990 as a way to provide funding for organic farming research. CCOF leaders did not feel that universities were doing enough to support organic farmers at the time and created OFRF as a vehicle to accept donations for research funding (Lipson 2007, 22-23).

During the lifetime of CCOF and OFRF organizations, certified organic farms and sales dramatically increased. After a watermelon scare in the summer of 1985,[79] CCOF saw membership nearly double (Lipson 2007, 11; Scrowcroft 2007, 47). The demand for membership in CCOF would continue, even from those outside of the state and country, into the late 1980s and 1990s as more attention brought to the issue of organic food and agriculture through a number of focusing events and consumer curiosity and demand (Scrowcroft 2007, 37-40, 42; Lipson 2007, 19; Lipson 2013). The amount of media and consumer interest (framed as salience in our previous modeling), particularly in the late 1980s, contributed to demand to reform of California organic law as will be discussed below. Figures 6.6 and 6.7 demonstrate the rapid increase in organic acreage and sales in California from 1992-2002 with most of the increase attributed to specialty crops such as fruits and vegetables. In 2011, California had 2,530 certified

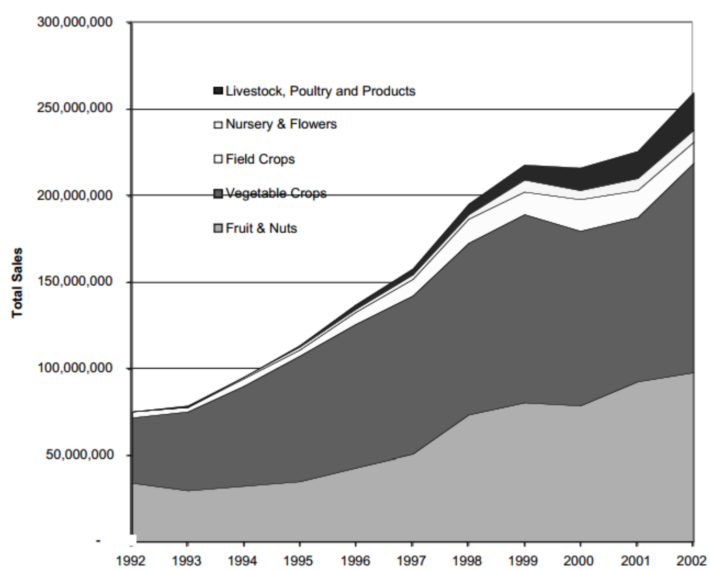
[79] In the summer of 1985, 2,000 people were sickened after eating California-grown watermelons illegally contaminated with Aldicarb, a pesticide used to kill pests on cotton, citrus, and potatoes among other food crops (Cone 2010).

organic operations in the state totaling 951,356 acres of organic crop, pasture, and rangeland (ERS 2013c).



Source: Klonsky 2003, 253

Figure 6.6: 1992-2002 California Organic Acreage



Source: Klonsky 2003, 254

Figure 6.7: 1992-2002 California Organic Sales

A History of Organic Food and Agriculture Legislation in California

California passed a total of 18 legislative bills regarding organic food and agriculture regulation from 1979-2010. Table 6.2 outlines adopted legislative bills, year of passage, and bill sponsorship. Three legislative bills were the most significant to developing organic food and agriculture policy in the state because each provided a framework in which subsequent amendments were made (see Appendix K for legislation text). The Organic Foods Act of 1979 was the seminal piece of legislation while the California Organic Foods Act of 1990, and the California Organic Products Act of 2003 each represent a significant overhaul and reform of existing regulations. The other 13 bills representing either reauthorization, as in the case of AB 3422 in 1982, or were intended to refine and clarify aspects not addressed in the primary legislation.

From 1979-1989, regulations were only developed within the Health & Safety Code. After 1990, organic food and agricultural regulations existed in both the Health & Safety Code and the Food & Agricultural Code spanning implementation responsibilities across two different state agencies. The California Department of Health Services [CDHS] is responsible for enforcement activities for the Health & Code. The California Department of Food and Agriculture [CDFA] is responsible for enforcement activities for the Food & Agricultural Code. While this study does not explicitly examine the development and internal policies of state administrative agencies, the role of CDHS and CDFA are significant to the development of legislation and overall California policy.

The history of organic food and agriculture legislation in California will be explored in three different eras. First, the passage of the Organic Foods Act of 1979 and reauthorization in 1982 will be explored. Then the events leading up to and the passage of the California Organic Foods Act of 1990 will be described. Amending legislation from 1991-1999 will also be covered, as well. Finally, the history will conclude with the passage and amendments of the California Organic Products Act of 2003.

Table 6.2: California Organic Food and Agriculture Passed Legislation		
Year	**Bill**	**Sponsored/Introduced***
1979	AB 443 *Organic Foods Act of 1979*	Michael Gage [D]
1982	AB 3422	Sam Farr [D]
1982	SB 1273	Henry Mello [D]
1990	AB 2012 *California Organic Foods Act of 1990*	Sam Farr [D]
1991	AB 645	Sam Farr [D]
1992	AB 3246	Sam Farr [D]
1993	AB 1713	Sam Farr [D]; Rusty Areias [D]
1994	AB 2518	Rusty Areais [D]
1995	SB 688	Committee on Agriculture and Water Resources
1996	AB 2340	Sal Cannella [D]
1998	AB 2761	Committee on Agriculture
1999	AB 1243	Committee on Agriculture
2002	AB 2823 *California Organic Products Act of 2003*	Virginia Strom-Martin [D]
2003	AB 776	Barbara S. Matthews [D]
2005	SB 730	Jackie Speier [D]
2009	AB 856	Anna Caballero [D]
2010	AB 2612	Committee on Agriculture
2010	AB 2686	Tom Berryhill [R]

**Political Party – [D] =Democrat; [R]= Republican*

The Organic Foods Act of 1979 (AB 443)

The organic food and agriculture legislation passed in 1979 was not the first attempt in the California State Legislature to pass a law of that nature. In 1978, Assemblyman Vic Fazio, a Democratic representing constituents in the central California region, authored AB 2135, a bill that "proposed definitions and controls," for the term organic in California agriculture (Legislative Counsel 1979). The bill was proposed at the recommendation of the Department of Consumer Affairs under the pressure of

Governor Jerry Brown, a Democrat. While the bill died after the third reading on the senate floor, Assemblyman Michael Gage, a Democratic representing Napa, Sonoma, and Vallejo, would sponsor AB 443 in 1979, which was very similar to AB 2135. AB 443's intent was to establish "standards within the Sherman Food, Drug and Cosmetic Law for food products being advertised or labeled as organic, organically grown or wild, natural grown, ecologically grown, or biologically grown" (Legislative Counsel 1979). Essentially, the bill was intended to provide a definition of organic to eliminate confusion and deceptive practices, or information asymmetry, in the market. There was little evidence to support political disagreement within the California State Legislature. Instead, most of the disagreement occurred between food and health industry groups.

Summary of the Final Bill Version (AB 443)

The final version of AB 443 altered the Health and Safety code to include sections 26469, 26569, and 26850 relating to organic food. Within these sections, key definitions are made, acceptable practices are identified, implementation funding determined, and a sunset clause established. Table 6.3 outlines key aspects of the bill. The bill offers precise guidelines for permissible use of terms and conditions of growth, production, and handling of organic food. However, certification of organic operations would remain voluntary. CCOF members wanted to keep certification as farmer-to-farmer certification as the method for validating organic claims and agreed to keep terms of agreement voluntary (Cantisano 2008, 113). In addition to voluntary compliance, enforcement activities would not be mandatory for state agencies including CDHS. Citing the adoption of Proposition 13, it was expected that there would be cut-backs in government funding (Fishman 1979c).[80] Therefore, mandating state agencies to enforce the law without proper additional funding and resources was thought as inconceivable.

[80] On June 6, 2978, California voters passed Proposition 13. As part of the larger anti-tax movement in the country, Proposition 13 decrease property taxes to 1% and limited the growth of future assessments. It was believed, by some, that the passage of Proposition 13 would lead to cuts in government spending and increase unemployment rates (Glyn and Drenkard 2013).

Table 6.3: Summary of AB 443/ Cal. Hlth & S. Code § 26469, 26569, 26850	
Aspect	**Summary**
Definitions and Use	Identifies the appropriate use of the terms organic, organically grown, naturally grown, wild, ecologically grown, and biologically grown. Limits use to "raw agricultural commodities or processed foods which have been produced without the use of synthetically compounded fertilizers, pesticides, or growth regulators for 12 months before seed was planted until the time of harvest, or harvested, stored, processed or packed" (Fishman 1979a).Processed foods can contain ascorbic acid, sodium ascorbate, calcium ascorbate, and citric acid. Synthetically compounded means "products formulated by a process which chemically changes a material of substances" (e.g. splitting molecules) from a natural source except microbiological processes that only physically change the structure (Cal. Hlth & S. Code § 26569.11(a)(3)).
Pesticide Residue	The maximum level of acceptable pesticide residue for organically grown food is 10% of the level determined safe by the United States Food and Drug Administration (Cal. Hlth & S. Code § 26569.12).
Meat, Fish, & Poultry	Meat, fish, and poultry sold as organic can be treated with chemicals or drugs for disease. However, chemicals and drugs cannot be used within 90 days of slaughter, and 60% of the final sale weight must result from organic feed (Cal. Hlth & S. Code §26569.11(d)).
Acceptable/ Unacceptable Materials	Permissible materials in organic production include calcium oxide, sulfur, gypsum, light petroleum, and vegetable oils. Unacceptable materials include Bordeaux mix, aromatic petroleum solvents, diesel, petroleum fractions used as weed and carrot oils (Cal. Hlth & S. Code 26569.11(a)(3)).
Record-Keeping	Growers, manufacturers, wholesalers, and retailers much keep accurate records for two years regarding source and details of food products labeled organic (Cal. Hlth & S. Code §26569.11, 26569.15(c-e)).
Certification Labeling	Food products that are certified organic and not simply labeled organic must list the person or organization that provided certification on the label (Cal. Hlth & S. Code §26569.15)
Enforcement	No funds are allotted for enforcement activities. No state agency is required to enforce the code (Cal. Hlth & S. Code §26850.5(c)).
Sunset Clause	Each section was set to expire, unless reauthorized, on January 31, 1983 (Cal. Hlth & S. Code §26469, 26569, 26850).

According to Bones (1992), Oregon not only provided the momentum for organic food and agriculture legislation in other states but also used Oregon's 1973 administrative rules as a model.[81] The California law differed from Oregon rules in record-keeping requirements, defining synthetic and labeling requirements. At the time, California's rules were not only similar to Oregon's rules but also Maine's and

[81] Several requests were made to the Oregon State Archives division specializing in management of older Department of Agriculture administrative rules. Each request by phone and email went unanswered to this point.

a definition developed by the Federal Trade Commission in 1979 (USDA Study Team 1980, 6). Yet, California's rules were considered to be a leading example to examine conflict surrounding the development of organic regulations. The link between Oregon and California was established through an organic network including CCOF, Oregon Tilth,[82] and Friends of the Earth among other self-organized groups. These groups worked to build consensus and minimize opposition to legally defining and establishing organic rules.

Support and Opposition

AB 443 divided organic farmers and interested consumers into two camps. One camp feared the law as being too strict and disliked government intervention in this area. The other camp was fighting against fraud and watering-down of organic to where the market was losing relevance and stability (USDA Study Team 1980, 8). CCOF was in the latter camp and played an instrumental role in developing and advocating AB 443. Sy Weisman and Stuart Fishman,[83] both with the North Coast chapter of CCOF and Gage's constituents,[84] initially expressed reservations about AB 2135 in its treatment and regulation of the term organic. The primary concern was"it would exclude virtually all of the growers using the term" at the time (CCOF 1988, 2).

In rewriting AB 443, CCOF members worked extensively to create a California organic industry that could agree upon a definition of organic and how to appropriate regulate the market under attack. Fraud and loose application of the term organic on produce was a major concern. Working as focusing events, an article in *New West* magazine and a Los Angeles CBS news affiliate each exposed fraud in the organic market in 1979 (Fishman 1979a). Conventional growers could have an unfair market advantage

[82] Oregon Tilth is similar to CCOF. It is an organization that promotes organic agriculture as part of its broader mission to support sustainable and equitable agriculture. In addition, it also serves as an organic certifier. Oregon Tilth can trace its roots to the early 1970s. As an outgrowth of Regional Tilth, Oregon Tilth is part of a broader network established in the Northwest. For more information about Oregon Tilth see http://tilth.org/

[83] Fishman was a produce buyer for Rainbow Groceries, a San Francisco co-op grocery store, and was reputable for scrutinizing organic operations. The term "Stu Fished" was a phrase coined to describe throughout scrutiny of an organic operation (Burroughs 2004).

[84] Sy Weisman and Stuart's Fishman's North Coast chapter was the Farmers Organic Group of Sonoma Cunty, a marketing co-op (CCOF 1988).

by selling conventionally grown produce as organic and were damaging the organic market image. Many in the organic industry linked organic fraud with the diluting of the term natural. The term natural was perceived to have lost all meaning, and the effort was made to prevent the same diluting of the term organic through revising AB 443 (Fishman 1979a). AB 443 represented a method for identifying what farming operations were or were not organic.

The distinction on who was organic and not organic was a process that took two years. CCOF started working on AB 443 in 1978 (CCOF 1988). Meetings were held with organic growers, processors, wholesalers, and retailers to develop a law that would codify the organic term. Support was drawn from a wide base including the California District Attorneys Association, Department of Consumer Affairs, California Health Officers Association, Sacramento Natural Foods Co-Op, and California Dietetic Association (Legislative Counsel 1979). From outside of California, CCOF worked closely with Friends of the Earth and Oregon Tilth (Fishman 1979a). The result ended in an 8-page bill detailing the terms and agreement of using the word organic. Yet the final bill version was a clear product of compromise and negotiation with opposing forces. Not even CCOF was completely satisfied with the passed version (CCOF 1988).

Opposition to the bill came from two primary sources[85] outside of the organic industry network - Clinton Miller representing the National Health Federation and Dave Ajay from the National Nutritional Foods Association. Miller (1978), calling supporters of the bill "'naïve' but well meaning," and Ajay had several key points of criticism (Lasher NDa). First, voiced opposition demonstrated a clear dislike for the organic definition included in the bill. Miller claimed the organic definition used in the bill was only one of many definitions used by organic producers. Moreover, the claim was made that the organic definition was arbitrarily different from the definition of natural (Fishman 1979b; Lasher NDa, NDb; Miller 1978).

[85] Assemblyman Gage's office received opposition letters from others. One example is William Jarvis (1979), representing the National Council against Health Fraud, argued that the bill falls short for consumers and should not legitimize terms that would be misleading in the long run. Another example is the California Association of Tobacco and Candy Distributors raising concern about having to adjust marketing of wild cherry cough drops to comply with regulatory language regarding the term wild (Fishman and Fishman 1979).

Ajay contended that having multiple state definitions for organic would be problematic and suggested waiting for the Federal Trade Commission to develop regulations.

A second concern was centered on quality differences between organic and conventional agriculture. Miller believed the bill should contain language to suggest organic and natural foods were superior in quality to conventionally grown foods. Quality refers to higher nutritional value as well as beneficial to health and the environment because of the quality of soil and absence of mechanized inputs (Fishman 1979b; Lasher NDa, NDb). Ajay elaborated on the quality point by arguing that the 12-month cessation period to transition from conventional to organic production was not enough to protect soil and product quality (Fishman 1979b).

The third and final key criticism centers on the involvement of CDHS. Miller claimed that involving the CDHS would be bad for natural food stores, growers, and consumers. In a conversation with Ellen Powell, the Legislative Coordinator for the Department of Consumer Affairs, Miller indicated that the, "hostility 'tween the heath food industry and the DoH goes back a long ways, and underlies A[jay] & M[iller]'s worry of the bill" (Lasher NDa). The perceived hostility was because CDFA implemented the Sherman Food, Drug, and Cosmetic Act. Miller's assumption was not clearly linked to Proposition 13 concerns or CDHS' reservations about funding (California Department of Health Services [CDHS] 1979).

In addition to Miller and Ajay's voice opposition, some organic farmers also expressed concerns. Indeed, Bill Jessup, a citrus grower from Oasis, indicated reservations about the need for government intervention. In a letter written to Stuart Fishman, Jessup (ND) states, "I haven't gotten a look yet at AB 443. My first inclination is that it would be better to rely on private regulation than on the government." Jessup sought a more stringent definition of organic and wanted to prevent having multiple definitions across the country. He felt that multiple definitions would cause confusion and could even be more damaging than the deception and fraud the industry was currently fighting.

Points of Compromise

To address some of the voiced opposition, the compromises made in the bill included the sunset provision, removal of a definition for natural, technical exceptions to using the term wild, and the inclusion of language regarding no expectations of enforcement. The enforcement language [Cal. Hlth & S. Code §26850.5(c)], or rather language indicating no mandatory enforcement, was included to address concerns raised by CDHS regarding funding support. In an early bill analysis, CDHS indicated a neutral position (CDHS 1979). Funding was cited as a concern.

The removal and exceptions related to term definitions for natural and wild were made in light of opposition. As described in Section 26469, the term wild can be "used to describe a flavor of a food or a plant variety." This language was added after concerns related to naming of wild cherry cough drops raised by the California Association of Tobacco and Candy Distributors. There was no intent to change this long-time tradition (Fishman 1979c). The exclusion of the term natural from being regulation (see Cal. Hlth & S. Code §26469) is the result of a trade-off with agribusiness (Fishman 1979d). By not regulating natural-labeled foods, agribusiness agreed to leave the organic label alone.

Perhaps one of the bigger compromises involved the establishment of a sunset provision for January 31, 1983. Designers of the bill wanted to set up a regulatory board under the law that would add and modify permissible materials and practices (Fishman 1979d). It was understood the law would contain loopholes and would need to be addressed. However, the regulatory board was not approved. Therefore, the sunset provision was "unanimously and enthusiastically agreed upon" and included. It would allow concerned parties to create a more workable bill after discovering any loopholes or deficiencies of AB 443 (Fishman 1979c).

1982 Reauthorization (AB 3422).

AB 3422, introduced by Assemblyman Sam Farr, was the reauthorization and amending bill to the Organic Foods Act of 1979. AB 3422 was debated after the passage of SB 1273, an urgency measure to create exceptions to the maximum allowable pesticide residue on organics.[86] After the two year trial period for AB 443, several deficiencies and areas of improvement were identified. There was enough support for the continual existence of organic regulations despite continual in-fighting within in the organic community (Cantisano 1982). Some recommended improvements ranged from amending the list of permissible materials, requirement documentation for soil improvement, funding CDHS to improve enforcement, and giving distinctive definitions for ecologically or biologically grown (Castisano 1982). After a lengthy discussion for how to improve the existing law, AB 3422 eliminated all sunset provisions and new limitations to applying prohibited substances to raw agricultural commodities. Efforts to increase the "teeth" or enforcement of the bill were unfulfilled. The CDFA was hostile to the idea of getting involved with organic regulation, and the CDHS did not want to be responsible for enforcement without a funding source (CDHS 1982).

The California Organic Foods Act of 1990 (AB 2012)

In March 1989, Sam Farr introduced AB 2012 or The California Organic Foods Act for the first time (Lipson 1990). The passage of the act involved two years of effort to craft a bill that would overhaul organic regulations. The 1980s marked a decade of both disappointment and joy in the organic community. Although the interest in organic products was increasing, weak enforcement of the 1979 law left to numerous scandals and need to create mandatory labeling standards. CCOF, the primary sponsor of the bill, aimed, "to increase the regulation of the labeling of organic foods and the inspection of foods grown under conditions considered as organic to meet the public's expectation and prevent fraud" (Evans 1989).

The Call for Reform in California

The movement for reform in California was spurred in the 1980s as attention to organic food and agriculture was increasing. A few high-profile cases of fraud in the market increased concern about the image and validity of the organically-labeled goods. Meanwhile, an increasing tide of concern over

[86] The medfly, or Mediterranean fruit fly, is an invasive species to North America that can cause extensive damage to a number of fruit crops. The exception was made due to the medfly infestation occurring in San Mateo, Alameda, and Santa Clara counties among other areas (Hagen, Allen, and Tassan 1981).

conventional agricultural practices led to increased consumer demand and curiosity. One of the biggest and most significant fraud scandals was the carrot caper scandal (Lipson 2007, 19; Scrowcroft 2007, 42; Epstein 2013). In 1988, photographic evidence surfaced incriminating Pacific Organics, a food distributor, of re-bagging conventionally grown Mexican carrots as organic (Scrowcroft 2007, 37-38; CCOF 2013a). The ‘organic’ carrots were then distributed to a number of grocery outlets and sold under false pretenses to organic consumers. CCOF and CDHS were investigating the odd occurrence of organic carrots being sold in Weed Patch, California, when the primary organic carrot grower was out of carrots. After the help from a Pacific Organics worker, evidence showed trucks from Mexico bringing conventionally grown carrot entering a warehouse and being re-bagged as organic carrots. According to Scrowcroft (2007, 38-39), CCOF went public with information in the *San Jose Mercury News* with the Associated Press picking up the news story short thereafter. Cases of fraud like the great carrot caper were not uncommon. However, the carrot caper incident was one of the more blatant cases leading to considerable concern in the organic community about protecting itself.

A second significant wave of concern emerged from public and environmental health issues regarding food contamination and questionable conventional agricultural practices. One focal point of attention came during the February 1989 broadcast on CBS’s 60 Minutes examining the dangers of Alar and other pesticides (Negin 1996; Scrowcroft 2007, 35).[87] In response to the broadcast and the involvement of Meryl Streep,[88] the public panicked and the number of organic farmers grew drastically (Negin 1996; Scrowcroft 2007, 35). Alar, also known as Daminozide, is a chemical sprayed on apples that enhances color and regulates growth. It is also a known carcinogen being banned in California under Proposition 65 on January 1, 1990 (Office of Environmental Health Hazard Assessment 2013). The focus on pesticides, not just Alar, at the time coincided with the passage of Proposition 65, an initiative for

[87] The broadcast was based on the Natural Resources Defense Council’s report “Intolerable Risk: Pesticides in Our Children’s Food” (Negin 1996).
[88] Meryl Streep, an American actress, became outspoken against the use of pesticides in 1989. She went public on her views in numerous media outlets and even testified before Congress (Negin 1996).

labeling hazardous chemicals in the marketplace (Lipson 2013). Heightened concern about the dangers of conventional agriculture led to increased interest and demand of organic food and agriculture.[89]

Calls for reforming organic food laws in California came from the convergence of concerns over fraud and health concerns. As Bricmont (2007, 8-9) recalls about the need for reform,

> "Originally we went on our own code of ethics. But we had no way to control the industry. Anybody could just slap a label 'organic,' because organic meant nothing, there was no legal definition. At that point we were running across people who were just chemically growing, and labeling the food organic and selling it. We knew we had to clean up the industry. We knew what we were doing as a group. But then the outside world was not cooperating. So we decided we needed to draw a line in the sand that said: on this side of the line you're organic, on the other side you're not."

CCOF, who was truly the de facto enforcer of the 1979 law, led the effort for reform by hiring attorney Barry Epstein and working with Assemblyman Sam Farr to rewrite the law (Brians and Brians 2007, 51; Lipson 2013; Epstein 2013). Epstein was an environmental attorney in San Francisco that was introduced to the organic farming community during the 1988 medfly eradication.[90] His expertise was sought for re-writing the bill partially at the request of Farr. Farr was approach by what he describes as "hippie farmers" from his district seeking a legal course for enforcement (Farr 2007 12-13; Farr 2013). He worked to educate the farmers about the legislative process and how to go about writing and getting a bill passed. In addition to contacting key decision makers in the legislative process, part of that effort was to work with lawyers to write the bill in codified language (Farr 2013). Epstein worked closely with Mark Lipson and the CCOF grower committee to write the law starting 1989 (Lipson 2013). After two years of meetings[91] and a number of revisions, the bill was reintroduced on March 9, 1990 after action during the previous legislative session failed.[92]

[89] Lipson (2007, 20) also noted the Chilean grape scare, where imported grapes were tainted with cyanide, in 1989 as a significant event.
[90] Epstein represented a group of organic farmers in Northern California who were fighting against the mandatory medfly eradication spray program in 1988. Organic farmers would have taken them out of organic production (Epstein 2013).
[91] Effort was made to create a conducive and welcoming environment for a wide variety of participants to the extent of Epstein requesting decorum at meetings (Epstein 1989a). Meeting participants include but are not limited to CCOF, CDFA, CDHS, California Department of Finance, California Cattlemen's Association, California Grocers Association, Butte County Farm Bureau, Santa Cruz, County Farm

Summary of the Final Bill Version (AB 2012)

The passed version of AB 2012 was approximately 13,500 words and was unusually detailed. The bill added Chapter 10 (Section 46000) and Section 14904 to the Food and Agricultural Code and altered the Health and Safety code by amending and moving regulatory code to Article 4.5 Section 26569.20. Table 6.4 outlines major provisions of the bill. Adoption of the bill extended mandatory enforcement requirements for CDHS and CDFA. Fees would be collected from registration of persons engaged in the production or handling of organic goods and used for enforcement activities. While

Table 6.4: Summary of AB 443

Aspect	Summary
Enforcement	The bill requires that the Director of CDHS and CDFA to enforce regulations regarding organic foods (Cal. Food & Ag. Code § 14904; Cal. Hlth & S. Code § 26569.25).
Registration & Fees	All persons engaged in the production or handling of organic production and handling is required to register with the agricultural commissioner annually. For producers, registration fees are on a sliding scale based gross income (Cal. Food & Ag. Code § 46002; Cal. Hlth & S. Code § 26569.35).
Application Limitations	The bill identified the permissible time frames in which pesticides and other prohibited materials could be applied to crops, seeds, and growing mediums if identified and labeled as organic. A one-year transition period was established (Cal. Hlth & S. Code § 26569.22).
Term Definitions	The bill included precise definitions for such terms as applied, handled, processed, prohibited materials, sold as organic, and synthetically compounded (Cal. Hlth & S. Code § 26569.21-.22).
Advisory Board	The CDFA Director is responsible for the establishment of the Organic Food Advisory Board that will advise the Director and adopt regulations regarding permissible and prohibited materials. The board is a 13 member body representing producers, processors, retailers, consumers, scientists, and environmentalists (Cal. Food & Ag. Code §46003).
Certification	For products sold as certified organic, products must be certified by a registered organization that is a legally separate and independent organization than the entity being certified (Cal. Food & Ag. Code § 46009; Cal. Hlth & S. Code § 26569.30 & §265569.24).

Bureau, California Grain and Feed Association, California League of Food Processors, Western Growers Association, California Farm Bureau.

[92] As Barry Epstein (2013) indicated as an appropriate footnote, California's legislative session acts as a two-year legislative session. If bill are introduced in the first year of the two-year session window, such as the 1989-1990 session, the bill will continue on the books during the second year session.

application limits and some term definitions were provided, AB 2012 required the establishment of the Organic Food Advisory Board. The Board would be responsible for advising the CDFA Director and developing regulations regarding permissible and impermissible substances and practices. Prior to regulation adoption, the CDFA Director is responsible for publishing a list of materials, permissible and impermissible, based on materials published by CCOF, the Organic Food Production Association of North America, and Oregon and Washington Departments of Agriculture (Cal. Food & Ag. Code §46003.5).

Certifying organic operations, a voluntary measure, would not be the responsibility of CDFA or CDHS. Instead, a third-party certification scheme was maintained from the 1979 bill. However, certifying agencies would be responsible for registering with the state and maintaining records. Furthermore, the certifying agency would need to be legally separate and independent from any entity it certified.

Support, Opposition and Compromise

The debate and compromise surrounding the two-year development of AB 2012 centered on three different groups of participants including elected officials, public organizations, and the agriculture industry including both conventional and organic agriculture. Conventional agricultural interests, including the California Farm Bureau and the Western Growers Association, were slow to recognize the significance of the bill, and, after their strategy of trying to kill the bill failed, tried to make the bill workable (Farr 2013; Epstein 2013). Three key points of debate and compromise center on the complexity of the bill including third-party certification, funding the implementation of the bill, and debates on technical aspects of regulation.

Debate on Complexity & Third-Party Certification

One of the more notable aspects of the bill is its sheer length and complexity. At approximately 13,500 words, the bill is comparatively longer to most legislation and remarkably more like administrative rules. As noted in a California Department of Finance 1990 bill review, AB 2012 is noted as establishing “a program that is complex, with program responsibilities spread between both State and local agencies including the [C]DFA, the [C]DHS, the CACs [county agricultural commissioners], and local district attorneys." The detailed complexity of the bill, however, was a calculated move by CCOF and its supporters. According to Barry Epstein (2013), the reason for the extensive detail was because of CCOF's concern about the rule-making process with CDHS and, more specifically, CDFA. The perception was that CDFA was captured by conventional agricultural interest. Had the bill passed delegating authority to CDFA and CDHS, rules may have been developed that did represent the best interests of CCOF or the rest of the organic agriculture community.

The third-party certification scheme was one of the more hotly contested aspects of the complex bill. One reason the third-party certification scheme was include was related to politics. As Sam Farr pointed out (2007, 16-17; 2013), Republican Governor George Deukmejian posed as a challenge for passage.[93] The third-party certification scheme worked only if it did not increase the cost or regulatory burden at a time of anti-regulation in the United. Yet, another challenge arose from state and local government entities wanting to retain regulatory power. CDFA, county agricultural commissioners [CACs], and CDHS all at one point during the process raised concern about the third-party scheme. From an agricultural standpoint, it was assumed that CACs could conduct independent certification (Kizer 1989; Voss and Nutter 1989; Epstein 2013).[94] Likewise, CDHS, who would support the bill in later versions, indicated that the AB 2012 "would place the DHS in direct competition with the private industry in the certification of organic food processors, handlers and producers" (CDHS 1989; Kizer 1989; Voss and Nutter 1989). However, both state agencies initially failed to recognize the importance of the farmer-on-farmer certification process.

As a second and more well-established reason for the third-party certification was the demand from CCOF. CCOF growers truly believed in third-party certification but did not feel it should be mandated in the new law despite fraud. As Mark Lipson recalls (2007, 20),

[93] Another elected official that represented a challenge was Assemblyman Norman Waters, a Democrat and Chair of the Assembly Agriculture Committee. Waters was identified as, "an established, typical state politician, big friends with big ag," and likely to create problems with reform particularly after organic growers expressed disgust with the 1988 mandatory spraying for medflies (Lipson 2007, 16).
[94] Organizations such as the California Cattleman's Association (1989) expressed the need to keep certification within CDFA or CDHS citing private certification as a barrier for entry into the market.

> "The board of CCOF didn't feel like it was right to impose a requirement for certification. They wanted that to be their additional level of value in the marketplace. But they said, 'There needs to be some kind of legal baseline, so we'll create this registration program where everybody has to basically declare that they're following the law and make a legal affidavit that they're following the standards in the law. But then, third-party certification will be over and above that."

AB 2012 wouldn't diverge too much from the Organic Foods Act of 1979 except that enforcement and registration would be mandatory. Certification from a third-party entity would remain as method for label certification but with more clear indication for what constitutes as organic. The third-party certification scheme not only met the desires of CCOF, but also the cost-effectiveness requirements and infrastructure requirements set forth by Governor Deukmejian (Lipson 1990).

Funding Implementation

Another significant barrier to the passage of AB 2012 was ensuring appropriate levels of funding for CDFA, CDHS, and CACs.[95] On one side of the debate was a number of organizations against registration fees. For example, the California Grocers Association (1989) was against fees charged to retailers selling organic food. Yet, as stated previously, Governor Deukmejian posed a challenge for passage in part due to cost requirements of implementation (Farr 2013). The California Department of Finance, CACs, CDHS, and CDFA also indicated concerns, particularly early on in the process in 1989, about the cost of implementation and enforcement (CDHS 1989; California Department of Finance 1990; Lipson 1990). There was uncertainty regarding initial start-up cost and long-term viability of the program to sustain itself. If AB 2012 were to pass, it would have to contain funding to cover enforcing the bill.

Registration fees collected from organic producers and handlers were the primary vehicle to fund enforcement (Lipson 1990).[96] However, additional compromises were made to ensure adequate funding levels. Specifically, writers of the bill "trimmed certain functions called for in the bill, phased in the start-

[95] Associated with the revenue concern is concern about where collected fees would be deposited. Earlier versions of the bill directed collected fees to be deposited in the Food and Agriculture Fund and the Health Safety Fund, which did not exist. An adjustment was made for fees to be deposited into the California General Fund (California Department of Finance [CDF] 1990).

[96] Collection of penalties and administrative charges were also additional sources of funding that would fund, but not significantly fund, the program.. Registration fees were expected to garner around $400,000 initially. Estimated cost for CDFA and CACs were estimated at $425,000 and $1.2 million for CDHS (Lipson 1990).

up of some programs, and limited the scope of rule-making activity that is required" (Lipson 1990). For example, failure for a certifying organization to register would be a violation after December 31, 1991, allowing a one-year deferment of enforcement. While not all parties found the scenario ideal, the effort to "balance the equation" helped to overcome the financial problems associated with the passage.

Technical Aspects of Regulation

Controversy also surrounded technical aspects of AB 2012, ranging from improper coding,[97] record keeping requirements, and decisions regarding organic practices. Revisions were made to protect the identity of registrants, requiring growing practices disclosure during registration, using the 1990 CCOF Certification Handbook as a reference for prohibiting specific substances until 1992, and reducing the tolerance level from 10% to 5% for prohibited material contamination on organic products (Lipson 1990). These technical adjustments were just some of the many compromises made.

At the time technical aspects of AB 2012 were development, an effort was forged to standardize organic practices. The Western Alliance of Certification Organizations [WACO], including representatives from Oregon Tilth, Washington Tilth, and CCOF, was created and has been active since the late 1980s (Lipson 2007, 18; Lipson 2013). WACO's purpose was to "harmonize" organic standards and practices on the west coast. In 1990, California was operating on a one-year transition period to organics while Oregon and Washington were operating on a three-year transition period (Scrowcroft 2007, 40). The difference between transition periods caused Oregon to consider refusing California organic products. Such discrepancies led to a handshake agreement to iron-out differences. Over the course of several meetings, which also had participants from the Northeast Organic Farming Association chapters, an agreement was made to standardize regulations to improve interstate commerce and minimize competitive disadvantage (Epstein 1989b; Scrowcroft 2007, 40-41). While not all technical changes in AB 2012 synchronized with other states' practices and standards, several legislative adoptions in the 1990s would work towards standardizing practices and norms.

[97] Improper coding was only a minor, but relatively significant, criticism by the CDHS during the 1990 session debate (Griffin 1990).

Amending Adoptions of the 1990s

A total of eight bills were passed from 1991-1999, amending provisions of the California Organic Foods Act of 1990. Table 6.5 provides a brief description of each bill's intent. Of all the bills, the 1992 AB 3246 was the only bill to be vetoed prior to passage. Republican Governor Pete Wilson cited inadequate funding for CDHS to implement the law (Legislative Counsel 1992). No other bill was found as vetoed during its course to passage.

Three patterns emerge for amending legislation that occurred during the 1990s aside from implementation responsibility adjustments. First, five bills contain language that directly impact the scope and size of the Organic Food Advisory board. The 1991, 1992, 1993 and 1996 bills extended the deadline

Table 6.5: Bills Amending the California Organic Foods Act of 1990

Year	Bill	Summary of Intent Relating to Organic Provisions
1991	AB 645	An urgency measure intended to continuously appropriate revenues, extend phasing deadlines for new regulations and revise established fee schedule for registration.
1992	AB 3246	The bill would alter the complaint procedure, registration fees, and required adoption of prohibited substances be completed no later than July 1, 1994.
1993	AB 1713	The bill amended a number of provisions including the following: add one additional member to the Organic Food Advisory Board; extend the date for listing prohibited substances to January 1, 1996; prohibit prescribe records from becoming public; ban co-mingling of organic and non-organic commodities; protect trade secrets, and limit the multi-ingredient labeling on certain organic products.
1994	AB 2518	The bill amended a number of provisions including the following: allow for approval of certifiers based on national law; increase responsibilities of CACs; require all organic be certified; and corrected a technical glitch regarding application of pesticides in the 1990 bill.
1995	SB 688	The bill clarifies deadlines and requirements for when prohibited materials can last be applied. These changes remain in effect until the implementation of federal organic certification.
1996	AB 2340	The bill changed the deadline for when the prohibited substances list should be adopted.
1998	AB 2761	The bill creates alternatives for the Organic Food Advisory Board.
1999	AB 1243	The bill would further amend membership aspects of the Organic Food Advisory Board, make technical changes to approved ingredients for organic food, and alter the scope of power of the CDHS in implementing the law.

in which the board should adopt regulations regarding prohibited materials. The 1993 bill extended the final date to January 1, 1996. All of the amendments were intended to aid in the continual implementation of the California Organic Foods Act of 1990. However, the 1993 extension was explicitly noted in response to delayed federal efforts to the development of prohibited substance list at the federal level. As indicated during a hearing,

> "It is the intent of the Department of Food and Agriculture to adopt organic food regulations in a form and content similar to those adopted by the U.S.D.A. pursuant to the federal Organic Foods Production Act of 1990. Inasmuch as those regulations will not be prepared until 1994 or 1995, the extension of the time limit for the state's adoption from 1994 to 1996 appears reasonable." (Hite 1993)

No further extension of the deadline was made after 1993, but the 1996 bill changed the deadline to a future date when the national standards are developed.

A second pattern within the 1990s amending legislation relating to the Organic Advisory Board was the adjustment of membership on the board. In 1993, the Board was expanded to 14 members with the addition of another producer representative. In 1998 and 1999, policy makers created and made technical adjustments for alternative board members. None of the adjustments received significant criticism.

A third trend of the 1990s amending legislation regards the moratorium periods of transitioning to organic. In the 1990 legislation, a 12-month period of transition was required where land may not have prohibited materials applied. The 1994 and 1995 bills clarified a glitch in the original bill and established organic transitionary periods based on initial registration dates. Table 6.6 identifies the transitionary period length based on registration date. Starting in 1996, the three-year transitionary period agreed upon by WACO was achieved in California. These changes received no significant opposition.

The California Organic Products Act of 2003 (AB 2823)

The 2002 AB 2823, also known as the California Organic Products Act of 2003, was chaptered into law by the California Secretary of State on September 15, 2002. Introduced early during the 2002 legislative session by Assemblywoman Virginia Strom-Martin, a Democrat from Duncan Mills,[98] AB 2823 brought the state organic food program in compliance with the National Organic Program [NOP] effective in 2002. Starting in August 1999, meetings were held by the Organic Food Advisory Board with interested parties[99] to collaborate on the re-writing of California's organic law with the expectation of bill passage in 2002. [100]

Table 6.6: Organic Transitionary Periods Established After Passage of 1995 SB 688

Registration Date	No Prohibited Material Period
Prior to January 1, 1995	Previous 12 Months
During 1995 calendar year	Previous 24 Months
After January 1, 1996	Previous 36 Months

Source: Legislative Counsel 1995

Summary of the Final Bill Version (AB 2823)

The passed version of AB 2823 was as detailed and the California Organic Foods Act of 1990. The bill modified the Food and Agricultural Code and the Health and Safety Code regarding organic foods.[101] Table 6.7 outlines major provisions of the bill. The bill maintained a mandatory third-party certification system and enforcement responsibilities by the CDFA, CDHS, and CACs. The Organic Food Advisory Board was replaced with the California Organic Products Committee. The Committee would be responsible for advising the California Secretary of Agriculture regarding his or her duties as assigned by

[98] Duncan Mills is a small community located approximately 75 miles northwest of San Francisco in Sonoma County.

[99] Interested and supportive parties throughout the process included CCOF, the California Farm Bureau, the Environmental Health Network, the California Council for International Trade, Bayliss Ranch, Lundberg Farms, California Natural Products, Avalon Natural Products, Organic Ingredients Inc., Nub Circus, Alto Ingredients, Tikvah Company, and 26 individuals including consumers. California Grocers Association, Proctor & Gamble, and the Cosmetic Toiletries and Fragrance Association voiced opposition.

[100] Eventually a COPA task force, let by Gay Timmons, developed in 2000 and comprised of approximately 65 companies and individuals to develop the proposed amendments (Timmons 2002a and 2002b).

[101] The Health and Safety Code organic regulations were moved to sections 110815-110959 as early as 1999 (see California 1999 AB 2823).

AB 2823. Enforcement and certification responsibilities by all California entities, however, must be in compliance and meet the standards set forth by the NOP.

The California Organic Products Act of 2003 made substantial changes regarding fee structures and scope of materials and products covered by organic regulation. To offset increasing costs, a fee structured was created for CDHS, new fees were created for particular products and handlers, and CDFA fees were increased. The fee increases were at the request of the organic industry to cover certification costs (Strom-Martin 2002a). For the scope of coverage, alcohol, cosmetic products, dietary supplements, and pet food would be included as regulated items. Cosmetic products, as well as multi-ingredient products, would be subjected to additional fees. The inclusion of newer items beyond raw agricultural products or processed goods is reflective of the market that was expanding and diversifying.

Table 6.7: Summary of AB 2823

Aspect	**Summary**
Enforcement & Certification	Requires the CDFA, CDHS, and CACs to enforce regulations (Cal. Food & Ag. Code § 46000; Cal. Hlth & S. Code § 110812). Maintains the third-party certification system as also established by the NOP.
Restructures Code	Brings the Food and Agricultural Code and Health and Safety Code into compliance to the NOP.
Advisory Board	Establishes the California Organic Products Committee to advise the Agricultural Secretary. Comprised of 15 members and 15 alternatives representing producers, processors, wholesale distributor, consumer representatives, environmentalists, scientists, and retailers (Cal. Food & Ag. Code § 46003).
Definitions & Coverage	Maintains most definitions and includes new definitions for animal food and non-food plants, and USDA NOP (Cal. Food & Ag. Code § 46004.1; Cal. Hlth & S. Code § 110815). The bill also extends coverage of organic items to include multi-ingredient items, cosmetics, alcohol, dietary supplements and pet food (Cal. Hlth & S. Code § 110835). Cosmestic and multi-ingredient products must contain at least 70% organically produced ingredients (Cal. Hlth & S. Code § 110838-110839).
Registration Requirements	Maintains previous registration requirement and penalties (Cal. Food & Ag. Code § 46013.1; Cal. Hlth & S. Code § 110875 and § 110915).
Fees	Amends CDFA fee structure to increase fees and fee caps and creates a fee schedule for CDHS. Also creates new fees for cosmetic products, multi-ingredient products, and for individuals that otherwise handle organic products not covered by CDHS scope (Cal. Food & Ag. Code § 46013.1(f); Cal. Hlth & S. Code § 110875(d)).

Support, Opposition, and Compromise

The controversy and debate surrounding AB 2823 departed from previous debates on organic regulations. Except for the 1992 AB 3246, partisanship did not clearly appear to affect the outcome of any organic bill. Even with the passage of the California Organic Foods Act of 1990, Republican Governor George Deukmejian challenges were not cited as a problem with most working on the bill. Partisanship, however, was clearly evident as Republicans clearly demonstrated reservations about the bill even in its final version. Table 6.8 demonstrates votes and party affiliation for votes in the Senate and Assembly Floors. A majority of Republicans were adamantly opposed to the passage of the bill but did not have a majority in either the Senate or Assembly to prevent passage. Opposition from the bill came from Republicans, the California Grocers Association, The Cosmetic Toiletry and Fragrance Association, and Proctor & Gamble. Three points of concern were raised by the opposition.

First, Republicans suggests that a "bounty hunter" provision[102] existed given that the CDFA would receive direct financial benefit from fees and penalties collected through enforcement activities by CACs (Assembly Republican Committee 2002; Rogers 2002). The rules establishing fees and penalties were law when AB 2832 went up for debate. However, as a second point of opposition, Republicans also referred to the fees and penalties as "draconian measures" (Rogers 2002). The California Grocers Association was against the proposed fees for handling operations and retailers (Brown 2002b). In general, the new fee structure was widely supported by the organic industry (Strom-Martin 2002a). However, a compromise was made to strike the definition of retailer, which was argued as inconsistent with national law, and to create a $100 flat fee per store for retailers (Green 2002).

A third and major dispute over AB 2823 was over new regulations regarding cosmetics. In an eleventh hour attempt to derail the bill,[103] Proctor and Gamble along with the Cosmetic Toiletry and Fragrance Association objected to regulations covering organically-labeled cosmetics. It was believed by

[102] "Bounty hunter" provision was defined as "an awesome and powerful incentive to a government bureaucrat" (Rogers 2002).
[103] Opposition to the bill's regulation of cosmetics was not raised until August 2002, approximately two weeks before passage on the Senate and Assembly Floors. A formal letter of opposition was not received until August 26, 2002 (Strom-Martin 2002b).

the opposition that regulatory language covering organically labeled cosmetics were removed during June 11th amendments because cosmetics were not regulated by the NOP (Livingston 2002a and 2002b).[104]

Table 6.8: Floor Votes on AB 2823 by Member and Party*

Floor Vote/Date	Ayes		Nays	
Senate Floor/ August 20, 2002	Alarcon [D] Alpert [D] Bowen [D] Burton [D] Chesbro [D] Costa [D] Escutia [D] Figueroa [D] Karnette [D] Kuehl [D] Machado [D] McPherson [R] Murray [D]	O'Connell [D] Ortiz [D] Peace [D] Perata [D] Polanco [D] Romero [D] Scott [D] Sher [D] Soto [D] Speier [D] Torlakson [D] Vasconcellos [D]	Ackerman [R] Battin [R] Dunn [D] Haynes [R] Johannessen [R] Johnson [R] Knight [R] Margett [R] McClintock [R] Monteith [R] Morrow [R] Oller [R]	Poochigian [R]
Assembly Floor / August 28, 2002	Alquist [D] Aroner [D] Briggs [R] Calderon [D] Canciamillia [D] Cardenas [D] Cardoza [D] Chan [D] Chavez [D] Chu [D] Cohn [D] Corbett [D] Correa [D] Dutra [D] Firebaugh [D] Florez [D] Goldberg [D] Liu [D] Longville [D] Lowenthal [D] Maddox [R]	Matthews [D] Migden [D] Nakano [D] Nation [D] Negrete-McLeod [D] Oropeza [D] Pavley [D] Reyes [D] Salinas [D] Shelley [D] Simitian [D] Steinberg [D] Strom-Martin [D] Thomson [D] Vargas [D] Washington [D] Wayne [D] Wesson [D] Wiggins [D] Wright [D]	Aanestad [R] Ashburn [R] Bates [R] Bogh [R] B. Campbell [R] J. Campbell [R] Cogdill [R] Cox [R] Daucher [R] Dickerson [R] Harman [R] Hollingsworth [R] Kelley [R] La Suer R] Leach [R] Leonard [R] Leslie [R] Maldonado [R] Mountjoy [R] R. Pacheco [R] R. Pacheco [R]	Pescetti [R] Richman [R] Runner [R] Strickland [R] Wyland [R] Wyman [R] Zettel [R]

**Political Party – [D] =Democrat; [R]= Republican*

[104] Cosmetics were not edible items and, therefore, not considered for regulation at that time (Lambert 2002).

Yet language regarding organic cosmetics was reinserted with amendments on August 12th and August 20th (Livingston 2002b). The NOP did allow for oversight of organically-labeled cosmetics requiring a minimum of 70% organic content to be labeled as such (Strom-Martin 2002b).[105] Indeed, while certain aspects regulating cosmetics were removed with June 11th amendments, regulatory language still existed that allowed for oversight of organically labeled cosmetics (AB 2823 Amended 6/11/2002). The August amendments reinserted the minimal standards requiring a minimum of 70% organic content in cosmetics before a company could label as organic.

There was more support voiced for the bill's inclusion of cosmetic regulations. Letters were received from the Environmental Health Network, Nub Circus, Organic Ingredients Inc, Alto Ingredients, Avalon Natural Products, and several individuals in support of maintain regulations. In the personal letters, individuals expressed gratitude toward Strom-Martin for not succumbing the pressure from Proctor and Gamble and the Cosmetic Toiletries and Fragrance Association (Concerned Citizen 1 2002; Concerned Citizen 2 2002; Concerned Citizen 3 2002; Egide 2002; Peck 2002; Stern 2002; Wilkie 2002).[106] Amendments were not made to accommodate the eleventh hour opposition. Cosmetics were regulated under the California Organic Products Act of 2003.

Amending Adoptions of the 2000s

Since the passage of the California Organic Products Act of 2003, organic regulations have been amended through five additional legislative bills. AB 1625 passed in the state legislature in 2012 but was vetoed by Democratic Governor Jerry Brown. The bill would have established a fund to help farmers transition from conventional to organic farming. Of the five passed bills, amendments ranged from improving enforcement, clarifying expectations of handlers and producers, creating standards for organic fertilizer, and banning the labeling of seafood and aquaculture as organic. Table 6.9 provides a brief summary of each bill.

[105] For information about federal oversight of organic cosmetics see http://www.fda.gov/Cosmetics/ProductandIngredientSafety/ProductInformation/ucm203078.htm

[106] One very personal letter indicated disgust with Clairol Herbal Essence Shampoo, which was labeled as "totally organic." The product was reported to cause several skin and breathing conditions for that individual (Concerned Citizen 1 2002).

Table 6.9: Bills Amending the California Organic Products Act of 2003		
Year	**Bill**	**Summary**
2003	AB 776	The bill clarifies confusion regarding the first-time registration fee of a minimum of $75 for the smallest producers. Scheduled fees are clarified in Section 46013.1 (Legislative Counsel 2003). It also provides more specific language regarding physical description of producer operations (Cal. Food & Ag. Code § 46013.1).
2005	SB 730	The bill prohibits aquaculture products from being labeled, represented or sold as organic until formal standards are developed at the federal level (Cal. Hlth & S. Code § 110827)
2009	AB 856	The bill establishes standards in conjunction with the California Organic Program, California Organic Foods Act of 1990, and California Organic Products Act of 2003 to clearly define organic input material as it relates to organic fertilizer (Legislative Counsel 2009; Cal. Food & Ag. Code § 14528).
2010	AB 2612	The bill clarifies alternatives to the advisory board, adds a definition for an exempt handler, allows for the adoption of an online registration system, and make other technical changes (Legislative Counsel 2010a; Cal. Hlth & S. Code § 110810; Cal. Food & Ag. Code § 46004.1; 46013; 46014.1).
2010	AB 2686	The bill increases the ability for CACs to enforce the law by allowing CACs to go to the District Attorney for criminal prosecution or have County Counsel file for an injunction (Legislative Counsel 2010b; Cal. Food & Ag. Code § 46017).

Most of the amending adoptions were non-controversial. The 2002, 2009, and 2010 bills represent efforts to improve implementation and improve consumer confidence. For example, the 2009 AB 856 bill creates specific language to identify organic fertilizers to clearly specific appropriate practices. The CDFA had been investigating the adulteration of organic fertilizer within the state and found non-organic fertilizer being sold to unknowing organic farmers (Legislative Counsel 2009). Likewise, the 2010 AB 2612 aimed to streamline the registration process, which would improve confidence in the market and law.

The only amending adoption after 2002 that was controversial was 2005 SB 730, which regulated organic aquaculture. The introduction of SB 730 was “in response to concerns that have been raised by several consumers and environmental advocacy groups questioning the truthful and meaningful labeling of organic seafood" (Office of Assemblywoman Jackie Speier 2005).[107] A study conducted by the University of New York at Albany's Institute for Health and the Environment raised concern after study results indicated high levels of contaminants including PCBs, dioxins and banned pesticides in farm raised fish.[108] At the time, the NOP program did not have established standards for farm-raised or wild-caught aquaculture, fish, or seafood products. In January 2005, the NOP began the formulation for two taskforces that would develop standards for wild-caught and farm-raised aquatic animals (AMS ND). While standards were being developed, NOP permitted seafood to be labeled with any non-USDA organic label claim (Office of Assemblywoman Jackie Speier 2005). This meant that seafood containing toxic contaminants and prohibited substances could be sold on the U.S. market as organic. Due to federal inaction, the bill was introduced under "the author's hope that SB 730 will set a valuable precedent for the USDA to prohibit the use of the organic label on fish and seafood products until it establishes organic certification standards" (Office of Assemblywoman Jackie Speier 2005).

Opposition to the bill was primarily focused on the introduced version of the bill. As introduced on February 22, 2005, SB 730 prohibited all aquaculture products sold as organic from containing chemicals known to cause cancer or reproductive toxicity.[109] The California Aquaculture Association, among other organizations, claimed the bill "set a precedent that is contrary to existing organic law" (Legislative Counsel 2005). Many Proposition 65 substances occur naturally in the environment and, according to the California Aquaculture Association, unfairly singles out aquaculture products compared to other organic products.

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[107] The American Federation of State, County and Municipal Employee California Public Interest Research Group, the Center for Food Safety, the Coastal Alliance for Aquaculture Reform, Consumers Union, the Organic Consumers Association, and other public citizens expressed support for the bill (Assembly Republican Committee 2005)
[108] To see the full study report go to http://www.albany.edu/ihe/salmonstudy/
[109] For all bill versions see http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200520060SB730

The Senate passed an amended version on April 19, 2002 that would pass as the final version. However, there still remained opposition from a number of seafood companies[110] and Republicans, who predominantly voted against the bill on the Senate and Assembly Floors.[111] Republicans argued that the private industry and third-party certifiers are the best method for establishing appropriate standards (Assembly Republican Committee 2005). In a letter to Republican Governor Arnold Schwarzenegger, Assembly Republican Leader Kevin McCarthy (2005) urged the governor to veto the bill on the grounds it, "is an overly-broad attempt to allegedly protect consumers from the dangers of farm-raised aquaculture that is labeled 'organic'." Governor Schwarzenegger did have a veto message included the CDFA enrolled bill report August 31, but SB 730 was eventually chaptered into law October 7, 2005.

Explaining Adoption

The story of organic legislation adoption in California is a detailed saga starting in 1978 and spanning to the present day. Over the course of the past 36 years, a diverse set of factors influenced adoption. Early adoptions were influenced primarily by organic farmers via CCOF, a third-party certification organization. Adoptions of the 1990s were also driven by CCOF, but additional factors impacted adoption decisions such as partisan politics, federal adoption, regional pressures, increased salience, and a rapidly growing market. By the turn of the century, the role of CCOF appeared to diminish as a more diverse set of industry interests emerged. Partisan politics, federal implementation, salience, and market factors also continued to influence adoption behavior after the adoption of the California Organic Products Act of 2003.

The findings of this case confirm and elaborate upon the results of the statistical model. The initial adoption in California was motivated by a political culture that was progressive in nature and cognizant of policy being developed in other areas. Likewise, adoptions after 1982 were influenced by federal implementation, increasing salience, expansion of the market, and influences from other hubs of organic activity within the region and nation. As for comparisons within the Far West region models,

[110] Opposing seafood companies include 8th Sea Organic Seafood Company, Emerald Organics LLC, and Horizon Organic Seafood Company Inc. (Assembly Republican Committee 2005).
[111] See votes at http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml

California confirms each statistically significant regional influence including regional pressures, federal implementation, and the role of fruit sales. To fully explore the contribution of each factor to adoption decisions, factors will be evaluated according to the policy diffusion model variables of internal conditions, external conditions, salience, policy type, and existing policy. The significant factors at time are often interdependent.

Internal Conditions

In the case of California, several internal conditions appeared to have influenced adoption decisions the most. First and foremost, the role of third-party certification programs was highly instrumental in orchestrating the development and passage of policy. CCOF played a significant role in pushing for and writing the 1979, 1982, and 1990 organic bills. Policy was developed in California because organic farmers sought out government intervention to regulate the market. The design was also the result of preferences from organic farmers to maintain the farmer-on-farmer certification (Lipson 2013; Cantisano 2008 114). As Amigo Bob Cantisano recalls (2008, 114) the farmer-on-farmer inspection model was developed and worked well for CCOF and was then used as the model for the Organic Foods Act of 1979. The 1979 law was the first organic legislation adoption and established a precedent for a third-party-certification system within the state.

The California Organic Foods Act of 1990 and the California Foods Act of 2003 would maintain and elaborate upon this preference. Under the 1990 bill, certification would not be mandated by all organically labeled products. However, the bill did provide some teeth for enforcement, a desire of CCOF and the organic community. Perhaps an oversight, the organic community left organic certification voluntary without the state actively having to enforce the 1979 law. As Amigo Bob Cantisano reflects (2008 114), “That was maybe our mistake at that time. We decided in ’79 that it would be voluntary to become organic. There was no state mandate. You didn’t have to go get registered. You didn’t have to go get certified.” The 1990 bill would require registration of producers to identify organic claims. By the time the 2003 bill passed, the role of CCOF appears to have diminished in strength as larger and more diverse set of players begin to enter organic policy debates. However, the third-party certification scheme remained intact in California and was the model used at the federal level.

CCOF's impact on policy development is undeniable. Two key reasons can explain the dominant role of the organization. First, CCOF was not only the only organic certifier in the state of California for the 1970s and much of the 1980s, but also acted as the de facto trade association (Epstein 2013). CCOF worked laboriously in educating and advocating for organic agriculture for much of the 1970s and 1980s. In describing itself today, CCOF (2013b) identifies itself as a "full-service organic certification agency and trade association passionate about being the leading voice for organic, certifying, educating, advocating, and promoting organic." The standards and models set forth by the organization have a profound impact on organic agriculture in the U.S. and abroad.

A second explanation for the dominant role of CCOF in developing standards relates to its capacity as the de facto trade association. In the 1980s, CCOF also served as the de facto enforcer of California's organic law. In oral history interview, Grant Brians (2007, 51) stated,

> "CCOF really did do due diligence. And every single complaint that went into the CDFA [California Department of Food and Agriculture] during the 1980s, after the law was put into place, every single complaint that came from a certification organization or an industry course, came from CCOF, every single one. There were a number of blatant, blatant violators who were caught by people in the industry. They knew that CCOF was willing to follow up on it, even when CDFA wasn't."

Brian was suggesting the CCOF ensured that fraudulent organic claims were investigated and enforced. The case of the carrot caper, where Scrowcroft contacted the *San Jose Mercury*, is evidence of CCOF intervening and demonstrating a clear lack of enforcement by state government. Such inaction of California government to prevent fraud would lead to the demands from CCOF for amending legislation in 1990. CCOF could not enforce the law alone.

A second internal characteristic to California that influenced adoption was the presence of an organic market and specialty crop production. While the influence of the organic market could not statistically be examined, qualitative evidence suggests an increasing interest in organic production over time. Scrowcroft and Lipson each indicated a sharp increase of interest in organic farming after the alar scare, and the apple maggot eradication incident in 1988 demonstrates the importance of fruit production in the state (Scrowcroft 2007, 47; Lipson 2007, 13; Lipson 2013).[112] This increase in interest coincides with the explosive growth in production and sales in the 1990s (see Figure 6.4 and Figure 6.5). Comparatively, the growth of the organic market is similar to the emergence and growth of the specialty crop market starting at the end of the nineteenth century (See Figure 6.3). The emergence and growth of each of these sectors are remarkable and created conditions, specifically a strong organic market anchored strongly in specialty crops, within the state that led to increased pressures to adopt regulation for the market.

Political conditions, a third set of internal characteristics, also played an important role in the adoption of organic legislation in California. The political culture of California is labeled as moralistic dominant culture with a strong individualistic strain according to Elazar (1994, 284), which is reflective of the 3.55 rating Sharkansky's numeric scale of Elazar's political culture (1969). This type of political culture may have been an undercurrent to the movement in the Central Coast and Central Valley that pushed for organic regulations. It could even be suggested the Santa Cruz, or more specifically the University of California-Santa Cruz, served as the epicenter for the movement. Assemblyman Sam Farr (2007, 18; 2013) even states the organic movement started in Santa Cruz, California. He describes Santa Cruz as a very progressive, forward-thinking community particularly after the establishment of the university (Farr 2013).[113] While not representative of all California communities, the political attitude presented in Santa Cruz and even the Central Coast and Valley would create fertile grounds for a bill regulating the organic market. Specifically, the political culture could accept consumer protection laws

[112] The apple maggot fly is a native to the northeastern United States but did spread to the west coast of the U.S. in the late 1970s. Considered a pest, the apple maggot fly primarily infests apple crops but can also infests other fruit crops including cherries, plums, prunes, apricots, nectarines, peaches, blueberries, and pears. The infestation occurs when apple maggot fly eggs are deposited under the skin of the fruit and the larvae then begin to feed. The effects of infestation lead to significant crop damage. To control the apple maggot fly populations, insecticides such as phosalone have been used (Joos, Allen and Van Steenwyk 1984; University of California Agriculture and Natural Resources IPM 2009).
[113] Health concerns were particularly identified as a concern and emphasis in the Santa Cruz community as well (Farr 2013).

(e.g. labeling laws) while also seeking to protect the individualistic interests of organic farmers in the market.

A secondary political influence is the role of partisanship in state government. A majority of bills were sponsored by Democratic members, but this may have been the result of where their district was located (e.g. in the Central Coast or Central Valley). Partisanship appears to play a clear and evident role for only four adopted bills. For each bill, the influence of partisanship did appear to be over the issue of organic foods but rather focusing on the financial and regulatory-burden aspects of the law. Republican Governor Deukmejian created a tremendous amount of pressure for supporters of the California Organic Foods Act of 1990 (Farr 2007, 16; 2013). The 1990 law could not increase the size of government and needed to create its own revenue stream. In part, Republican opposition to the 1990 bill may have been the result of a cavalier attitude towards the potential of the organic market. At the time, there was no indication for how important the bill would be and how quickly the organic market would grow (Farr 2007, 16-17).

The issue of financial sustainability of the program was the cause for the 1992 bill veto by Republican Governor Pete Wilson and contributed to part of the Republican opposition to the California Organic Products Act of 2003 (Legislative Counsel 1992). Although the organic program had existed in modern form since 1990, Republicans in the 2002 legislative session voiced opposition to the increases in fees and administrative power to collect fees and penalties. The 2005 bill departed from the financial partisan divide and instead was grounded in federalism and the appropriate role for government. Republican opposition clearly objected to the prohibition of organic seafood labeling and presented two different arguments for why the bill should not pass. The first argument was grounded in the idea that private organic certifiers are best equipped to make the judgment of what constitutes organic seafood. The second argument was grounded on the precedents and role of the NOP in developing standards. It could be argued that the role of partisan politics in the case of California is symbolic of party polarization in the U.S.

External Conditions

Horizontal and vertical diffusion dimensions also influenced adoption decisions and the design of the bills. Many of the bills had clear evidence of a mixture of both horizontal and vertical dimensions of influence. Some of the influences were based within an elaborate organic network in the West and Northeast. Other influences originated from state and federal legislation and rule-making. Disentangling the precise influence of each factor presents a challenge. As Lipson (2013) notes, “[It’s] hard to say what the specific influence back and forth might have been.”

Horizontal Diffusion

Horizontal diffusion occurred both within the region and at a national-level. The regional diffusion patterns can be likened more to “cross pollination” rather than clear mimicking or learning in adoption decisions (Lipson 2013). The 1979 bill was based on administrative rules passed in Oregon in 1973. During the adoption process of the California Foods Act of 1990, CCOF members worked in the regional organic organization WACO, including Washington and Oregon, standardized practices. Members from the Northeast Organic Farming Association chapters also attended those meetings. The three year organic transitionary period adopted in 1995 did adhere to the WACO agreement.

After 1990, adoption decisions were influenced less by regional activity and more by a national-interaction and cross pollination of concerns and ideas. The inclusion of the Northeast Organic Farming Association marks how certain states, regions, or hubs of innovation may influence each other. As pointed out by several interview participants, the West, the Northeast, and upper-Midwest regions are really where organic policy is supported and was developed since the 1970s (Lipson 2013; Sustainable Food Advocate 2013). This national network was prominent in the 1990s but did not become overtly evident as an influence with other amending adoptions in California.

Vertical Diffusion

The effects of vertical diffusion are consistent throughout California’s organic legislation history. The influence of federal activity on the state’s decisions began in 1979. The relationship between California adoption and federal activity is likened to a give-and-take scenario. On one hand, California policymakers were respectful of federal supremacy in the policy area. On the other hand, California policymakers lacked faith in the passage of federal law and development of federal standards. Federal adoption did not appear to play as large of an influence when compared to implementation or even the Federal Trade Commission's organic definition rule.

Approximately one-third of all California adoptions was in response to federal activity in some capacity. Policymakers in 1979 were aware of the Federal Trade Commission developing a definition of organic. Consideration was made as to how California law could potentially conflict with federal law. Adoptions from 1993 to 1996 included provisions that were in anticipation for when federal standards would be implemented. For example, the 1993 bill was the third amending adoption to have extended the deadline for developing a prohibited substance list in accordance with federal standards. After waiting two years for federal implementation, the 1993 bill extended the deadline to 1996. In turn, continual federal delays led to California adopting legislation to extend the prohibited substance list deadline to when federal rules are adopted. In 2002, California was finally able to adjust its law to comply with the NOP. Statutory language changes within the California Food and Agriculture and Health and Safety Codes reflect federal supremacy in developing standards.

Surprisingly, California was not influenced by the passage of the National Organic Foods Act in 1990. The development and passage of California and federal law can best be described as operating on parallel tracks (Lipson 2007, 19; 2013). In other words, the development of California's law was not influenced by federal legislation despite both efforts being in response to the same set of conditions. A probable cause for this state-federal relationship hinged on the probability of passage. As Lipson describes (2013), "They both were moving towards completion. There was no guarantee that either one of them would actually, ultimately come to be enacted. So both had to proceed as if the other wasn't even happening. Or at least that was the case in California." If anything, it was California that influenced federal movement on organic food and agriculture regulation. Lipson, "midwife for the California effort," contacted the U.S. Senate Committee on Agriculture, Nutrition and Forestry in 1989 and spoke to Kathleen Merrigan, a legislative staff member for Senator Patrick Leahy (Merrigan 2012; Lipson

2013).[114] Merrigan, who would later work to develop NOP standards and service the USDA Deputy Secretary of Agriculture, then worked to push the issue onto the agenda by working with organic farmers, industry leaders, and environmental activists (Merrigan 2012).

In 2005 and 2009, California policymakers would take the lead on organic regulations. Delayed federal response to new issues emerging from an expanding and growing market led to California responding with its own policy. The 2009 bill came after a couple of years of investigating organic fertilizers and acceptable organic fertilizer practices. Two major cases of organic fertilizer fraud in California raised the alarm (AMS 2013b). The NOP did issue a final rule on organic fertilizers in 2009, but the rule would not go into effect until 2011 (NOP 2009). This is similar to the regulation of organically labeled aquaculture in 2005. California was quicker to address the problem of organically labeled aquaculture to protect consumer confidence. The NOP's decision to permit aquaculture to be labeled as organic until rules were developed was questionable to many. Democratic lawmakers saw federal law as unacceptable and moved to prohibit the labeling of aquaculture in the state until the NOP developed standards. In sum, California influenced and moved forward federal organic policy as much as federal supremacy influenced California's organic food and agriculture legislation development.

Salience

The role of salience in the case of California is undeniable. A combination of focusing events and increasing coverage of organic food and agriculture fermented conditions ripe for the proposal and push for legislation. Within the organic community, attention to the watering-down of the term natural compelled action to develop rules to protect organic labeling from a similar fate in the late 1970s. The carrot caper incident and alar scare in the late 1980s were two significant focusing events which were just part of a larger rising tide of media attention towards organic fraud and alarm of conventional agricultural practices. Each event stimulated interest in promoting organic agriculture, preventing fraud in the market, and maintaining consumer confidence in labeling claims. In a Legislative Counsel digest for 1990 AB 2012, several comments were made about the public and media attention focused on organic foods

[114] Kathleen Merrigan references initial contact with Lipson in 1988 (Merrigan 2012).

including the Alar scare, growth in organic production, and consumer preference for organic products. Similar references were made in 2005 and 2009 with organic seafood and organic fertilizers. The 2005 SB 730 referred to NYU-Albany Institute for Health and the Environment study on contaminants in wild and farm-raised salmon (Office of Assemblywoman Jackie Speier 2005). Likewise, 2009 AB 856 was in response to high-profile cases of organic fertilizer fraud and a CDFA investigation into the issue (NOP 2011). What can be inferred from each example is that salience matters particularly in conjunction with specific focusing events especially when accounting for a lagged response in earlier adoption cases. While focusing were not accounted for in the statistical model, it is clear that increasing attention to the issue and problems in the organic market led to adoption in at least four of the eighteen legislative adoption decisions.

Policy Type & Existing Policy

Expectations for how policy type and existing policy were related to adoption decisions were not exactly as expected. Hypotheses developed regarding policy type and existing policy indicated more coercive regulatory adoption in the 1970s, co-regulatory adoption in the 1980s, and more innovative states to adopt amending legislation more often. The evidence in California can only clearly support one of the hypotheses. It is clear that the 1979 law did not result in a more coercive regulatory scheme as expected. The design was co-regulatory in nature, at the preference of CCOF, and did not have “teeth” for enforcement. However, the 1990 act did confirm the expectation of a co-regulatory scheme. The technical aspects of the bill were primarily developed in conjunction with CCOF and the organic community. In addition, the bill maintained the third-party certification scheme and mandated enforcement from CDFA and CDHS. The co-mingling of both public and private entities results in a co-regulatory policy development. The co-regulatory scheme was the result of industry preference, but the design also met the requirements and preferences from key Republican lawmakers at the time.

The influence of existing policy is more difficult to determine its relationship with adoption. Walker (1969) did indicate California as a state is that more likely to be innovative and set regional pace of adoption. Indeed, California was an early adopter in the region and did network with others in Oregon, Washington, and the Northeast region. This can confirm both the regional pace-setting role and the significance of California on a national stage. Yet, this evidence alone does not clearly prove California adoptions make the state more innovative. New York had the earliest legislative adoption in 1976 but never adopted legislation again or developed administrative rules. Similarly, Oregon adopted administrative rules in 1973 but did not adopt organic legislation until 1989. Furthermore, Oregon only adopted amending legislation once in 2001 that terminated state organic statutes. If Oregon and New York indicative of leading innovative behavior, how should the evidence of California support the hypothesis on existing policy? Moreover, how should the results of California be compared to middle-of-the pack adopters who also had a significant number of amending adoption such as Minnesota, Texas and Washington?

It is hard to determine whether the hypotheses should be confirmed or rejected. California has been identified as leading innovator in organic policy. The exceptionalism of the state extends beyond just organic policy. David Vogel (1997) even coins the term “California-Effect” to refer to the state’s significance in raising the bar for regulatory standards such as automobile emissions. In the context of amending adoption in organic policy, a number of the amending adoptions increased the regulatory standards for organic production. The 1990, 2005, and 2009 bills were efforts to increase the stringency of enforcement and acceptable practices. The other amending adoptions also demonstrated an effort to improve upon and address gaps in existing law. If California is a leader in this policy area, the number of amending adoptions signify that more innovative states are more likely to have a higher number of amending adoptions. However, to be cautious, the number of amending adoptions could also signify a more responsive state legislature or problems inherent in the original bill design. Accepting or rejecting the existing policy hypothesis is difficult based on a sample of one.

Concluding California

The development of organic policy in California’s state legislature is remarkable. The complexity of how variables influenced adoption and each other leads to an intricate story and explanation for how organic policy developed in the state. The influence of CCOF, a third-party certifier, is one predominant factor that explains adoption behavior. Issue salience, market growth and expansion, regional factors, federal activity or inactivity, and political considerations were also influential. The factor of time determines how each variable uniquely factors into adoption. The initial adoption, which made California an early-adopter, was spurred by CCOF and the political culture of the Central Coast and Central Valley. The 1990 reform adoptions was also influenced by CCOF, but the role of salience, regional influence, market growth, and partisan politics also influenced the development of the policy to where it was acceptable for passage. The 2002 reform adoption and subsequent amendments were influenced by federal activity, salience, partisan politics, and an expanding and growing market. The difference between initial and later amending adoptions is evident in how the issue of organic food and agriculture changed over time and the number of actors in the policy arena expanded.

CHAPTER VII
A Laggard – Georgia

The history of organic legislation in Georgia is shorter and not as well documented in comparison to California. Georgia's first organic food and agriculture bill was adopted in 2000, twenty-one years after California's initial legislative adoption. Beyond the comparative differences, the case of Georgia is intended to shed some light on what conditions influence the late adopters and the adopters in the Southeast region. In a national picture, Georgia can be considered a lagging adopter. Thirty-one other states had existing state organic food and agriculture statutes prior to 2000. Compared to other states in the Southeast region, Georgia's initial adoption lagged behind Florida, Kentucky, and North Carolina. Mississippi, located within the Southeast region, adopted organic legislation for the first time in 2000 with similar timing to Georgia. Since 2000, no other state in the Southeast has adopted organic legislation.

The results of the Georgia case study confirm many of the statistical findings but also provides further depth for how certain variables interact and collectively contribute to adoption decisions. In particular, Georgia's story confirms and sheds light on the results of the post-1990 and Southeast region models. Federal activity was clearly a motivating factor in the initial adoption in 2000 and the amending adoption in 2002. Internal conditions can be attributed to the rise of consumer and industry interest in organic products. The primary hubs for organic production and purchases are situated around the metropolitan hubs of Atlanta, Savannah, and Athens. Wealth and the political culture of these areas may explain how and why these hubs drive the demand for organic food and agricultural products in the state.

This chapter is divided into four primary sections. First, a brief overview of Georgia is provided that provides a framework for understanding the conditions under which policy decisions are made. Both state economic conditions, such as major industries, and political factors, such as partisan control are considered. Second, the historical development of the Georgia agricultural industry is evaluated with an emphasis on the development of organic agriculture in the state. Next, an overview of Georgia's three legislative adoptions related to organic food is provided. Finally, the chapter finishes with an evaluation of significant factors of adoption in Georgia and concluding remarks. The results indicate that federal policy and consumer and producer demand, perhaps driven by economic and political factors, influenced Georgia's initial adoption of legislation in 2000. Amending legislation, however, is influenced by federal implementation and broader financial considerations to maintain financial sustainability of the program.

About Georgia

Georgia, also known as the peach state, is the 24th largest state by land area in the U.S. with approximately 57,513 square miles (U.S. Census Bureau 2010b). Located in the Southeast, Georgia has 100 miles of Atlantic coastline and shares borders with four other states including Florida, Alabama, Tennessee, and South Carolina. The capital of Georgia is Atlanta, located in Fulton County, which is situated in northwestern Georgia (see Figure 7.1 for a map of Georgia). According to the 2010 Census, the state's population grew to 9.7 million with Fulton, Gwinnett, DeKalb, and Cobb counties[1] having over a half million residents each. The Atlanta-metro area had the highest population concentration as well more individuals in the labor force than any other area in Georgia (U.S. Census Bureau 2010b).

Key Industries

According to the Georgia Department of Economic Development (2013), the state has a pro-business environment and supports a variety of industries. Manufacturing, entertainment, tourism, automotive, and agribusiness industries are identified as key contributors to Georgia economy. Table 7.1 provides an outline of employment figures and GDP by industry in Georgia for 2010. In 2010, the retail trade industry employed more residents than any other sector, but long-term employment projections predict growth in health care and professional business services (Georgia Department of Labor ND). However, despite high employment figures in retail, manufacturing and government industries have the highest level of economic productivity in the state.

[1] These four counties are part of the greater Atlanta metro-area.

Figure 7.1: Georgia Map with Counties and Some Cities

Table 7.1: 2010 Georgia Employment and GDP by Industry					
Industry	**Employment Number**	**GDP (in millions)**	**Industry**	**Employment Number**	**GDP (in millions)**
Agricultural, Forestry, Fishing and Hunting	38,850	3,655	Professional, Scientific and Technical Services	216,576	28,638
Utilities	19,680	9,077	Administrative and Support/Waste Services	254,210	13,985
Construction	149,340	15,102	Educational Services	380,900	4,478
Manufacturing	343,290	42,470	Arts, Entertainment, and Recreation	38,980	2,787
Wholesale Trade	196,430	29,606	Health Care and Social Assistance	419,770	26,891
Retail Trade	433,470	25,062	Accommodation and Food Services	334,150	11,865
Transportation and Warehousing	177,149	16,112	Government	305,630	58,488
Information (Media)	101,500	22,931	*Note: Finance, Real Estate, Management categories were excluded from the listing due to missing information.*		

Source: https://explorer.dol.state.ga.us/gsipub/index.asp?docid=386 and http://www.bea.gov/itable/

Political Environment

The pro-business environment in the state has political support from a largely Republican base. As part of the former Solid South,[2] Georgia is largely identified as a Republican state, but hubs of democratic support do exist (Cook Political Report 2014; Lang and Pearson-Merkowitz 2013). Specifically, a cluster of Southwestern countries and the metropolitan areas surrounding Atlanta (Fulton county), Athens (Clarke county), Augusta (Richmond county), and Savannah (Chatham county) have consistently voted majority Democrat since the 2000 Presidential Election. Figure 7.2 provides a

[2] The "Solid South" refers to regional voting bloc behavior of states located in the Southeastern U.S. Prior to realignment in the 1960s, Southern states voted predominantly for Democrats even considering Republican and Populist movements in the region. In the mid-1960s, several Republican victories marked the end of the Democratic voting bloc behavior in the South (Tindall 1972). The cause for the "Solid South" is tied to a feeling of "deep alienation" from other parts of the country after the Civil War (Tindall 1972, 26).

comparison of Presidential election years voting patterns along a Republican-Democrat divide. Only minor shifts in partisanship voting occurred since 2000; however, 2004 voting results show fewer counties in Georgia voting majority Democrat than any other Presidential election year. Except for counties in the southwestern portion of the state, Democratic-voting areas have higher per capita income and higher population density (see Appendix L).

Compared to other states within the region, Georgia's in-state political environment is on par with regional averages and norms (see Appendix M). Georgia's political culture is identified as traditionalist with a moderately strong individualistic strain, which correlates to an 8.80 on Sharkansky's political culture scale (Elazar 1994, 284; Sharkansky 1969). Regionally, the average political culture is 8.415 indicating most states are predominantly traditionalist.[3] This means that Georgia's political culture is dominated by a hierarchal system that maintains strong social order and familial ties. Often, certain families have more political power. However, the strong individualistic strain indicates a cynical attitude towards government where the protection of individual rights will is sought. Similarly, Georgia's state legislature professionalism conforms to the regional ebb and flow over time. However, the actual state ranking, which was .135 in 2010, is low compared to other states including Florida and North Carolina. In general, Georgia's state legislature is less professionalized than other states in the nation and within the region. Finally, state government control is also similar to other states within the region. Georgia has had Democratic, Republican, and split-control of state government from 1990-2010. Like Florida, Georgia state government transitioned from Democratic control to Republican control over time. In sum, the political conditions in Georgia are comparable to other states within the region but different from other regions in the U.S. Georgia is inherently more traditional, less professionalized, and leans towards Republican political candidates since 2005.

A Brief Overview of Agricultural Production in Georgia

The history of agriculture Georgia is identified as complex and defined by a series of terms including "soil-abundance, fertility, misuse, abuse, and ultimately, conservation and regeneration"

[3] Florida is the only state in the southeast that ranks lower than 8.0.

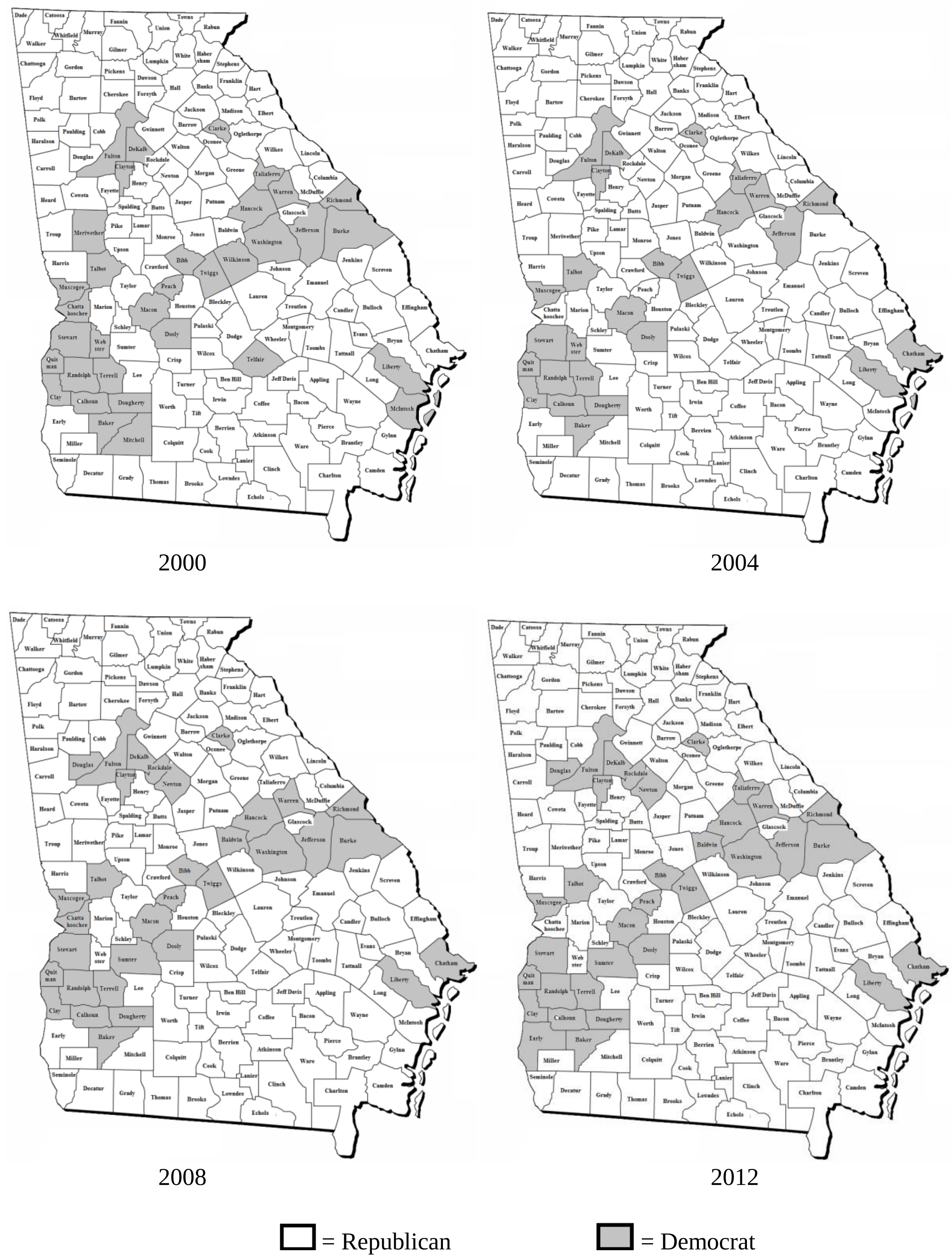

Figure 7.2: Georgia Presidential Election Results by County

(University of Georgia Libraries ND). The state has a long history of agricultural production starting before European settlement by General James E. Ogelthorpe and the English colonists (Flatt 2013). Prior to European settlement, the Cherokee and Creek Indian tribes farmed corn, beans, melons, and fruits (University of Georgia Libraries ND). They also collected nuts from pecan, walnut, and hickory trees that grew wild. Early European settlers in the state, ranging from the English, Germans, Portuguese, and Scots cultivated a variety of vegetables and indigo in a 30-mile wide area near Savannah (Bonner 1964, 3; University of Georgia Libraries ND).[4] Most of the early settlers lacked agricultural skills and the use of indentured servants was common practice until the introduction of slavery. Immigration of Africans was prohibited in the colony until the prohibition was repealed in 1750 (Bonner 1964, 3; University of Georgia Libraries ND).[5]

After the slavery ban repeal, a host of new crops would be grown as the new labor force became available. Cotton, along with tobacco and sugar cane, would be the most significant crops after the Revolutionary War (Bonner 1964, 49; University of Georgia Libraries ND). Mechanical, labor-saving machines only helped to spur the cotton industry's growth (Bonner 1964, 96-105). However, the dependency on cotton as a staple crop would eventually lead to devastating financial and economic consequences. Farmers, particularly those in Georgia's cotton belt, would particularly be affected.[6] Poor agricultural practices, supported by political and social infrastructure, led to soil degradation starting in the mid-1800s. Clear cutting-forest for timber and lack of crop rotation led to top soil erosion and soil quality decline (Bonner 1964, 63; University of Georgia Libraries ND).[7] Poor soil quality led to decline in

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[4] Franciscan monks pre-date the arrival of the European settlers by approximately 160 years. The monks are responsible for the introduction of peaches in Georgia. Cherokee Indians would eventually cultivate the crop (Taylor 2013).

[5] Despite a ban on immigration of Africans to the colony, free and enslaved Africans still immigrated to the colony. English settlers, in particular, claimed the climate of Georgia was inhospitable for the white settlers but not for Africans.

[6] Bonner (1964, 46) describes the Cotton Belt as located "in the middle portion of Georgia with its counterpart in southwestern Georgia and in the lush valleys of the former Cherokee country." This area of the state contained most of the agricultural productivity.

[7] Georgia's cotton belt had a counterpart in southwestern Georgia. After exhaustion of lands in the cotton belt, farmers moved to the southwest corner (Bonner 1964, 46 and 61).

the quality of the crop and decreased crop yields. Combined with the overproduction of cotton nationally, Georgia's cotton farmers faced declining prices for the cotton crops yielded under poor soil conditions.

Several efforts over the years attempted to diversify Georgia's crops and improve agricultural production in the 19th and 20th centuries, but cotton remained king (Bonner 1964, 38; Flatt 2013). The final decline of cotton as a staple crop is attributed to the boll weevil and World War I (Flatt 2013).[8] Low cotton prices post-World War I and the spread of the boll weevil into Georgia led to drastic decreases in production that would continue through the Great Depression. Diversification of Georgia's agriculture would begin during World War II with the support of the Agricultural Adjustment Act of 1933 and the Soil Conservation and Domestic Allotment Act of 1936 (University of Georgia Libraries ND). Both bills provided financial compensation for farmers to grow soil-conserving crops and to engage in practices that would rebuild soil quality.[9] The Georgia State Legislature also provided help through the establishment of Soil Conservation Districts in 1937 (Brown 2002a, 79-82). District activities included draining swamps, managing forests, promoting soil conservation, and improving pastures. Civic organizations, the media, and churches helped to carry the message of conservation and soil stewardship.

Since the restoration of soil quality in Georgia, the agricultural portfolio of the state has become more diversified. Although cotton remains a top earning commodity in the state, peanuts, pecans, apples, peaches, blueberries, and soybeans are some of the most important commodity crops for the state as well (University of Georgia Cooperative Extension 2012). Georgia is the top producer nationally for peanuts, chickens, pecans and watermelons (Georgia Farm Bureau 2014). The agricultural industry, including forestry, employs one in six Georgia workers (Georgia Farm Bureau 2014) but contributes marginally to the states overall GDP. In a national context, Georgia ranks in the top 10 states for agricultural

[8] The boll weevil is a pest that infests cotton crops through the deposit of eggs in fruiting structures on the plant. Yield losses occur when the eggs hatch and the boll weevil larvae feed. The boll weevil played an integral part in the history of cotton production in Georgia and the South. In Georgia, boll weevil infestations led to significant yield losses in 1914. While insecticides would provide temporary relief from infestations, Georgia began to participate in a boll weevil eradication program in 1987. The program has led to increased yields and less use of pesticides (Roberts 2013).

[9] It should be noted that soil-quality problems were not just a problem in Georgia or in the Southeast. Poor soil management practices were widespread in the 1930s (Brown 2002a, 63).

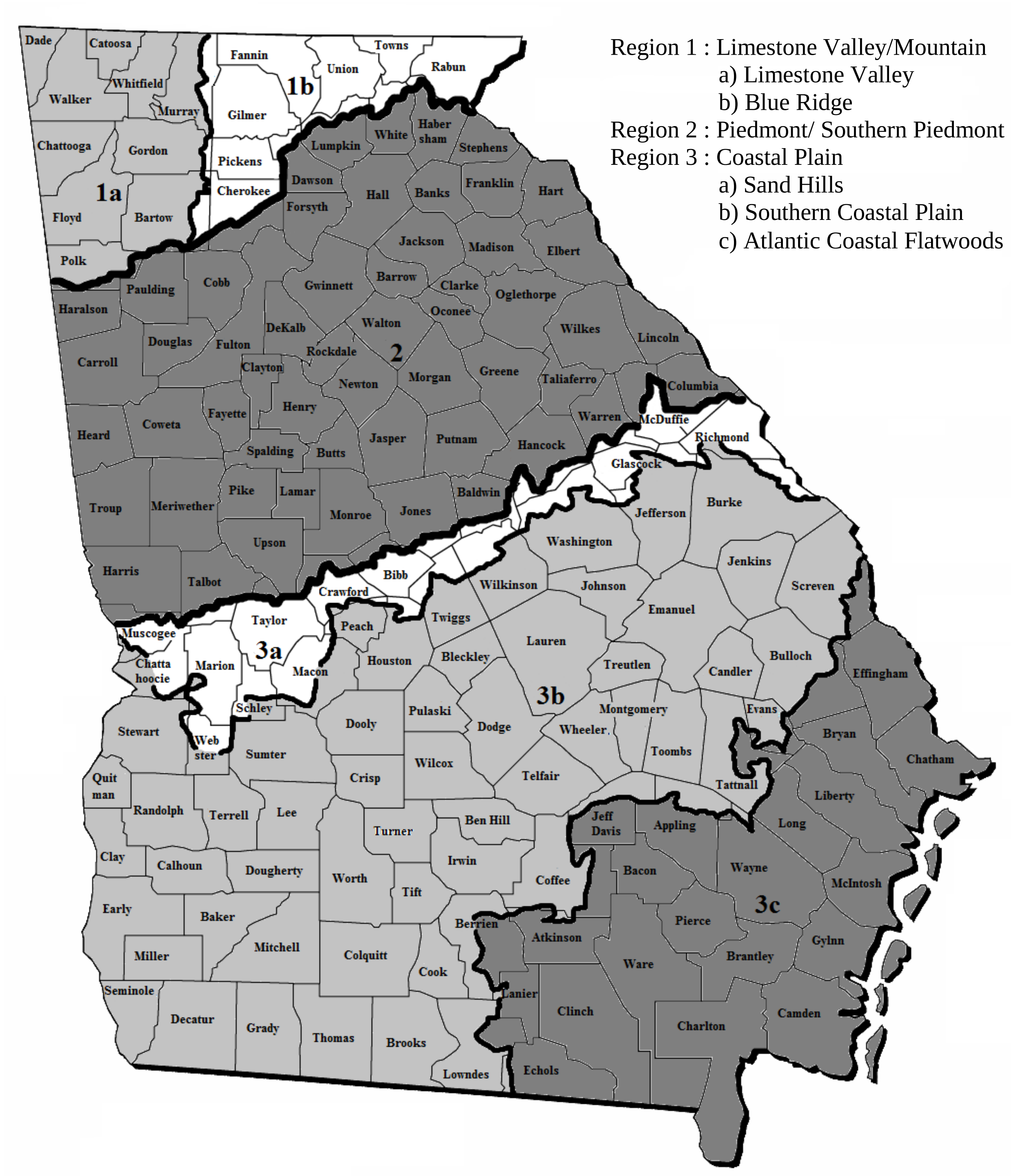
productivity and the top 20 for farm outputs in 2011(ERS 2013a, 2031b). Furthermore, the southwest portion of Georgia contains one of the more predominant areas for fruit and vegetable production in the country (National Agricultural Statistics Service [NASS] 2012a).

Agricultural regions in Georgia can be designated in several ways based on geographical features, elevation, and soil type. Figure 7.3 demonstrates one approach to mapping agricultural regions within the state. The map represents three main geographic regions and six soil provinces in the state used by crop and soil scientists at the University of Georgia (Hancock et al. 2011). The three main geographic regions represent climatic differences in the state such as higher elevations in the limestone valley and lower elevations in the coastal plain. The soil provinces represent differences in organic matter content, texture, and drainage. The Piedmont or Southern Piedmont region is where severe soil erosion occurred as a result of row cropping, including cotton and tobacco, in the 1800s and early 1900s. The Southern Coastal Plains, which includes the southwestern area comparable to the cotton belt, contains heavier and more fertile soils. Even accounting for the relatively diverse differences in regions and soil qualities, the number of farms is fairly balanced across the state but with a greater share of land in farms located in the southern portion of the state in the Southern Coastal Plain and Atlantic Coastal Flatland provinces (NASS 2012b).

Organic Agriculture in Georgia

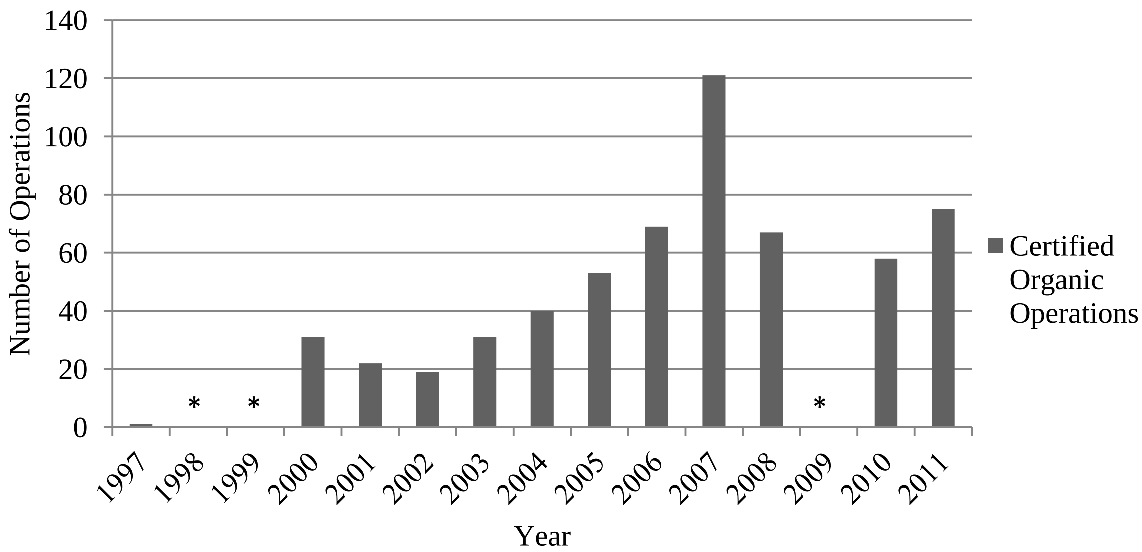
The history of organic agriculture in Georgia is not well documented. There is no precise indication of when organic farming began in the state. Nevertheless, since 1997, the Georgia organic market has grown but remains ranked in the bottom ten states for the number of certified organic operations.[10] According to the USDA Economic Research Service (2013c), Georgia had one certified grower and 572 acres of organic cropland in 1997 (see Figures 7.4 and 7.5). By 2011, the number of certified organic growers grew to 75 with a total of 5,483 acres of certified organic crop, pastures, and rangeland. While the number of certified organic acres has increased steadily over time, the peak number

[10] For a current list of certified organic operations see http://apps.ams.usda.gov/nop/



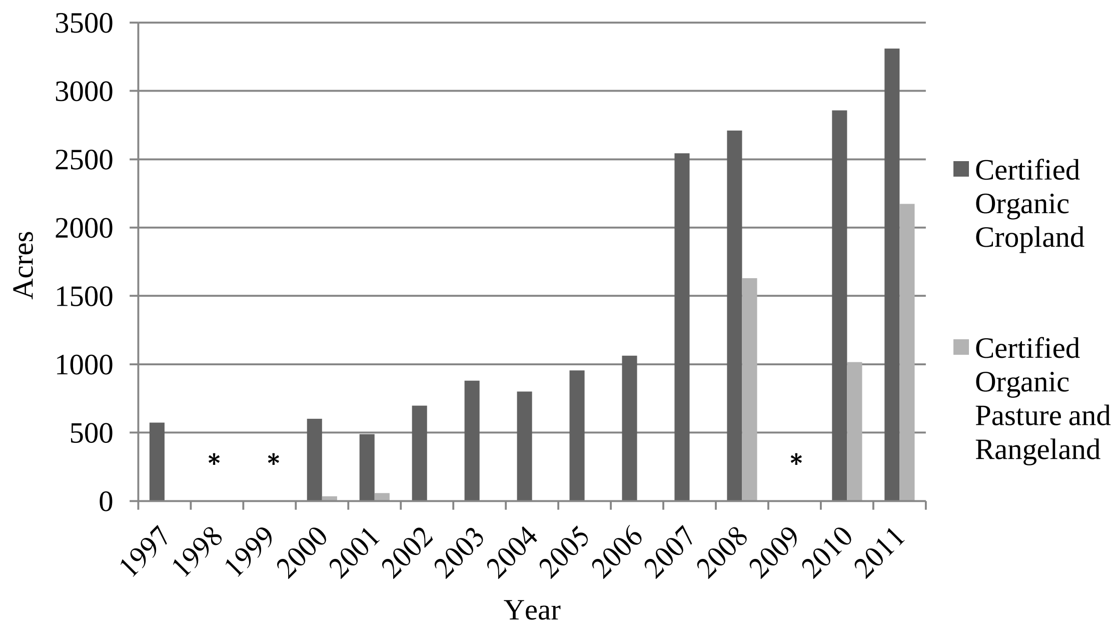
Source: Hancock et al. 2011

Figure 7.3: Agricultural Regions of Georgia



Source: ERS 2013c
**Data unavailable for 1998, 1999 and 2009.*

Figure 7.4: Certified Organic Operators in Georgia



Source: ERS 2013c
**Data unavailable for 1998, 1999 and 2009.*

Figure 7.5: Certified Organic Crop, Pasture, and Rangeland in Georgia

of certified growers occurred in 2007 when there were 121 certified growers representing 2,544 acres of organic cropland. No specific reason is identified for the decline in 2007, but the decline is consistent with the national trend that coincides with the Great Recession (Greene 2013).

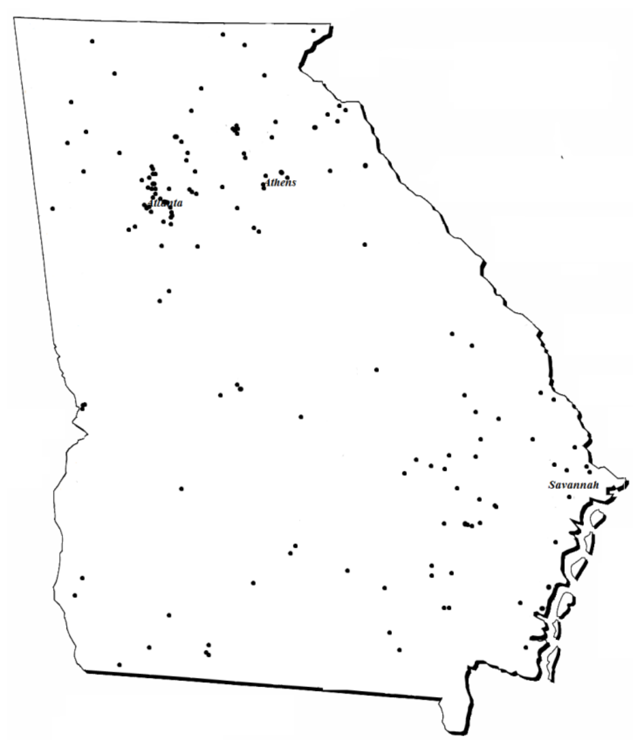
The distribution of certified organic operators is not even across the state. A majority of certified operations are located either in the northern Georgia, surrounding the greater Atlanta metro area, or the south central portion of the state near Savannah, where consumer interest has is identified as more intense (Georgia Department of Agriculture [GDA] Staff Member 2013; NASS 2013a). However, large scale organic operations, producing agronomic crops such as feed grains, peanuts and hay, are located in southern Georgia (Agriculture Specialist 1 2013). An overwhelming majority of certified organic operations are crop growers and handlers. Out of the 166 certified operations, there are 83 certified operations as crop growers, 82 certified handling operations, and four are livestock. A few of the businesses are certified in two categories. Figure 7.6 demonstrates the distribution of certified operations in the state as of January 2013.

Two organizations within the state, Georgia Organics and the Georgia Crop Improvement Association, are identified as significant to organic production in the state (Former GDA Staff Member 2 2013; Agriculture Specialist 1 2013). Several interview participants deferred answering specific questions and recommended contacting individuals from each organization.[11] However, limited information exists or provided detailing the role of Georgia Organic and the Georgia Crop Improvement Association in organic farming in the state. Neither organization was involved in promoting nor developing the initial organic food and agriculture bill adopted in the state in 2000, but both organizations are involved with the promotion of organic production since 2002. Emerging out of a 1970s growers' association, Georgia Organics is a non-profit organization seeking to create sustainable local food systems in Georgia (Georgia Organics 2012). The organization plays a role in the state's outreach as well as promotion of its organic

[11] Many former employees of both organizations have since retired. These participants were either limited in their participation or could not be located to confirm the details.

program and certification option after the official implementation of the NOP (Former GDA Staff Member 2 2013).

Conversely, the Georgia Crop Improvement Association also helps with outreach and promotion of the state's organic efforts albeit in a different manner. The association is a farmer organization created in 1946 (Georgia Crop Improvement Association Organic Certification Program 2013). Two bills, 1956 HB 104 and 1997 SB 583, made the association the legal certifying agency in Georgia. The intent of the association is to promote more efficient agricultural production through the use of better quality seeds. Organic certification is one of several certification programs the association offers.[12] Of the twelve



• = Approximate location of certified organic operations

Source: NOP 2013b

Figure 7.6: Certified Organic Operations in Georgia

[12] The Georgia Crop Improvement Association also performs seed certification, quality assurance, food safety inspections, turf grass certification, and field inspection services. For more information see http://www.certifiedseed.org/

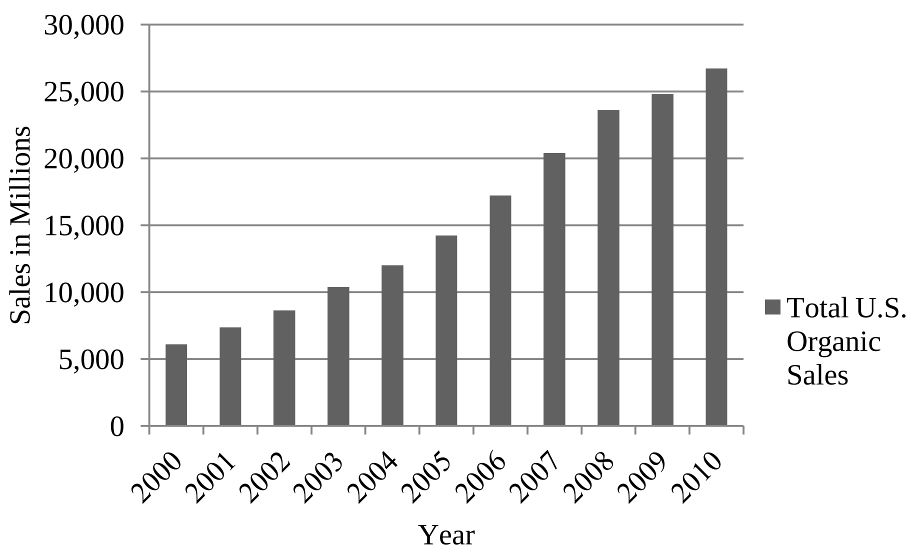
organic certifiers operating within the state, the Georgia Crop Improvement Association certifies nearly half of the certified operations in the state as of January 2013 (NOP 2013b). Other major certifiers in the state include CCOF, Clemson University Department of Plant Industry, Quality Assurance International, and Quality Certification Services.

Georgia can be considered a late comer to expressing interest in organic food and agriculture compared to other states in the country. Several interview participants indicated that organic was a term that was not always salient in the state (Agriculture Specialist 1 2013; Former Organic Food Advocate 2013). Evidence gathered in Georgia indicates that the support for organic products within the state has only come after a few decades of normalizing the term. Organic was not common term used in the South for much of the past four decades (Agriculture Specialist 1 2013; Former Organic Food Advocate 2013; GDA Staff Member 2013). From a consumer perspective, organic food has been met with skepticism and could even be referenced as a “California thing,” indicating organic as an outsider product that isn’t acceptable to the local culture (GDA Staff Member 2013). Indeed a consumer preference survey conducted in 1989, the same year of the carrot caper scandal in California, (see Chapter VI for more detail), demonstrates that 61% of the surveyed population expressed preference to buy organic (Misra, Huang, and Ott 1991).[13] However, appearance of fresh produce was more important than being organic; over half of the respondents expressing organic preference would not buy “sensory defect” produce. Furthermore, most respondents did not provide a precise dollar amount for willingness to pay. The survey suggests that some Georgia consumers, namely older and wealthier white females, expressed a preference for organic products but may not be willing to pay or overlook cosmetic deficiencies of organic goods. This same preference may still exist today. When asked about the comparative perception of local versus organic food, a sustainable food advocate (2013) stated, “They are (more open to the idea of local compared to organic). That’s because there’s stigma attached to organic.” In essence, consumer preferences in Georgia, and even throughout the Southeast, are slow to buy into the organic market, but

[13] Survey respondents were 77% white with 10% being younger than 25 years of age. Approximately 35% of respondents had annual household incomes of $35,000, which is almost $19,000 more than the average per capita income in the state in 1989.

some hubs of organic activity do exist within the state. Atlanta, Savannah, and Athens, home to the University of Georgia, are where communities have been more likely to participate in the organic market (Agriculture Specialist 1 2013; Sustainable Food Advocate 2013).[14]

From a farming perspective, the increase in consumer demand nationally since the late 1990s mimics the increase of certified organic farms and operations in the state. Figure 7.7 demonstrates the growth in the U.S. market by annual consumer sales. While correlating annual state consumer sales is unavailable, the U.S. Ag Census tracked state level organic farm sales in 2002 and 2007. Reported annual sales for Georgia increased from $671,000 in 2002 to $2,042,000 in 2007 representing a 204% increase (NASS 2012a). The growth in consumer demand at the national level, based on data from the Organic Trade Association, is 136% growth from 2002 to 2007; whereas the U.S. Ag Census data on organic farm sales indicate a 335% increase in organic farm sales from 2002 to 2007. The growth in the Georgia organic market coincides with a larger national trend. However, as the national market grew, Georgia's



Source: Organic Trade Association 2011

Figure 7.7: U.S. Annual Organic Sales

[14] County level data by consumer sales is unavailable.

organic market nearly doubled during the same time period. Both trends demonstrate increasing interest in the organic market, but Georgia's dramatic increase suggests a rapid interest.

As the growth in the organic market occurred, so did the number of farms in Georgia (Figure 7.4). However, despite an increase in the market, support for organic farming within the state is not strong, and farmers may be less willing to engage in organic practices. The dominance of large agribusinesses extends to GDA and even the research and teaching objectives at the University of Georgia (Agriculture Specialist 2 2013; Former Organic Food Advocate 2013). Funding and support for agricultural research that is predominantly geared towards conventional practices may stifle interest in organic production.[15] Furthermore, farmers may hesitate to transition land out of production for three years to meet organic requirements, considered a niche market to some farmers (Former GDA Staff Member 1 2013; Agriculture Specialist 1 2013). For organic farmers that already existed within the state, Georgia's bill was an effort to protect the market and ensure consumer confidence in the organic label and the third-party certification scheme.

A History of Organic Food and Agriculture Legislation in Georgia

Since 2000, Georgia has adopted four bills pertaining to organic food and agriculture. Only three of those bills substantively changed Georgia's state statutes on organic food and agriculture.[16] Initial legislation was adopted in 2000 (see Table 7.2). Substantive modifications to existing state organic food and agriculture statues occurred with the adoption of amending legislation in 2002 and 2010. Both amending adoptions resulted in minor changes to the structure of the statutes. To detail the development of Georgia organic legislation, this section will first cover the 2000 Organic Certification and Labeling Act. Next, the details of the amending legislation will are considered including related legislation and administrative rules after the 2010 amending adoption.

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[15] The Georgia Department of Agriculture was led by Commissioner Tommy Irvin from 1969-2010 (Jones 2010). Irvin was described as being "a big conventional chicken" suggesting he extended support for conventional agricultural preferences (Former Organic Food Advocate 2013).
[16] In 2001, HB 107 made non-substantive stylistic changes to Code Section 2-21-3 by changing, "Upon July 1, 2000," to "On or after July 1, 2000."

Table 7.2: Georgia Organic Food & Agriculture Legislation		
Year	**Bill**	**Sponsored/Introduced***
2000	SB 477 *Organic Certification & Labeling Act*	Harold Ragan [D] & Michael Meyer von Bremen [D]
2002	SB 361	Harold Ragan [D] , Faye Smith [D], Donzella James [D], Seabaugh [R], and Peg Blitch [D]
2010	HB 1055	Kevin Levitas [R], Tom Rice [R], Matt Ramsey [R], Jim Cole [R], and Richard Smith [R]

**Political Party – [D] =Democrat; [R]= Republican*

2000 Organic Certification & Labeling Act (SB 477)

In February of 2000, SB 477 was introduced and read in Georgia's State Senate for the first time (see Appendix N for text of Georgia Legislation). The bill, also known as the Georgia Organic Certification & Labeling Act, amended Title 2 of the Official Code of Georgia to include regulatory language for the identification and certification of organic food and agriculture inputs and outputs during the production, distribution, and processing stages. Table 7.4 summarizes major aspects of the bill. The final version of the bill designated the Georgia Department of Agriculture [GDA] as the enforcing agency and responsible for promulgating rules if necessary for implementation. Definitions, labeling requirements, and maximum levels of toxic material were established to provide clear guidelines. All certified entities must obtain certification from GDA or a GDA approved entity. Furthermore, all certified entities must maintain detailed records of their organic production and handling practices and processes. To implement the law, GDA was authorized to establish fees that would support the services provided through implementation.

Harold Ragan and Michael Meyer von Bremen co-sponsored the bill. Both state senators were Democrats representing districts in the south-southwestern area of the state and members of the Senate Agriculture Committee. Senator Ragan, chairman of the Senate Agriculture Committee, was approached by staff members from the GDA about sponsoring the bill. The purpose of SB 477 derived from concerns among Georgia organic farmers and the GDA about establishing laws in the state to promote and protect

Table 7.3: Summary of SB 477/ OCGA § 2-21

Aspect	Summary
Define Key Terms & Labeling Limitations	Includes definitions for certification, feed, and organic among other referenced terms (OCGA § 2-21-2). Identifies parameters for organic labeling (OCGA § 2-21-4).
Define Toxicity Levels	Limits organically labeled products to contain no more than 5% of substances considered toxic for the FDA, EPA, or USDA (OCGA § 2-21-3).
Record Requirements & Inspection	Requires producers, brokers, distributors, and processors to keep detailed records of products labeled as organic (OCGA § 2-21-3). Subjects any product to inspection using state or federal regulatory requirements (OCGA § 2-21-4).
Certification	Requires certification for organically labeled goods including food, feed ingredient, article, commodity, or product (OCGA § 2-21-4).
Rule Development & Enforcement	The Georgia Department of Agriculture is responsible for enforcement of the bill and developing any reasonable standards as necessary. GDA establishes fees to be collected for implementation(OCGA § 2-21-6). Violation of the organic law will be guilty of a misdemeanor (OCGA § 2-21-8).

organic products. As two former staff member stated, the GDA wanted to regulate the organic industry to make sure labeling was accurate and in accordance with federal requirements (Former GDA Staff Member 1 2013; Former GDA Staff Member 2 2013). No intention was made to go above and beyond the federal requirements (Agriculture Specialist 2 2013). The bill was a truth in labeling effort spurred by demand from the public and certain producers interested in pursuing organic certification. Concern was raised that third-party certifiers might not be conducting truly independent evaluations and audits.

SB 477 was amended once during the 2000 legislative session to include explicit language regarding the regulatory nature of the bill and to remove language describing regulations of organic food and feed. As introduced, SB 477 created OCGA § 2-21-3 to include specific details of what constitutes organic food and feed. This language was removed in the final version of the bill. As one former organic advocate indicated (2013), the state was on the forefront of pushing for federal regulation of organic food and feed. However, organic food and feed was not included in the initial legislation. After amendments, SB 477 passed unanimously in both the Georgia House of Representative and Senate. No state legislator opposed passage of SB 477.

Amending Legislation

Georgia modified its organic law twice since the initial adoption in 2000. Both bills included provisions that modified OCGA § 2-21-4. Adopted in 2002, SB 361 replaced the entire subsection of the state organic state statutes. Table 7.5 outlines the key amendment provision. SB 361 removed certification seal requirements for food and feed ingredients but maintained requirements for food and feed to comply with other organic regulations and certification requirements. The bill also added additional requirements for any individual involved in the production, processing, and distribution of handling of organic products. Each entity organic entity would be required to register annually with GDA starting in 2003. Fees collected from registration would go towards implementation of the law. SB 361 passed unanimously.

HB 1055, adopted in 2010, would increase the minimum and maximum fee structure from $25.00/$500.00 to $75.00/$1000.00. The amendment was part of a larger bill focusing on a variety of amendments bundled as the "Georgia Taxpayer Relief Act of 2010" (Weber 2010). The amendment to the organic feed structure was added by the House Committee on Ways and Means. HB 1055 passed with some contention. However, the debate was not centered on raising organic registration fees but rather other aspects of the bill such as elimination of the retirement income tax and property tax.

Table 7.4: Summary of SB 361/ Revision of OCGA § 2-21-4

Aspect	Summary
Certification Seal	Removes requirement for food and feed ingredients to bear the official seal of the certifying entity (OCGA § 2-21-4(d)).
Registration	Requires any individual producing, processing, distributing, or handling organic products to register with the GDA on or after January 1, 2003. Establishes annual registration fees no less than $25.00 but no more than $500.00 (OCGA § 2-21-4(e)).

Explaining Adoption

The story of organic food and agriculture legislative adoption in Georgia is a short and relatively uncomplicated story. Perhaps the most interesting fact to note is most individuals contacted for interviews did not know the state of Georgia enacted a law regulating organic food and agriculture (see Appendix G for a list of where interview participants were recruited). Only four of the 34 recruited interview participants knew that Georgia adopted organic food and agriculture legislation. Of the four interview participants that did know of organic legislation, each was intimately involved in the adoption or implementation of the 2000 bill. However, even accounting the lack of awareness of the law, the case of Georgia is still able to contribute to the understanding of adoption decisions made by laggards in the diffusion process of organic legislation.

The results from the quantitative models suggest that the post-1990 adoptions are influenced by federal implementation, per capita wealth, vegetable sales, and regional adoption percentages. Amending adoptions are also influenced by increasing vegetable sales. Furthermore, in the Southeast region, state legislative professionalism, political culture, agricultural productivity, and regional influences were significant to adoption decisions. Georgia conforms to most of the expectations of post-1990 adoption and the Southeast regional adoption models. All three legislative adoptions in Georgia were influenced by both internal and external conditions. The initial adoption in Georgia was influenced by federal activity, consumer demand in metropolitan hubs, and producer demand. Furthermore, some evidence also suggests regional influence through an organic industry network, political considerations, and wealth as significant variables for adoption. The effects of regionalism may also play a factor in why increased agricultural productivity is significant, as well. Soil degradation followed by attempts to rebuild soil quality in the twentieth century in the Southeast may have aided the increase agricultural productivity in the region. For Georgia, the soil rejuvenation helped to maintain the important of agriculture in the Georgia economy.

For amending adoptions, federal implementation was the primary cause for the 2002 adoption, a finding consistent with post-1990 models for amending adoptions. The 2010 adoption was not clearly linked to any consideration except maintaining financial sustainability of the program, perhaps the result of post-Great Recession financial consequences and Republican-controlled state government. To fully detail the contribution of each variable significant to adoption, evaluation of significant factors are evaluated according to the diffusion model variables of internal conditions, external conditions, salience, policy type, and existing policy. Significant variables are time dependent meaning that conditions affecting initial adoption in 2000 were not present in 2002 or 2010.

Internal Conditions

Both internal economic and political condition contributed to adoption decisions in Georgia. However, no internal variable identified and used in the statistical analysis has a clear and direct impact on amending adoptions. For the 2010 amending adoption, no clear indication was made for why fee structures were changed. While it could be the result of partisan politics, it would be overly presumptuous to assume that the partisan debate surrounding the taxpayer relief bill was centered on raising fees for organic growers and handlers. Yet the need for tax reform may signify larger systemic factors at play. The Great Recession is a factor that may have led the Republican-controlled state government to pass a bill to provide more financial sustainability within the state. While not measured in this analysis, the effect of overall state economic health may have contributed to adjustments to the organic registration fee structures to help minimize the cost of the state to implement organic food and agriculture policy.

Comparatively, only the initial adoption in 2000 appears to have any clear indication for how the state’s internal conditions impacted adoption. For the initial adoption of SB 477, indirect consumer and producer demand drove the desire for the GDA to seek regulations to ensure truth in labeling claims (Former GDA Staff Member 1 2013; Former GDA Staff Member 2 2013). While not explicitly referenced, consumer demand and production of organic food, particularly from metropolitan hubs. This finding confirms the expectation of Winders and Scott (2009, 80) that urban consumers have the ability to impact agricultural policy direction. It may be the increasing number of organic farms correlates with the increasing interest. Furthermore, farms that did transition into organic did so because the farm type and other relevant conditions (e.g. labor intensity level) may have led to an easier transition to organic farming practices. Nevertheless, as previously described, consumer interest and organic farming is primarily centered in and around metropolitan hubs including Atlanta, Athens, and Savannah.

The hubs shed some light on additional conditions that likely led to adoption. In particular, wealth and political condition may have favorably led to adoption. Moreover, the role of the state’s local food program, Georgia Grown, may have also created a gateway for perked consumer interest within key Georgia metropolitan areas. Wealth and political culture can be attributed to the push for consumer concern because the Atlanta, Athens, and Savannah areas are wealthier, with median household incomes ranging from $35,000 to over $75,000, and have political cultures that are more progressive compared to other parts of the state (U.S. Census Bureau 2013). On average, counties surrounding Atlanta, Athens, and Savannah have higher median household incomes, almost 1.5 to 2 time higher than rural areas, and have voted for Democratic in Presidential election years since 2000 (see Appendix L for wealth data). Higher incomes are not only correlated with higher education levels but also better health outcomes (National Center for Health Statistics 2012). Collectively, the factor of wealth in Georgia can explain the influence of consumer demands in metropolitan areas. Organic product consumers are usually wealthier, more educated, and concerned, in part, with health concerns. Therefore, organic consumer demand is situated in or near Atlanta, Savannah or Athens and consumer demand is primarily driven from these areas.

The political activity of the Atlanta, Savannah, and Athens metropolitan areas can also help to explain why these regions are significant to the adoption of SB 477. As a whole, the state is identified as having a political culture that is predominantly traditionalist with a moderately strong individualistic strain, which correlates to an 8.80 numeric identification (Elazar 1994, 284; Sharkansky 1969). The state government has been controlled by both Democrats and Republicans, and in 2000 it was controlled by Democrats despite a majority of the state voting Republican in Presidential elections since 2000. Democratic voting patterns, however, are consistent in several metropolitan areas, which are also wealthier. The areas surrounding Atlanta, Savannah, and Athens have higher per capita incomes and are more likely to vote for Democrats, whose members in the Georgia state legislature sponsored the 2000 and 2002 organic bills, than rural areas of the state (see Leip 2012). The combination of wealth and local political acceptance of innovative policies may contribute to a rise of interest in organic, but a third explanation still exist – the Georgia Grown program.

The Georgia Grown program is a marketing program operated by the GDA. Its purpose is to promote locally grown, but more specifically, Georgia-grown products. Likewise, considerable efforts have been made to improve accessibility and to promote farmers markets in metropolitan areas such as Atlanta. Improving the quality and access to farmers markets may result in healthier food purchases but also promotes local farmers, which may also help to explain a correlation between adoption and an increase in agricultural productivity within the Southeast region and in the state. The emphasis with both programs is locally based food, an idea more popular in the Southeast (Former GDA Staff Member 1 2013; Former Organic Food Advocate 2013; GDA Staff Member 2013; Sustainable Food Advocate 2013). As several participants indicated, the connection between local and organic is crucial to sustainable agriculture, but the local component may also serve as a gateway for consumers to become interested in organic (Former Organic Food Advocate 2013; Sustainable Food Advocate 2013). Specifically, the local food movement in Georgia may contribute to consumers questioning how their food is made. This in turn may lead to consumers becoming more open and interested in the idea of organic food purchases.

In sum, the adoption of SB 477 in Georgia is the result of both political and economic pressures within the state and the consideration of federal activity in the policy area. The political and economic pressures were only alluded to by key informants as consumer and organic farmers' demands. However, upon further investigation, it could be derived that these hubs are supportive of organic production because each area possesses certain socio-economic and political factors that would lead to support of an organic market. As discussed in chapter I, organic consumers are wealthier, well-educated and Caucasian (Dettmann and Dimitri 2007).

External Conditions

A combination of both horizontal and vertical dimensions of diffusion also contributed to adoption decisions. The influence of the federal government on adoption decisions was confirmed as directly impacting adoption decisions in 2000 and 2002. Less clear is the effect of other state adoption decisions on Georgia lawmakers. There is evidence to suggest that regional pressures may have contributed to the diffusion of organic legislation to Georgia. However, this evidence cannot definitely be confirmed.

Horizontal Diffusion

Two states, North Carolina and Florida, are mentioned as influential to Georgia agricultural policy (Agricultural Specialist 2 2013). Specifically, Georgia, Florida, and North Carolina shared similar behavioral patterns in adopting certain agricultural practices (Agriculture Specialist 2 2013). Both states mirrored the movement in and out of cotton production, move into peanut production, and move into organic production compared to other Southeastern states. For organic agricultural production, the network within the Southeast may be similar, as well. While not clearly linked, two interview participants noted the significance of the Carolina Farm Stewardship Association (Agriculture Specialist 2 2013). Established in 1979, the Carolina Farm Stewardship Association is a non-profit group that focuses on education and advocacy of local, organic foods particularly in South Carolina and North Carolina (Carolina Farm Stewardship Association [CFSA] 2014). The association is the oldest sustainable agriculture organizations in the Southeast. The connection between organic legislation in Georgia to the Carolina Farm Stewardship Association was cited because of the potential cross-pollination of ideas between Georgia and North Carolina. The potential for cross-pollination of ideas is possible through connections in organic industry networks. Namely, the Carolina Farm Stewardship Association may have helped foster movement by Georgia organic farmers to push for regulation. Unfortunately, this connection could not be confirmed through interviews or through a comparison of adopted legislation, which varied drastically.

Vertical Diffusion

Policy conditions at the federal level played a role in the initial adoption in 2000 (SB 477) and the amending adoption in 2002 (SB 361). For initial adoption, the effect of federal policy adoption and implementation were significant but not direct factors in adoption. Specifically, in 1999 and 2000, no federal adoption occurred or federal implementation began. The effects of the vertical pressures of diffusion may stem from other activities, such as proposed rule-making, but this analysis does not specifically account for the factors statistically. Nonetheless, two former GDA staff members indicated Georgia lawmakers were aware of impending federal implementation of the law but wanted to prepare and ensure truth in labeling (Former GDA Staff Member 1 2013; Former GDA Staff Member 2 2013). SB 477 was intended to set-up a policy framework that would allow for the state to comply with federal supremacy but also ensure, should the NOP not publish a final rule that year, that Georgia had standards in place. By 2000, skepticism had developed in the organic community and for some state policymakers over the federal governments' capability to actually implement a final rule. The delay of developing rules followed by the controversial 1997 proposed rule led to questions on if the federal organic program would ever be implemented. As one sustainable food advocate (2013) stated, "What you sort of saw in some of that state legislation stuff was a little bit of an effort to insure that if the federal program failed there was still a process at the state level." For Georgia, perhaps similar to many other states adoption legislation from 1997-2002, was an attempt to provide state level oversight of the organic market. For the 2002 bill, SB 361, the effect of federal supremacy in the policy area is a more direct effect. Indeed, the 2002 bill was adopted in response to federal implementation of the NOP that year. The amendments brought the Georgia organic law in compliance with federal law by adjusting language to be consistent with federal standards (Former GDA Staff Member 2 2013). The 2010 bill did not have documented evidence to support any similar form of federal influence on the adoption decision.

Salience, Policy Type, and Existing Policy

Issue salience, policy typology, and existing policy appear to have little effect on adoption outcomes in Georgia. Salience may have contributed to increasing consumer interest, but participants cited other variables more likely to have perked consumer interest. In particular, the regional hubs of activity surrounding Atlanta, Savannah, and Athens are cited as the key drivers in the increasing consumer interest and demand for organic goods. These areas are characteristic (e.g. wealthier, more progressive) of what would more likely lead to the adoption of organic policy and the growth of the organic market. Increasing issue salience occurs within the time frame of initial adoption in 2000 and amending adoption in 2002, but it cannot clearly be linked to decision-making at the time. Instead, the bills appear to be appeasement for and driven by a selective group within the state. Conventional farmers did not indicate any opposition to the bill and largely appear to be disinterested in the effort.

As for policy typology and the effects of existing policy, discussions of how either influenced adoption decisions were nonexistent in the personal communications conducted in this analysis. The typology of the bill as a third-party system was not a significant debate. Similarly, compliance was mandatory, and the bill was not developed in collaboration with the organic industry. The amendments to the organic law maintained the original policy design but included registration requirements and fee structure to create financial sustainability of the program. The original bill had always included language referencing federal supremacy thereby eliminating any need to completely overhaul existing regulations. It could be argued that the design of the policy was not a contentious point with late state adopters such as Georgia. With establishment of the third-party certification system in California, a leader, and at the federal level, the design of the policy itself had already been determined and considered a successful model. Georgia's initial adoption, therefore, resulted in a policy design that was already well-established by other states and the federal government. Any amending adoption after 2000 in Georgia would not result in major changes in policy type. The policy typology design was considered a national norm by the time Georgia adopted initial legislation. Additionally, the effect on existing policy would be, at a minimum, beyond allowing the statutory framework to make changes.

Concluding Georgia

The development of organic policy in Georgia is a short but insightful story. As a late adopter, federal influence, through both previous adoption and implementation, was one external condition motivating adoptions in 2000 and 2002. Likewise, rising consumer and organic industry contributed to the decision for initial adoption in 2000. It could be interpreted that rising consumer interest in Atlanta, Savannah, and Athens explains how wealth, political culture, and partisan politics play a role in adoption decisions. Furthermore, the correlation between adoption and an increase in agricultural productivity may be the result of increased attention to promoting local food within the state. What is less clear is how the regionalism or even salience factor into Georgia's adoption decision. Nationally, organic issue salience was at an all time high in 2000, but no interview participant, including those associated with the development of the bill, suggested that increased media attention is what led to increased consumer interest. Similarly, a regional network was referenced by several individuals but no confirmation could be made if the Carolina Farm Stewards influenced Georgia organic farmers.

The case of Georgia can also shed some light on why states in the Southeast were slow to adopt organic policies compared to other regions. Skepticism over organics from both a consumer and producer perspective may have led to delayed adoptions by any Southeastern state until 1990. Furthermore, the case also demonstrates that discussions about policy typology may have been a moot point for late adopters as the co-regulatory scheme of third-party certification and registering with the state was already established by other states and at the federal level. As a late adopter, Georgia signifies that many of the variables that may have been significant to leading adopter or middle-of-the-pack adopters are not as influential in late adopting cases. Late adopters of organic legislation may be responding to gaps in federal policy as a result of consumer and industry interest in protecting the sanctity of the organic market.

CHAPTER VIII
Conclusion

The primary research question of this dissertation is why do some states adopt organic food and agriculture legislation while others do not? By asking this question, the intent of this dissertation is to contribute to the theoretical development of the policy diffusion literature through an interesting application while also providing a foundation for improving our understanding of organic policy development in the United States. The findings of this study reveal that state adoption of organic food and agriculture legislation can be explained by a complex web of influential factors. Specifically, state adoption decisions are the result of external conditions, internal conditions, salience, policy typology, and existing policy; the results are consistent with expectations and conform to the expectations of the policy diffusion model developed in this study where:

$$\text{ADOPT}_{i,t} = f(\text{INTERNAL}_{i,t}, \text{EXTERNAL}_{i,t}, \text{SALIENCE}_{i,t}, \text{EXSPOLICY}_{i,t}, \text{POLICYTYPE}_{i,t})$$

$$\text{POLICYTYPE}_{i,t} = f(\text{INTERNAL}_{i,t}, \text{EXTERNAL}_{i,t}, \text{SALIENCE}_{i,t}, \text{EXSPOLICY}_{i,t},)$$

$$\text{EXSPOLICY}_{i,t} = f(\text{ADOPT}_{i,t}, \text{POLICYTYPE}_{i,t})$$

Yet it is important to note that the timing of adoption (e.g. earlier versus later) and adoption type (e.g. initial versus amending adoptions) are influenced by different factors. Early initial adoptions are influenced by fewer variables compared to later initial adoptions. Likewise, earlier amending adoptions are influenced less by vertical pressures of diffusion, measured as federal adoption and federal implementation in this study, then amending adoptions after 1990. In essence, the research presented demonstrates that the adoption of a new and innovative policy is dependent on the conditions of a specific time and context. While this idea may not be new or radical, it does illuminate one potential explanation, the significance of time span, for why developing a robust policy diffusion model or list of consistent explanatory variables eludes public policy scholars. This analysis evaluated a 35-year time span and focused on a set of delineated time periods as designated by aspects of federalism. By not limiting the analysis to a larger time span or a narrower time period, there is a more robust identification of significant variables over time but also for key periods of adoption where contagious policy adoption occurred while still accounting for federal supremacy in a given policy area. The policy diffusion model outlined above can examine both rapid and slower diffusion patterns and can account for vertical and horizontal dimensions of diffusion within one analysis.

In what will follow, this chapter summarizes and synthesizes the results of the quantitative and qualitative portions of the research including the variation over time and by adoption type. A discussion of lessons learned will follow with both theoretical and applied contributions derived from this research. Next, a discussion of future directions for research on policy diffusion and organic food and agriculture policy will follow. Finally, the chapter ends with a concluding statement indicating how this research improves our understanding of policy diffusion and organic food and agriculture policy.

Explaining Policy Diffusion – Summary and Synthesis of Results

From 1976 to 2010, 38 states adopted organic food and agriculture legislation. As discussed in Chapter IV, the statistical results demonstrate a wide range of significant variables that influence adoption decisions including wealth, political culture, partisan control, vegetable sales, regional pressures (e.g. horizontal diffusion pressures), and national pressures (e.g. vertical diffusion pressures). Furthermore, several regions are also statistically significant indicators of diffusion and each demonstrated its own set of influential factors with each region. Comparatively, the cases of California and Georgia, Chapter VI and VII, support and build upon the findings from statistical models and provide much needed depth and meaning to what factors are suggested as statistically significant. The case studies, like the statistical models, provide undeniable evidence for how explanatory variables for state adoption decisions vary according to the time period (e.g. early versus late) and adoption type (e.g. initial or amending adoptions). To fully explore the collective findings, an overview of explanatory variables is presented according to the policy diffusion model variables. Table 8.1 provides a comparative summary table of results from the quantitative and qualitative research portions.

Table 8.1: Comparative Summary of Results

Era	Statistical Model Results	California Results	Georgia Results
Initial Adoptions (1976-1989)	Issue Salience Per Capita Wealth Political Culture Regional Influence	Issue Salience Political Culture Regional Influence Third-Party Certifiers Policy Type/Design	-
Amending Adoptions (1976-1989)	Per Capita Wealth Decrease Agricultural Productivity Far West Region	Third-Party Certifiers *Fruit Growers** Existing Policy	-
Initial Adoptions (1990-2010)	Federal Adoption Federal Implementation Per Capita Wealth Regional Influence Far West Region North Central Region Southeast Region Mid-Atlantic Region	-	Federal Adoption** Federal Implementation** *Partisan Control* Political Culture Per Capita Wealth Regional Influence
Amending Adoptions (1990-2010)	Federal Implementation Vegetable Sales Percentage of Enacted State Statutes North Central Region	Federal Adoption** Federal Implementation** Issue Salience Political Culture Third-Party Certifiers Regional Influences National-Interaction Pressures Policy Type/Design	Federal Implementation

Era	Statistical Model Results	California Results	Georgia Results
Far West Regional Results	Federal Implementation Fruit Sales Regional Influence	Federal Implementation Third- Party Certifiers Fruit and Vegetable Production*** Regional Pressures National-Interaction Pressures	-
Southeast Regional Results	State Legislature Professionalism Political Culture State Agriculture Industry Productivity Regional Percentage of Enacted State Statutes	-	Political Culture *State Agriculture Industry Importance* Regional Influence
Initial Adoptions (1976-2010)	Federal Adoption Federal Implementation Issue Salience Partisan Control Regional and National Influences Southeast Region Mid-Atlantic Region	Issue Salience Political Culture Regional Influence Third-Party Certifiers Policy Type/Design	Federal Adoption** Federal Implementation** *Partisan Control* Political Culture Per Capita Wealth Regional Influence
Amending Adoptions (1976-2010)	Federal Implementation Issue Salience Per Capita Wealth Political Culture Vegetable Sales Regional Influences Far West Region North Central Region	Federal Adoption** Federal Implementation** Issue Salience Political Culture Third-Party Certifiers *Fruit Growers** Regional Influences National-Interaction Pressures Policy Type/Design Third-Party Certifiers Existing Policy	Federal Implementation

Internal Determinants of Diffusion (INTERNAL$_{i,t}$)

The internal determinants model variable is included in the policy diffusion model because of its ability to predict how conditions internal or inherent to the adopting entity may influence state adoption decisions. Several socio-economic and political indicators are used for the analysis of organic food and agriculture legislation. In total, twelve variables are identified as potential explanations for diffusion, and nine internal determinant hypotheses are tested. Four hypotheses can be accepted while two hypotheses cannot be rejected or accepted (see Table 3.4). Specifically, H4, H5, H6, and H9 can be accepted indicating that states that are wealthier, have moralistic cultures, have a Democratic controlled state government, and have the presence of third-party organic certifiers are more likely to adopt organic food and agriculture legislation. H1 and H8, on the other hand, only have evidence to partially support the predicted relationship. Only two of the four states listed in H1 were early adopters of legislation while the other two, Massachusetts and Michigan, never passed legislation. Yet, Michigan did adopt organic administrative rules in 1978. For H8, there is mixed evidence for fruit and vegetable sales as vegetable sales are significant in the larger, comprehensive models whereas fruit sales mattered only in the Far West region. All of these conditions and variables are explored further below.

The Significance of State Level Wealth Over Time

Per capita wealth was one consistent variable across time that explained diffusion of organic food and agriculture legislation both quantitatively and qualitatively. This suggests wealthier states are more likely to adopt innovative policies than less wealthy states. This finding is consistent with and supports the existing belief that wealthier states may have greater interest or ability to contemplate new policies (Bailey and Rom 2004; Berry and Berry 1990, 2007). The statistical results demonstrate a weak directional relationship beyond .00 or -.00, but it is the result of different measurement scales. Extending beyond the hundredths place value, the directional relationships range from -.0002822 to .0001684. This means that wealth matters, but there is limited indication for if wealth is a positive or negative factor in state adoption. There is no clear indication for why this occurs, but the case studies may shed some light on the effect of wealth on adoption of organic food and agriculture legislation.

In the case of California, the median household income for the state is $61,400 in 2012 with those counties, particularly counties around the metro areas of San Francisco and Los Angeles, having median household incomes over $55,000 (see Appendix I). Georgia, on the contrary, is comparatively much less wealthy on average throughout the state. Certain counties, however, are comparable to California's median household incomes. Larger metropolitan areas, such as Atlanta and Savannah, having median household incomes ranging from $42,000 to over $87,000 (see Appendix L).

The case of California indicates that wealthier states, as a whole, may be more likely to adopt earlier. Other early state adopters, specifically New York and Connecticut, are also wealthier than most other parts of the country with respect to median household incomes (see Table 8.2). In 2012, New York's median household income was $57,683 while Connecticut's is $74,323. These figures are comparable to California's wealth and have remained consistent in terms of growth and inflation for over two decades.[17][18] Likewise, Georgia's median household income has followed a similar pattern but the average is lower. Instead, in the case of Georgia, several regional hubs of organic activity in wealthier areas of the state including Atlanta, Athens, and Savannah. The effect of wealth, in these metropolitan hubs, could operate in the same manner as general wealth in California or New York. Specifically, wealth, in the case of Georgia, could influence lawmakers in Atlanta, but it is probably indicative of the local lifestyle, a better education population, or even political preferences. Residents in these areas lean towards voting for Democrats and may be more inclined to purchase foods that are more expensive, but align with consumer concern commonly associated with organic such as health, the environment, or potentially supporting local food systems. What is happening in some Georgia cities may be identical to what is happening in California but on a smaller and more limited scale.

Given the evidence, does policy diffusion hinge on the wealth of citizens in a state? Perhaps but it may be overly presumptuous to assume wealth is the primary predictor of adoption. Wealth could indicate

[17] For a comparative U.S. map by county or state see http://www.census.gov/censusexplorer/censusexplorer.html

[18] The median household income in the United States was $51,017 in 2012, $49,276 in 2010, $41,990 in 2000, and $29,943 in 1990 (US Census Bureau ND).

Table 8.2: Comparison of Early Adopters' Median Household Income for Selected Years

State	Year of Initial Adoption	1979 Median Household Income	1989 Median Household Income	1999 Median Household Income	2012 Median Household Income
New York	1979	$16,647	$32,965	$43,393	$59,796
California	1979	$18,243	$35,798	$47,493	$61,400
Connecticut	1979	$20,077	$41,721	$53,935	$74,323
Maine	1979	$13,816	$27,854	$37,240	$51,317

Sources: http://www.census.gov/censusexplorer/censusexplorer.html and http://www.census.gov/hhes/www/income/data/historical/state/state1.html

the ability to consider new ideas but it may also be a signifier of particular citizen lifestyle choices, such as an enhanced set of buying and eating choices, or regional pressures of diffusion. In essence, per capita income and wealth of citizens may be indicative of other variables that are important and correlated with wealth. Considering the significance of this variable over time for both initial and amending adoptions, other variables that relate to wealth should be considered and examined.

The Significance of Third-Party Certification

In addition to wealth, there is persuasive evidence to suggest that state adoption decisions are influenced by third-party organic certifiers. California's initial and several amending adoptions were pushed for by California Certified Organic Farmers [CCOF]. Indeed, CCOF wrote the Organic Foods Act of 1979 and the California Organic Foods Act of 1990; the former being the initial adoption of organic food and agriculture policy, and the latter representing a significant overhaul of the initial bill. For the 1990 bill, CCOF even worked with other Far West regional certifiers through WACO and collaborated with NOFA to standardize organic practices across the country. In this particular case, the role and impact of third-party certifiers are direct and stems from within the state, as well as, being impacted by regional and cross-national interaction among organic third-party certifiers. Yet, this is not a story replicated in Georgia. The Georgia Crop Improvement Association, a state entity meant to conduct a number of certifications, did play a role in promoting organic agriculture and is one of a few primary certifiers in the state. However, there is not enough evidence to suggest that Georgia Crop Improvement Association or any other third-party certifier operating within the state had any significant role in developing the initial legislation in 2000 or amending legislation in 2002 and 2010. Not even the influence of the Carolina Farm Stewards, an organization that once pursued becoming a certifier, could be confirm for a regional basis.

While perhaps not a direct cause-and-effect for both case studies, the presence of organic third-party certifiers may demonstrate why certain and states and regions were likely to be leading adopters. Furthermore, the presence of organic certifiers may be representative of other factors and conditions that lead to adoption that are not accounted for directly in the data analysis. Specifically, annual organic production or sales figures were not available for all 35-years of this study. Specialty crop sales, included as vegetable and fruit sales, can help to assess potential organic production trends. Yet, even with these proxy measurements, there is no indication for how to measure the production or demand for organic versus conventional specialty crops. The presence of third-party certifiers within a state may indicate that more farmers are interested in organic production, and it is likely that consumer demand (and subsequent higher prices) may be driving that interest. Without hard data for all 35-years, there is no possible way to statistically test this assumption. However, the presence and analysis of third-party certifiers in the two cases suggests that there is some linkage between state adoption decisions and organic third-party certifiers. In California, the linkage and effect are more evident whereas, in Georgia, it is more indirect. Moreover, the presence of a nationally-renowned third part certifier, CCOF, and its network with regional and national certifiers may have directly attributed to early initial adoption in California and led to some of the more aggressive organic policy standards in the country.

Other Internal Determinants

Several additional internal determinant variables are significant to state adoption decisions for organic food and agriculture legislation. Statistically, partisan control, political culture, vegetable sales, and state innovativeness as a characteristic are significant. Furthermore, narrowed time period models also found state legislature professionalism and agricultural productivity significant albeit in the opposite directional relationship from what was predicted. The case studies, particularly California, provided the additional depth necessary to determine how and why these variables were important and of unexpected sign.

Political Variables of Significance

Partisan control, which was only statistically significant for initial adoptions in the comprehensive model and all adoption in the 1990-2003 model, signifies that state adoptions of organic food and agriculture legislation is more likely to occur in years where state governments are controlled by Democrats. In California and Georgia (see Appendix J and M), initial adoptions are made in years where Democrats controlled state government. Furthermore, both states saw a majority of amending bills sponsored by Democrats even during split-controlled years. While these findings confirm other scholarly literature regarding Democrats and policy diffusion, the case studies do not demonstrate a strong causal link between political party and adoption. Indeed, sponsors of bills in California and Georgia may have been selected because of their roles served in the state legislatures. In California, sponsorship of bills in 1979, 1982, and 1990 were clearly the result of constituents contacting their state assembly members for sponsorship. Both Assemblymen Michael Gage and Sam Farr were representing their constituents, predominantly members of CCOF, in the Central Valley of California when sponsoring bills. Other bills were sponsored by members on agriculture committees. Likewise, Harold Ragan's sponsorship of the bill in Georgia was likely a function of his Chairmanship of the Senate Agriculture Committee that the Georgia Department of Agriculture approached about an organic law.

A second state political variable that demonstrated significance, and perhaps a more causal link, is political culture. According to the statistical results, state with moralistic-leaning political cultures, which demonstrate more trust in government and desire to promote policies for the public good, are found to be more likely to adopt organic food and agriculture legislation. This finding alone demonstrates why states like California were leading adopters while states like Georgia were laggard or even non-adopters. Yet the similarities between California and Georgia's political culture demonstrate the significance of a strong individualistic strain as pertinent to adoption. California's political culture is identified as moralistic with a strong individualistic strain whereas Georgia's political culture is a traditionalist culture with a strong individualistic strain. The individualistic strain in each state demonstrates government skepticism and an emphasis on individual rights. This suggests individualistic cultures may be less likely to seek government involvement for solving problems unless for the protection of individual rights. Given the nature of each political culture, the framing of organic legislation in each state may illuminate why moralistic states may be more likely to be leading adopters of innovative policies. States with political cultures interested in protecting the public good would be more likely to seek regulations that correct market asymmetries. However, the presence of an individualistic culture may explain the pattern of diffusion across states, but also the current policy typology design used by the National Organic Program. Specifically, the co-regulatory or third-party certification design is likely the result of skepticism in trusting government to solely develop rules and implement the policy.

California's law was promoted by many organic farmers in the state for the purposes of preventing fraud in the marketplace but also to protect the market from being corrupted by conventional agriculture's interpretation of the term. While organic farmers wanted a law that would protect themselves and consumers from fraudulent claims, they were also skeptical of government and the California Department of Food and Agriculture's being beholden to conventional agricultural interests. For some organic farmers, the involvement of government would be considered heresy to their purpose and alternative production methods. However, CCOF organizers were comfortable with the idea of framing the policy as correcting an information asymmetry in the marketplace while relying on private third-party certification to ensure truth in labeling. The particular design of the 1979 and 1990 California bills demonstrate the desire to protect the public good and promote individual rights but a deep skepticism of involving state government. The policy typology design relied on government registration of organic growers, processors, and handlers but maintained a public-private form of implementation by relying on third-party certifiers. Furthermore, the sheer length of both the 1990 and 2003 California laws also demonstrate mistrust in the rule-making process and state policymakers for developing organic industry approved standards.

The presence of both a moralistic and individualistic political nature in California may help to determine why the state is a leading innovative adopter while also explaining the a co-regulatory style of policy for organic food and agriculture. The public and organic farmers would be protected by law while the co-regulatory style of policy implementation would prevent government from being overly persuaded by conventional agriculture interests. If California is considered a leader in organic policy and is a significant international actor in setting environmental and consumer protection standards, other moralistic and moralistic-leaning states would take cues from California. Likewise, California may seek to emulate or mimic the behavior of other moralistic states that have strong individualistic undertones such as New York, which was the first state to adopt. Under the presumption, individualistic dominant cultures would likely be middle-of-the-pack adopters with traditionalist dominant states predominantly being laggards. The function of individualistic strains in traditionalist states, particularly in the Southeast, may serve as a gateway to considering innovative policies that have are tested and successful in other states or motivated by skepticism in government capability.

Indeed, Georgia's traditionalist culture may have hindered the interest in organic food and agriculture policy until 2000 but the presence of the individualistic strain promoted policy that protect individuals. Skepticism in the federal government's adoption and the desire from the Georgia Department of Agriculture to ensure truth in labeling claims may be representative of the individualistic undertones of the moralistic culture in the state. Specifically, mistrust in the federal government in 2000 stemmed not only from the USDA's ability to develop final rules but from a broader debate of federalism and state versus federal policy domains. Under this assumption, states like Georgia would be skeptical of the federal government's policy development but would like to maintain a hierarchy in their own territorial boundaries by protecting the interest of consumers and industry. Thus, this individualistic strain in Southeastern states may help to explain why the region was a late adopter and demonstrates slower regional interest in organic food and agriculture policy. Similarly, the Mid-Atlantic Region was also a region with delayed adoption with most states being individualist dominant with strong traditionalist ties. The higher percentage of state adopters in the Mid-Atlantic region, like the South, may be caused by the presence of a traditionalist culture, which needs clear proof of a policy's success or motivation to protect individual rights from unnecessary government intervention.

However, despite the evidence supporting a political culture argument, there is on additional political factor, state legislature professionalism, which could explain state initial adoption decisions within the peak period of adoption from 1985-1990 as well as lend additional credence to the political culture argument. As demonstrated in Table 4.3, initial adoptions made from 1985 are influenced by moralistic-leaning cultures and less professionalized state legislatures among other patterns of regional and national-interaction pressures. As discussed previously, the directional relationship was not as predicted, but it could be the result of a larger political movement in the 1980s that sought deregulation and smaller government. While this analysis takes a leader-laggard approach for case study selections, this statistical finding does shed some light on middle-of-the-pack adopters and potentially indicates the effect of individualistic political cultures in helping the diffusion of organic food and agriculture legislation. There are two camps of non-adopters including traditionalist-leaning political cultures and states that adopted administrative rules but no legislation. Of the latter group, all administrative rule adopters were on par with states with similar moralistic and individualistic cultures. Therefore, only non-adopting states have traditionalist-leaning cultures and all purely moralistic and individualistic adopted some form of organic food and agriculture law. For all initial state adoptions from 1985-1990 the rapid adoption rate, especially for 1989 and 1990, may be the result of the "perfect storm" of variables that led to the contagious diffusion of policy adoption. In term of state legislature professionalism, less professionalized state legislatures combined with a political culture skeptical of government during the 1980s could have contributed to the rapid adoption of a co-regulatory policy typology, which would create less political backlash during the deregulatory and small government era.

The Role of Fruit and Vegetable Sales – Economic Predictors

Statistically, the measures of fruit and vegetable sales, both specialty crops, were included as a proxy for assessing the presence and growth in organic food sales. As an economic indicator within the statistical results, states with increasing vegetable sales over time were more likely to adopt organic legislation. Increasing fruit sales, on the contrary, were only statistically significant in the Far West region. There are several explanations for the patterns of significance. The two case states, California and Georgia, reported fruit and vegetable crops as significant to their overall agriculture industries. In addition, both states report the agriculture industry as a significant component to the states' overall economy. Nonetheless, the significance of California's agricultural productivity is bar none to other states and is even internationally ranked as a leading supplier for fruits, vegetables, and nuts. While Georgia's agricultural productivity should not be considered insignificant, California's fruit production likely provided considerable leverage to the significance of fruit sales in the Far West region.

As for increasing vegetable sales, the distribution of the effect nationally may exist because of the ability to grow vegetables across more climatic zones. Moreover, fruit production is more often perennial, providing less dynamic changes over time, whereas vegetable production is not. While North Dakota or New Mexico may not generate as many fruit sales as California or Georgia, states like North Dakota and New Mexico can generate substantive vegetable sales given the nature of the climate and growing zone capabilities. Considering the national capacity for growing vegetables, it can be asserted that states with increasing vegetable sales most broadly signifies a greater concern for policies that would promote and protect this sector including organic food and agriculture policy. As will discussed below, the production patterns of fruit and vegetable sales, as well as farm type, by state may also shed some light on horizontal pressures for diffusion.

State Innovativeness as a Characteristic

As a final consideration of internal determinants of policy diffusion, one hypothesis was included to assess the claim of innovativeness as a state characteristic. In the seminal Walker-Gray debate, Walker says (1969, 893), "States like New York, Massachusetts, California and Michigan should be seen as regional pace setters," and even suggested that these states are inherently more innovative than others. Gray (1973a, 1973b) challenged this assumption claiming innovativeness as time and issue specific at best. The results from this analysis lend credibility to both claims. First, New York and California were early adopters of organic state legislation while Massachusetts adopted organic administrative rules in

1978. Moreover, New York and California were the first in their regions to adopt organic food and agriculture policy, and there is evidence to suggest that organic industry networks in the Northeast and Far West were interacting across the nation, a horizontal element of diffusion. If New York and California were regional trend setters and took cues for policy innovation from each other, then Walker's argument for innovativeness as a state characteristic partially holds true.

The evidence that supports Gray's claim is grounded in the delayed adoption by Michigan. Michigan was a late adopter. Lawmakers did not pass an initial organic bill until 2000 and only amended statutes once in 2006. As discussed earlier, the political culture differences between early and late adopters are significant. It may be possible that the issue of organic food and agriculture was not important or did not receive the attention from lawmakers either due to the political culture, for which Michigan is a more moralistic in nature, or other unidentified variables. Therefore, innovativeness may be time and issue specific at best in particular cases.

External Determinants of Diffusion (EXTERNAL$_{i,t}$)

The external determinants model variable is included in the policy diffusion model to assess the dimensions of both horizontal and vertical dimensions of policy diffusion. For horizontal dimensions, which assess state-to-state influence, this analysis assesses both regional pressures and how national percentages of adoption and enacted statutes would impact adoption decisions. Three hypotheses, H10, H11 and H12, were tested to assess horizontal policy diffusion dimensions. For vertical dimensions, this analysis primarily sought to assess the impact of the federal government in altering state policy trajectories. Specifically, this analysis sought to determine how federal adoption of organic policy would impact state adoption decisions. Two hypotheses, H13 and H14, were tested to assess the vertical dimension of diffusion through both federal legislative adoption and official federal implementation.

The findings from the quantitative analysis confirm regional effects, assessed as both adoption percentage and enacted state statute percentage, on state adoption decisions. In essence, states are more likely to adopt organic food and agriculture legislation if other states in the region have adopted similar legislation or have enacted statutes in effect. What is less certain from the quantitative finding is the effect of other horizontal patterns of diffusion such as isomorphism or national interaction. H12 predicted that states with similar economic and political conditions are more likely to adopt. For internal determinant conditions, wealthier, Democratically-control state governments, moralistic-leaning cultures, state legislature professionalism, increasing vegetable sales, and the presence of third-party certifiers in the state each influence adoption. Statistically, these effects do not demonstrate a clear diffusion pattern that can confirm a national-interaction or isomorphism approach to horizontal diffusion. However, evidence from the case studies, such as the presence of third-party certifiers, provide evidence for how states across the nation might interact through national organic industry networks or how diffusion may be based on the variations in fruit and vegetable production across states.

Case studies also shed some light on the uncertainties surrounding vertical influences since nothing quantitatively could be proven with absolute certainty. California confirms the belief that the correlation between state initial adoption and federal adoption in 1990 may be more coincidence that the actual cause and effect. Furthermore, evidence from both cases demonstrates cautionary frustration among states over delayed implementation at the federal level until 2002. As will discussed further below, there is strong evidentiary support to suggest that both horizontal and vertical dimensions of diffusion occurred throughout the development of organic food and agriculture policy in the U.S.

The Horizontal Dimension of Diffusion

From the evidence presented in this analysis, states were highly influential on other states in the diffusion of organic innovation. States not only took cues from other states within their region, but there is also evidence to suggest how patterns of agricultural production and the effects of organic industry networks, via third-party certifiers, may have contributed to adoption decisions and policy development. The effects of regional pressure versus national pathways of influence shall be considered separately.

Regional Pressures

The USDA's Agricultural Marketing Service's seven region designation was used to group states together for analysis. The seven-region designation accounts for climatic and agricultural productivity differences among states. Furthermore, the regional identification aids in assessing factors that influence why the Southeast region has low certified organic production, one concern of the National Organic Program (McEvoy 2012). The results of this research suggest that regional effects matter. States can, and will, take cues from other states in their region regarding the adoption of new and innovative policies and programs. As Figure 8.1 demonstrates, certified organic production is primarily located outside of the Southeast. What is significant to note is that areas with adoptions prior to 1990 have some of the largest number of organic production acres. The Northeast and Far West regions have some of the earliest adoptions and some of the largest number of certified organic acres. Furthermore, middle-of-the-pack regions such as the Rocky Mountain and North Central regions also have early pace setters and more organic production acres than the Southeast. Given the spatial evidence, Walker's (1969) original regional tree-based model may hold true. His model claimed there are regional pace setters, such as California and New York, that other states within the region will follow and emulate.

The Northeast region follows Walker's predicted pattern with New York at the first legislative adopter with Connecticut and Maine following three years later. If including the dimension of organic administrative rules, Massachusetts could also be considered a follower of New York's regional pace setting. The Far West region, to the contrary, does not necessarily follow Walker's tree model. However, it is clear that regional effects matter. California was the first state to adopt organic legislation, but it was not the first state to adopt general regulations or guidelines regarding organic food labeling. Oregon initially adopted organic administrative rules in 1973. It is reported that California's Organic Foods Act of 1979 closely mirrored Oregon's administrative rules. Nonetheless, it could be argued that California is a regional pacesetter for legislative adoption as not all state administrative agencies may have the same sort of broad delegation of authority to develop rules. Oregon lawmakers would eventually pass legislation in 1989, but California had already begun to pioneer the policy area of organic food and agriculture with CCOF at the helms of California's efforts. CCOF had consulted with other organic industry pioneers in the Far West region including Oregon Tilth, which also alludes to the significance of industry-networks within a regional construct.

In the Southeast region, the secondary region of focus in the case studies, the regional effects are statistically significant for a higher percentage of enacted state statutes but not higher percentages of state adopters. This could be the result of delayed adoption within the region, but the Georgia case, unfortunately, cannot help further illuminate this finding and cannot lend support to Walker's regional tree-model of diffusion. A few interview participants note how Georgia, North Carolina, and Florida are more innovative in nature and would be more likely to look at each other for agricultural production cues. Moreover, there was some limited information to suggest a similar organic industry network influence between North Carolina and Georgia. The Carolina Farm Stewardship Association was identified as having probable influence on organic food and agriculture policy in the Southeast region. While the association never achieved its goal of becoming a certifier, the Carolina Farm Stewardship Association is an active promoter of local and organic food in the Carolinas.

Another region that undermines Walker's tree model is the Southwest region, composed of Arkansas, Louisiana, Oklahoma, and Texas. The three of the four states in the region adopted organic legislation in 1989. While the effects of regionalism could explain the adoption pattern, Walker's tree model cannot. There is not a regional trend setter and the speed of adoption is an r-curve, indicating rapid and sudden adoption, rather than a gradual s-curve, which would be more of what Walker's model would predict. Therefore, the regional effect in the Southwest region does lend further support to Boushey's contagion model which suggests that regional effects may result in rapid and sudden adoption of innovation policies.

In sum, there is evidence to suggest regional effects do adoption decisions. Furthermore, from a regional-based approach, it can be argued that one potential cause for low levels of certified organic production in the Southeast has just as much to do with regional interest in organic policy as climatic conditions or investment by agribusiness in crop production. Figure 8.1 demonstrates that the regional is generally a laggard to comparison to other regions. This lack of early interest may indicate limited desire to create regulatory policy for a market that does not exist which may also suggest there not be consumer demand.

National-Scale Pressures

As discussed in Chapter II, there are three additional approaches beyond regionalism for modeling policy diffusion along horizontal dimensions including national interaction, leader-laggard, and isomorphism. It was predicted that states would be more likely to adopt if states that had similar internal determinant conditions were also adopters of organic legislation. This prediction is more likely to address the isomorphism model, where states with similar characteristics mimic or emulate each other's innovative policies. The statistical evidence could not, with accuracy, determine if an isomorphism model of diffusion was occurring in this particular policy domain. Not only do leading adopters share similar internal political conditions but states within each region also share similar characteristics. The case studies are able to help disentangle the horizontal dimension of diffusion as by pointing to a national-interaction model of diffusion caused by the actions of the national network of organic industry specialists and certifiers seeking to promote organic policy. Yet, upon further observation with both the case studies and spatial maps of key internal characteristics, there is also support for an isomorphism effect that is grounded, at least in part, regionally.

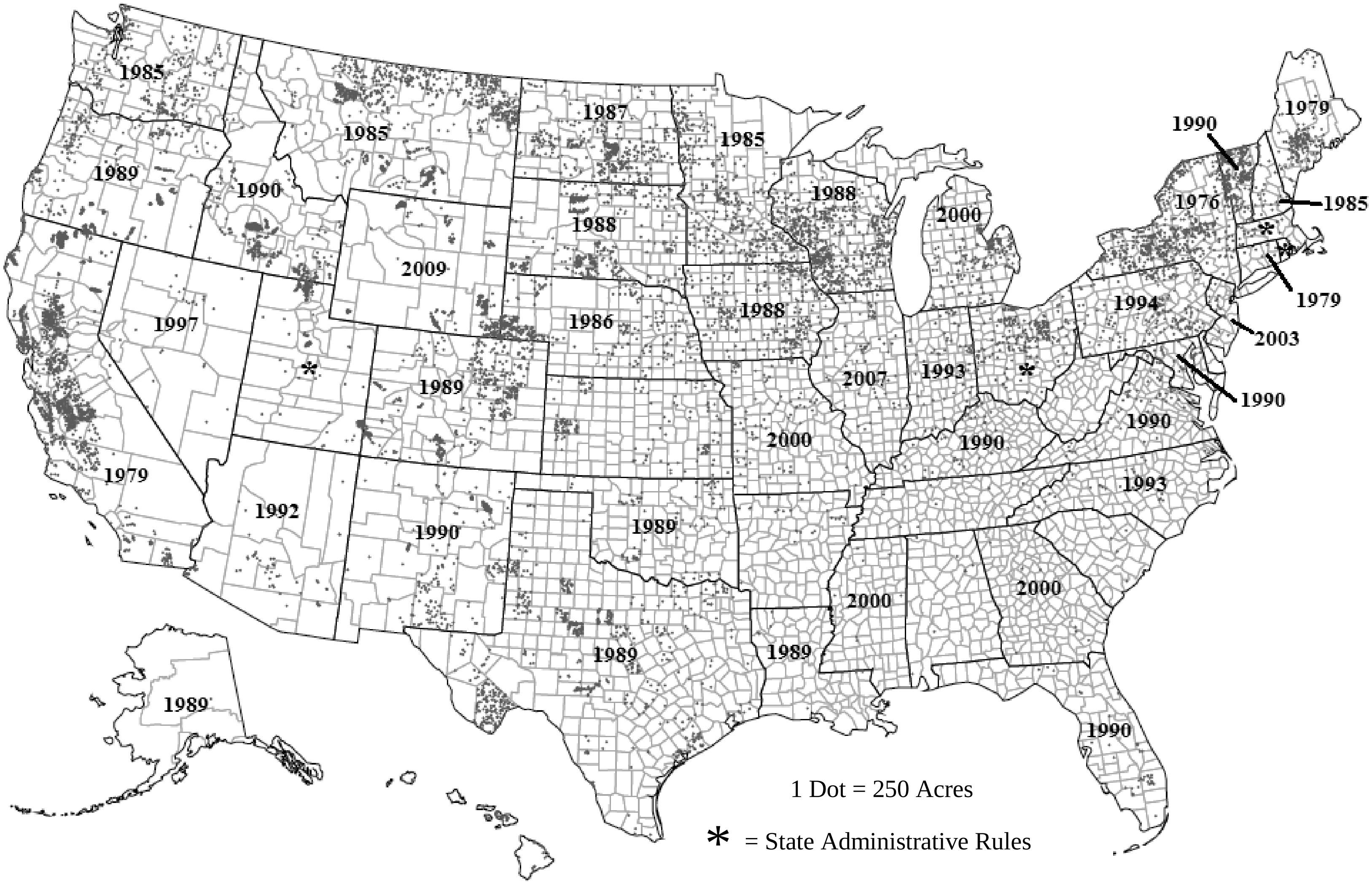
In both the California and Georgia case studies, key interview participants indicated that organic activity is nationally situated around several hubs. Like the metropolitan hubs driving demand in Georgia, organic food production and demand also follows a spatial pattern across the U.S. akin to the organic production acreage presented in Figure 8.1. One sustainable food advocate (2013) describes organic regionalism as the following:

> "The centers of activity in my mind are California and then the Northwest, Oregon and Washington. Then you get over into Wisconsin. It's pretty strong in the Midwest. And then New England has always been a leader. Then (it goes) down to the Southeast. And then the Deep South, you know Alabama and Mississippi, Arkansas, it's barely existing."

Although this could be interpreted as regional-based diffusion, the discussion of different farm types and agricultural capabilities is also significant to determining low organic production efforts. As research on organic farming diffusion in Europe suggests farm type matters for diffusion of the practice.

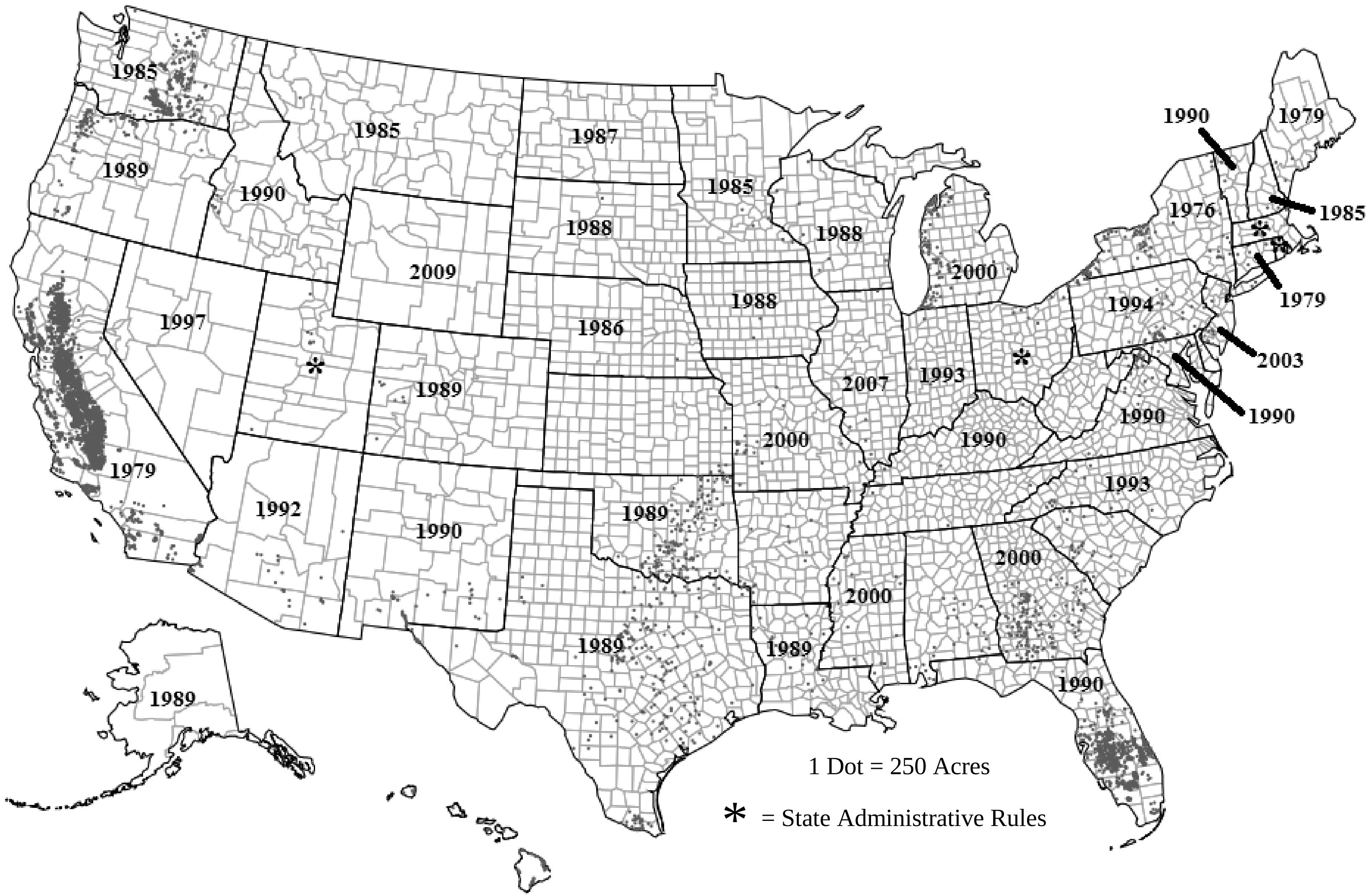
As previously discussed, the fruit and vegetable sales measures are used in this analysis as a proxy for assessing organic production and sales from 1976-2010. Assessing the sales of these two specialty crops spatially can shed additional light on how farm type contributes to regional peculiarities and an isomorphism form of diffusion. Figure 8.1 demonstrates the spatial distribution of organic farms in 2007. Figure 8.2 and 8.3 spatially map orchard acres and vegetable acres harvested that same year. The distribution of organic farming is spread across the U.S. except for the Southeast. Yet the distribution of vegetable and fruit acreage is concentrated in a few key areas of the country where farm scale is relatively smaller. Namely, land in orchard acres is concentrated in the Far West, in California and Washington, and the Southeast, in Florida and southern Georgia. There are additional patches of orchard acres in Texas, Oklahoma, Michigan, and New York. It should be no surprise, given the land in orchards in California, that we found the regional significance of fruit sales in the Far West. The orchards located in the Central Valley of California are where most fruit production for the country occurs. Only Florida appears to have a comparable scale of fruit production. Comparably, vegetable acres harvested are more well-balanced nationally, which further contributes to our understanding of the significance of vegetable sales to the national models of state policy diffusion. Yet the mid-section of the country and most of the Southeast remains comparatively barren from vegetable production.

Given the evidence, the question is presented on why does this spatial conception of fruit and vegetable production matter to horizontal diffusion? In part, it helps to explain how isomorphism horizontal diffusion occurred. Given the differences in farm types and even scale of farming (e.g. large versus small), the diffusion of organic food and agricultural legislation may have occurred because of the concentration of fruit and vegetable production in certain states. Nationally, the ability of states like Oregon or Washington to have large-scale farming operations growing “low-risk” crops such as wheat and soybeans is not the same as states in the mid-section of the country. Likewise, the ability of states in the Southeast to have the same ability to crop the vast array and amount of specialty crops as California is simply unachievable. Even Georgia has differences within the state with large scale farming occurring in the southern half of the state and smaller-scale operations in the north. The variation in farming



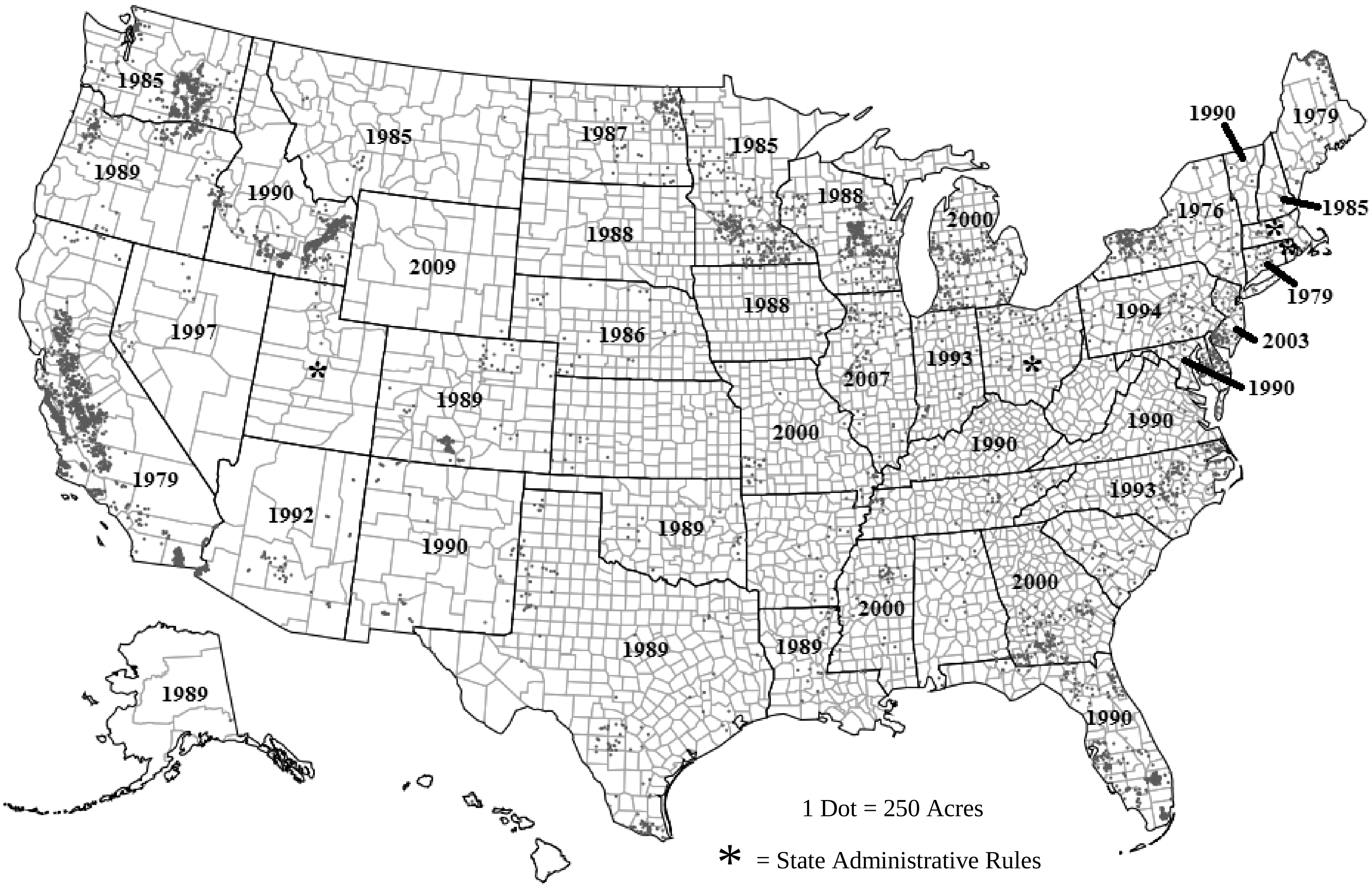
Source: USDA National Agricultural Statistics Service

Figure 8.1: Organic Production Acres, 2007 with State Initial Adoption Date



Source: USDA National Agricultural Statistics Service

Figure 8.2: Land in Orchard Acres, 2007 with State Initial Adoption Date



Source: USDA National Agricultural Statistics Service

Figure 8.3: Vegetable Acres Harvested for Sale, 2007 with State Initial Adoption Date

capabilities nationally is even evident in the patterns of agricultural lobbying. Sam Farr (2013) was quick to indicate that the politics surrounding agriculture is not so much based on partisanship but by bias in the production by state. For example, “the corn lobby is not in California or Florida but the sugar cane lobby is certainly in Florida” (Farr 2013). This would suggest that agriculture is non-partisan but grounded in particular crops and goods.

Combined with other internal determinant variables, such as political culture and wealth, fruit and vegetable production can collectively determine which states may take cues from each other. New York and California, leading adopters, do share a number of similarities such as political culture and wealth. In addition, both states produce both fruits and vegetables. If looking at other state adopters prior to 1990, the same is also true where these states share similar political and economic conditions including the production of fruits and vegetables. For example, Washington and Minnesota are also leading adopters that produce vegetables and fruit. Yet isomorphism is not the only additional horizontal model to be considered beyond regionalism. One additional factor that complicates the ability to identify one horizontal model of diffusion is the presence of organic industry networks.

Interview participants in both case studies indicated regional and even cross-national networks organic and sustainable food advocates operated within. In Georgia, the effect of the organic industry is limited within the region. The Carolina Farm Stewardship Association is reported to have influenced organic policy in the Southeast and may have been working with Georgia organic farmers. Therefore, at best, the industry network effects in Georgia are regional. California, on the other hand, has a network that transcends beyond just the Far West. The network is established not through state legislative contacts but by the national network of organic farmers. CCOF is the primary link for California to a national network. CCOF members are linked to Washington Tilth, Oregon Tilth, the Western Alliance of Certification Organizations [WACO], and the Northeast Organic Farming Association. The California Organic Foods Act of 1990 was partially influenced by this network as members from WACO, including Washington Tilth and Oregon Tilth, and the Northeast Organic Farming Association worked to create consensus for organic farming practices nationally. Yet, upon further investigation, each of these entities indicates a longer history of engaging with each other. For example, Oregon Tilth's impact is driven by its standing as an organic certifier but also the organization's chapters located in Oregon, Washington, California, and Idaho. The location of chapters suggests a network that extends beyond the Far West to the Rocky Mountain region in Idaho. This sort of regionalism and trans-boundaries regionalism even extends to the Ellensburg (,Washington) Conference held in November of 1974. The conference was an alternative agriculture conference that attracted individuals from states such as California, Arizona, South Dakota, Ohio and North Carolina (Musick 2008). Collectively, the evidence from California, combined with a deeper understanding of the network established in the Pacific Northwest states, cannot only provide support for a national-interaction model based on organic network interactions but can also explain why regional patterns of adoptions occurred.

Which Way for Horizontal Diffusion?

There is persuasive evidence to suggest that the policy diffusion of organic food and agriculture legislation is influenced by horizontal dimensions to diffusion. States do appear to influence each other's adoption decisions. However, there is no one clear model that can explain the findings of this research. Regionalism, isomorphism, and a national-interaction model can each explain spatial adoption patterns. The uncertainty surrounding a precise horizontal model may be related to the internal conditions analyzed. Such similarity exists not only within the region but key leading innovators like California and New York. These regions are wealthier, Democratic-leaning, have moralistic-leaning cultures, have higher vegetable and fruit production and sales, and contain leading organizations in the national organic industry network. While there is no clear answer for which horizontal model explains adoption best, it is clear that horizontal effects on diffusion do matter.

The Vertical Dimension of Diffusion

The vertical dimension of diffusion affected the 35 year analysis starting in 1990. The inclusion of federal adoption and federal implementation is to determine how state policy decisions are affected by federal policy intervention in the organic food and agriculture market. In this analysis, both federal adoption and federal implementation were significant quantitatively and qualitatively. For federal adoption, the passage of the Organic Food Production Act of 1990 coincided with a record-breaking number of initial state adopters. The correlation between federal adoption and state adoption in 1990 may be the result of coincidence and surely demonstrates that states are not deterred from passing their own laws that year. California's amending adoption in 1990 was said to be operating on a parallel track of development and passage than the federal law. Moreover, CCOF staff member Mark Lipson may have started the ball rolling for federal legislation, as well. From the perspective of California policymakers, there was no guarantee that the federal law was going to pass, and so California lawmakers worked as if nothing was being developed at the federal level. Other states may have also followed suit by passing their laws as if nothing was going to pass at the federal level. In turn, the statistical significance of federal adoption may be coincidence because federal adoption did not necessarily spur state adoption, but federal law was concurrently developed as more states were interested in developing their own policies, and there was a need to standardize practices across the country.

This research also considered how delayed implementation of federal law impacted state adoption decisions. There are far fewer initial state adoptions in the couple of years following the adoption of the Organic Food Production Act of 1990. States may have been waiting for the development of rules by 1993. However, after the deadline came and passed with no rules being developed, state laws remained as the regulators of the market. The continual initial state adoption after 1993 signifies the degree of uncertainty regarding when and if federal implementation would occur. Georgia, as a lagging adopter, was inspired to adopt legislation partially over concerns about the federal law not being implemented. In California, numerous amending adoptions in 1990 also demonstrated a persistent concern for when and if federal law would be implemented. The time period between federal adoption and implementation clearly marks a period of uncertainty for states in making adoption decisions.

Once the National Organic Program final rule went into effect in 2002, many states amended but did not terminate state statutes, which is at odds with what was predicted. Yet the decline of enacted state statutes is minimal with most states maintaining organic food and agriculture statutes through 2010. There are several potential explanations for this phenomenon. First, for those states that terminated state statutes, the cause may be related to a desire to eliminate potential duplication of efforts or a declining interest in maintaining the policy area. Second, it is likely that most amending adoptions simply alter the statutory language to account for federal supremacy. Both California and Georgia's amending legislation in 2002 altered existing state statutory language to comply and account for federal law. For California, the need to continually amend legislation after 2002 is also the resulted in challenging federal law. In particular, California lawmakers took aim at the NOP for not sufficiently regulating organic aquaculture in 2005 or organic fertilizer content in 2009. Unlike the 1990 adoption, California law was not operating on a parallel track but was instead intentionally seeking to reshape acceptable practices and standards. California's effect on federal law is just as significant as federal law's effect on California. While the case of California may be the exception rather than the rule, the efforts of California lawmakers suggests dynamic and tense intergovernmental relations. Federal law may be the supreme law of the land, but states are willing to develop their own policies in light of gaps in federal policy. For California, the discrepancies in the federal law go beyond uncertainty of federal adoption or implementation and extends to challenging the permissible federal practices and standards.

Issue Salience ($SALIENCE_{i,t}$)

The issue salience measure is included in the policy diffusion model to assess the influence of attention to organic food and agriculture. For this analysis, issue salience is considered neither an internal nor external determinant condition. Instead, issue salience is considered its own entity as it difficult to determine how information may spread or be used especially since the emergence of the Information Age in the 1970s. One hypothesis, H15, predicted that, as issue salience increases so does the likelihood of state adoption. Quantitative and qualitative evidence supports this prediction.

While not as robust of a statistical explanation as wealth, organic food and agricultural policy diffusion is impacted by increasing issue salience over time. In examining the case studies, issue salience does not directly appear to be a significant contributor to Georgia's organic policy development. Interview participants point to other factors that were more significant, such as federal policy, to influencing the development of legislation. Yet issue salience may have contributed to the term organic becoming more familiar to Georgia consumers.

California, on the contrary, appears to be influenced by issue salience and more specifically, individual focusing events, as well. The passage of the Organic Foods Act of 1979 was in response to events surrounding the increasing use of the term natural and a series of stories about fraud in the organic market. While these stories were not in the national news, organic industry insiders were spurred to action by local reports about fraud and concerns about conventional agriculture co-opting the term natural.

By 1990, organic food and agricultural issue salience dramatically increased. News coverage ranged from pointing out the dangers of conventional agriculture, where to buy organic produce, and stories of fraud. As identified by interview participants, the carrot caper scandal and the Alar scare are two stories that catalyzed the most definitive pressure on revising the law in California. Market fraud was a continual concern, but the amount of attention given to the carrot caper scandal and the Alar scare truly elevated the issue salience of organic food and agriculture. The shock waves created by both incidences could have contributed to the development of organic policy by other states and the federal government. The patchwork of state regulations that emerged in the late 1980s, which the federal law in 1990 sought to eliminate, may have emerged in part due to the increased attention to fraud in the marketplace and general concerns over conventional agricultural practices.

For the twenty years following the adoption of the Organic Foods Production Act of 1990, issue salience continued to increase until 2009, when the number of stories began to decline. Stories continued to address fraud in the marketplace, concerns about conventional agriculture, and the benefits of eating organic, but there were also a number of stories specifically addressing the development of federal organic policies, emerging new organic products (e.g. aquaculture and apparel), and how organic food compares to other sustainable food practices and labeling schemes such as local, natural, fair-trade, non-GMO, and community-based agriculture. The decline of issue salience does not appear to have an adverse impact on initial state adoptions because the percentage of states at risk of adoption steadily declines after 1990. Yet the decline in issue salience may raise others concerns such as the long-term viability of organic food and agriculture policy at the state level. Issue salience alone may be the cause for states to lose interest in the policy domain, but it may be able to keep track of what issues are likely important for policymakers.

Existing Policy (EXSPOLICY$_{i,t}$) and Policy Type (POLICYTYPE$_{i,t}$)

The final two policy diffusion model variables have a distinctive and comparatively unique purpose compared to internal determinants, external determinants, and issue salience. Two additional formulas are in the overall enhanced unified policy diffusion model to account for the endogeneity of each variable. In essence, adoption can depend on the design of the policy itself and whether or not policy has already been developed to resolve the issue. Policy type is grounded in the notion that "policy dictates politics" (Lowi 1972). As such, the policy type is affected by internal determinants, external determinants, and issue salience. Existing policy is a measurement intended to capture the risk and limitations of adoption decisions.

Neither policy type nor existing policy is quantitatively examined, but the case studies do shed some light on how these variables influenced policy diffusion. In the case of organic food and agriculture legislature, the policy type is regulatory in nature but the design itself is co-regulatory, existing between more and less coercive regulatory design. The co-regulatory design was established early in California through the Organic Foods Act of 1979 as a result of both internal and external conditions. The legislation reportedly borrowed heavily from Oregon's 1973 administrative rules and at the request of CCOF leaders, led to the voluntary nature of the bill resulted from political considerations and industry norms. In general, organic farmers were content with private certification but wanted government help in preventing fraud and misinformation (e.g. information asymmetry) in the organic market. The voluntary third-party regulatory system was the end result of wishing to maintain the private certification system and skepticism in government involvement. In the late 1970s, trust in government was low after a decade of scandals, waste, and economic decline. For organic farmers, the mistrust in elected officials and administrators, particularly in the CDFA, stemmed from perceived capture of policymakers by conventional agriculture companies. Maintaining the integrity of the organic marketplace on the terms set forth by CCOF and other organic farmers was crucial to the design.

The 1990 amending California adoption reiterates many of the same previous design concerns. The sheer detail and length of the California Organic Foods Act of 1990 were the result of mistrust in the rule-making process. Conventional agriculture may have been slow to realize that the bill was being developed, but the rule-making process could have ended with organic standards not preferred by CCOF or the broader organic community. The continuance of the third-party certification policy type was at the hand of CCOF, who hired a lawyer to help write the bill. A key question to consider is what would organic food and agriculture legislation today if the third-party system was not advocated from the start? The precedence for less coercive, co-regulatory form of policy started with California.[19] The option to move away from such a style may have never been considered a policy alternative for California or even the development of the federal law. Yet, if a more coercive form of regulatory policy were established in the 1970s, the option to move towards less-coercive may have been an option given the anti-government, deregulatory nature of politics in the 1980s and 1990s. Nonetheless, by Georgia's initial adoption in 2000, the significance of organic food and agriculture policy design appears to be settled. There was not any major discussion about how to design organic regulations. The risk associated with adopting innovative policy may have been diminished enough for Georgia officials to pursue organic policy. Once the policy was established in 2000, only minor adjustments would need to be made. Georgia has not undergone major sweeping reforms like California. Considering the exceptionalism of California in this policy area, this should not be a surprising statement.

What equals $\text{ADOPT}_{i,t}$?

The policy diffusion of organic food and agriculture legislation is determined by a complex combination of factors. Internal determinants, external determinants, issue salience, policy type, and existing policy each contributes to our understanding for how innovative legislation spread from one state

[19] Since a copy of Oregon's 1973 administrative rules has not been obtained, the default assumption is to consider California as a starting point.

to the next. Yet not all factors matter across time and for each type of adoption considered. The significance of using time constraints and adoption type designations are important to understanding policy diffusion. First, analyzing the difference between initial versus amending adoptions identifies how variables interact differently with each adoption type. In the case of organic food and agriculture legislation, initial adoptions are influenced by a much different set of conditions than amending adoptions. Furthermore, the effect of policy type and existing policy would have a different effect on risk perceptions and design designs of policy compared to amending adoptions. Second, by restricting time periods based key events, such as federal adoption and rapid periods of initial adoption, helps to understand time-bound significant factors and grasp what occurs during rapid periods of adoption. In this particular analysis, the factors which influenced pre-federal adoptions are fewer and only partially explain the rapid speed of adoption that occur between 1985-1990 when the majority of state adopted organic legislation for the first time. Furthermore, the effects of federal adoption and implementation are slightly different between 1990-2010 models and 1990-2004 models. By including time and adoption type considerations, it adds value to understand how factors are significant and contribute to comprehensive policy diffusion analysis by understanding different inherent risks in adoption types and consideration of slower, faster, and federally impacted time periods.

For organic food and agriculture legislation, the comprehensive findings, including both quantitative and qualitative assessments, for all adoptions indicate that states are motivated to adopt organic legislation under the following conditions:

- Moralistic-leaning political cultures
- Democrat controlled state government
- Higher per capita wealth/median household income
- Increasing or higher rates of vegetable sales
- Presence of third-party certifiers
- Increasing adoption and enacted state statutes within the region
- Increasing adoption among states with similar economic and political conditions
- Federal adoption and implementation
- Policy typology and existing policy
- Increasing issue salience

It should be noted that the existence of policy and policy type clearly influenced adoption in California particularly in 1979, 1982, and 1990 shedding some light on the significance of the Far West region. However, it may be difficult to generalize this finding to other states given the findings the Georgia case study as neither factor was cited as significant to adoption. Yet considering many other states and the federal government used a co-regulatory design, late state adopters may not have consciously consider policy typology design as a major concern. Moreover, the risk or perceived risk in adopting organic legislation may have drastically diminished by 2000 for most laggard adopters like Georgia.

As for initial adoptions over time, the set of conditions differ from earlier versus later adopters. Leading initial adopters are influenced by a more narrow set of conditions than middle-of-the-pack or lagging initial adopters. Leading adopters, such as California or New York, are influenced by issue salience, political culture, regional considerations, national adoption rates, third-party certifiers, and the policy type. The California case demonstrates the qualitative significance of third-party-certifiers and policy design for adoption decisions. In addition, issue salience is identified as being more of an in-state or regional condition. For middle-of-the-pack adopters, those adoptions from 1985-1990, adoptions are also influenced by issue salience, political culture, and regional considerations but are also influenced by a decline in state legislature professionalism. Assessing the influence of third-party certifiers or policy type is limited as no case study focused on a state that adopted during this time period. Lastly, lagging state adopters had a differing set of conditions that influenced initial adoption. Similar to previous adopters, regional considerations and issue salience played role but federal adoption, federal implementation, and higher per capita wealth also mattered. From the Georgia case study, there is evidence to suggest the significance of the organic industry, but not a third-party certifier that was persuasive in the process. Also, there is little evidence to suggest that policy type was any significant debate, but there is some evidence to suggest that lawmakers already knew the policy design proposed would work for the state. This could mean that, by 2000, the third-party of co-regulatory approach pioneered by California and adopted by the federal government had established a norm and diminished the risk associated with developing the policy itself. Moreover, with diminished risk in adopting innovative policy, the possibility therein lies more clear perception for how to implement the policy and make existing administrative structures work for the new policy.

Amending adoptions mimic a similar pattern to initial adoption overtime, but there is one key difference between the two. Most amending adoptions occurred after the passage of the Organic Food Productions Act of 1990. This means that vertical pressures on diffusion were influencing or present as states were amending state statutes. For early amending adoptions, or those before 1990, are influenced by far fewer conditions than later amending adoption. From the statistical results, higher per capita wealth and decreasing agricultural GDP were more likely to lead to amendments of existing statutes. However, neither of these conditions appeared significant to California's amending adoption in 1982. Instead, a sunset provision in the 1979 law led to a reauthorization of the bill. Wealth may have played a factor, but there was no discussion about declining agricultural economic activity. This latter factor may be more of a coincidence than powerful predictor or cause.

For amending adoptions after 1990, there is a wider range of significant factors including federal implementation, issue salience, vegetable sales, and the percentage of states, regionally and nationally, that had enacted state organic statues. Both case studies indicate adjustments to existing state statutes to accommodate for federal implementation in 2002. Furthermore, both states demonstrate consideration for how vegetable production is significant to the state economy. However, both cases also demonstrate how other economic and political factors may result in amending adoptions. In California, several amending adoptions pushed the boundaries for organic food and agriculture policy to clearly address organic cosmetics, aquaculture, and organic fertilizer inputs. In Georgia, bi-partisan politics resulted in the increase of registration fee in 2009. In sum, the cases point to a number of additional factors that promote modifications to existing policy.

Lessons Learned – Contribution to the Literature

There are both theoretical and practical implications to be derived from the results of this research. The intent is to develop both a comprehensive overview of organic food and agriculture policy in U.S. states and to further scholarly understanding of how and why policy diffusion occurs.

Practical or Applied Contributions (Policy Implications)

From an applied standpoint, this study has provided clarity to our understanding of organic food and agriculture policy in two ways. First, this study details the historical development of organic food and agriculture legislation in U.S. No other previous study has identified the difference between state legislation and administrative rules. Furthermore, many other historical overviews and academic research missed key state adoptions such as New York. This historical background can serve as a basis for further constructing our understanding of the development and significance of organic food and agriculture policy in the U.S. In addition, without this historical background, solutions to addressing current challenges in the market and dilemmas facing the implementation of the National Organic program may not be addressing historical considerations.

As a secondary contribution, the historical evidence does shed some light on why there is regional variation in certified organic production and why the organic market may be diminished as other food labeling schemes emerge. Specifically, the regional effects suggest the Southeast is laggard compared to other areas of the country. The political and socio-economic conditions in the Southeast are not necessarily receptive to the passage of organic legislation or the promotion of the organic market. As a generally conservative area, organics were once and may still be perceived as a "California thing." In addition, there may be stronghold of conventional agriculture research and development in the region, as well. Despite the hostile conditions to developing organic policy, the states in the Southeast may be more willing to pursue local food programs. In terms of issue salience, local food was one of several emerging food trends that increased in prominence as organic food salience peaked and began to decline. The Southeast may have been reluctant to pursue organic policy for a number of reasons but more open to accepting to the idea of local food promotion.

Aside from the regional-bias of the Southeast, the emergence increasing attention to other food labeling schemes and programs may diminish the significance of organic foods in the market. Specifically, increasing attention on local foods, similar to that in the Southeast, and community-based agriculture appears to be swaying attention away from organics towards newer innovative ideas. Indeed, policymakers in Kentucky replaced organic food statutes with a Kentucky Proud local food program. Many other states now have local food programs in place; some coinciding with or replacing organic food regulations, and several propositions have been made to address labeling of products that contain genetically modified organisms. While market sales for organic products still grows, there is the potential threat of infringement of other food labeling schemes luring customers away from organic goods.

How then could organic remain relevant in the ever competitive food market? In addition, is there any potential for the certified organic market to expand and become relevant in the Southeast? It is hard to say with precise certainty. If the evidence from Georgia holds true, local food programs could be a “gateway marketing label” for consumers in the Southeast to explore other alternative food production systems. Consumer exploration into where their food is sourced and how it’s grown may contribute to growing curiosity in organic, natural, fair trade, or non-GMO products. Yet criticism of the organic market goes beyond preconceived notions of it being a “California thing.” On a national scale, the standards and cost associated with becoming certified organic through the NOP may not be worth the investment for some growers and producers. There may be more value in seeking local, fair trade or non-GMO certification to serve different consumer markets. While it is not the intentions of this analysis to diverge into the development of the organic prohibited substance list or other organic standards, there remains debate in the scientific community about the safe application of some non-synthetic materials on organic agriculture. Furthermore, there are significant debates concerning the true environmental sustainability of the organic food production system and if the current practices create a holistic approach to managing land and livestock. Therefore, if organic growers and producers seek to remain relevant, it may be wise to reassess the standards currently in place and to also consider dovetailing with other alternative food markets. Organic food sits at the nexus of both environmental and health concerns and, broadly speaking, existing policy may be stretching to serve both concerns simultaneously. The historical development of organic policy in the U.S. suggests that the design and standards were predominantly set by organic fruit and vegetable growers in the 1970s centered in the Far West and Northeast. Dissenting opinions or opinions outside of these regions may have largely been ignored in the process thereby leading to current production patterns.

Theoretical Contributions

In addition to the practical contribution, this research aimed to improve upon the policy diffusion literature in four ways. First, this research sought to incorporate how policy typology may shift overtime and how it could impact policy diffusion. Second, this analysis sought to account for how federal intervention in a policy may alter state policy adoption decisions and policy trajectories. Third, and perhaps most importantly, an enhanced unified model of diffusion was formulated and tested that incorporated the aforementioned improvements and elements of two unified policy diffusion models presented in the literature. Finally, this research used a mixed-methods approach to ensure that both breadth and depth were included in the assessment of diffusion.

So what are the lessons learned from this study? How does this research improve our understanding of policy diffusion? The four improvements outlined above led to the development and testing of an enhanced policy diffusion model that can improve our understanding of policy diffusion in several ways. First, the enhanced unified model developed in this analysis can confirm previous findings while also incorporating additional variables from the public policy process literature. In particular, the results suggest model components of both Berry and Berry's (2007) policy diffusion model and Boushey's (2010) contagion policy diffusion model can be evaluated in the same analysis. In addition, the application of the enhanced unified model to explain organic food and agriculture legislation demonstrate the significance of certain factors. For example, the analysis confirms political culture, issue salience, and wealth are statistically significant predictors of policy. While wealth and issue salience have been relatively consistent predictors of diffusion, determining what political conditions matter most has been more difficult for scholars. Political culture has been used by some and appears to be relatively constant predictor including for organic food and agriculture legislation. The significance of political culture to diffusion may relate to its consistency overtime. In other words, while party politics and partisanships shifts overtime, political culture addresses the undertones and historical political attitude of each state.

Aside from the confirmation of previous policy diffusion findings, the enhanced unified model also points to the significance of incorporating non-statistically measured variables, such as third-party certifiers, and endogenous variables including existing policy and policy type. As further discussed below, incorporating qualitative assessments of particular variables may lead to new discoveries for how policy diffusion occurs. For example, the presence of organic certifiers not only demonstrated the significance of these policy actors in promoting legislation but also how ideas spread regionally and across the nation. This was particularly evident with CCOF and its interaction with WACO and NOFA. Endogenous variables, specifically existing policy and policy type, also benefit from qualitative assessments and are a significant contribution to understanding policy diffusion. As demonstrated through the evidence, both policy type and existing policy, which taps into the step of implementation, is influenced by other independent variables while contributing to adoption decisions. The regulatory policy design must have been such that the perceived risk in adopting organic policy was not insurmountable. In addition, the establishment of policy did act as a restraint in modifying the third-party certification scheme and more than likely acted as a cue, once established, for adoption in other states by reducing the risk associated with adoption.

A second lesson to be derived is that the policy diffusion model developed can address both long- and short-term time frame of policy diffusion. A key point of Boushey's (2010) contagion model is to address rapid and sudden adoptions. However, he may have been overlooking a key aspect of epidemiology by not allotting specific consideration for outliers over time. While there may be rapid and sudden change, there can also be a gradual accumulation of adoption frequencies prior and after an adoption outbreak with the outliers influenced by a similar yet different set of conditions. These outlying adopters may contribute to policy learning and evolution of policy over time. Likewise, the s-curve based analysis may fail to determine why there is a dramatic and rapid increase in adoption during a short-time period. This research assessed both long- and short-term timeframes for which policy diffusion can occur. In turn, the analysis can quantitatively and qualitatively determine what factors are robust explanations over time and what factors are time and adoption-type specific. The conditions that impacted initial state adopters of the 1970s are not comprehensively the same as initial state adopters for the next 30 years. Similarly, amending adoptions are influenced by a comparable yet different set of factors than initial state adoptions.

Only certain variables, including wealth, issue salience and regional effects, appear to be robust explanations over the 35-year analysis for each type of adoption analyzed. Other variables, such as political culture, partisan control, presence of third-party certifiers and vegetable sales, are time and adoption-type specific. For example, state legislature professionalism was the only statistically significant for adopters from 1985-1990 beyond other robust explanations. During this period of rapid adoption, particularly in 1989 and 1990, state legislature professionalism combined with the factors of wealth, issue salience, regional pressures, and political culture influenced first time state adopters. Similar scenarios exist for amending adoptions. In turn, the argument can clearly be made that the diffusion of policy innovations is reliant on both consistent predictor variables and time- and adoption-type specific conditions. This finding partially supports Gray’s claim that innovativeness is time and issue-specific at best. Timing of adoptions matter when considering the dynamic conditions that may influence state decision-making at any given moment.

A third lesson to be derived from this study is the significance of federalism and intergovernmental relations as it relates to diffusion patterns. The benefit of a longer-time frame of analysis goes beyond just the evaluation of rapid versus gradual rates of diffusion. A longer window of time allows for a complete picture for how federal adoption and implementation may alter state policy decisions. Moreover, the inclusion of both federal adoption and federal implementation also allows for a more comprehensive assessment for the state-federal interaction during policy diffusion. Had this study only focused on state legislative adoptions from 1985-1991, an incorrect assumption could be made about the effect of federal adoption on initial state adoptions of organic food and agriculture legislation. The perception would be that federal adoption in 1990 deterred first-time state adopters but spurred adjustments in a number of states the following year. This assumption would be incorrect.

Instead, this research demonstrates a complex, and, at time, tense federal-state interaction. Uncertainty over federal adoption and implementation spurred state policy action in the 1990s. In 1990, states may have been pursuing organic legislation as there was no guarantee law would pass at the federal level. Even after passage, the twelve year delay in federal implementation also created uncertainty and skepticism in the ability of rule development. The delayed establishment of the National Organic Standards Board until 1992 and the controversial 1997 proposed rules are two specific events that contributed to the overall skepticism and uncertainty. Perhaps this is why most states maintained their organic state statutes after implementation in 2002. The maintenance of state policy could be used to expand or improve upon policy standards set forth at the federal level. While California is a unique case, state lawmakers used state legislation in 2005 and 2010 to address perceived gaps in federal standards. In sum, policy diffusion studies that focus on U.S. states should consider the long-term dynamics of federalism as it relates to policy development by including both federal adoptions and implementation as significant vertical dimension factors. In essence, state-federal relationships have fluctuated overtime and it critical to assess how state respond and drive policy decisions at the federal level.

As a fourth and final lesson, the policy diffusion model presented here demonstrates that adoption of innovative policies is inherently dependent on other endogenous policy conditions including the policy type and the previous establishment of policy. One critical shortcoming of previous models is to incorporate the perception of risk in adopting new policies and using the policy typologies identified by Lowi (1972) to determine how “policy dictates politics.” The pursuance of a new policy involves careful consideration for existing structure and capability to implement it and if the design of the policy is amenable to political conditions of a given state. Additionally, once a policy is passed there may only be incremental ability overtime to adjust the design of the policy to accommodate for learning. For example, the co-regulatory, third-party certifier policy design was implemented in California in 1979 with significant overhauls in 1990 and 2002. The co-regulatory design was the result of the political and economic conditions of the late 1970s. Yet, even as time passed, the only changes in design that occurred were mandating registration. Drastic departure to a more coercive, state-implemented approach was not discussed as an option as the political conditions would not allow for such a design. Therefore, the model developed and tested in this dissertation can help to assess how learning occurs overtime but how innovative policies evolve by accounting for the interdependent relationship between policy adoption, existing policy, and policy typology.

Missed Cues? Future Directions for Research

The results of this research point to additional directions for future policy diffusion research and the examination of organic food and agriculture policy in the U.S. Four areas for future research include the consideration of administrative rules, examination of other policy areas, the potential life cycle of innovative policies, and the role of the universities in promoting innovative ideas. Each new direction may increase the complexity of policy diffusion. However, each new direction may hold promising explanations for policy diffusion causes and patterns of adoption.

The Role of Administrative Rules

This analysis looked at the diffusion of organic food and agriculture policy from the perspective of legislative adoptions. Administrative rules are considered another form of policymaking. While administrative rules and legislation may share some similarities, each has different processes, norms, and set of actors that may engage in policymaking. The significance of administrative rules arises as some states may delegate broad or specified policymaking power to administrative agencies. The history of organic food and agriculture legislation found that some states passed administrative rules prior to adopting legislation while other states passed administrative rules but no legislation.

Four states, Massachusetts, Ohio, Rhode Island and Utah, are known to have organic food and agriculture administrative rules but have never passed organic legislation. Oregon and Texas are two states that are known to have state administrative agencies develop organic administrative rules prior to legislation. In Oregon, administrative rules were developed under a broad delegation of authority to regulate food labeling in 1973. Sixteen years later the Oregon state legislature would pass a bill that specified the delegation of organic rule-making power. In Texas, the response of the state legislature was quicker. In 1988, the Texas Department of Agriculture implemented its own organic certification program. A year later, the state legislature responded by limiting the fees that could be collected for the program and designated how the monies could be used. In the case of Oregon and Texas, the response by state legislators appears as an oversight mechanism on administration.

Several questions arise regarding the effect on policy diffusion. First, what is the interaction between administrative rules and legislation in the policy diffusion process? Specifically, does the development of administrative rules increase or decrease the likelihood of legislative adoption? Second, what factor(s) can explain the differences among states regarding the development of administrative rules prior to legislation? While several states' administrative agencies undertake organic rule-making under broad delegation of policymaking power, 36 states that adopted organic legislation do not. What makes Georgia and California different than Oregon or Massachusetts? Third, if administrative rules matter in the policy diffusion process, does the quality or detail of the rules matter? Most state organic legislation was not as detailed as California's 1990 or 2002 bills. Most state bills delegated development of rules and standards to administrative agencies. Therefore, how does the quality and detail of the rules impact diffusion both within a state and among states? Finally, what is the effect of federal policy, including legislation and administrative rules, on state policymaking? Proposed Federal Trade Commission Rules in 1979 were considered in the California debate. Do the NOP rules implemented in 2002 have a similar effect? All of these questions may improve our understanding of how states' administrative rules contribution to the development of policy over time.

Other Policy Areas

A notable exclusion from the policy diffusion model developed in this dissertation is the variable of other policies. The exclusion of analyzing other policies related to organic food and agriculture was an intentional methodological choice. Developing a comprehensive history of organic food and agriculture legislation in U.S. states is more important to construct prior to identifying similar issue areas. Identifying other similar issue areas to organic before this analysis may have been near impossible. Even Sam Farr suggested difficulty and awkwardness in defining organic. "Is this organic thing a health movement? Is it like vitamin supplements or something like that? Is it really agriculture in the traditional way? (Farr

2013)" Furthermore, the development of organic policy in California coincided with the passage of Proposition 65, a referendum measure that seeks to eliminate exposure to toxic and cancer-causing substances. Based on the evidence, organic food and agriculture sits at the nexus of health and environmental concerns broadly defined. Organic food and agriculture may be better for the environment while improving human health. It is both a food and agriculture topic that ties into food safety, chemical exposure, better land stewardship, and potentially better quality food. Reinserting the other policies variable into the policy diffusion model can help to determine how other issue areas may pre-empt discussions about organic food and agriculture. Other policy areas may provide an administrative framework and capability to implement a policy such as organic. Similarly, examining other issue areas may help to gauge government support for public health and environmental policies. It may be that states that already aggressively pursued both public health and environmental policies would be more likely to pursue organic food and agriculture policy, as well.

Innovation and the University

The California and Georgia case studies shared one similarity that was not expected to be a factor in promoting or inhibiting organic food and agriculture production. Both cases cited the role of universities for influencing agricultural perspectives in the state. In California, the University of California-Santa Cruz played an instrumental role in supporting organic agriculture research and development. Today, the Center for Agroecology and Sustainable Food System at the University of California-Santa Cruz is a world renowned educational center focusing on sustainable agriculture. Conversely, the University of Georgia is cited as receiving more support from conventional agricultural interest than support organic research and development. Could it be that university-based research and development is key to fostering support for organic or sustainable food systems? If more money is prioritized for conventional agriculture research in state university systems, would adoption of organic food and agriculture legislation be less likely? Incorporating the role of university research may be a significant internal determinant condition to explain adoption of innovative policies.

The Life Cycle of Innovative Policies

One discussion in the policy diffusion literature is determining where one innovative ends and another begins. If policies are being improved because states are learning, how can we tell when substantive modifications to an existing policy transforms into a newer innovative policy? In assessing the issue salience measure, it is observed that the decline of organic issue salience coincided with an increasing discussion of local and community-based agriculture. Fair trade and non-GMO foods were also present, but organic food is often criticized and compared in light to local and community-based agriculture. This phenomenon may not be anything more than explaining transitions in food fads, but there is a slow decline of enacted state organic food and agriculture statutes. This begs the question on if there is a life cycle of innovative policies? Are new ideas crafted and implemented only to be terminated once no longer relevant? Furthermore, can a new innovation in a similar issue area replace an older innovative policy? Kentucky is one state that replaced organic state statutory language with a local food program in 2010. If there is a life cycle of innovative policies, this could help to explain why certified organic is facing competition in the market.

Concluding Remarks

This dissertation set out to answer the question of why do some states adopt food and agriculture legislation while others do not? The intention was to improve the policy diffusion literature while also providing the background necessary to resolve contemporary challenges facing implementation of organic policy and arising in the food market. An enhanced unified policy diffusion model was developed and used to assess the diffusion of organic food and agriculture legislation in U.S. The results suggest the policy diffusion model tested provides a more comprehensive understanding of how diffusion occurs. Time of adoption and adoption type will dictate what variables matter most in state adoption decisions, but there are certain conditions that are consistently significant over time and regardless of adoption type. The strength of the findings not only results from the policy diffusion model design, but the methods utilized. The mixed-methods approach allowed for identifying variables that could not be statistically measured, but were crucial to understanding how and why organic food and agriculture legislation was adopted by 38 states even as federal adoption and implementation of organic legislation occurred. There are a number of additional directions for future research that can only enhance our understanding of policy diffusion and the diffusion of organic food and agriculture policy. Policy diffusion is a complex phenomenon, and this dissertation marks only the first step towards answering larger questions about the nature of policy diffusion and its contribution to the public policy process theory.

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APPENDICES

Appendix A – Adopting and Non-Adopting States

State and Initial Amending Adoptions in Chronological Order			
State	*Region*	*Date of Initial Adoption*	*Date(s) of Amending Adoptions*
New York	7 – Northeast	1976	
California	1 – Far West	1979	1982, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2002, 2003, 2005, 2009, 2010
Connecticut	7 – Northeast	1979	1980, 1981, 1998, 2002
Maine	7 – Northeast	1979	1985, 1989, 1991, 2003
Minnesota	4 – North Central	1985	1988, 1990, 1996, 1997, 1999, 2003, 2005, 2009
Montana	2 – Rocky Mountain	1985	1999
New Hampshire	7 – Northeast	1985	1986, 1991, 2002, 2003
Washington	1 – Far West	1985	1987, 1989, 1992, 1995, 1997, 2002, 2010
Nebraska	4 – North Central	1986	
North Dakota	4 – North Central	1987	1991, 2003, 2009
Iowa	4 – North Central	1988	1989
South Dakota	4 – North Central	1988	2003
Wisconsin	4 – North Central	1988	
Alaska	1 – Far West	1989	1998, 2003
Colorado	2 – Rocky Mountain	1989	1993, 2002, 2005, 2009, 2010
Louisiana	3 – Southwest	1989	
Oklahoma	3 – Southwest	1989	2000, 2003
Oregon*	1 – Far West	1989	1991, 2001
Texas*	3 – Southwest	1989	1991, 1993, 1995, 1997, 2001, 2003, 2007
Florida	5 – Southeast	1990	1994, 1995, 2001
Idaho	2 – Rocky Mountain	1990	1991, 1994, 1999, 2000, 2001, 2002, 2007
Kentucky	5 – Southeast	1990	1994, 1996, 2000, 2002, 2008
Maryland	6 – Mid-Atlantic	1990	1992, 2002, 2009

State	*Region*	*Date of Initial Adoption*	*Date(s) of Amending Adoptions*
New Mexico	2 – Rocky Mountain	1990	1993, 2001, 2004
Vermont	7 – Northeast	1990	2003
Virginia	6 – Mid-Atlantic	1990	2001, 2003
Arizona	2 – Rocky Mountain	1992	1994, 1996, 1997, 2000, 2002
Indiana	4 – North Central	1993	2006, 2008
North Carolina	5 – Southeast	1993	
Pennsylvania	6 – Mid-Atlantic	1994	2010
Nevada	1 – Far West	1997	2003
Georgia	5 – Southeast	2000	2001, 2002, 2010
Michigan	4 – North Central	2000	2006
Mississippi	5 – Southeast	2000	2003, 2004
Missouri	4 – North Central	2000	2002
New Jersey	6 – Mid-Atlantic	2003	
Illinois	4 – North Central	2007	
Wyoming	2 – Rocky Mountain	2009	

** States known to have adopted administrative rules prior to adoption of legislation.*

Non-Adopting States			
State	*Region*	*State*	*Region*
Alabama	5 – Southeast	Ohio*	4 – North Central
Arkansas	3 – Southwest	Rhode Island*	7 – Northeast
Delaware	6 – Mid-Atlantic	South Carolina	5 – Southeast
Hawaii	1 – Far West	Tennessee	5 – Southeast
Kansas	4 – North Central	Utah*	2 – Rocky Mountain
Massachusetts*	7 – Northeast	West Virginia	6 – Mid-Atlantic

**States known to have adopted administrative rules.*

Appendix B – Correlations

	statenum	year	adopt	iadopt	aadopt	fedadopt	fedimpl	salience	logsali	pcwealth	logpcw	stlegp~f	sharkc~s
statenum	1.00												
year	0.00	1.00											
adopt	-0.08	0.11	1.00										
iadopt	0.00	-0.03	0.49	1.00									
aadopt	-0.09	0.15	0.85	-0.04	1.00								
fedadopt	0.00	0.36	0.12	0.03	0.11	1.00							
fedimpl	0.00	0.76	0.05	-0.06	0.10	0.30	1.00						
salience	0.00	0.84	0.04	-0.04	0.07	0.28	0.82	1.00					
logsali	0.00	0.93	0.13	0.00	0.14	0.38	0.67	0.82	1.00				
pcwealth	-0.04	0.94	0.10	-0.03	0.13	0.34	0.75	0.83	0.87	1.00			
logpcw	-0.04	0.95	0.12	-0.02	0.15	0.36	0.66	0.75	0.89	0.96	1.00		
stlegprof	-0.15	-0.08	0.06	0.00	0.07	-0.04	-0.05	-0.06	-0.08	0.06	0.05	1.00	
sharkculmeas	-0.17	0.00	-0.09	-0.02	-0.08	0.00	0.00	0.00	0.00	-0.10	-0.09	-0.15	1.00
parcont	-0.10	-0.24	-0.01	0.03	-0.02	-0.11	-0.13	-0.14	-0.22	-0.21	-0.25	0.08	0.32
dividedgov	-0.02	0.04	0.00	0.01	0.00	0.04	0.00	0.00	0.05	0.08	0.10	0.15	-0.16
peraggdp	0.01	-0.02	-0.01	0.00	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01	0.00	0.01	-0.01
logpagdp	0.15	0.16	0.02	0.01	0.02	0.08	0.09	0.13	0.17	0.01	0.05	-0.14	0.00
fruper	-0.12	0.03	0.11	-0.01	0.13	0.01	0.01	0.02	0.03	0.13	0.12	0.44	-0.10
logfru	-0.06	0.14	0.13	0.00	0.15	0.05	0.11	0.12	0.13	0.17	0.16	0.51	0.02
vegper	-0.18	0.19	0.08	-0.01	0.10	0.06	0.18	0.18	0.17	0.21	0.20	0.15	-0.10
logveg	-0.19	0.36	0.18	0.00	0.21	0.14	0.30	0.31	0.33	0.38	0.38	0.48	0.02
natiadoptper	0.00	0.96	0.14	-0.01	0.17	0.42	0.61	0.73	0.95	0.88	0.92	-0.09	0.00
regiadoptper	0.00	0.85	0.19	0.03	0.20	0.37	0.55	0.65	0.84	0.80	0.84	0.00	-0.19
natexistper	0.00	0.92	0.15	-0.01	0.17	0.43	0.52	0.65	0.92	0.84	0.90	-0.09	0.00
regexistper	-0.01	0.79	0.20	0.04	0.21	0.37	0.45	0.56	0.79	0.72	0.79	-0.01	-0.19
ar71	-0.10	0.00	0.10	0.01	0.11	0.00	0.00	0.00	0.00	0.07	0.08	0.23	-0.10
ar72	-0.03	0.00	0.04	0.01	0.04	0.00	0.00	0.00	0.00	-0.06	-0.05	-0.22	-0.22
ar73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.07	-0.06	-0.07	0.35

	statenum	year	adopt	iadopt	aadopt	fedadopt	fedimpl	salience	logsali	pcwealth	logpcw	stlegp~f	sharkc~s
ar74	0.02	0.00	-0.03	0.01	-0.04	0.00	0.00	0.00	0.00	-0.01	0.00	0.11	-0.31
ar75	-0.11	0.00	-0.03	-0.01	-0.03	0.00	0.00	0.00	0.00	-0.10	-0.10	-0.17	0.57
ar76	0.16	0.00	-0.05	-0.01	-0.05	0.00	0.00	0.00	0.00	0.07	0.06	0.02	0.17
ar77	0.05	0.00	-0.02	0.00	-0.02	0.00	0.00	0.00	0.00	0.11	0.08	0.09	-0.35

	parcont	divide~v	peraggdp	logpagdp	fruper	logfru	vegper	logveg	natiad~r	regiad~r	natexi~r	regexi~r	ar71
parcont	1.00												
dividedgov	-0.25	1.00											
peraggdp	-0.01	0.02	1.00										
logpagdp	-0.04	-0.01	-0.02	1.00									
fruper	0.14	-0.05	0.02	-0.01	1.00								
logfru	0.16	-0.04	0.01	0.04	0.62	1.00							
vegper	-0.09	-0.05	0.04	0.05	0.31	0.26	1.00						
logveg	0.01	0.00	0.01	0.03	0.41	0.81	0.43	1.00					
natiadoptper	-0.25	0.06	-0.03	0.18	0.04	0.13	0.17	0.34	1.00				
regiadoptper	-0.26	0.07	-0.04	0.14	0.13	0.12	0.16	0.26	0.89	1.00			
natexistper	-0.25	0.07	-0.02	0.18	0.04	0.13	0.15	0.32	0.99	0.88	1.00		
regexistper	-0.28	0.07	-0.04	0.15	0.09	0.09	0.15	0.24	0.85	0.98	0.86	1.00	
ar71	0.08	0.06	-0.01	0.01	0.48	0.11	0.13	0.13	0.00	0.13	0.00	0.12	1.00
ar72	-0.19	0.02	-0.01	0.25	-0.16	-0.12	0.14	-0.05	0.00	0.01	0.00	0.04	-0.15
ar73	0.15	-0.08	-0.01	-0.05	-0.16	0.00	-0.12	-0.01	0.00	0.03	0.00	0.05	-0.11
ar74	-0.25	0.07	-0.01	-0.08	-0.25	-0.17	-0.18	-0.04	0.00	0.01	0.00	0.04	-0.20
ar75	0.17	-0.12	-0.01	0.11	-0.02	0.09	-0.04	0.12	0.00	-0.22	0.00	-0.23	-0.17
ar76	0.10	-0.05	0.06	-0.08	-0.02	0.07	0.03	0.00	0.00	-0.15	0.00	-0.17	-0.14
ar77	0.02	0.07	-0.01	-0.16	0.18	0.06	0.05	-0.15	0.00	0.21	0.00	0.16	-0.15

	ar72	ar73	ar74	ar75	ar76	ar77
ar72	1.00					
ar73	-0.12	1.00				
ar74	-0.22	-0.16	1.00			
ar75	-0.18	-0.13	-0.24	1.00		
ar76	-0.15	-0.11	-0.20	-0.17	1.00	
ar77	-0.17	-0.12	-0.22	-0.18	-0.15	1.00

Appendix C – State Year Bivariate Logistic Regressions

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	23.14
Log likelihood =	-458.5405				Prob > chi2 =	0
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
fedadopt	0.9249205	0.1922881	4.81	0	0.5480427	1.301798
_cons	-3.093189	0.2133095	-14.5	0	-3.511268	-2.67511
/lnsig2u	0.1055821	0.34395			-0.5685474	0.7797117
sigma_u	1.054209	0.1812976			0.7525606	1.476768
rho	0.2525109	0.0649203			0.1468661	0.3986398

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	4.87
Log likelihood =	-467.1589				Prob > chi2 =	0.0273
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
fedimpl	0.4304861	0.1949821	2.21	0.027	0.0483281	0.8126441
_cons	-2.933781	0.20705	-14.17	0	-3.339591	-2.52797
/lnsig2u	.0678707	.3455876			-.6094685	.7452099
sigma_u	1.034518	0.1787582			0.7373193	1.451511
rho	0.2454595	0.064006			0.1418126	0.3903985

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	3.31
Log likelihood =	-467.9374				Prob > chi2 =	0.0689
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
salience	0.0041719	0.0022937	1.82	0.069	-0.0003236	0.0086674
_cons	-2.948317	0.2135732	-13.8	0	-3.366913	-2.529721
/lnsig2u	0.0647664	0.345734			-0.6128599	0.7423926
sigma_u	1.032913	0.1785566			0.7360701	1.449468
rho	0.244885	0.0639319			0.1414004	0.3897282

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	26.19
Log likelihood =	-454.8506				Prob > chi2 =	0
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logsali	0.3458765	0.0675842	5.12	0	0.213414	0.4783391
_cons	-3.814476	0.2955155	-12.91	0	-4.393675	-3.235276
/lnsig2u	0.1151116	0.3433188			-0.557781	0.7880042
sigma_u	1.059244	0.1818293			0.7566228	1.482904
rho	0.2543138	0.0651064			0.1482203	0.4006294

Number of obs =	1750				
Number of groups =	50			Wald chi2(1) =	14.48
Log likelihood =	-462.2154			Prob > chi2 =	0.0001

adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
pcwealth	0.000033	8.66E-06	3.81	0	0.000016	0.0000499
_cons	-3.575731	0.2922383	-12.24	0	-4.148507	-3.002954
/lnsig2u	0.0589633	0.3471987			-0.6215336	0.7394602
sigma_u	1.029921	0.1787935			0.7328848	1.447344
rho	0.2438135	0.0640125			0.1403506	0.389031

Number of obs =	1750				
Number of groups =	50			Wald chi2(1) =	22.97
Log likelihood =	-456.7535			Prob > chi2 =	0

adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logpcw	0.9462033	0.1974308	4.79	0	0.559246	1.333161
_cons	-12.23461	1.99727	-6.13	0	-16.14919	-8.320032
/lnsig2u	0.0723516	0.3468786			-0.6075179	0.7522211
sigma_u	1.036838	0.1798285			0.7380388	1.456608
rho	0.2462904	0.0643916			0.1420502	0.3920683

Number of obs =	1750				
Number of groups =	50			Wald chi2(1) =	0.17
Log likelihood =	-469.4262			Prob > chi2 =	0.6844

adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
stlegprof	- 0.5997559	1.475299	-0.41	0.684	-3.491289	2.291778
_cons	-2.696596	0.3318077	-8.13	0	-3.346927	-2.046265
/lnsig2u	0.099468	0.3593431			-0.6048316	0.8037676
sigma_u	1.050991	0.1888333			0.7390307	1.494638
rho	0.2513586	0.0676203			0.1423779	0.4044205

Number of obs =	1750				
Number of groups =	50			Wald chi2(1) =	3.47
Log likelihood =	-467.7999			Prob > chi2 =	0.0624

adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
sharkcukmeas	- 0.1275287	0.0684443	-1.86	0.062	-0.2616772	0.0066197
_cons	-2.160232	0.3764098	-5.74	0	-2.897981	-1.422482
/lnsig2u	-0.050082	0.3567296			-0.7492592	0.6490953
sigma_u	0.9752699	0.1739538			0.6875439	1.383405
rho	0.2242742	0.0620621			0.1256361	0.3677801

Number of obs =	1750				
Number of groups =	50			Wald chi2(1) =	0.36
Log likelihood =	-464.2214			Prob > chi2 =	0.5493

adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
	-					
parcont	0.0973004	0.1624868	-0.6	0.549	-0.4157686	0.2211679
_cons	-2.779756	0.1990584	-13.96	0	-3.169903	-2.389608
/lnsig2u	0.0711031	0.3497518			-0.6143979	0.7566041
sigma_u	1.036191	0.1812049			0.7355043	1.459804
rho	0.2460587	0.0648838			0.1412138	0.3931135

Number of obs =	1750				
Number of groups =	50			Wald chi2(1) =	0.02
Log likelihood =	-464.3911			Prob > chi2 =	0.8907

adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
	-					
dividedgov	0.0266393	0.1939305	-0.14	0.891	-0.4067361	0.3534574
_cons	-2.777749	0.2236378	0	-12.42	-3.216071	-2.339427
/lnsig2u	0.0663339	0.3501132			-0.6198754	0.7525432
sigma_u	1.033723	0.1809601			0.7334927	1.456843
rho	0.245175	0.0647934			0.1405508	0.3921451

Number of obs =	1750				
Number of groups =	50			Wald chi2(1) =	3.13
Log likelihood =	-467.5982			Prob > chi2 =	0.0768

adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
peraggdp	-11.27619	6.372249	-1.77	0.077	-23.76557	1.213186
_cons	-2.562974	0.2386438	-10.74	0	-3.030707	-2.095241
/lnsig2u	0.1911753	0.3537356			-0.5021337	0.8844843
sigma_u	1.100305	0.1946086			0.7779704	1.556193
rho	0.2690059	0.0695592			0.1553842	0.4240027

Number of obs =	1750				
Number of groups =	50			Wald chi2(1) =	1.7
Log likelihood =	-468.7389			Prob > chi2 =	0.1917

adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
logperagdp	0.6693079	0.5126931	1.31	0.192	-0.335552	1.674168
_cons	-1.213483	1.229978	-0.99	0.324	-3.624195	1.197228
/lnsig2u	0.0745353	0.3453381			-0.602315	0.7513855
sigma_u	1.037971	0.1792254			0.7399612	1.456
rho	0.246696	0.0641766			0.1426854	0.3918692

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	4.05
Log likelihood =	-467.5789				Prob > chi2 =	0.0441
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
fruper	3.800765	1.887854	2.01	0.044	0.1006397	7.50089
_cons	-2.969761	0.2138438	-13.89	0	-3.388887	-2.550635
	-					
/lnsig2u	0.0574726	0.3640078			-0.7709147	0.6559696
sigma_u	0.9716727	0.1768482			0.6801395	1.388168
rho	0.2229911	0.0630702			0.1232765	0.3693799

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	9.52
Log likelihood =	-464.5142				Prob > chi2 =	0.002
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logfru	0.2036941	0.066003	3.09	0.002	0.0743306	0.3330576
_cons	-4.746962	0.6864519	-6.92	0	-6.092383	-3.401541
	-					
/lnsig2u	0.1181188	0.3831196			-0.8690194	0.6327818
sigma_u	0.9426508	0.180574			0.6475821	1.372167
rho	0.2126599	0.0641479			0.1130592	0.3639951

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	0.55
Log likelihood =	-469.2540				Prob > chi2 =	0.46
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
vegper	0.5219786	0.7065356	0.74	0.46	-0.8628057	1.906763
_cons	-2.825859	0.1952119	-14.48	0	-3.208467	-2.44325
/lnsig2u	0.019445	0.3537618			-0.6739155	0.7128054
sigma_u	1.00977	0.178609			0.713939	1.428183
rho	0.2366016	0.0638969			0.1341489	0.3827146

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	23.46
Log likelihood =	-458.0363				Prob > chi2 =	0
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logveg	0.321444	0.0663613	4.84	0	0.1913783	0.4515097
_cons	-6.1143	0.7360603	-8.31	0	-7.556951	-4.671648
/lnsig2u	-0.447899	0.4189018			-1.268932	0.3731332
sigma_u	0.7993554	0.1674257			0.5302186	1.205105
rho	0.1626357	0.0570483			0.0787263	0.3062491

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	32.18
	Log likelihood =	-450.2776			Prob > chi2 =	0
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
natiadoptper	2.287467	0.4032277	5.67	0	1.497155	3.077778
_cons	-3.981541	0.3065689	-12.99	0	-4.582405	-3.380677
/lnsig2u	0.1308159	0.3424983			-0.5404684	0.8021001
sigma_u	1.067594	0.1828246			0.7632007	1.493392
rho	0.2573034	0.0654509			0.1504193	0.4040189

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	48.6
	Log likelihood =	-436.1279			Prob > chi2 =	0
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
regiadoptper	3.018177	0.4329486	6.97	0	2.169613	3.866741
_cons	-4.437566	0.3354842	-13.23	0	-5.095103	-3.780029
/lnsig2u	0.1048704	0.3481062			-0.5774053	0.787146
sigma_u	1.053834	0.1834231			0.749235	1.482268
rho	0.2523766	0.0656816			0.1457597	0.4004234

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	35.9
	Log likelihood =	-446.6899			Prob > chi2 =	0
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
natexistper	2.790246	0.4656627	5.99	0	1.877564	3.702928
_cons	-4.171182	0.3251703	-12.83	0	-4.808504	-3.53386
/lnsig2u	0.1426468	0.3418764			-0.5274187	0.8127123
sigma_u	1.073928	0.1835754			0.7681968	1.501337
rho	0.2595708	0.0657065			0.1520946	0.4065767

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	53.58
	Log likelihood =	-430.8658			Prob > chi2 =	0
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
regexistper	3.4728	0.4744499	7.32	0	2.542895	4.402704
_cons	-4.612967	0.3514822	-13.12	0	-5.30186	-3.924075
/lnsig2u	0.146065	0.346347			-0.5327627	0.8248927
sigma_u	1.075765	0.1862941			0.7661469	1.510508
rho	0.2602283	0.0666751			0.1514067	0.4095188

Number of obs =	1750				
Number of groups =	50			Wald chi2(1) =	3.37
Log likelihood =	-467.8866			Prob > chi2 =	0.0663

adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
amsregion7	- 0.1645645	0.0896011	-1.84	0.066	-0.3401794	0.0110504
_cons	-2.122815	0.39866	-5.32	0	-2.904175	-1.341456
/lnsig2u	-0.071929	0.3616713			-0.7807919	0.6369334
sigma_u	0.9646744	0.1744475			0.6767888	1.375018
rho	0.2204963	0.0621632			0.1222129	0.3649568

Number of obs =	1750				
Number of groups =	50			Wald chi2(1) =	2.72
Log likelihood =	-468.2191			Prob > chi2 =	0.099

adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ar71	0.8267774	0.5012027	1.65	0.099	-0.1555619	1.809117
_cons	-2.894439	0.201992	-14.33	0	-3.290336	-2.498542
/lnsig2u	-0.053917	0.3598141			-0.7591399	0.6513053
sigma_u	0.9734015	0.1751218			0.6841556	1.384934
rho	0.2236077	0.0624663			0.1245547	0.3682941

Number of obs =	1750				
Number of groups =	50			Wald chi2(1) =	1.06
Log likelihood =	-468.9875			Prob > chi2 =	0.3029

adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ar72	0.5075631	0.4926409	1.03	0.303	-0.4579954	1.473122
_cons	-2.877753	0.2097694	-13.72	0	-3.288893	-2.466613
/lnsig2u	0.0275723	0.3472835			-0.6530908	0.7082354
sigma_u	1.013882	0.1760522			0.7214116	1.424923
rho	0.2380727	0.0629952			0.1365862	0.3816355

Number of obs =	1750				
Number of groups =	50			Wald chi2(1) =	0
Log likelihood =	-469.5114			Prob > chi2 =	0.9798

adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ar73	0.0168466	0.6652637	0.03	0.98	-1.287046	1.320739
_cons	-2.807734	0.2025509	-13.86	0	-3.204727	-2.410742
/lnsig2u	0.0581101	0.3460891			-0.620212	0.7364323
sigma_u	1.029481	0.1781461			0.7333692	1.445154
rho	0.2436563	0.06378			0.1405101	0.3883115

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0.53
	Log likelihood =	-469.2477			Prob > chi2 =	0.4663
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar74	-0.311129	0.427032	-0.73	0.466	-1.148095	0.5258395
_cons	-2.728855	0.2172015	-12.56	0	-3.154562	-2.303148
/lnsig2u	0.0299443	0.3484735			-0.6530513	0.7129398
sigma_u	1.015085	0.1768651			0.7214259	1.428279
rho	0.2385032	0.0632896			0.1365908	0.3827463

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0.39
	Log likelihood =	-469.3174			Prob > chi2 =	0.5347
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar75	-0.313427	0.5047971	-0.62	0.535	-1.302811	0.6759569
_cons	-2.756652	0.2082859	-13.23	0	-3.164884	-2.348419
/lnsig2u	0.0480833	0.3474697			-0.6329448	0.7291113
sigma_u	1.024333	0.1779623			0.7287151	1.439874
rho	0.2418132	0.0637049			0.1389795	0.386574

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	1.06
	Log likelihood =	-468.9749			Prob > chi2 =	0.3026
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar76	-0.602041	0.5840105	-1.03	0.303	-1.746681	0.5425984
_cons	-2.732422	0.2019801	-13.53	0	-3.128296	-2.336549
/lnsig2u	0.0156499	0.3503235			-0.6709715	0.7022713
sigma_u	1.007856	0.1765378			0.7149907	1.42068
rho	0.2359168	0.0631493			0.1344912	0.380229

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0.03
	Log likelihood =	-469.4955			Prob > chi2 =	0.8574
adopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar77	- 0.0940062	0.5230884	-0.18	0.857	-1.119241	0.9312282
_cons	-2.793105	0.2084844	-13.4	0	-3.201727	-2.384484
/lnsig2u	0.0568968	0.3463422			-0.6219214	0.735715
sigma_u	1.028857	0.1781683			0.7327427	1.444636
rho	0.2434328	0.063787			0.1403038	0.3881412

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	1.65
	Log likelihood =	-182.3387			Prob > chi2 =	0.1992
iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
fedadopt	0.4542134	0.3537724	1.28	0.199	-0.2391677	1.147594
_cons	-3.930545	0.1980542	-19.85	0	-4.318724	-3.542366
/lnsig2u	-13.47885	26.17383			-64.77862	37.82091
sigma_u	0.0011833	0.0154861			8.58E-15	1.63E+08
rho	4.26E-07	0.0000111			2.24E-29	1

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	5.5
	Log likelihood =	-179.0635			Prob > chi2 =	0.0191
iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
fedimpl	-1.416458	0.6041618	-2.34	0.019	-2.600594	-0.232323
_cons	-3.587708	0.1713719	-20.94	0	-3.923591	-3.251826
/lnsig2u	-13.48032	26.17575			-64.78384	37.8232
sigma_u	0.0011825	0.0154759			8.56E-15	1.63E+08
rho	4.25E-07	0.0000111			2.23E-29	1

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	2.47
	Log likelihood =	-181.6216			Prob > chi2 =	0.116
iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
salience	-0.009279	0.0059029	-1.57	0.116	-0.0208485	0.0022904
_cons	-3.563336	0.2099775	-16.97	0	-3.974885	-3.151788
/lnsig2u	-13.47916	26.17422			-64.77969	37.82136
sigma_u	0.0011831	0.0154839			8.58E-15	1.63E+08
rho	4.25E-07	0.0000111			2.24E-29	1

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0.05
	Log likelihood =	-183.0922			Prob > chi2 =	0.8259
iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logsali	-0.0234368	0.1065745	-0.22	0.826	-0.232319	0.1854455
_cons	-3.748318	0.3149486	-11.9	0	-4.365606	-3.13103
/lnsig2u	-13.47845	26.17319			-64.77697	37.82006
sigma_u	0.0011836	0.0154888			8.59E-15	1.63E+08
rho	4.26E-07	0.0000111			2.24E-29	1

Number of obs = 1750
Number of groups = 50 Wald chi2(1) = 2.26
Log likelihood = -181.9223 Prob > chi2 = 0.1324

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
pcwealth	-0.000025	0.0000166	-1.5	0.132	-0.0000575	7.56E-06
_cons	-3.293534	0.3609518	-9.12	0	-4.000987	-2.586082
/lnsig2u	-13.4719	26.17678			-64.77745	37.83365
sigma_u	0.0011874	0.0155418			8.59E-15	1.64E+08
rho	4.29E-07	0.0000112			2.24E-29	1

Number of obs = 1750
Number of groups = 50 Wald chi2(1) = 0.74
Log likelihood = -182.7500 Prob > chi2 = 0.3892

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logpcw	-0.257978	0.2995942	-0.86	0.389	-0.845172	0.3292156
_cons	-1.273286	2.937334	-0.43	0.665	-7.030355	4.483783
/lnsig2u	-13.47442	26.17448			-64.77545	37.82661
sigma_u	0.0011859	0.0155208			8.59E-15	1.64E+08
rho	4.28E-07	0.0000112			2.24E-29	1

Number of obs = 1750
Number of groups = 50 Wald chi2(1) = 0
Log likelihood = -183.1154 Prob > chi2 = 0.9667

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
stlegprof	-0.056876	1.363605	-0.04	0.967	-2.729493	2.615741
_cons	-3.796837	0.3147093	-12.06	0	-4.413656	-3.180019
/lnsig2u	-13.47804	26.17304			-64.77626	37.82019
sigma_u	0.0011838	0.0154919			8.59E-15	1.63E+08
rho	4.26E-07	0.0000111			2.24E-29	1

Number of obs = 1750
Number of groups = 50 Wald chi2(1) = 0.81
Log likelihood = -182.7026 Prob > chi2 = 0.3668

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
sharkculmeas	-0.058789	0.0651382	-0.9	0.367	-0.1864504	0.0688868
_cons	-3.521357	0.3471292	-10.14	0	-4.201717	-2.840996
/lnsig2u	-13.50629	26.17717			-64.8126	37.80002
sigma_u	0.0011672	0.015277			8.44E-15	1.61E+08
rho	4.14E-07	0.0000108			2.16E-29	1

Number of obs = 1750
Number of groups = 50 Wald chi2(1) = 1.23
Log likelihood = -177.9118 Prob > chi2 = 0.2666

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
parcont	0.2893169	0.2604538	1.11	0.267	-0.2211632	0.799797
_cons	3.875525	0.1803089	-21.49	0	-4.228924	-3.522126
/lnsig2u	-13.46406	26.44575			-65.29677	38.36866
sigma_u	0.0011921	0.0157631			6.62E-15	2.15E+08
rho	4.32E-07	0.0000114			1.33E-29	1

Number of obs = 1750
Number of groups = 50 Wald chi2(1) = 0.06
Log likelihood = -178.5085 Prob > chi2 = 0.8045

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
dividedgov	0.0830407	0.335483	0.25	0.805	-0.574494	0.7405753
_cons	-3.860953	0.2526449	-15.28	0	-4.356128	-3.365778
/lnsig2u	-13.4734	26.43925			-65.29337	38.34657
sigma_u	0.0011866	0.0156858			6.63E-15	2.12E+08
rho	4.28E-07	0.0000113			1.34E-29	1

Number of obs = 1750
Number of groups = 50 Wald chi2(1) = 0.01
Log likelihood = -183.0998 Prob > chi2 = 0.9167

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
peraggdp	-0.044867	0.4291764	-0.1	0.917	-0.8860375	0.7963029
_cons	-3.806409	0.1644443	-23.15	0	-4.128713	-3.484104
/lnsig2u	-13.47811	26.17324			-64.77671	37.82049
sigma_u	0.0011838	0.0154915			8.59E-15	1.63E+08
rho	4.26E-07	0.0000111			2.24E-29	1

Number of obs = 1750
Number of groups = 50 Wald chi2(1) = 0.19
Log likelihood = -183.0269 Prob > chi2 = 0.6588

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logpagdp	0.3515883	0.7962907	0.44	0.659	-1.209113	1.912289
_cons	-2.969286	1.901633	-1.56	0.118	-6.696419	0.757846
/lnsig2u	-13.47847	26.17391			-64.7784	37.82146
sigma_u	0.0011836	0.0154891			8.58E-15	1.63E+08
rho	4.26E-07	0.0000111			2.24E-29	1

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0.28
	Log likelihood =	-182.9641			Prob > chi2 =	0.5951
iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
fruper	-1.219508	2.294528	-0.53	0.595	-5.7167	3.277684
_cons	-3.756031	0.1873452	-20.05	0	-4.123221	-3.388841
/lnsig2u	-13.4841	26.1757			-64.78753	37.81933
sigma_u	0.0011802	0.0154466			8.54E-15	1.63E+08
rho	4.23E-07	0.0000111			2.22E-29	1

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0.01
	Log likelihood =	-183.1122			Prob > chi2 =	0.928
iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
fruit	-0.005794	0.0641107	-0.09	0.928	-0.1314491	0.1198603
_cons	-3.75309	0.6288421	-5.97	0	-4.985598	-2.520582
/lnsig2u	-13.47831	26.17333			-64.7771	37.82047
sigma_u	0.0011836	0.01549			8.59E-15	1.63E+08
rho	4.26E-07	0.0000111			2.24E-29	1

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0.26
	Log likelihood =	-182.9425			Prob > chi2 =	0.6087
iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
vegper	-1.326553	2.590992	-0.51	0.609	-6.404804	3.751699
_cons	-3.750215	0.1942987	-19.3	0	-4.131033	-3.369396
/lnsig2u	-13.47527	26.17633			-64.77994	37.8294
sigma_u	0.0011854	0.0155153			8.57E-15	1.64E+08
rho	4.27E-07	0.0000112			2.23E-29	1

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0.04
	Log likelihood =	-183.0953			Prob > chi2 =	0.8374
iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logveg	-0.016693	0.0813397	-0.21	0.837	-0.1761162	0.1427296
_cons	-3.636953	0.8471439	-4.29	0	-5.297324	-1.976581
/lnsig2u	-13.47559	26.17375			-64.7752	37.82402
sigma_u	0.0011853	0.0155113			8.59E-15	1.63E+08
rho	4.27E-07	0.0000112			2.25E-29	1

Number of obs =	1750					
Number of groups =	50			Wald chi2(1) =	0.3	
Log likelihood =	-182.9650			Prob > chi2 =	0.5809	

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
natiadoptper	-0.323799	0.5864398	-0.55	0.581	-1.4732	0.8256021
_cons	-3.668339	0.2956927	-12.41	0	-4.247886	-3.088791
/lnsig2u	-13.47851	26.1733			-64.77723	37.82021
sigma_u	0.0011835	0.0154884			8.59E-15	1.63E+08
rho	4.26E-07	0.0000111			2.24E-29	1

Number of obs =	1750					
Number of groups =	50			Wald chi2(1) =	1.52	
Log likelihood =	-182.3193			Prob > chi2 =	0.2171	

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
regiadoptper	0.6967748	0.5644787	1.23	0.217	-0.4095831	1.803133
_cons	-4.139063	0.3287125	-12.59	0	-4.783327	-3.494798
/lnsig2u	-13.48438	26.17466			-64.78578	37.81701
sigma_u	0.0011801	0.0154438			8.55E-15	1.63E+08
rho	4.23E-07	0.0000111			2.22E-29	1

Number of obs =	1750					
Number of groups =	50			Wald chi2(1) =	0.13	
Log likelihood =	-183.0497			Prob > chi2 =	0.7142	

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
natexistper	-0.231426	0.6319583	-0.37	0.714	-1.470041	1.00719
_cons	-3.713093	0.3029213	-12.26	0	-4.306808	-3.119378
/lnsig2u	-13.47847	26.17323			-64.77706	37.82012
sigma_u	0.0011836	0.0154887			8.59E-15	1.63E+08
rho	4.26E-07	0.0000111			2.24E-29	1

Number of obs =	1750					
Number of groups =	50			Wald chi2(1) =	1.87	
Log likelihood =	-182.1411			Prob > chi2 =	0.172	

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
regexistper	0.8013685	0.5867505	1.37	0.172	-0.3486414	1.951378
_cons	-4.169347	0.3271055	-12.75	0	-4.810462	-3.528232
/lnsig2u	-13.48686	26.17487			-64.78866	37.81495
sigma_u	0.0011786	0.0154248			8.54E-15	1.63E+08
rho	4.22E-07	0.0000111			2.22E-29	1

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0.25
	Log likelihood =	-182.9912			Prob > chi2 =	0.617
iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
amsregion7	-0.043098	0.0861763	-0.5	0.617	-0.2120007	0.1258041
_cons	-3.634571	0.3779265	-9.62	0	-4.375294	-2.893849
/lnsig2u	-13.48732	26.17442			-64.78823	37.8136
sigma_u	0.0011783	0.015421			8.54E-15	1.63E+08
rho	4.22E-07	0.000011			2.22E-29	1

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0.05
	Log likelihood =	-183.0922			Prob > chi2 =	0.8244
iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar71	0.1077518	0.4856996	0.22	0.824	-0.844202	1.059706
_cons	-3.821594	0.1759923	-21.71	0	-4.166532	-3.476655
/lnsig2u	-13.4802	26.17343			-64.77918	37.81877
sigma_u	0.0011825	0.0154754			8.58E-15	1.63E+08
rho	4.25E-07	0.0000111			2.24E-29	1

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0.1
	Log likelihood =	-183.0663			Prob > chi2 =	0.7482
iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar72	0.1445556	0.4503691	0.32	0.748	-0.7381517	1.027263
_cons	-3.829542	0.1787055	-21.43	0	-4.179798	-3.479285
/lnsig2u	-13.48214	26.17371			-64.78166	37.81738
sigma_u	0.0011814	0.0154606			8.57E-15	1.63E+08
rho	4.24E-07	0.0000111			2.23E-29	1

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0
	Log likelihood =	-183.1160			Prob > chi2 =	0.9807
iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar73	-0.014700	0.6082099	-0.02	0.981	-1.20677	1.177369
_cons	-3.806894	0.1709176	-22.27	0	-4.141887	-3.471902
/lnsig2u	-13.47846	26.17318			-64.77695	37.82003
sigma_u	0.0011836	0.0154887			8.59E-15	1.63E+08
rho	4.26E-07	0.0000111			2.24E-29	1

Number of obs =1750

Number of groups =	50	Wald chi2(1) =	0.11
Log likelihood =	-183.0603	Prob > chi2 =	0.7357

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar74	0.1258284	0.372767	0.34	0.736	-0.6047815	0.8564384
_cons	-3.839669	0.1910234	-20.1	0	-4.214068	-3.46527
/lnsig2u	-13.48251	26.17375			-64.78212	37.81711
sigma_u	0.0011812	0.0154578			8.57E-15	1.63E+08
rho	4.24E-07	0.0000111			2.23E-29	1

Number of obs =	1750		
Number of groups =	50	Wald chi2(1) =	0.23
Log likelihood =	-182.9935	Prob > chi2 =	0.6299

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar75	-0.233443	0.4844309	-0.48	0.63	-1.18291	0.716024
_cons	-3.774047	0.1760855	-21.43	0	-4.119168	-3.428926
/lnsig2u	-13.48653	26.17427			-64.78716	37.81411
sigma_u	0.0011788	0.015427			8.54E-15	1.63E+08
rho	.22E-07	0.0000111			2.22E-29	1

Number of obs =	1750		
Number of groups =	50	Wald chi2(1) =	0.08
Log likelihood =	-183.0748	Prob > chi2 =	0.7778

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar76	-0.150674	0.5338365	-0.28	0.778	-1.196974	0.8956264
_cons	-3.791089	0.1734434	-21.86	0	-4.131031	-3.451146
/lnsig2u	-13.48123	26.17356			-64.78046	37.81801
sigma_u	0.0011819	0.0154676			8.57E-15	1.63E+08
rho	4.25E-07	0.0000111			2.23E-29	1

Number of obs =	1750		
Number of groups =	50	Wald chi2(1) =	0.02
Log likelihood =	-183.1046	Prob > chi2 =	0.8799

iadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar77	-0.073303	0.4849707	-0.15	0.88	-1.023828	0.877222
_cons	-3.798105	0.1760379	-21.58	0	-4.143133	-3.453077
/lnsig2u	-13.47924	26.17329			-64.77794	37.81945
sigma_u	0.0011831	0.0154827			8.58E-15	1.63E+08
rho	4.25E-07	0.0000111			2.24E-29	1

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	22.6
Log likelihood =	-354.1750				Prob > chi2 =	0
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
fedadopt	1.057854	0.2225205	4.75	0	0.6217221	1.493987
_cons	-3.796008	0.301757	-12.58	0	-4.387441	-3.204575
/lnsig2u	0.6893989	0.3713677			-0.0384684	1.417266
sigma_u	1.411566	0.262105			0.9809496	2.031213
rho	0.3772003	0.0872418			0.2263012	0.5563641

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	16.99
Log likelihood =	-356.7643				Prob > chi2 =	0
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
fedimpl	0.9051586	0.2196119	4.12	0	0.4747272	1.33559
_cons	-3.761008	0.3001878	-12.53	0	-4.349365	-3.172651
/lnsig2u	0.6753858	0.3718342			-0.0533958	1.404168
sigma_u	1.40171	0.2606019			0.9736553	2.017953
rho	0.3739141	0.0870473			0.2236982	0.5531287

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	9.65
Log likelihood =	-360.4583				Prob > chi2 =	0.0019
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
salience	0.0078462	0.0025263	3.11	0.002	0.0028947	0.0127977
_cons	-3.734815	0.3023881	-12.35	0	-4.327485	-3.142145
/lnsig2u	0.6581272	0.3725285			-0.0720153	1.38827
sigma_u	1.389666	0.2588452			0.9646329	2.001976
rho	0.3698826	0.086825			0.2204815	0.5491959

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	35.24
Log likelihood =	-343.2107				Prob > chi2 =	0
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logsali	0.5199551	0.0875825	5.94	0	0.3482965	0.6916136
_cons	-5.053795	0.4234254	-11.94	0	-5.883694	-4.223897
/lnsig2u	0.7306947	0.3693267			0.0068278	1.454562
sigma_u	1.441014	0.2661025			1.00342	2.069446
rho	0.3869496	0.0876115			0.2343302	0.5655491

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	28.43
	Log likelihood =	-349.9025			Prob > chi2 =	0
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
pcwealth	0.000056	0.0000105	5.33	0.002	0.0000354	0.0000765
_cons	-4.825051	0.4075037	-11.84	0	-5.623744	-4.026359
/lnsig2u	0.6843861	0.3728412			-0.0463691	1.415141
sigma_u	1.408032	0.2624862			0.9770821	2.029056
rho	0.3760234	0.0874797			0.2249209	0.5558396

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	36.14
	Log likelihood =	-342.4467			Prob > chi2 =	0
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logpcw	1.579776	0.2627988	6.01	0	1.0647	2.094852
_cons	-19.30022	2.694658	-7.16	0	-24.58166	-14.01879
/lnsig2u	0.7053592	0.3720605			-0.0238659	1.434584
sigma_u	1.422875	0.2646978			0.988138	2.048878
rho	0.380957	0.0877426			0.2288681	0.5606343

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	0.4
	Log likelihood =	-364.7099			Prob > chi2 =	0.5267
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
stlegprof	-1.278151	2.018822	-0.63	0.527	-5.23497	2.678668
_cons	-3.21871	0.4439576	-7.25	0	-4.088851	-2.34857
/lnsig2u	0.7054418	0.3884186			-0.0558446	1.466728
sigma_u	1.422934	0.276347			0.9724639	2.082073
rho	0.3809765	0.0916021			0.2232733	0.568536

	Number of obs =	1750				
	Number of groups =	50			Wald chi2(1) =	2.37
	Log likelihood =	-363.7592			Prob > chi2 =	0.1237
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
sharkculmeas	-0.139928	0.0909045	-1.54	0.124	-0.3180975	0.0382415
_cons	-2.722961	0.5088134	-5.35	0	-3.720217	-1.725705
/lnsig2u	0.5378976	0.382599			-0.2119827	1.287778
sigma_u	1.308588	0.2503323			0.8994324	1.903871
rho	0.3423251	0.0861378			0.1973674	0.5242137

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	2.66
Log likelihood =	-362.5850				Prob > chi2 =	0.1027
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
parcont	-0.311802	0.1910823	-1.63	0.103	-0.6863159	0.0627128
_cons	-3.369158	0.2774565	-12.14	0	-3.912963	-2.825353
/lnsig2u	0.6265856	0.3734405			-0.1053443	1.358516
sigma_u	1.367922	0.2554188			0.948691	1.972413
rho	0.3625619	0.0863061			0.2148066	0.5418191

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	0.07
Log likelihood =	-363.8869				Prob > chi2 =	0.7891
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
dividedgov	-0.060092	0.2246703	-0.27	0.789	-0.5004378	0.3802534
_cons	-3.361928	0.2992193	-11.24	0	-3.948387	-2.775469
/lnsig2u	0.5957575	0.3745155			-0.1382794	1.329795
sigma_u	1.346998	0.2522359			0.9331963	1.944291
rho	0.3554678	0.0858054			0.2093038	0.534681

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	6.21
Log likelihood =	-360.7515				Prob > chi2 =	0.0127
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
peraggdp	-24.1311	9.681538	-2.49	0.013	-43.10656	-5.155632
_cons	-2.995885	0.3384547	-8.85	0	-3.659243	-2.332526
/lnsig2u	0.9093703	0.3861202			0.1525887	1.666152
sigma_u	1.575677	0.3042004			1.07928	2.300384
rho	0.4300917	0.094643			0.2614861	0.6166385

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	1.5
Log likelihood =	-364.2449				Prob > chi2 =	0.2206
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logpagdp	0.7460936	0.6090503	1.23	0.221	-0.447623	1.93981
_cons	-1.670364	1.463725	-1.14	0.254	-4.539213	1.198484
/lnsig2u	0.6521727	0.3729547			-0.078805	1.38315
sigma_u	1.385535	0.2583709			0.9613637	1.996858
rho	0.3684959	0.086789			0.2193167	0.5479281

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	6.12
Log likelihood =	-361.8426				Prob > chi2 =	0.0134

aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
fruper	5.975273	2.41519	2.47	0.013	1.241587	10.70896
_cons	-3.713606	0.3121602	-11.9	0	-4.325428	-3.101783
/lnsig2u	0.5380221	0.3932266			-0.2326879	1.308732
sigma_u	1.30867	0.2573019			0.890169	1.923923
rho	0.3423531	0.088534			0.1941079	0.5294371

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	11.5
Log likelihood =	-357.3191				Prob > chi2 =	0.0007

aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logfru	0.3474379	0.1024629	3.39	0.001	0.1466143	0.5482615
_cons	-6.826894	1.117244	-6.11	0	-9.016651	-4.637137
/lnsig2u	0.5743337	0.4355686			-0.2793651	1.428033
sigma_u	1.332647	0.2902295			0.8696342	2.042177
rho	0.3505748	0.0991668			0.1869103	0.5590198

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	1
Log likelihood =	-364.4577				Prob > chi2 =	0.3175

aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
vegper	0.7297826	0.7299991	1	0.317	-0.7009893	2.160555
_cons	-3.464918	0.2756334	-12.57	0	-4.005149	-2.924686
/lnsig2u	0.5869385	0.3806194			-0.1590618	1.332939
sigma_u	1.341072	0.255219			0.9235495	1.94735
rho	0.3534499	0.0869803			0.2058852	0.5354632

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	31.9
Log likelihood =	-347.2010				Prob > chi2 =	0

aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logveg	0.5020761	0.0888914	5.65	0	0.3278523	0.6763
_cons	-8.667975	1.0269	-8.44	0	-10.68066	-6.655288
/lnsig2u	0.144226	0.4396147			-0.7174029	1.005855
sigma_u	1.074777	0.2362438			0.6985829	1.653555
rho	0.2598744	0.0845554			0.1291775	0.4538833

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	41.84
Log likelihood =	-333.6814				Prob > chi2 =	0
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
natiadoptper	3.847137	0.5947593	6.47	0	2.681431	5.012844
_cons	-5.585946	0.4788256	-11.67	0	-6.524426	-4.647465
/lnsig2u	0.7653514	0.3676177			0.0448339	1.485869
sigma_u	1.466202	0.269501			1.02267	2.102095
rho	0.3952023	0.0878671			0.241218	0.573225

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	46.04
Log likelihood =	-324.5340				Prob > chi2 =	0
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
regiadoptper	4.436003	0.6537809	6.79	0	3.154616	5.71739
_cons	-6.012935	0.5279908	-11.39	0	-7.047778	-4.978092
/lnsig2u	0.7321701	0.3736295			-0.0001303	1.46447
sigma_u	1.442078	0.2694014			0.9999349	2.079724
rho	0.3872996	0.0886618			0.2330841	0.5679821

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	41.29
Log likelihood =	-328.2550				Prob > chi2 =	0
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
natexistper	4.935822	0.7681463	6.43	0	3.430283	6.441361
_cons	-6.071637	0.5490274	-11.06	0	-7.147711	-4.995563
/lnsig2u	0.7823064	0.3667152			0.0635578	1.501055
sigma_u	1.478685	0.2711281			1.032289	2.118117
rho	0.399262	0.0879573			0.2446616	0.5769359

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	49.32
Log likelihood =	-317.5237				Prob > chi2 =	0
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
regexistper	5.329471	0.7588683	7.02	0	3.842117	6.816826
_cons	-6.456989	0.5873487	-10.99	0	-7.608171	-5.305807
/lnsig2u	0.8308805	0.371001			0.1037318	1.558029
sigma_u	1.515038	0.2810403			1.053234	2.179324
rho	0.4109675	0.0898094			0.2521618	0.5907778

Number of obs =	1750					
Number of groups =	50			Wald chi2(1) =		2.86
Log likelihood =	-363.5316			Prob > chi2 =		0.0908

aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
amsregion7	-0.201694	0.1192593	-1.69	0.091	-0.4354378	0.03205
_cons	-2.599023	0.5322515	-4.88	0	-3.642217	-1.555829
/lnsig2u	0.5162701	0.3866694			-0.2415879	1.274128
sigma_u	1.294514	0.2502744			0.8862165	1.890921
rho	0.3374727	0.0864534			0.1927195	0.5208081

Number of obs =	1750					
Number of groups =	50			Wald chi2(1) =		2.61
Log likelihood =	-363.6625			Prob > chi2 =		0.1059

aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar71	1.071509	0.6626821	1.62	0.106	-0.2273246	2.370342
_cons	-3.556021	0.2906823	-12.23	0	-4.125748	-2.986295
/lnsig2u	0.534677	0.384651			-0.219225	1.288579
sigma_u	1.306483	0.2512699			0.8961814	1.904633
rho	0.3416004	0.0865117			0.1962226	0.5244135

Number of obs =	1750					
Number of groups =	50			Wald chi2(1) =		1.09
Log likelihood =	-364.3874			Prob > chi2 =		0.2971

aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar72	0.6784269	0.6507016	1.04	0.297	-0.5969249	1.953779
_cons	-3.536858	0.2982067	-11.86	0	-4.121333	-2.952384
/lnsig2u	0.601515	0.3742936			-0.1320871	1.335117
sigma_u	1.350882	0.2528132			0.9360901	1.949472
rho	0.356788	0.0858968			0.2103305	0.536005

Number of obs =	1750					
Number of groups =	50			Wald chi2(1) =		0
Log likelihood =	-364.9245			Prob > chi2 =		0.9965

aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar73	-0.003888	0.893488	0	0.997	-1.755093	1.747316
_cons	-3.4426	0.2871123	-11.99	0	-4.00533	-2.879871
/lnsig2u	0.6360207	0.3734562			-0.09594	1.367981
sigma_u	1.37439	0.2566373			0.9531624	1.981771
rho	0.3647453	0.0865321			0.2163971	0.544168

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	1.19
Log likelihood =	-364.3219				Prob > chi2 =	0.2748
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar74	-0.638319	0.5844698	-1.09	0.275	-1.783859	0.5072206
_cons	-3.28849	0.2975551	-11.05	0	-3.871688	-2.705293
/lnsig2u	0.5930328	0.3751239			-0.1421966	1.328262
sigma_u	1.345165	0.2523017			0.9313703	1.942802
rho	0.3548438	0.085877			0.2086563	0.5342997

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	0.14
Log likelihood =	-364.8532				Prob > chi2 =	0.7065
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar75	-0.251793	0.6686257	-0.38	0.706	-1.562276	1.058689
_cons	-3.401485	0.296161	-11.49	0	-3.98195	-2.82102
/lnsig2u	0.6295927	0.3743823			-0.104183	1.363368
sigma_u	1.36998	0.2564481			0.949242	1.977205
rho	0.3632572	0.0865951			0.2150026	0.5430236

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	0.97
Log likelihood =	-364.4324				Prob > chi2 =	0.3253
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar76	-0.778704	0.7916363	-0.98	0.325	-2.330283	0.7728744
_cons	-3.343862	0.2851113	-11.73	0	-3.90267	-2.785054
/lnsig2u	0.5896054	0.3774782			-0.1502382	1.329449
sigma_u	1.342861	0.2534504			0.927633	1.943955
rho	0.3540596	0.0863298			0.2073316	0.534595

Number of obs =	1750					
Number of groups =	50				Wald chi2(1) =	0
Log likelihood =	-364.9224				Prob > chi2 =	0.9486
aadopt	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ar77	-0.044837	0.6950906	-0.06	0.949	-1.407189	1.317516
_cons	-3.436277	0.2958923	-11.61	0	-4.016215	-2.856338
/lnsig2u	0.6352808	0.3734488			-0.0966654	1.367227
sigma_u	1.373882	0.2565373			0.9528167	1.981023
rho	0.3645739	0.0865131			0.2162741	0.5439809

Appendix D – Collapsed Data Correlation and Bivariate Regressions

	totstadopt	totiadopt	totaadopt	fedadopt	fedimpl	salience	logsali
totstadopt	1						
totiadopt	0.4505	1					
totaadopt	0.8452	-0.0963	1				
fedadopt	0.4781	0.1291	0.4558	1			
fedimpl	0.2153	-0.2535	0.3918	0.3025	1		
salience	0.1772	-0.159	0.2927	0.2819	0.8244	1	
logsali	0.509	-0.0219	0.5806	0.3821	0.6695	0.8198	1

Source	SS	df	MS		
				Number of obs =	35
				F(1, 33) =	9.78
Model	84.65608	1	84.656085	Prob > F =	0.0037
Residual	285.6296	33	8.655443	R-squared =	0.2286
Total	370.2857	34	10.89076	Adj R-squared =	0.2052
				Root MSE =	2.942

totstadopt	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
fedadopt	3.703704	1.184273	3.13	0.004	1.294282	6.113125
_cons	3.296296	0.566191	5.82	0	2.144373	4.44822

Source	SS	df	MS		
				Number of obs =	35
				F(1, 33) =	1.6
Model	17.17033	1	17.17033	Prob > F =	0.2141
Residual	353.1154	33	10.70047	R-squared =	0.0464
Total	370.2857	34	10.89076	Adj R-squared =	0.0175
				Root MSE =	3.2712

totstadopt	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
fedimpl	1.602564	1.265108	1.27	0.214	-0.9713165	4.176445
_cons	3.730769	0.641527	5.82	0	2.425574	5.035965

Source	SS	df	MS		
				Number of obs =	35
				F(1, 33) =	1.07
Model	11.62322	1	11.623216	Prob > F =	0.3086
Residual	358.6625	33	10.86856	R-squared =	0.0314
Total	370.2857	34	10.89076	Adj R-squared =	0.002
				Root MSE =	3.2968

totstadopt	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
salience	0.015811	0.015289	1.03	0.309	-0.0152948	0.046916
_cons	3.646849	0.735242	4.96	0	2.150988	5.14271

Source	SS	df	MS		
				Number of obs =	35
				F(1, 33) =	11.54
Model	95.93207	1	95.932072	Prob > F =	0.0018
Residual	274.3536	33	8.313747	R-squared =	0.2591
Total	370.2857	34	10.89076	Adj R-squared =	0.2366
				Root MSE =	2.8834

totstadopt	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
logsali	1.081367	0.318339	3.4	0.002	0.4337016	1.729031
_cons	1.357723	0.953822	1.42	0.164	-0.5828427	3.298289

Source	SS	df	MS		
				Number of obs =	35
				F(1, 33) =	0.56
Model	1.779894	1	1.7798942	Prob > F =	0.4597
Residual	104.963	33	3.180696	R-squared =	0.0167
Total	106.7429	34	3.139496	Adj R-squared =	-0.0131
				Root MSE =	1.7835

totiadopt	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
fedadopt	0.537037	0.717907	0.75	0.46	-0.9235558	1.99763
_cons	0.962963	0.343225	2.81	0.008	0.264666	1.66126

Source	SS	df	MS		
				Number of obs =	35
				F(1, 33) =	2.27
Model	6.858242	1	6.8582418	Prob > F =	0.1418
Residual	99.88462	33	3.026807	R-squared =	0.0643
Total	106.7429	34	3.139496	Adj R-squared =	0.359
				Root MSE =	1.7398

totiadopt	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
fedimpl	-1.01282	0.67285	-1.51	0.142	-2.381745	0.356104
_cons	1.346154	0.341197	3.95	0	0.6519826	2.040325

Source	SS	df	MS		
				Number of obs =	35
				F(1, 33) =	0.86
Model	2.69693	1	2.6969302	Prob > F =	0.3617
Residual	104.0459	33	3.152907	R-squared =	0.0253
Total	106.7429	34	3.139496	Adj R-squared =	-0.0043
				Root MSE =	1.7756

totiadopt	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
salience	-0.00762	0.008235	-0.92	0.362	-0.0243696	0.009138
_cons	1.324639	0.396004	3.35	0.002	0.5189619	2.130316

Source	SS	df	MS		
				Number of obs =	35
				F(1, 33) =	0.02
Model	0.051392	1	0.0513917	Prob > F =	0.9004
Residual	106.6915	33	3.233075	R-squared =	0.0005
Total	106.7429	34	3.139496	Adj R-squared =	-0.0298
				Root MSE =	1.7981

totiadopt	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
logsali	-0.02503	0.198518	-0.13	0.9	-0.4289156	0.378858
_cons	1.150177	0.594808	1.93	0.062	-0.059969	2.360324

Source	SS	df	MS		
				Number of obs =	35
				F(1, 33) =	8.65
Model	61.88571	1	61.885714	Prob > F =	0.0059
Residual	236	33	7.151515	R-squared =	0.2077
Total	297.8857	34	8.761345	Adj R-squared =	0.1837
				Root MSE =	2.6742

tataadopt	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
fedadopt	3.166667	1.076481	2.94	0.006	0.9765506	5.356783
_cons	2.333333	0.514656	4.53	0	1.286258	3.380409

Source	SS	df	MS		
				Number of obs =	35
				F(1, 33) =	5.99
Model	45.73187	1	45.731868	Prob > F =	0.0199
Residual	252.1538	33	7.641026	R-squared =	0.1535
Total	297.8857	34	8.761345	Adj R-squared =	0.1279
				Root MSE =	2.7642

tataadopt	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
fedimpl	2.615385	1.06906	2.45	0.02	0.4403665	4.790403
_cons	2.384615	0.542112	4.4	0	1.28168	3.487551

Source	SS	df	MS		
				Number of obs =	35
				F(1, 33) =	3.09
Model	25.51782	1	25.517824	Prob > F =	0.088
Residual	272.3679	33	8.253572	R-squared =	0.0857
Total	370.2857	34	10.89076	Adj R-squared =	0.058
				Root MSE =	2.8729

tataadopt	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
salience	0.023427	0.013323	1.76	0.088	-0.0036797	0.050533
_cons	2.32221	0.640716	3.62	0.001	1.018664	3.625756

Source	SS	df	MS		
				Number of obs =	35
				F(1, 33) =	16.78
Model	100.4242	1	100.42423	Prob > F =	0.0003
Residual	197.4615	33	5.983681	R-squared =	0.3371
Total	297.8857	34	8.761345	Adj R-squared =	0.317
				Root MSE =	2.4462

tataadopt	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
logsali	1.106395	0.270069	4.1	0	0.556935	1.655855
_cons	0.207546	0.809195	0.26	0.799	-1.438774	1.853866

Appendix E – Early State Adopters Economic and Political Conditions

State	***Year***	***Partisan Control***	***Political Culture***	***State Legislature Professionalism***	***Per Capita Wealth (in thousands)***	***Agriculture GDP (in millions)***
	1979	Divided		.407	$9,819	$1,543
New York	1985	Divided	3.62	.623	$16,761	$1,932
	1990	Divided		.601	$23,710	$2,492
	1979	Democrat		.526	$10,719	$8,937
California	1985	Divided	3.55	.611	$16,777	$11,235
	1990	Democrat		.603	$21,380	$16,765
	1979	Democrat		.200	$10,855	$231
Connecticut	1985	Divided	3.0	.228	$18,635	$382
	1990	Democrat		.211	$26198	$653
	1979	Divided		.180	$7412	$264
Maine	1985	Democrat	2.33	.152	$12,462	$593
	1990	Divided		.127	$17,211	$508
	1979	Divided		.211	$9,312	$2,907
Minnesota	1985	Divided	1.0	.201	$15,023	$3,071
	1990	Divided		.191	$19710	$3,628
	1979	Democrat		.114	$8,192	$619
Montana	1985	Divided	3.0	.111	$11,792	$334
	1990	Divided		.095	$15,346	$842
	1979	Divided		.062	$8,686	$72
New Hampshire	1985	Republican	2.33	.045	$15,663	$110
	1990	Republican		.039	$20,236	$186
	1979	Divided		.212	$9,847	$1,801
Washington	1985	Divided	1.66	.227	$14,619	$2,293
	1990	Divided		.217	$19,637	$3,544
	1979			.216	$8,646	$2,142
Nebraska	1985	*Unicameral*	3.66	.190	$13,756	$2,642
	1990			.180	$17948	$3,525

State	***Year***	***Partisan Control***	***Political Culture***	***State Legislature Professionalism***	***Per Capita Wealth (in thousands)***	***Agriculture GDP (in millions)***
	1979	Divided		.077	$8,290	$1,203
North Dakota	1985	Divided	2.0	.075	$12,728	$1,244
	1990	Divided		.068	$15,866	$1,221
	1979	Republican		.266	$8,994	$3,995
Iowa	1985	Divided	2.0	.231	$13,370	$3,831
	1990	Divided		.201	$17,350	$4,266
	1979	Republican		.104	$8,059	$1,289
South Dakota	1985	Republican	3.0	.086	$11,898	$1,253
	1990	Republican		.076	$16,075	$1,610
	1979	Divided		.249	$9,197	$2,705
Wisconsin	1985	Democrat	2.0	.267	$13,719	$2,793
	1990	Divided		.346	$17,986	$3,211
	1979	Divided		.320	$13,199	$204
Alaska	1985	Divided	6.0	.312	$20,104	$501
	1990	Divided		.279	$22,594	$516
	1979	Divided		.284	$9.502	$919
Colorado	1985	Divided	1.80	.298	$15,267	$1,300
	1990	Divided		.249	$19,377	$1,858
	1979	Democrat		.150	$7,744	$1,031
Louisiana	1985	Democrat	8.0	.180	$12,024	$845
	1990	Democrat		.169	$15,171	$992
	1979	Democrat		.249	$8,395	$1,430
Oklahoma	1985	Democrat	8.25	.250	$13,171	$1,204
	1990	Divided		.225	$16,077	$1,630
	1979	Divided		.223	$9,295	$1,045
Oregon	1985	Divided	2.0	.190	$13,429	$1,348
	1990	Democrat		.171	$17,895	$1,966

State	***Year***	***Partisan Control***	***Political Culture***	***State Legislature Professionalism***	***Per Capita Wealth (in thousands)***	***Agriculture GDP (in millions)***
	1979	Divided		.191	$8,832	$4,159
Texas	1985	Democrat	7.11	.207	$14,110	$4,421
	1990	Divided		.212	$17,260	$6,346
	1979	Democrat		.224	$8,731	$3,006
Florida	1985	Democrat	7.80	.251	$14,643	$4,201
	1990	Divided		.253	$19,437	$5,378
	1979	Divided		.179	$7,796	$791
Idaho	1985	Divided	2.50	.133	$11,497	$1,092
	1990	Divided		.119	$15,603	$1,692
	1979	Democrat		.078	$7,603	$1,420
Kentucky	1985	Democrat	7.40	.098	$11,503	$1,755
	1990	Democrat		.095	$15,360	$1,970
	1979	Democrat		.252	$9,971	$472
Maryland	1985	Democrat	7.0	.211	$16,935	$836
	1990	Democrat		.220	$22,681	$1,112
	1979	Republican		.092	$7,545	$412
New Mexico	1985	Divided	7.0	.097	$11,959	$467
	1990	Divided		.096	$12,823	$716
	1979	Republican		.130	$7,756	$188
Vermont	1985	Divided	2.33	.143	$12,867	$230
	1990	Divided		.134	$17,643	$280
	1979	Divided		.164	$8,950	$697
Virginia	1985	Democrat	7.86	.136	$15,284	$1,040
	1990	Democrat		.140	$20,312	$1,679

Appendix F – Regional Univariate and Correlation Results

REGION 1 – Far West

Variable	Obs	Mean	Std. Dev.	Min	Max
adopt	210	0.157143	0.364805	0	1
fedadopt	210	0.228571	0.420916	0	1
fedimpl	210	0.257143	0.438103	0	1
salience	210	31.37143	36.53517	0	151
logsali	210	2.575569	1.534658	0	5.01728
pcwealth	210	23838.01	10199.42	6898	44816
logpcw	210	9.975159	0.477041	8.838986	10.71032
stlegprof	210	0.272676	0.147463	0.121	0.626
sharkculmeas	210	4.41	2.305205	1.66	8.25
parcont	210	0.295238	0.534437	-1	1
dividedgov	210	0.633333	0.483046	0	1
peraggdp	210	0.018482	0.009929	0.0018	0.0406
logpagdp	210	-4.18974	0.712857	-6.319969	-3.20399
fruper	210	0.150068	0.127576	0.0002364	0.3513
logfru	210	10.28531	4.586064	1.252763	16.30243
vegper	210	0.085302	0.078597	0.0042029	1
logveg	210	10.9862	2.649775	5.905362	15.58373
natiadoptper	210	0.443429	0.276526	0.02	0.76
regiadoptper	210	0.552381	0.303545	0	0.833333
natexistper	210	0.417714	0.25695	0.02	0.7
regexistper	210	0.509524	0.270692	0	0.833333

	adopt	fedadopt	fedimpl	salience	logsali	pcwealth
adopt	1					
fedadopt	0.1077	1				
fedimpl	0.0154	0.3025	1			
salience	0.0121	0.2819	0.8244	1		
logsali	0.1544	0.3821	0.6695	0.8198	1	
pcwealth	0.1045	0.3529	0.7804	0.8663	0.9123	1
logpcw	0.1372	0.3666	0.6757	0.7735	0.9066	0.9732
stlegprof	0.3741	-0.0207	-0.0316	-0.0358	-0.0474	0.0321
sharkculmeas	-0.2156	0	0	0	0	0.0515
parcont	-0.0182	-0.0887	-0.1623	-0.16	-0.2172	-0.2407
dividedgov	0.057	0.0612	0.0181	0.0492	0.1696	0.1524
peraggdp	0.0797	-0.1855	-0.3763	-0.4059	-0.4376	-0.5462
logpagdp	0.1042	-0.1721	-0.3914	-0.4086	-0.4152	-0.5028
fruper	0.2671	0.0745	0.1089	0.1373	0.1872	0.1921

logfru	0.2784	0.048	0.0895	0.1032	0.1228	0.0793
vegper	0.1885	0.0846	0.2162	0.2381	0.2952	0.3319
logveg	0.3585	0.1121	0.2308	0.2432	0.2673	0.253
natiadoptper	0.172	0.4175	0.6135	0.7298	0.9496	0.9191
regiadoptper	0.2062	0.4301	0.5459	0.67	0.9309	0.8895
natexistper	0.1927	0.4296	0.5204	0.6514	0.9223	0.8732
regexistper	0.227	0.4007	0.3424	0.5289	0.8633	0.787

	logpcw	stlegp~f	sharkc~s	parcont	divide~v	peraggdp	logpagdp
logpcw	1						
stlegprof	0.0335	1					
sharkculmeas	0.07	-0.0144	1				
parcont	-0.2683	0.0477	0.0952	1			
dividedgov	0.2107	0.0257	-0.1437	-0.7092	1		
peraggdp	-0.5552	0.0731	-0.596	0.1746	-0.1299	1	
logpagdp	-0.4956	0.2011	-0.4903	0.2269	-0.189	0.9273	1
fruper	0.187	0.541	-0.0525	0.386	-0.2803	0.1761	0.2979
logfru	0.056	0.4566	-0.4335	0.3428	-0.2329	0.4746	0.4919
vegper	0.325	0.391	-0.0773	-0.0557	0.1075	-0.0651	-0.0186
logveg	0.2241	0.5436	-0.5394	0.1803	-0.0734	0.3255	0.3044
natiadoptper	0.9408	-0.0495	0	-0.2186	0.1821	-0.4625	-0.4297
regiadoptper	0.9359	-0.043	0	-0.2334	0.2078	-0.4457	-0.4116
natexistper	0.9151	-0.0495	0	-0.209	0.1921	-0.4442	-0.4061
regexistper	0.8672	-0.0397	0	-0.218	0.2281	-0.3983	-0.356

	fruper	logfru	vegper	logveg	natiad~r	regiad~r	natexi~r
fruper	1						
logfru	0.8607	1					
vegper	0.2714	0.2294	1				
logveg	0.7363	0.9259	0.33	1			
natiadoptper	0.2022	0.1281	0.3184	0.2761	1		
regiadoptper	0.2043	0.1268	0.3195	0.2692	0.9806	1	
natexistper	0.2024	0.1249	0.3144	0.2644	0.9911	0.9806	1
regexistper	0.1998	0.118	0.3	0.2397	0.9341	0.9741	0.9593

REGION 2 – Rocky Mountain

Variable	Obs	Mean	Std. Dev.	Min	Max
adopt	245	0.110204	0.313785	0	1
fedadopt	245	0.228571	0.420772	0	1
fedimpl	245	0.257143	0.437954	0	1
salience	245	31.37143	36.52269	0	151
logsali	244	2.586124	1.528345	0	5.01728
pcwealth	245	20270.84	9874.536	5520	49104
logpcw	245	9.790325	0.520109	8.616133	10.8017
stlegprof	245	0.132057	0.071995	0.054	0.3
sharkculmeas	245	3.708571	1.826252	1.8	7
parcont	245	-0.15102	0.605346	-1	1
dividedgov	245	0.57551	0.495277	0	1
peraggdp	245	0.030322	0.023769	0.001	0.1065
logpagdp	245	-3.78131	0.777256	-6.907755	-2.23961
fruper	245	0.016627	0.021002	3.77E-06	0.092134
logfru	245	8.825029	2.636977	0.6931472	11.84667
vegper	245	0.08498	0.223531	0.0001089	1.591818
logveg	245	10.05222	2.661801	4.189655	16.13538
natiadoptper	245	0.443429	0.276432	0.02	0.76
regiadoptper	245	0.453061	0.329085	0	0.857143
natexistper	245	0.417714	0.256863	0.02	0.7
regexistper	245	0.44898	0.333779	0	0.857143

	adopt	fedadopt	fedimpl	salience	logsali	pcwealth
adopt	1					
fedadopt	0.056	1				
fedimpl	0.0606	0.3015	1			
salience	0.0851	0.2806	0.8242	1		
logsali	0.1971	0.3808	0.6699	0.8199	1	
pcwealth	0.1693	0.3346	0.7813	0.8528	0.8762	1
logpcw	0.1911	0.3612	0.6925	0.7808	0.9001	0.9653
stlegprof	0.0988	-0.0681	-0.0453	-0.0802	-0.1595	-0.0587
sharkculmeas	0.0216	0.0041	0.0044	0.0064	0.0126	-0.056
parcont	0.0479	-0.1505	-0.0653	-0.0976	-0.2587	-0.2076
dividedgov	-0.0688	-0.1255	-0.2163	-0.2884	-0.3853	-0.2666
peraggdp	-0.0055	-0.1165	-0.2522	-0.2656	-0.2954	-0.3941
logpagdp	-0.0006	-0.1515	-0.3406	-0.3677	-0.3512	-0.4607
fruper	0.1007	-0.0043	-0.0624	-0.0412	-0.0067	-0.1077
logfru	0.1666	0.0494	0.1332	0.1392	0.1354	0.0446
vegper	0.0935	0.0708	0.3344	0.3478	0.2765	0.2424

logveg	0.246	0.1581	0.3427	0.3535	0.3679	0.3443
natiadoptper	-0.1729	0.0453	0.1141	0.1212	0.1225	0.0543
regiadoptper	0.2449	0.3724	0.5239	0.6687	0.9175	0.8201
natexistper	-0.171	0.0323	0.0916	0.0982	0.0974	0.0079
regexistper	0.2402	0.3738	0.5238	0.6685	0.9142	0.8177

	logpcw	stlegp~f	sharkc~s	parcont	divide~v	peraggdp	logpagdp
logpcw	1						
stlegprof	-0.0765	1					
sharkculmeas	-0.0442	0.0084	1				
parcont	-0.2926	0.1767	0.4741	1			
dividedgov	-0.2873	0.2628	-0.0049	0.3033	1		
peraggdp	-0.4024	-0.085	-0.2265	0.0377	0.1924	1	
logpagdp	-0.4492	-0.1243	-0.1253	0.0864	0.2059	0.9102	1
fruper	-0.0715	0.3771	0.653	0.2573	-0.0684	-0.3072	-0.277
logfru	0.059	0.5193	0.2005	0.1106	-0.1805	-0.076	-0.1698
vegper	0.2434	0.1594	0.0379	-0.2113	-0.2085	0.0552	0.0602
logveg	0.3458	0.5714	0.1504	-0.0224	-0.1952	-0.1628	-0.216
natiadoptper	0.0588	-0.9243	0.0554	-0.1342	-0.2569	-0.1001	-0.0207
regiadoptper	0.8839	-0.1869	0.0103	-0.3299	-0.4014	-0.2972	-0.3318
natexistper	0.0154	-0.9178	0.0737	-0.1051	-0.2585	-0.052	0.036
regexistper	0.8793	-0.1868	0.0101	-0.3255	-0.4027	-0.2925	-0.3282

	fruper	logfru	vegper	logveg	natiad~r	regiad~r	natexi~r
fruper	1						
logfru	0.6114	1					
vegper	0.1255	0.2605	1				
logveg	0.47	0.8358	0.5496	1			
natiadoptper	-0.353	-0.5355	-0.1324	-0.5899	1		
regiadoptper	0.0094	0.1208	0.2225	0.342	0.1125	1	
natexistper	-0.3349	-0.4669	-0.1131	-0.5515	0.9912	0.0881	1
regexistper	0.0091	0.1197	0.2222	0.3414	0.1121	0.9975	0.0878

REGION 3 – Southwest

Variable	Obs	Mean	Std. Dev.	Min	Max
adopt	140	0.085714	0.280947	0	1
fedadopt	140	0.228571	0.42142	0	1
fedimpl	140	0.257143	0.438628	0	1
salience	140	31.37143	36.57895	0	151
logsali	140	2.575569	1.536497	0	5.01728
pcwealth	140	19375.41	9212.371	5157	39615
logpcw	140	9.747244	0.520607	8.54811	10.58696
stlegprof	140	0.170043	0.04588	0.104	0.25
sharkculmeas	140	8.09	0.677368	7.11	9
parcont	140	0.471429	0.605049	-1	1
dividedgov	140	0.414286	0.494367	0	1
peraggdp	140	0.023991	0.017749	0.0054	0.1036
logpagdp	140	-3.9519	0.654187	-5.221356	-2.26722
fruper	140	0.004132	0.002766	0.0014995	0.011198
logfru	140	9.570138	1.228353	8.048469	12.46642
vegper	140	0.009878	0.00857	0.0022359	0.028292
logveg	140	10.27972	1.434034	8.301521	12.92446
natiadoptper	140	0.443429	0.276857	0.02	0.76
regiadoptper	140	0.471429	0.363691	0	0.75
natexistper	140	0.417714	0.257258	0.02	0.7
regexistper	140	0.471429	0.363691	0	0.75

	adopt	fedadopt	fedimpl	salience	logsali	pcwealth
adopt	1					
fedadopt	0.0764	1				
fedimpl	-0.005	0.3025	1			
salience	0.0319	0.2819	0.8244	1		
logsali	0.1696	0.3821	0.6695	0.8198	1	
pcwealth	0.1174	0.3338	0.8021	0.8905	0.9021	1
logpcw	0.1474	0.3579	0.6962	0.794	0.9079	0.9674
stlegprof	0.2308	-0.0801	-0.1167	-0.1168	-0.156	-0.0324
sharkculmeas	-0.2816	0	0	0	0	-0.1338
parcont	-0.1548	-0.2281	-0.4058	-0.4094	-0.4241	-0.5433
dividedgov	0.0533	0.1983	0.1024	0.135	0.2382	0.2676
peraggdp	-0.0368	-0.1637	-0.2662	-0.2906	-0.3201	-0.4215
logpagdp	-0.0931	-0.1741	-0.3402	-0.3734	-0.3787	-0.5125
fruper	0.1663	0.056	0.3016	0.2569	0.1554	0.3374
logfru	0.2629	0.1118	0.3354	0.3409	0.3109	0.4596
vegper	0.1866	0.0659	0.1802	0.1448	0.1156	0.2514

logveg	0.2687	0.135	0.3106	0.3276	0.3384	0.4616
natiadoptper	0.159	0.4175	0.6135	0.7298	0.9496	0.901
regiadoptper	0.2354	0.4184	0.4523	0.6081	0.9052	0.7689
natexistper	0.1819	0.4296	0.5204	0.6514	0.9223	0.8489
regexistper	0.2354	0.4184	0.4523	0.6081	0.9052	0.7689

	logpcw	stlegp~f	sharkc~s	parcont	divide~v	peraggdp	logpagdp
logpcw	1						
stlegprof	-0.0219	1					
sharkculmeas	-0.1268	-0.674	1				
parcont	-0.5078	-0.1819	0.3623	1			
dividedgov	0.3021	0.0427	-0.1066	-0.6576	1		
peraggdp	-0.4449	-0.4015	0.593	0.3161	-0.1747	1	
logpagdp	-0.5052	-0.3539	0.6633	0.4208	-0.1846	0.93	1
fruper	0.2587	0.2899	-0.7844	-0.4838	0.0847	-0.3871	-0.5495
logfru	0.4168	0.293	-0.7029	-0.5353	0.1563	-0.2618	-0.3628
vegper	0.2352	0.2843	-0.7915	-0.3096	0.1452	-0.3978	-0.5042
logveg	0.4515	0.2636	-0.7122	-0.467	0.1621	-0.3085	-0.3943
natiadoptper	0.9401	-0.1658	0	-0.4194	0.2681	-0.3244	-0.3811
regiadoptper	0.8281	-0.1587	0	-0.3307	0.2264	-0.2665	-0.3101
natexistper	0.9104	-0.1647	0	-0.3988	0.2869	-0.3129	-0.362
regexistper	0.8281	-0.1587	0	-0.3307	0.2264	-0.2665	-0.3101

	fruper	logfru	vegper	logveg	natiad~r	regiad~r	natexi~r
fruper	1						
logfru	0.8723	1					
vegper	0.9061	0.8211	1				
logveg	0.8503	0.974	0.8814	1			
natiadoptper	0.128	0.3027	0.1103	0.3395	1		
regiadoptper	0.0664	0.2432	0.0702	0.2858	0.9484	1	
natexistper	0.0922	0.2753	0.0939	0.3197	0.9911	0.962	1
regexistper	0.0664	0.2432	0.0702	0.2858	0.9484	1	0.962

REGION 4 – North Central

Variable	Obs	Mean	Std. Dev.	Min	Max
adopt	420	0.064286	0.245554	0	1
fedadopt	420	0.228571	0.420413	0	1
fedimpl	420	0.257143	0.43758	0	1
salience	420	31.37143	36.49154	0	151
logsali	420	2.575569	1.532825	0	5.01728
pcwealth	420	21643.03	9984.855	5600	43502
logpcw	420	9.861204	0.51468	8.630522	10.68056
stlegprof	420	0.220119	0.126956	0.049	0.653
sharkculmeas	420	3.599167	1.938622	1	7.66
parcont	385	-0.14805	0.609305	-1	1
dividedgov	385	0.61039	0.488297	0	1
peraggdp	420	0.044181	0.043033	0.0038	0.41
logpagdp	420	-3.55539	0.963823	-5.572754	-0.8916
fruper	420	0.008337	0.018256	9.48E-06	0.084305
logfru	420	8.586614	2.35344	2.890372	12.9962
vegper	420	0.013818	0.017644	0.0001181	0.085491
logveg	420	10.05453	1.928852	5.407172	13.13152
natiadoptper	420	0.443429	0.276196	0.02	0.76
regiadoptper	420	0.447619	0.313503	0	0.833333
natexistper	420	0.417714	0.256644	0.02	0.7
regexistper	420	0.440476	0.311904	0	0.833333

	adopt	fedadopt	fedimpl	salience	logsali	pcwealth
adopt	1					
fedadopt	0.1	1				
fedimpl	0.1022	0.3025	1			
salience	0.0972	0.2819	0.8244	1		
logsali	0.1216	0.3821	0.6695	0.8198	1	
pcwealth	0.1309	0.3553	0.781	0.8641	0.911	1
logpcw	0.1358	0.371	0.678	0.7752	0.9117	0.9721
stlegprof	-0.0873	-0.0492	-0.081	-0.0828	-0.1029	-0.0583
sharkculmeas	-0.1147	0	0	0	0	-0.0203
parcont	0.0485	-0.0912	-0.0229	-0.0179	-0.1197	-0.0707
dividedgov	0.024	-0.0091	-0.0662	-0.0838	-0.0766	-0.0839
peraggdp	-0.0285	-0.0855	-0.1223	-0.1708	-0.2576	-0.3118
logpagdp	-0.0167	-0.1604	-0.1925	-0.2085	-0.3216	-0.3953
fruper	-0.0388	0.0037	-0.0094	-0.0112	-0.0042	-0.0026
logfru	-0.018	0.0576	0.1024	0.1062	0.1266	0.1881
vegper	0.0273	0.1219	0.2019	0.1671	0.1893	0.2361

logveg	0.0838	0.1612	0.3408	0.3426	0.3564	0.4571
natiadoptper	0.1175	0.4175	0.6135	0.7298	0.9496	0.9206
regiadoptper	0.1524	0.3989	0.6377	0.7521	0.9426	0.9216
natexistper	0.1163	0.4296	0.5204	0.6514	0.9223	0.8754
regexistper	0.1511	0.3952	0.637	0.7459	0.9375	0.914

	logpcw	stlegp~f	sharkc~s	parcont	divide~v	peraggdp	logpagdp
logpcw	1						
stlegprof	-0.0405	1					
sharkculmeas	-0.0105	-0.0521	1				
parcont	-0.1059	0.2816	0.0233	1			
dividedgov	-0.0717	0.2534	-0.0461	0.3133	1		
peraggdp	-0.3492	-0.5062	-0.327	-0.2717	-0.1939	1	
logpagdp	-0.4259	-0.5949	-0.3865	-0.2086	-0.1701	0.8702	1
fruper	0.0126	0.7793	-0.2541	0.0828	0.171	-0.3078	-0.4146
logfru	0.2073	0.807	0.1274	0.3614	0.2623	-0.7624	-0.7904
vegper	0.2337	0.7062	-0.2917	0.0539	0.1168	-0.4157	-0.5344
logveg	0.4515	0.5979	-0.0124	0.2368	0.1384	-0.7206	-0.7491
natiadoptper	0.9507	-0.108	0	-0.1495	-0.0723	-0.2775	-0.3614
regiadoptper	0.9446	-0.1049	0	-0.1361	-0.067	-0.2798	-0.361
natexistper	0.9259	-0.1059	0	-0.163	-0.0678	-0.2805	-0.3669
regexistper	0.9381	-0.1051	0	-0.1378	-0.0657	-0.278	-0.3592

	fruper	logfru	vegper	logveg	natiad~r	regiad~r	natexi~r
fruper	1						
logfru	0.6043	1					
vegper	0.8312	0.6473	1				
logveg	0.4394	0.8093	0.7162	1			
natiadoptper	-0.0017	0.1324	0.2004	0.3605	1		
regiadoptper	-0.0017	0.1327	0.2041	0.3632	0.9806	1	
natexistper	0.0002	0.1284	0.1915	0.3397	0.9911	0.9673	1
regexistper	-0.0015	0.132	0.2022	0.3599	0.9776	0.9972	0.9667

REGION 5 – Southeast

Variable	Obs	Mean	Std. Dev.	Min	Max
adopt	280	0.064286	0.2457	0	1
fedadopt	280	0.228571	0.420664	0	1
fedimpl	280	0.257143	0.437841	0	1
salience	280	31.37143	36.51333	0	151
logsali	280	2.575569	1.53374	0	5.01728
pcwealth	280	19404.02	9220.324	4746	39978
logpcw	280	9.739899	0.54552	8.465057	10.59608
stlegprof	280	0.150318	0.049855	0.067	0.281
sharkculmeas	280	8.415	0.507068	7.4	9
parcont	280	0.403571	0.654174	-1	1
dividedgov	280	0.410714	0.492844	0	1
peraggdp	280	0.020851	0.015805	0.0043	0.188
logpagdp	280	-4.03716	0.556711	-5.44914	-1.67131
fruper	280	0.042578	0.086407	0.0005747	0.311339
logfru	280	10.08526	1.97315	7.36518	14.6657
vegper	280	0.03969	0.053334	0.0018449	0.199974
logveg	280	10.8704	1.550781	8.090555	14.2366
natiadoptper	280	0.443357	0.276338	0.02	0.76
regiadoptper	280	0.292857	0.265965	0	0.625
natexistper	280	0.417643	0.256765	0.02	0.7
regexistper	280	0.264286	0.233355	0	0.625

	adopt	fedadopt	fedimpl	salience	logsali	pcwealth
adopt	1					
fedadopt	0.1694	1				
fedimpl	0.0457	0.3025	1			
salience	0.074	0.2819	0.8244	1		
logsali	0.1609	0.3821	0.6695	0.8198	1	
pcwealth	0.1487	0.3545	0.7661	0.848	0.9121	1
logpcw	0.1683	0.3685	0.6567	0.7557	0.9086	0.9699
stlegprof	-0.0289	-0.0744	-0.1005	-0.1529	-0.2198	-0.1152
sharkculmeas	-0.1487	0	0	0	0	-0.0605
parcont	-0.0059	-0.1671	-0.4887	-0.5304	-0.5446	-0.5883
dividedgov	0.018	0.0988	0.1068	0.1672	0.2924	0.2212
peraggdp	-0.039	-0.2088	-0.19	-0.249	-0.3387	-0.3959
logpagdp	-0.0172	-0.2754	-0.4432	-0.4827	-0.5642	-0.6671
fruper	0.0657	-0.0074	-0.0004	-0.0058	-0.0178	0.1069
logfru	0.0796	0.0778	0.1637	0.1656	0.1762	0.3213
vegper	0.1029	0.0572	0.1058	0.1111	0.1283	0.2689

logveg	0.0989	0.1616	0.3427	0.3638	0.3918	0.5571
natiadoptper	0.2048	0.4176	0.6138	0.7299	0.9496	0.925
regiadoptper	0.2182	0.4247	0.7361	0.7808	0.9009	0.9322
natexistper	0.2183	0.4298	0.5206	0.6515	0.9224	0.8828
regexistper	0.2496	0.4413	0.6304	0.6964	0.8784	0.8957

	logpcw	stlegp~f	sharkc~s	parcont	divide~v	peraggdp	logpagdp
logpcw	1						
stlegprof	-0.1377	1					
sharkculmeas	-0.0617	-0.0895	1				
parcont	-0.5498	-0.1049	-0.0016	1			
dividedgov	0.2723	-0.0444	0.0749	-0.5048	1		
peraggdp	-0.4192	0.027	0.0117	0.3136	-0.1313	1	
logpagdp	-0.6582	0.0492	-0.063	0.4909	-0.1824	0.8404	1
fruper	0.089	0.6671	-0.4108	-0.22	-0.1113	-0.0561	-0.0496
logfru	0.3023	0.617	-0.1102	-0.3036	-0.0984	-0.1732	-0.2271
vegper	0.2491	0.6417	-0.3214	-0.3202	-0.0892	-0.1619	-0.2261
logveg	0.5348	0.5069	-0.0779	-0.3949	-0.0145	-0.3044	-0.4607
natiadoptper	0.9496	-0.234	-0.0001	-0.5266	0.3093	-0.3698	-0.5926
regiadoptper	0.8999	-0.2193	0	-0.5272	0.2412	-0.3316	-0.5831
natexistper	0.9282	-0.2382	-0.0001	-0.4915	0.3209	-0.3779	-0.5809
regexistper	0.8848	-0.2286	0	-0.4869	0.2527	-0.3434	-0.5773

	fruper	logfru	vegper	logveg	natiad~r	regiad~r	natexi~r
fruper	1						
logfru	0.8238	1					
vegper	0.9571	0.8806	1				
logveg	0.7156	0.9128	0.8409	1			
natiadoptper	-0.021	0.1788	0.133	0.3994	1		
regiadoptper	-0.016	0.1853	0.1326	0.4065	0.9471	1	
natexistper	-0.0229	0.169	0.1285	0.3803	0.9911	0.9168	1
regexistper	-0.0184	0.1765	0.1291	0.3898	0.9497	0.9863	0.9385

REGION 6 – Mid-Atlantic

Variable	Obs	Mean	Std. Dev.	Min	Max
adopt	210	0.047619	0.213468	0	1
fedadopt	210	0.228571	0.420916	0	1
fedimpl	210	0.257143	0.438103	0	1
salience	210	31.37143	36.53517	0	151
logsali	210	2.575569	1.534658	0	5.01728
pcwealth	210	23826.97	11718.37	5468	52141
logpcw	210	9.942011	0.548215	8.606668	10.86171
stlegprof	210	0.2046	0.081179	0.116	0.502
sharkculmeas	210	6.245	1.521672	4	7.86
parcont	210	0.328571	0.642694	-1	1
dividedgov	210	0.480952	0.500831	0	1
peraggdp	210	0.293317	4.139868	0.0015	60
logpagdp	210	-4.98511	0.859843	-6.50229	4.094345
fruper	210	0.041818	0.045578	0.0020788	0.154025
logfru	210	10.04363	1.297163	7.204893	12.03443
vegper	210	0.058203	0.071429	0.003143	0.230744
logveg	210	10.33108	1.439642	6.425679	12.15926
natiadoptper	210	0.443429	0.276526	0.02	0.76
regiadoptper	210	0.319048	0.277754	0	0.666667
natexistper	210	0.417714	0.25695	0.02	0.7
regexistper	210	0.280952	0.238855	0	0.666667

	adopt	fedadopt	fedimpl	salience	logsali	pcwealth
adopt	1					
fedadopt	0.1445	1				
fedimpl	0.1242	0.3025	1			
salience	0.0842	0.2819	0.8244	1		
logsali	0.1422	0.3821	0.6695	0.8198	1	
pcwealth	0.1623	0.3377	0.7482	0.826	0.8734	1
logpcw	0.164	0.3591	0.6507	0.745	0.8841	0.9646
stlegprof	0.0638	-0.0119	0.029	0.0401	0.0186	0.1136
sharkculmeas	0.0249	0	0	0	0	-0.1158
parcont	0.0249	-0.0667	0.0553	0.0131	-0.1217	-0.1712
dividedgov	-0.0362	0.0208	0.1097	0.0341	0.0384	0.0568
peraggdp	-0.0156	-0.0379	-0.0412	-0.0505	-0.0442	-0.0235
logpagdp	-0.0825	-0.2255	-0.4078	-0.4232	-0.4362	-0.5078
fruper	-0.0723	-0.0627	-0.0554	-0.0698	-0.1225	-0.0061
logfru	0.0744	0.0263	0.109	0.1205	0.1052	0.1803
vegper	-0.0311	0.03	0.0274	0.0186	0.0347	0.2279

logveg	0.1226	0.1335	0.2747	0.292	0.3206	0.5512
natiadoptper	0.1707	0.4175	0.6135	0.7298	0.9496	0.8809
regiadoptper	0.1595	0.3964	0.6988	0.7809	0.9199	0.8798
natexistper	0.1765	0.4296	0.5204	0.6514	0.9223	0.8374
regexistper	0.1743	0.4528	0.5866	0.6717	0.8869	0.8289

	logpcw	stlegp~f	sharkc~s	parcont	divide~v	peraggdp	logpagdp
logpcw	1						
stlegprof	0.1015	1					
sharkculmeas	-0.1049	-0.801	1				
parcont	-0.2087	-0.3328	0.344	1			
dividedgov	0.0697	0.0314	-0.0098	-0.4933	1		
peraggdp	-0.0057	0.049	-0.1021	-0.0354	0.072	1	
logpagdp	-0.4481	0.002	0.1035	0.0249	0.1481	0.7328	1
fruper	-0.0755	0.1547	-0.5568	-0.0158	-0.1621	0.1246	-0.235
logfru	0.1453	0.5632	-0.5886	-0.1961	-0.1229	0.0522	-0.1994
vegper	0.2061	0.2202	-0.6195	-0.1575	-0.0256	0.1419	-0.2289
logveg	0.5527	0.5235	-0.5228	-0.3458	0.1402	0.0575	-0.1627
natiadoptper	0.9207	0.0099	0	-0.1797	0.0295	-0.0616	-0.4618
regiadoptper	0.8762	0.0197	0	-0.1612	0.0267	-0.0802	-0.4927
natexistper	0.8977	0.0043	0	-0.2058	0.0168	-0.0593	-0.4411
regexistper	0.8505	0.0103	0	-0.2094	0.0116	-0.0821	-0.4844

	fruper	logfru	vegper	logveg	natiad~r	regiad~r	natexi~r
fruper	1						
logfru	0.5195	1					
vegper	0.7552	0.2626	1				
logveg	0.0576	0.3567	0.5333	1			
natiadoptper	-0.1373	0.0996	0.0407	0.3282	1		
regiadoptper	-0.1248	0.1018	0.0397	0.3269	0.96	1	
natexistper	-0.142	0.0893	0.0419	0.314	0.9911	0.9328	1
regexistper	-0.1333	0.0863	0.044	0.3121	0.9561	0.9743	0.9538

REGION 7 – Northeast

Variable	Obs	Mean	Std. Dev.	Min	Max
adopt	245	0.073469	0.26144	0	1
fedadopt	245	0.228571	0.420772	0	1
fedimpl	245	0.257143	0.437954	0	1
salience	245	31.37143	36.52269	0	151
logsali	245	2.575569	1.534133	0	5.01728
pcwealth	245	24824.07	12610.59	5698	56959
logpcw	245	9.971222	0.574894	8.64787	10.95009
stlegprof	245	0.225086	0.172894	0.027	0.659
sharkculmeas	245	2.895714	0.54761	2.33	3.66
parcont	245	0.183674	0.575222	-1	1
dividedgov	245	0.636735	0.481925	0	1
peraggdp	245	0.010803	0.013398	0.0013	0.155
logpagdp	245	-4.96971	0.919459	-6.645391	-1.86433
fruper	245	0.083032	0.071777	0.0195956	0.337495
logfru	245	9.930303	1.452697	6.834109	12.94027
vegper	245	0.061914	0.052323	0.0035006	0.293105
logveg	245	9.588315	1.524259	6.731018	12.84103
natiadoptper	245	0.446449	0.275828	0.02	0.76
regiadoptper	245	0.602916	0.163113	0.1428571	0.714286
natexistper	245	0.420245	0.255981	0.02	0.7
regexistper	245	0.534694	0.178934	0.1428571	0.714286

	adopt	fedadopt	fedimpl	salience	logsali	pcwealth
adopt	1					
fedadopt	0.182	1				
fedimpl	0.0133	0.3025	1			
salience	-0.0943	0.2819	0.8244	1		
logsali	-0.05	0.3821	0.6695	0.8198	1	
pcwealth	-0.0807	0.3367	0.7536	0.8338	0.8793	1
logpcw	-0.07	0.36	0.6506	0.7471	0.8901	0.9604
stlegprof	-0.1403	-0.0318	-0.0633	-0.0738	-0.0872	0.0515
sharkculmeas	-0.1587	0	0	0	0	0.1797
parcont	-0.0628	-0.0556	0.072	0.0947	-0.0544	-0.0211
dividedgov	-0.0801	0.1484	0.056	0.0589	0.2182	0.2075
peraggdp	0.0238	-0.1372	-0.1249	-0.1815	-0.217	-0.3504
logpagdp	0.0644	-0.2001	-0.3755	-0.399	-0.4258	-0.6434
fruper	-0.0919	-0.0015	-0.0146	0.0374	0.0692	0.0918
logfru	-0.05	0.0553	0.1608	0.1979	0.2038	0.2739
vegper	-0.0841	0.1898	0.4611	0.4499	0.4393	0.4106

logveg	-0.0671	0.1629	0.3496	0.3782	0.4093	0.4872
natiadoptper	-0.0612	0.4145	0.6105	0.7278	0.949	0.8819
regiadoptper	-0.027	0.3724	0.4025	0.5302	0.805	0.7469
natexistper	-0.0603	0.4256	0.5149	0.6487	0.9217	0.8374
regexistper	0.0579	0.3297	-0.1405	-0.0167	0.4264	0.3123

	logpcw	stlegp~f	sharkc~s	parcont	divide~v	peraggdp	logpagdp
logpcw	1						
stlegprof	0.0531	1					
sharkculmeas	0.1614	0.8664	1				
parcont	-0.0527	0.1928	0.2578	1			
dividedgov	0.2089	0.1165	0.0789	-0.4236	1		
peraggdp	-0.3561	-0.2673	-0.4749	-0.0344	-0.0839	1	
logpagdp	-0.5974	-0.3529	-0.6267	-0.0221	-0.1483	0.7882	1
fruper	0.1152	0.4062	0.4682	0.182	-0.1195	-0.1696	-0.2019
logfru	0.2706	0.7335	0.5102	0.0467	0.1604	-0.1016	-0.2039
vegper	0.4224	0.0953	0.1972	0.2488	-0.0885	-0.0671	-0.2476
logveg	0.4944	0.6802	0.5562	0.1166	0.2013	-0.2466	-0.4147
natiadoptper	0.9246	-0.0943	-0.0114	-0.1015	0.2767	-0.2188	-0.4243
regiadoptper	0.8693	-0.0432	-0.0014	-0.1617	0.2504	-0.2014	-0.3357
natexistper	0.9019	-0.0919	-0.0103	-0.1272	0.2971	-0.2221	-0.407
regexistper	0.5211	-0.0023	0	-0.2413	0.2384	-0.1554	-0.1405

	fruper	logfru	vegper	logveg	natiad~r	regiad~r	natexi~r
fruper	1						
logfru	0.5082	1					
vegper	0.3463	0.3065	1				
logveg	0.3076	0.8869	0.5439	1			
natiadoptper	0.0629	0.1955	0.4275	0.4079	1		
regiadoptper	0.1063	0.1931	0.3244	0.3501	0.8877	1	
natexistper	0.0685	0.1849	0.3962	0.3891	0.9909	0.8986	1
regexistper	0.0962	0.0854	0.0681	0.1536	0.56	0.7591	0.6449

Appendix G - Participant Interview Recruitment Information

California – Identified and Targeted Recruitment Organizations (Former and Current Employees/Staff/Members)

- California State Assembly including appropriate committees
- California Department of Food and Agriculture, California Organic Program
- California Department of Public Health
- California Organic Products Advisory Committee
- California County Agricultural Commissioners
- University of California, Santa Cruz
- California Certified Organic Farmers including associates that helped write legislation
- Oregon Tilth
- Organic farms located in the Central Valley
-

Georgia – Identified and Targeted Recruitment Organizations (Former and Current Employees/Staff/Members)

- Georgia General Assembly including appropriate committees
- Georgia Department of Agriculture
- Georgia Organics
- Clemson University
- University of Georgia including agriculture extension facilities

Appendix H – Interview Question Guides

Elected Officials

1. What [was/is] your role in the [development/amending]organic adoption in [year]?
    a. Were you on relevant committee such as agriculture?
2. Would you consider agriculture a partisan issue?
    a. Would you consider alternative agriculture, such as organic, a partisan issue?
3. What factors contributed to the decision to pass [bill #]?
    a. Were there any objections to passing [bill #]?
4. Were any other states considered exemplary models for your organic policy?
5. *Amending adoption question only* – why did [state] decide to pass [bill #]?
    a. Was there a particular shortcoming of existing law?
6. Do you believe the organic policy is likely to remain enacted?
7. Do you believe the current organic policy is serving its need?
    a. Could it be improved?
    b. Are there any challenges in the organics market in [state]?
8. Do you know of any other individual that may be willing to discuss their knowledge and participation of organic policy in [state]?

Government Officials

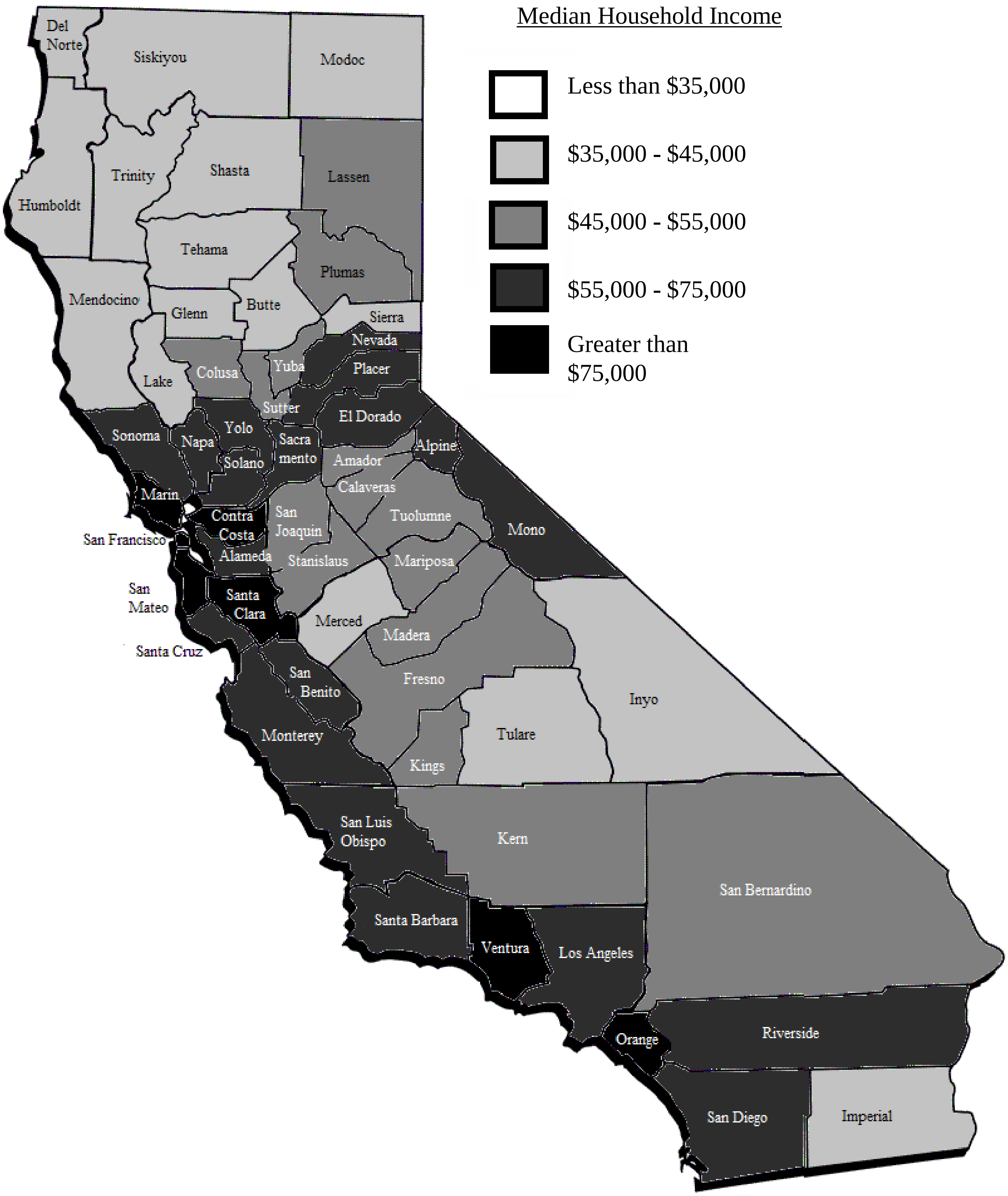
1. What [is/was] your role in the [development/amending]organic policy development?
2. What factors contributed to the decision to pass [bill #]?
    a. Were there any objections to passing [bill #]?
3. How would describe the implementation of current organic food and agricultural laws in [state]?
4. Would you consider agriculture a partisan issue?
    a. Would you consider alternative agriculture, such as organic, a partisan issue?
5. Were any other states considered exemplary models for your organic policy?
6. *Amending adoption question only* – How has state congressional action affected the implementation and development of organic law?
7. Do you believe the organic policy is likely to remain enacted in your state?
8. Do you believe the current organic policy is serving its need?
    a. Could it be improved?
    b. Are there any challenges in the organics market in [state]?
9. Do you know of any other individual that may be willing to discuss their knowledge and participation of organic policy in [state]?

Interest Groups/Other Experts

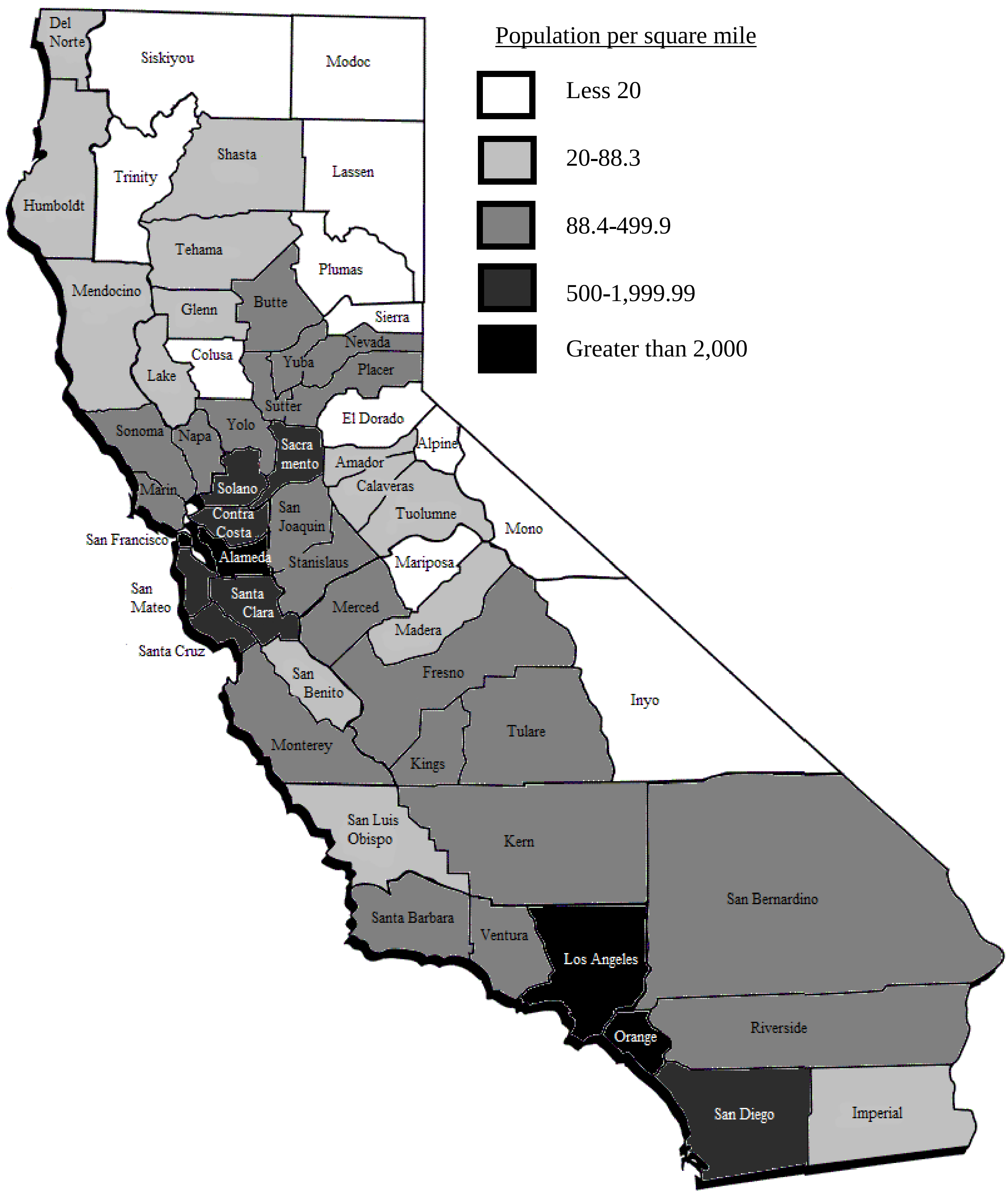
1. What [is/was] your role in the [development/amending] organic policy development?
    a. Did you participate in legislative development?
    b. Did you participate in rulemaking?
2. Would you consider agriculture a partisan issue?
    a. Would you consider alternative agriculture, such as organic, a partisan issue?
3. *If legislative participation* - What factors contributed to the decision to pass [bill #]?
    a. Were there any objections to passing [bill #]?
    b. What type of actors were influential
4. Do you believe the organic policy is likely to remain enacted in your state?

5. Do you believe the current organic policy is serving its need?
    a. Could it be improved?
    b. Are there any challenges in the organics market in [state]?
6. Do you know of any other individual that may be willing to discuss their knowledge and participation of organic policy in [state]?

Appendix I – Maps of California Wealth and Population Density



Per Capita Income by County (2010 U.S. Census)



Population Density by County (2010 U.S. Census)

Appendix J – Far West Regional State Political Conditions

State Legislature Professionalism Ranking (PR), State Government Partisan Control (GPC), and Political Culture (PC)												
Year	**Alaska** (PC 6.0)		**California** (PC 3.55)		**Hawaii** (PC 8.25)		**Nevada** (PC 3.66)		**Oregon** (PC 2.0)		**Washington** (1.66)	
	PR	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*
1979	.320	S	.526	D	.246	D	.130	S	.233	S	.212	S
1980	.319	S	.540	D	.250	D	.132	S	.226	S	.215	S
1981	.317	S	.554	D	.255	D	.135	S	.219	S	.217	R
1982	.316	S	.568	D	.259	D	.137	S	.212	S	.220	R
1983	.315	S	.583	S	.263	D	.139	D	.204	S	.222	S
1984	.314	S	.597	S	.267	D	.141	D	.197	S	.225	S
1985	.312	S	.611	S	.272	D	.144	S	.190	S	.227	D
1986	.311	S	.625	S	.276	D	.146	S	.183	S	.230	D
1987	.303	S	.620	S	.274	D	.148	S	.180	D	.227	D
1988	.295	S	.614	S	.271	D	.149	S	.177	D	.224	D
1989	.287	S	.609	S	.269	D	.151	S	.174	D	.220	S
1990	.279	S	.603	S	.266	D	.152	S	.171	D	.217	S
1991	.272	S	.598	S	.264	D	.154	S	.168	S	.214	S
1992	.264	S	.592	S	.262	D	.155	S	.165	S	.211	S
1993	.256	S	.587	S	.259	D	.157	S	.162	S	.208	D
1994	.248	S	.581	S	.257	D	.158	S	.159	S	.204	D
1995	.240	S	.575	S	.254	D	.160	S	.156	S	.201	S
1996	.232	S	.570	S	.252	D	.161	S	.153	S	.198	S
1997	.231	S	.578	S	.248	D	.158	S	.154	S	.198	S
1998	.231	S	.586	S	.244	D	.154	S	.155	S	.198	S
1999	.230	S	.594	D	.240	D	.151	S	.156	S	.198	S

Year	Alaska (PC 6.0)		California (PC 3.55)		Hawaii (PC 8.25)		Nevada (PC 3.66)		Oregon (PC 2.0)		Washington (1.66)	
	PR	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*
2000	.229	S	.602	D	.237	D	.148	S	.156	S	.197	S
2001	.228	S	.610	D	.233	D	.145	S	.157	S	.197	S
2002	.228	S	.618	D	.229	D	.141	S	.158	S	.197	D
2003	.227	R	.626	D	.225	S	.138	S	.159	S	.197	S
2004	.225	R	.619	S	.231	S	.142	S	.161	S	.200	S
2005	.224	R	.611	S	.237	S	.145	S	.163	S	.202	D
2006	.222	R	.604	S	.244	S	.149	S	.166	S	.205	D
2007	.220	R	.596	S	.250	S	.152	S	.168	D	.207	D
2008	.219	R	.589	S	.256	S	.156	S	.170	D	.210	D
2009	.217	S	.581	S	.262	S	.159	S	.172	D	.212	D
2010	.215	S	.574	S	.268	S	.163	S	.174	D	.215	D

PR (State Legislature Professionalism) 0 = least professionalized; 1 = most professionalized
GPC (Partisan Control of State Government) D = Democrat; S = Split/Divided; R = Republican

Appendix K – Text of Key California Legislation/ Chaptered Law

1979 AB 443 (Chapter 914)

CHAPTER 914

An act to add and repeal Sections 26469, 26569.11, 26569.12, 26569.13, 26569.15, 26569.16, 26569.17, 268850.5, and 26850.5, and 26850.6 to the Health and Safety Code, relating to organic food.

[Approved by Governor September 21, 1979 Filed with Secretary of State September 22, 1979]

The people of the State of California do enact as follows:

SECTION 1. The Legislature hereby finds and declares that an increasing number of marketed food products are advertised or labeled as being organic, organically grown, naturally grown, or wild and the frequently such food products command premium prices.
The Legislature further finds and declares that in order to provide for the protection of the consumer and the farmer n this state, it is necessary that standards relating to the use of descriptive terms to fairly identify such food products be established.

In enacting the Organic Foods Act of 1979, the Legislature specifically makes no finding either that such food products are in any way superior to conventionally produced food products or that more conventionally produced food products lack safety, wholesomeness, or nutritional value.

SEC. 2.. This act shall be known as the Organic Foods Act of 1979

SEC. 3.. Section 26469 is added to the Health and Safety Code, to read:
26469. It is unlawful to use the terms "organic," "organically grown," "wild," "ecologically grown," or "biologically grown," when advertising or otherwise making representations with respect to a raw agricultural commodity, processed food product, or meat, poultry, fish, or milk, in violation of Section 26569.11.

The prohibition of this section shall not apply to the term "wild" when such term is used to describe a flavor of a food or a plant variety.

The prohibition of this sections hall not apply to the term "natural."

This section shall remain in effect only until January 31, 1983, and as of such date is repealed, unless a later enacted statute, which is chaptered before such date, deletes of extends such date.

SEC. 4. Section 26569.11 is added to the Health and Safety Code, to read:
26569.11. Except as otherwise provided in this division, the terms, "organic," "organically grown," "wild," "ecologically grown," or "biologically grown" shall be used after January 1, 1981, in the labeling or advertising of a food only for an of the following:

(a) Raw agricultural commodities without applied coloring or synthetically compounded materials in the unpeeled natural form, except rapid heating or chilling, an which meet the following requirements:

(1) Are produced, harvested, distributed, stored, processed, and packaged without application of synthetically compounded fertilizers, pesticides, or growth regulators.

(2) Additionally, in the case of perennial crops, no synthetically compounded fertilizers, pesticides, or growth regulators shall be applied to the field or area in which the commodity is grown for 12 months prior to the appearance of flower buds and throughout the entire growing and harvest season of the particular commodity.

(3) Additionally, in the case of annual crops and two-year crops, no synthetically compounded fertilizers, pesticides, or growth regulators shall be applied to the field or area in which the commodity is

grown for 12 months prior to seed planting or transplanting and throughout the entire growing and harvest season for the particular commodity.

Only microorganisms, microbiological products, and materials consisting of, or derived or extracted solely from plant, animal, or mineral-bearing rock substances, may be applied in the production, storing , processing, harvesting, or packaging of raw agricultural commodities, other than seeds for planting, in order to meet the requirements of this subdivision. However, before harvest, the application of bordeaux mixes and trace elements, soluble kelp, lime, sulfur, gypsum, dormant oils, summer oils, fish emulsion, and soap are permitted, except that the application of aromatic petroleum solvents, diesel, and other petroleum fractions, used as weed or carrot oils, are prohibited. For purposes of this subdivision, “synthetically compounded” means those products formulated by a process which chemically changes a material or substance extracted from naturally occurring plant, animal or mineral sources, excepting microbiological processes.

(b) Processed foods manufactured only from raw agricultural commodities as described in subdivision (a). The use of ascorbic acid, sodium ascorbate, calcium ascorbate, and citric acid as an antioxidant or chelate is permitted in processed foods under this subdivision.

(c) Processed foods manufactured only from raw agricultural commodities as described in subdivision (a) and processed foods as described in subdivision (b).

(d) Meat, poultry, or fish produced without the use of any chemical or drug to simulate ro regulate growth or tenderness and without any drugs or antibiotics administered or introduced to such animal by injection of ingestion except for treatment of a specific disease or malady and in no event administered or introduced within 90 days of the slaughter of such animal; at least the final 60 percent of the sale weight of each animal, bird, or fish shall have been raised on feed without medication which complies with subdivision (a).

(e) Milk from animals, which are raised on feed without medication, which feed complies with the provisions of subdivision (a) or (b) and into which animal no drugs or antibiotics have been administered or introduced to such animal by injection or ingestion, except for treatment of a specific disease or malady and in no event administered or introduced within 30 days prior to the production of such milk.

(f) No product shall be labeled or advertised as a “wild” product unless such product is wholly derived from an undomesticated or uncultivated source and complies with the provisions of subdivision (s)

(g) No claim or implication shall be made in the advertising or promotion of a food product that the food product is organic, organically grown, naturally grown, wild, ecologically grown, or biologically grown, unless it conforms the requirements of this section

(h) This section shall not apply to the term “natural” when used in the labeling or advertising of a food.

This section shall not apply to the term “wild” when such term is used to describe a flavor or a food or a plant variety.

(i) This section shall remain in effect only until January 31, 1983, and as of such date is repealed, unless a later enacted statute, which is chaptered before such date, deletes or extends such date.

SEC. 5 Section 26569.12 is added to the Health and Safety Code, to read
26569.12 Except a otherwise provided in this division, no food product shall be labeled as “organic,” “organically grown,” “wild,” “ecologically grown,” or “biologically grown,” which has which has any pesticide residue in excess of 10 percent of the level regarded as safe by the federal Food and Drug Administration.

The prohibition of this section shall not apply to the term “wild” when such term is used to describe a flavor of a food or a plant variety

The prohibition of this section shall not apply to the term “natural”

This section shall remain in effect only until January 21, 1982, and as of such date is repealed, unless a later enacted statute, which is chaptered before such date, deleted or extends such date.

SEC. 6. Section 26569.13 is added to the Health and Safety Code, to read:
26569.13(a) Except as otherwise provided in this division, the terms "organic," "organically grown," "wild," "ecologically grown," or "biologically grown" shall not be used for the advertising or labeling of a raw agricultural commodity, processed food product, or meat, poultry, fish, or milk, unless it complies with the provisions of Section 26569.11 and is prominently labeled as follows, or with substantially similar language:

(1) For raw agricultural food products
ORGANICALLY GROWN IN ACCORDANCE WITH SECTION 2659.11 OF THE CALIFORNIA HELATH AND SAFETY CODE

(2) For processed food products:
ORGANICALLY GROWN IN ACCORDANCE WITH SECTION 2659.11 OF THE CALIFORNIA HELATH AND SAFETY CODE

(3) For meat, poultry, fish, or milk:
ORGANICALLY GROWN IN ACCORDANCE WITH SECTION 2659.11 OF THE CALIFORNIA HELATH AND SAFETY CODE

(b) For unpackaged foods, the requirements of subdivision (a) relating to the labeling shall be deemed to have been met if such labeling appears prominently on or over the bin or container holding the food.

The prohibition of this section shall not apply to the term "wild" when such term is used to describe a flavor of a food or a plant variety.

The prohibition of this section shall not apply to the term "natural."

This section shall remain in effect only until January 21, 1982, and as of such date is repealed, unless a later enacted statute, which is chaptered before such date, deleted or extends such date.

SEC. 7. Section 26569.15 is added to the Health and Safety Code, to read:
26569.15 When a food product subject to the provisions of section 26569.11 is labeled as "certified," the name of the person or organization which provides such certification shall be listed on the label.

This section shall remain in effect only until January 21, 1982, and as of such date is repealed, unless a later enacted statute, which is chaptered before such date, deleted or extends such date.

SEC. 8. Section 26569.16 is added to the Health and Safety Code, to read:
26569.16(a) All growers who sell farm products identified as "organic," "organically grown," "wild," "ecologically grown," or "biologically grown" shall keep accurate records of the location of the acreage used for growing such products and the additions, excluding water, made to the soil or applied to the plants or added to irrigation water. Such records shall be retained for two years after the crop is sold and delivered by the grower.

(b) All persons who process of manufacture food products which are sold identified as "organic," "organically grown," "wild," "ecologically grown," or "biologically grown" shall keep accurate records as to the ingredients of the product and the names and addresses of persons from whom the ingredients were purchased. Such records shall be retained for two years after the food product is sold and delivered.

(c) All persons who sell such food products shall keep accurate records of the names and addresses of persons from whom such products were purchased. Such records shall be retained for two years after the food product is sold and delivered.

(d) Growers, manufacturers, and sellers of such products shall provide the department upon demand, with the relevant information from the records required pursuant to this section.

(e) The department shall collect information kept by a grower, manufacturer or seller pursuant to this section upon request of any person or entity. In providing such copies, the department may charge such requesting person of entity a fee for the cost of reproducing such information.

(f) The provisions of this section shall not apply to the term "wild" when such term is used to describe a flavor of a food or a plant variety.

This section shall not apply to the term "natural" variety.

This section shall remain in effect only until January 21, 1982, and as of such date is repealed, unless a later enacted statute, which is chaptered before such date, deleted or extends such date.

SEC. 9. Section 26569.16 is added to the Health and Safety Code, to read:
26569.17 The prohibitions or requirements contained in Sections 26569.11 to 26569.16, inclusive, shall not apply to persons engaged in business as wholesale or retail distributors of the commodities referred to in Sections 26569.11 to 26569.16, inclusive, except to the extent that such persons:

(1) Are engaged in the manufacturing, packaging, or labeling of such commodities, except that the prohibitions or requirements contained in Sections 26569.11 to 26569.16, inclusive, shall not apply to any such wholesale or retail distributor who in good faith makes the same representations on a package or label as have been made in writing or printed advertising or labeling by the manufacturer, distributor, or other person providing the product to such wholesale or retail distributor.

(2) Prescribe or specify by the specific means in violation of Sections 26569.11 to 26569.16, inclusive, the manner in which such commodities are manufactured packaged, or labeled.

(3) Have knowledge of the violation of any provisions of Sections 26569.11 to 26569.16, inclusive, by any specific batch of such commodities and continue to sell or distribute such specific batch of such commodity.

This section shall remain in effect only until January 21, 1982, and as of such date is repealed, unless a later enacted statute, which is chaptered before such date, deleted or extends such date.

SEC. 9.5. Section 26850.5 is added to the Health and Safety Code, to read:
26850.5(a) Notwithstanding the provisions of Section 26850 or any other provision of law any person, organization, or public or private entity, may bring an action in superior court pursuant to this section and such court shall have jurisdiction upon hearing and for cause shown, to grant a temporary or permanent injunction restraining any person from violating any provision of Sections 26569.11 to 26569.16, inclusive. Any proceeding under the provisions of this section shall conform to the requirements of Chapter 3 (commencing with Section 525) of Title 7 of Part 2 of the Code of Civil Procedure, except that such person, organization, or entity shall not be required to allege facts necessary to show, or tending to show, irreparable damage or loss, or to show, or tending to show, unique or special individual injury or damages.

(b) In addition to the injunctive relief provided in subdivision (a), the court may award to such person, organization, or entity reasonable attorney's fees as determined by the court.

(c) The provisions of this section shall not be construed to limit or alter the power of the department and its authorized agents to bring an action to enforce the provisions of this chapter pursuant to Section 26850 or any other provision of law.

This section shall remain in effect only until January 21, 1982, and as of such date is repealed, unless a later enacted statute, which is chaptered before such date, deleted or extends such date.

SEC. 10. Section 26850.6 is added to the Health and Safety Code, to read:
26850.6. Notwithstanding any provision of this division, including, but not limited to, Sections 26200, 26202, 26205, 26206, 26207, 26208, 26210, 2630, 26232, 26409, 26433, 26434, 26436, 26438, 26559, 26561, 26564, 26569,9, 26581, 26582, and 25590, and Article 2 (commencing with Section 26811), Article 3 (commencing with Section 26830), or Article 4 (commencing with Section 26850 of Chapter 8, or any other provision of law, no state agency shall have any affirmative obligation to adopt regulations or other to enforce the provisions of the Organic Foods Act of 1979, including but not limited to, the prevision of Section 2656911.

This section shall remain in effect only until January 21, 1982, and as of such date is repealed, unless a later enacted statute, which is chaptered before such date, deleted or extends such date.

SEC. 11. Notwithstanding Section 2231 or 2234 f the Revenue and Taxation Code, no appropriation is made by this act pursuant to these sections because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction. It is recognized however, that a local agency or school district may pursue any remedies to obtain reimbursement available to it under Chapter 3 (commencing with Section 2201 of Part 4 of Division 1 of that code.

1990 AB 2012 (Chapter 1262)

CHAPTER 1262
ORGANIC FOODS

AN ACT to add Section 14904 to, and to add Chapter 10 (commencing with Section 46000) to Division 17 of, the Food and Agricultural Code, and to amend Section 26850.5 of, to add Article 4.5 (commencing with Section 26569.20) to Chapter 5 of Division 21 of, and to repeal Sections 26469, 26569.11, 26569.12, 26569.13, 26569.15, 26569.16, and 26569.17 of, the Health and Safety Code, relating to food.

[Approved by Governor September 22, 1990.]
[Filed with Secretary of State September 25, 1990.]

LEGISLATIVE COUNSEL'S DIGEST

AB 2012, Farr. Organic foods.

(1) Under the Sherman Food, Drug and Cosmetic Law, standards are set forth defining the terms “organic,” “organically grown,” “naturally grown,” “wild,” “ecologically grown,” and “biologically grown” for purposes of their use in labeling or advertising of food.

Existing law makes it unlawful, and subject to specified criminal penalties, to use these terms in a manner other than as those terms are defined, in the advertising or otherwise making other representation with respect to a raw agricultural commodity, processed food product, or meat, poultry, fish, or milk.

The bill would make legislative findings and declarations concerning the need for clarification and enforcement of standards relating to the producing, processing, handling, and labeling of food sold as organic and the need to establish an Organic Food Advisory Board.

The bill would repeal existing provisions relating to the sale of organic food.

The bill would enact the California Organic Foods Act of 1990 in the Sherman Food, Drug and Cosmetic Law.

The bill would specify that no food may be sold as organic unless it meets specified requirements, and would impose certain labeling requirements.

This bill would require certification organizations which certify organic food to meet certain requirements as a condition of registration. The bill would require, on or after January 1, 1992, a certification organization which certifies processed food sold as organic, except for processed meat, fowl, or dairy products, to have registered with the State Director of Health Services and to annually renew the registration, as prescribed.

The bill would require, on or after July 31, 1991, the State Director of Health Services, upon request of a sufficient number of persons to fund the program's cost, to establish and maintain a certification program for processors of food sold as organic, as prescribed, and also would require the director to establish and collect a fee to cover all of the costs of the State Department of Health Services of administering the program.

The bill would require a registered certification organization to follow specified procedures as a requirement of providing certification.

The bill would require, on or after January 1, 1992, every person engaged in this state in the processing or handling of processed food sold as organic, including the handling or processing of fish or seafood sold as organic, except for processors and handlers of processed meat, fowl, or dairy products, to have registered with the State Director of Health Services and to annually renew the registration, as prescribed. It would require that a registration form be accompanied by payment of a nonrefundable registration fee, established by the State Director of Health Services. It would require the director to establish a fee schedule for handlers and processors. It would require that the fees not exceed the cost of the department to regulate and enforce the provisions in the bill.

The bill would specify that certain acts are unlawful.

The bill would authorize the director, in lieu of prosecution, to assess a civil penalty against any person who violates specified provisions or regulations adopted pursuant to those provisions, as prescribed.

The bill would require that any fees and civil penalties collected by the State Director of Health Services pursuant to the act to be deposited in the General Fund and, upon appropriation by the Legislature, to be expended to fulfill the responsibilities of the director as specified in this bill. The bill would require the State Director of Health Services to enforce the California Organic Food Act of 1990 as applicable to processors and handlers of processed food sold as organic, only to the extent funds are available.

The bill would require the director, in cooperation with the Director of Food and Agriculture, to prepare a report to the Legislature, on or before January 1, 1994, describing certain enforcement activities, and containing recommendations regarding the need for, and means of, improved enforcement. The bill would provide for a complaint process to be established by the director to the extent funds are available.

(2) The bill would require the Director of Food and Agriculture and county agricultural commissioners under the supervision and direction of the director to enforce the provisions of the California Organic Foods Act of 1990 applicable to producers of food sold as organic, handlers of raw agricultural commodities and eggs sold as organic, handlers and processors of meat, fowl, and dairy products sold as organic, and retailers of food sold as organic. The bill would require, on or after March 1, 1991, every person engaged in the production or handling of raw agricultural commodities or eggs sold as organic, except retailers of food sold as organic, or engaged in the production, handling, or processing of meat, fowl, and dairy products sold as organic to have registered with county agricultural commissioners and to annually renew the registration, as prescribed, and would require certain information on the registration form to be submitted under penalty of perjury, thereby imposing a state-mandated local program by creating a new crime.

The bill would require the registration form of producers to be accompanied by payment of a nonrefundable registration fee, as specified, and would require the director to establish a fee schedule for handlers and processors to cover certain costs. It would require that the fees not exceed the cost of the department to regulate and enforce the provisions in the bill. It would require the registration form to include a public information sheet, as specified, which would be required to be made available for inspection and copying by the department and each county agricultural commissioner, as specified.

The bill would require the director to establish the Organic Food Advisory Board, as specified, to advise the director. The bill would provide for a complaint process, spot inspections, and civil penalties for the enforcement of the program. The bill would impose a state-mandated local program by imposing specified duties on county agricultural commissioners.

The bill would require, on or after January 1, 1992, a certification organization which certifies raw agricultural commodities, eggs, meat, fowl, or dairy products sold as organic to have registered with the Director of Food and Agriculture and to annually renew the registration, as prescribed, and would require the director to establish and collect an annual registration fee, as prescribed, of not more than $2,000 per organization. It would require that the fees not exceed the cost of the department to regulate and enforce the provisions of the bill. This bill would permit a county agricultural commissioner that conducts a prescribed certification program to establish a fee schedule for program participants, as specified.

This bill would require that any fees and civil penalties collected by the Director of Food and Agriculture be deposited in the Department of Food and Agriculture Fund and, upon appropriation by the

Legislature, to be expended to fulfill the responsibilities of the director, as prescribed by the bill. Any fees and penalties collected by a county agricultural commissioner would be required to be expended to fulfill the responsibilities of the county agricultural commissioner, as prescribed by the bill.

The bill would require the Director of Food and Agriculture, in consultation with the county agricultural commissioners and in cooperation with the State Director of Health Services, to prepare a report to the Legislature regarding the enforcement of the act.

Since a violation of the provisions of the Sherman Food, Drug and Cosmetic Law is a misdemeanor, the bill would create new crimes, thus imposing additional duties upon local law enforcement agencies, and thereby imposing a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement, including the creation of a State Mandates Claims Fund to pay the costs of mandates which do not exceed $1,000,000 statewide and other procedures for claims whose statewide costs exceed $1,000,000.

This bill would provide that for certain costs no reimbursement is required by this act for specified reasons.

However, the bill would provide that, if the Commission on State Mandates determines that this bill contains other costs mandated by the state, reimbursement for those costs shall be made pursuant to those statutory procedures and, if the statewide cost does not exceed $1,000,000, shall be payable from the State Mandates Claims Fund.

The people of the State of California do enact as follows:

SECTION 1. The Legislature hereby finds and declares all of the following:
(a) An increasing amount of food sold in California is advertised, labeled or otherwise represented using descriptive terms such as “organic,” “organically grown,” “naturally grown,” “ecologically grown,” or “biologically grown,” or variations of those terms. This food often commands premium prices throughout the distribution chain.
(b) In order to provide for the protection of the consumer, other buyers of organic food throughout the distribution chain, and the producers of organic food within this state, it is necessary that standards relating to the producing, processing, handling, and labeling of food sold as organic be clarified, and that these standards be strictly enforced.
(c) Clarification and strict enforcement of standards related to food sold as organic will foster confidence in the integrity of this food, protect consumers, promote use of sustainable agricultural techniques, and facilitate the development of both in-state and out-of-state markets for California food that has been organically produced and certified.
(d) Establishment of an Organic Food Advisory Board is necessary for the efficient development and management of an organic foods industry in the state, and essential to carrying out the purposes of this act.

CA FOOD & AG § 14904

SEC. 2. Section 14904 is added to the Food and Agricultural Code, to read:
14904. The director shall adopt and enforce regulations for the manufacture, distribution, and labeling of feed used in connection with the production of food sold as organic pursuant to Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code which shall be consistent with the requirements of that article.

CA FOOD & AG Prec. § 46000

SEC. 2.5. Chapter 10 (commencing with Section 46000) is added to Division 17 of the Food and Agricultural Code, to read:

CHAPTER 10. ORGANIC FOODS

CA FOOD & AG § 46000

46000. (a) The director and county agricultural commissioners under the supervision and direction of the director shall enforce the provisions of Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code applicable to producers of food sold as organic, handlers of raw agricultural commodities sold as organic, and eggs sold as organic, handlers and processors of meat, fowl, and dairy products sold as organic, and retailers of food sold as organic.
(b) The director and county agricultural commissioners under the supervision and direction of the director shall also enforce the provisions of Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code applicable to certification organizations which certify food sold as organic under the enforcement jurisdiction of the director pursuant to subdivision (a).
(c) The director may adopt any regulations as are reasonably necessary to implement his or her enforcement responsibilities as specified in Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code and in this chapter.

CA FOOD & AG § 46002

46002. (a) On or after March 1, 1991, every person engaged in this state in the production or handling of raw agricultural commodities or eggs sold as organic, or in the production, handling, or processing of meat, fowl, and dairy products sold as organic, excluding retailers of food sold as organic, shall have registered with the agricultural commissioner in the county of principal operation prior to the first sale of the food, and shall thereafter annually renew the registration unless no longer engaged in the activities requiring the registration. Each registrant shall provide a complete copy of its registration to the agricultural commissioner in any county in which the registrant operates.
(b) Registration pursuant to this section shall be on a form provided by the department and shall be valid for a period of one calendar year from the date of validation by the department or county agricultural commissioner of the completed registration form. The director shall make forms available for this purpose on January 1, 1991.
(c) The information provided on the registration form shall include all of the following:
(1) The nature of the registrant's business, including the specific commodities produced, handled, or processed which are sold as organic.
(2) For producers, a map showing the precise location and dimensions of the facility or farm where the commodities are produced. The map shall also describe the boundaries of the production area and all adjacent land uses, shall assign field numbers to distinct fields or management units, and shall describe the size of each field or management unit.
(3) Sufficient information, under penalty of perjury, to enable the director or county agricultural commissioner to verify the amount of the registration fee to be paid in accordance with subdivision (e).
(4) The names of all certification organizations or governmental entities, if any, providing certification pursuant to Sections 26569.30 to 26569.34, inclusive, of the Health and Safety Code.
(5) In the case of producers, for each field or management unit, a list of all substances applied to the crop, soil, growing medium, growing area, irrigation or postharvest wash or rinse water, or seed, including the source of the substance, the brand name, if any, the rate of application, and the total amount applied in each calendar year, for at least the applicable time periods specified in subdivision (a) of Section 26569.22 of the Health and Safety Code.
(d) The registration form shall include a separate “public information sheet” which shall include:
(1) The name and address of the registrant.
(2) The nature of the registrant's business, including the specific commodities produced, handled, or processed which are sold as organic.
(3) The names of all certification organizations or governmental entities providing certification pursuant to Sections 26569.30 to 26569.34, inclusive, of the Health and Safety Code.
(e) A registration form shall be accompanied by payment of a nonrefundable registration fee as follows:
(1) For producers, a fee based on gross sales by the registrant of food sold as organic in the calendar year which precedes the date of registration, or if no sales were made in the preceding year, then based on the

expected sales during the 12 calendar months following the date of registration, according to the following schedule:

Gross Sales				Registration Fee
$	0	–	10,000	$ 25
$	10,001	–	25,000	$ 75
$	25,001	–	50,000	$ 100
$	50,001	–	100,000	$ 175
$	100,001	–	250,000	$ 300
$	250,001	–	500,000	$ 450
$	500,001	–	1,000,000	$ 750
$	1,000,001	–	2,500,000	$1,000
$	2,500,001	–	5,000,000	$1,500
$	5,000,001 and above			$2,000

Gross Sales Registration Fee
$ 0 – 10,000 $ 25
$ 10,001 – 25,000 $ 75
$ 25,001 – 50,000 $ 100
$ 50,001 – 100,000 $ 175
$ 100,001 – 250,000 $ 300
$ 250,001 – 500,000 $ 450
$ 500,001 – 1,000,000 $ 750
$ 1,000,001 – 2,500,000 $1,000
$ 2,500,001 – 5,000,000 $1,500
$ 5,000,001 and above $2,000

(2) For handlers and processors subject to the enforcement jurisdiction of the director pursuant to Section 46000, the director shall establish a fee schedule to cover the reasonable, additional costs of administration and enforcement pursuant to this chapter in conjunction with other enforcement responsibilities of the director and the county agricultural commissioners funded from other sources. The fee for registration of handlers and processors subject to the enforcement jurisdiction of the director shall not exceed two thousand dollars ($2,000).

The director shall publish annually a list of the fee schedule for each registration governed by this chapter. The setting of fees pursuant to this subdivision shall not be subject to the requirements of Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code.

(f) To the extent feasible, the director shall coordinate the registration and fee collection procedures of this section with similar licensing or registration procedures applicable to registrants.

(g) The director or county agricultural commissioner shall reject a registration submission which is incomplete or not in compliance with this chapter and with Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code.

(h) A registrant shall immediately notify the director of any change in the information reported on the registration form and shall pay any additional fee owed if that change results in a higher fee owed than that previously paid.

(i) At the request of any person, the "public information sheet" described in subdivision (d) for any registrant shall be made available for inspection and copying at the main office of the department and each county agricultural commissioner. Copies of the "public information sheet" shall also be made available by mail, upon written request. The director or commissioner may charge a reasonable fee for the cost of reproducing a "public information sheet." Except as described in this subdivision, a registration form shall be exempt from Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code.

(j) The requirements of this section shall not apply to retailers of food sold as organic.

CA FOOD & AG § 46003

46003. (a) The director shall establish an advisory board, which shall be known as the Organic Food Advisory Board, for the purpose of advising the director in his or her responsibilities under this chapter and Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code.

(b) The advisory board shall be comprised of 13 members. Six members shall be producers, at least one of whom shall be a producer of meat, fowl, fish, dairy products, or eggs. One member shall be a processor, one member shall be a handler or a retailer, two members shall be consumer representatives, one member shall be an environmental representative, and two members shall be technical representatives with scientific credentials related to agricultural chemicals, toxicology, or food science. Except for the consumer, environmental, and technical representatives, the members of the advisory board shall have derived a substantial portion of their business income, wages, or salary from the production, handling, processing, or retailing of food sold as organic for at least three years preceding their appointment to the advisory board. The consumer and environmental representatives shall not have a financial interest in the organic food industry and shall be representatives of recognized nonprofit organizations whose principal purpose is the protection of consumer health or protection of the environment. The technical representatives shall not have a financial interest in the organic food industry.

(c) The State Director of Health Services, or his or her representative, and a county agricultural commissioner shall be appointed as ex officio members of the advisory board.

CA FOOD & AG § 46003.5

46003.5. On or before January 1, 1993, the director, in consultation with the Organic Food Advisory Board, shall adopt regulations listing specific substances which are in compliance or not in compliance with the definition of "prohibited materials," as defined in subdivision (p) of Section 26569.21 of the Health and Safety Code, for use in the production and handling of organic foods.

These regulations should conform to any federal law or regulation governing materials allowed or disallowed for use on food sold as organic to the greatest extent possible.

Prior to the adoption of these regulations, the director shall, by March 31, 1991, issue administratively a preliminary, non exhaustive list of materials which are in compliance or not in compliance with subdivision (p) of Section 26569.21 of the Health and Safety Code based on the listings of permitted materials published by California Certified Organic Farmers, the Organic Foods Production Association of North America, and the Departments of Agriculture of the States of Oregon and Washington.

CA FOOD & AG § 46004

46004. (a) Any person may file a complaint with the director concerning suspected noncompliance with Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code, by a person under the enforcement jurisdiction of the director as provided in Section 46000.

(b) The director shall establish procedures for handling complaints, including provision of a written complaint form, and procedures for commencing an investigation within three working days after receiving a complaint regarding fresh food, and within seven working days for other food, and completing an investigation and reporting findings and enforcement action taken, if any, to the complainant within 60 days thereafter.

(c) The director may establish minimum information requirements to determine the verifiability of a complaint, and may provide for rejection of a complaint which does not meet the requirements. The director shall provide written notice of the reasons for rejection to the person filing the complaint.

CA FOOD & AG § 46005

46005. The director and the county agricultural commissioners may conduct a program of spot inspections of persons required to register pursuant to Section 46002 to verify continuing compliance with this chapter and Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code, according to uniform procedures established by the director.

CA FOOD & AG § 46006

46006. At the request of a county agricultural commissioner, the district attorney for that county may bring an action to enforce this chapter or Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code, within the enforcement jurisdiction of that commissioner.

CA FOOD & AG § 46007

46007. (a) In lieu of prosecution, the director or a county agricultural commissioner may levy a civil penalty against any person under the enforcement jurisdiction of the director as provided in Section 46000 who violates Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code, or any regulation adopted pursuant thereto or pursuant to this chapter, in an amount not more than five thousand dollars ($5,000) for each violation. The amount of the penalty assessed for each violation shall be based upon the nature of the violation, the seriousness of the effect of the violation upon effectuation of the purposes and provisions of this chapter and Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code, and the impact of the penalty on the violator, including the deterrent effect on future violations.
(b) Notwithstanding the penalties prescribed in subdivision (a), if the director or county agricultural commissioner finds that a violation was not intentional, the director or county agricultural commissioner may levy a civil penalty of not more than two thousand five hundred dollars ($2,500) for each violation.
(c) For a first offense, in lieu of a civil penalty as prescribed in subdivision (a) or (b), the director or county agricultural commissioner may issue a notice of violation if he or she finds that the violation is minor.
(d) A person against whom a civil penalty is levied shall be afforded an opportunity for a hearing before the director or county agricultural commissioner, upon request made within 30 days after the issuance of the notice of penalty. At the hearing, the person shall be given the right to review the director's or commissioner's evidence of the violation and the right to present evidence on his or her own behalf. If no hearing is requested, the civil penalty shall constitute a final and nonreviewable order.
(e) If a hearing is held, review of the decision of the director or commissioner may be sought by any person pursuant to Section 1094.5 of the Code of Civil Procedure within 30 days of the date of the final order of the director or commissioner.
(f) A civil penalty levied by the director pursuant to this section may be recovered in a civil action brought in the name of the state. A civil penalty levied by a county agricultural commissioner pursuant to this section may be recovered in a civil action brought in the name of the county.
(g) The director shall maintain in a central location, and make publicly available for inspection and copying upon request, a list of all civil penalties levied by the director and by each county agricultural commissioner within the past five years, including the amount of each penalty, the person against whom the penalty was levied, and the nature of the violation. Copies of this list shall also be available by mail, upon written request and payment of a reasonable fee, as set by the director.

CA FOOD & AG § 46008

46008. On or before January 1, 1994, the director, in consultation with the county agricultural commissioners and in cooperation with the State Director of Health Services, shall prepare a report to the Legislature describing enforcement activities under this chapter and Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code, and containing recommendations regarding the need for, and means of, improved enforcement of that article and this chapter. The report shall include an analysis of the adequacy of fees collected pursuant to this chapter.

CA FOOD & AG § 46009

46009. (a) On or after January 1, 1992, a certification organization which certifies raw agricultural commodities, eggs, meat, fowl, or dairy products sold as organic shall have registered with the director and shall thereafter annually renew the registration unless no longer engaged in the activities requiring the registration. Registration shall be on a form provided by the director, shall include the filing of a certification plan as specified in Section 26569.33 of the Health and Safety Code, and payment of the fee specified in subdivision (b). The registration form shall contain the names of all persons involved in making certification decisions or setting certification standards for the certification organization. The director shall reject a registration submission that is incomplete or not in compliance with this chapter and with Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code. The director shall make forms available for this purpose on or before July 31, 1991.

(b) The director shall supervise all certification organizations registered with the department, shall establish a complaint procedure concerning noncompliance with this chapter or Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code by certification organizations registered with the department, and shall establish and collect an annual registration fee based on the acreage, unit of weight or measurement, number of head, gross sales, or other measure of the amount of food certified by the organization, to cover the costs of the supervision. The registration fee may not exceed two thousand dollars ($2,000) per organization. Supervision shall include a written evaluation of the organization's certification plan at least biannually, which shall be made available for public inspection. The director shall have the authority to audit the organization's certification procedures and records at any time, but any records of the certification organization not otherwise required to be disclosed shall be kept confidential by the director.

(c) On or after July 31, 1991, the director and the county agricultural commissioners under the supervision of the director shall, if requested, establish a voluntary certification program for producers of organic food and processors of organic meat, fowl, and dairy products under the enforcement jurisdiction of the director. This program shall meet all of the requirements of Sections 26569.31 to 26569.34, inclusive, of the Health and Safety Code. The director shall establish a fee schedule, which may include a late payment penalty, for participants in this program which covers all of the department's reasonable costs of the program. A county agricultural commissioner that conducts a voluntary certification program pursuant to this section shall establish a fee schedule for participants in this program which covers all of the agricultural commissioner's reasonable costs of the program. The director may not expend funds obtained from registration fees collected under this chapter for the purposes of adopting or administering this program.

(d) This chapter shall apply to all food sold as organic within the state, wherever produced, handled, or processed, and to all food produced, handled, or processed in the state, wherever sold as organic, except that in lieu of certification under this chapter, the director may recognize a certification program operating outside of the state which certifies raw agricultural commodities, eggs, meat, fowl, or dairy products if the director determines that such program meets minimum standards substantially similar to those contained in subdivision (c) of Section 26569.30, and Sections 26569.32 to 26569.34, inclusive, of the Health and Safety Code.

CA FOOD & AG § 46010

46010. This chapter shall be interpreted in conjunction with Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code.

CA FOOD & AG § 46010.5

46010.5. No fee established and collected pursuant to this chapter shall exceed the department's costs or the county agricultural commissioner's costs, as the case may be, of regulating and enforcing the provisions of this chapter related to the function for which the fee is established.

CA FOOD & AG § 46011

46011. Any fees and penalties collected by the director pursuant to this chapter shall be deposited in the Department of Food and Agriculture Fund and, upon appropriation by the Legislature, shall be expended to fulfill the responsibilities of the director as specified in this chapter. Any fees and penalties collected by a county agricultural commissioner pursuant to subdivision (c) of Section 46009 shall be expended to fulfill the responsibilities of the county agricultural commissioner, as specified in this chapter.

CA HLTH & S § 26469 Repealed

SEC. 3. Section 26469 of the Health and Safety Code is repealed.

CA HLTH & S § 26569.11 Repealed

SEC. 4. Section 26569.11 of the Health and Safety Code is repealed.

CA HLTH & S § 26569.12 Repealed

SEC. 5. Section 26569.12 of the Health and Safety Code is repealed.

CA HLTH & S § 26569.13 Repealed

SEC. 6. Section 26569.13 of the Health and Safety Code is repealed.

CA HLTH & S § 26569.15 Repealed

SEC. 7. Section 26569.15 of the Health and Safety Code is repealed.

CA HLTH & S § 26569.16 Repealed

SEC. 8. Section 26569.16 of the Health and Safety Code is repealed.

CA HLTH & S § 26569.17 Repealed

SEC. 9. Section 26569.17 of the Health and Safety Code is repealed.

CA HLTH & S Prec. § 26569.20

SEC. 10. Article 4.5 (commencing with Section 26569.20) is added to Chapter 5 of Division 21 of the Health and Safety Code, to read:

Article 4.5. The California Organic Foods Act of 1990

CA HLTH & S § 26569.20

26569.20. This article shall be known, and may be cited as, the California Organic Foods Act of 1990.

CA HLTH & S § 26569.21

26569.21. The following words and phrases, when used in this article, shall have the following meanings:

(a) “Administered” means ingested, injected, or otherwise topically or internally introduced to livestock, fowl, or fish.

(b) “Applied” means introduced, incorporated within, added to, or placed upon any seed, crop, plant, livestock, fowl, fish, soil, or growing medium, and shall also mean used in, on, or around any facility or area in which food is kept.

(c) “Area” means the physical space surrounding food where there is more than a negligible chance of a prohibited material being absorbed by, incorporated into, or adhered to the food, soil or growing medium. The area may differ significantly depending on the circumstances. Except in the case of the production of food, area shall not include any physical space surrounding food if an intervening event, such as the use of a cleaning method for processing equipment, or the passage of time, has made the chance of a prohibited material being absorbed by, incorporated into, or adhered to the food, negligible.

(d) “Botanicals” means substances derived solely from plants or plant parts.

(e) “Endemic disease” means a disease in animal or fish which is either universal or common to a species within the geographic region.

(f) “Enforcement authority” means the governmental unit with primary enforcement jurisdiction, as provided in Section 26569.44.

(g) “Field” means a contiguous area of land for agricultural production which is managed with a consistent set of production methods.

(h) “Feed” means any substance used or intended for consumption by livestock, fowl, or fish to provide nourishment, including range and pasturage vegetation.
(i) “Growing medium” means a substance that provides nutrients for plants or fungi but which is separate from the land surface of the world.
(j) “Handled” means shipped, packed, repacked, sold for resale, warehoused, wholesaled, imported into the state, or stored by other than a grower, producer, processor, or retailer of that food.
(k) “Management unit” means the physical facilities and equipment associated with crop production which is not confined to a field, such as animal production, greenhouse production, or seed sprouting. Management units shall be described by the location and function of the physical facilities and equipment, and other aspects as determined by the enforcement authority. In the case of animal production, the management units shall also be described by the quantity and source of each group of animals that is managed together as a unit.
(*l*) “Processed” means cooking, baking, heating, drying, mixing, grinding, crushing, pressing, churning, separating, extracting juices or other materials, peeling, fermenting, eviscerating, preserving, dehydrating, freezing, or manufacturing which materially alters the flavor, keeping quality, or any other property, or the making of any substantial change of form. “Processed” does not include refrigeration at temperatures which are above the freezing point nor any other treatment which merely retards or accelerates the natural processes of ripening or decomposition.
(m) “Produced” means grown, raised, harvested, handled, or stored under the control of the grower or producer.
(n) “Producer,” “handler,” and “processor” means any person who has, respectively, produced, handled, or processed any food.
(o) “Production,” “handling,” and “processing” means the process by which any food is, respectively, produced, handled, and processed.
(p) “Prohibited materials” means any of the following:
(1) When used in connection with the production, handling, or processing of meat, fowl, or fish:
(A) Any drug, medication, hormone or growth regulator, whether or not synthetic, or any other synthetic substance, including, but not limited to, any substance administered to stimulate or regulate growth or tenderness, and any subtherapeutic dose of antibiotic. The use of a drug or medication for medical treatment of a specific and manifest malady diagnosed and prescribed by a licensed veterinarian, or under the general supervision of a licensed veterinarian, shall be permitted, but not within 90 days prior to slaughter or twice the withdrawal time specified by the federal Food and Drug Administration, whichever is longer. In addition, vaccines may be administered for prevention of an endemic disease or as required by law. Vitamin and mineral supplements also may be administered.
(B) Any feed administered to livestock, fowl, or fish that does not comply with the requirements of regulations adopted pursuant to Section 14904 of the Food and Agricultural Code.
(C) Any artificial rumen stimulants, such as plastic pellets.
(D) Any manure intentionally fed or refed.
(E) Any synthetically compounded substance applied postslaughter to the meat, fowl, or fish itself, or to its packaging, including preservatives.
(F) Any substance applied to any area where livestock, fowl, or fish or meat, fowl, or fish products are handled or kept at any time that does not consist entirely of microorganisms, microbiological products, or substances consisting of, or derived or extracted solely from, plant, animal, or mineral-bearing rock substances. Prohibited materials shall not include the application of botanicals, lime-sulfur, gypsum, soaps, and detergents. Prohibited materials shall include the application of petroleum solvents, diesel, and other petroleum fractions.
(2) When used in connection with the production, distribution, or processing of dairy products or eggs:
(A) Any drug, medication, hormone, or growth regulator, whether or not synthetic, and any other synthetic substance, including, but not limited to, any substance administered to stimulate or regulate growth, milk or egg production, and any subtherapeutic dose of antibiotic. The use of a drug or medication for medical treatment of a specific and manifest malady diagnosed and prescribed by a

licensed veterinarian, or under the general supervision of a licensed veterinarian, shall be permitted, but not less than 30 days prior to taking of the milk or laying of eggs, or twice the withdrawal time specified by the federal Food and Drug Administration, whichever is longer. In addition, vaccines may be administered for prevention of an endemic disease or as required by law. Vitamin and mineral supplements may also be administered.
(B) Any feed administered to livestock within one year of the taking of the milk, or to fowl within six months of the laying of eggs, that does not comply with the requirements of regulations adopted pursuant to Section 14904 of the Food and Agricultural Code.
(C) Any artificial rumen stimulants, such as plastic pellets.
(D) Any manure intentionally fed or refed.
(E) Any substance applied to any area where livestock, fowl, or fish, or meat, dairy, fowl, or fish products are handled or kept at any time that does not consist entirely of microorganisms, microbiological products, or substances consisting of, or derived or extracted solely from, plant, animal, or mineral-bearing rock substances. Prohibited materials shall not include the application of botanicals, lime-sulfur, gypsum, soaps, and detergents. Prohibited materials shall include the application of petroleum solvents, diesel, and other petroleum fractions.
(3) When used in connection with the production, handling, or processing of raw agricultural commodities and any other food not specified in paragraphs (1) and (2), any synthetically compounded fertilizer, pesticide, growth regulator, or any other substance that does not consist entirely of microorganisms, microbiological products, or substances consisting of, or derived or extracted solely from plant, animal, or mineral-bearing rock substances. Before harvest, prohibited materials shall not include the application of bordeaux mixes and trace elements for known deficiencies as determined by plant or animal tissue or by soil testing, soluble aquatic plant products, botanicals, lime-sulphur, gypsum, dormant oils, summer oils, fish emulsion, soaps, detergents, and nonionic surfactants except for petroleum solvents, diesel, and other petroleum fractions, used as weed or carrot oils. Prohibited materials shall not include the application of soaps and detergents.
(4) Water, including substances dissolved in water, shall not be a prohibited material, even if it contains incidental contamination from a prohibited material, if the prohibited material was not added by, or under the direction or control of, the producer, handler, processor or retailer.
(q) “Retailer” means a person engaged in the sale to consumers of food sold as organic and not engaged in the production, handling or processing of food sold as organic.
(r) “Sold as organic” means any use of the terms “organic,” “organically grown,” “naturally grown,” “ecologically grown,” or “biologically grown,” or grammatical variations of those terms, whether orally or in writing, in connection with any food grown, handled, processed, sold, or offered for sale in this state, including, but not limited to, any use of these terms in labeling or advertising of any food and any ingredient in a multi-ingredient food, except as provided in Section 26569.36.
(s) “Substance” includes all components of a substance, including active and inert ingredients.
(t) “Synthetically compounded” means formulated or manufactured by a process which chemically changes a substance extracted from naturally occurring plant, animal, or mineral sources, excepting microbiological processes.

CA HLTH & S § 26569.22

26569.22. Except as otherwise provided in this article, no food shall be sold as organic unless it consists entirely of any of the following:
(a) Raw agricultural commodities which meet the following requirements:
(1) The commodity has been produced and handled without any prohibited material or color additive having been applied, and without irradiation.
(2) In the case of any raw agricultural commodity produced from seed, the seed has not been treated with any prohibited material. If untreated seed is not available, seed treated with a fungicide may be used for food germinated prior to January 1, 1994, except for seed used for sprouts, as described in paragraph (6).

(3) Prior to January 1, 1995, in the case of perennial crops, no prohibited material shall have been applied to the crop, field, management unit, or area in which the commodity is grown for 12 months prior to the appearance of flower buds. During the 1995 calendar year, in the case of perennial crops, no prohibited material shall have been applied to the crop, field, management unit, or area in which the commodity is grown for 24 months prior to harvest. Commencing January 1, 1996, in the case of perennial crops, no prohibited material shall have been applied to the crop, field, management unit, or area in which the commodity is grown for 36 months prior to harvest.
(4) Prior to January 1, 1995, in the case of annual or two-year crops, no prohibited material shall have been applied to the field, management unit, or area in which the commodity is grown for 12 months prior to seed planting or transplanting. During the 1995 calendar year, in the case of annual or two-year crops, no prohibited material shall have been applied to the crop, field, management unit, or area in which the commodity is grown for 24 months prior to harvest. Commencing January 1, 1996, in the case of annual or two-year crops, no prohibited material shall have been applied to the crop, field, management unit, or area in which the commodity is grown for 36 months prior to harvest.
(5) In the case of any raw agricultural commodity that is grown in any growing medium, such as fungi grown in compost or transplants grown in potting mix:
(A) The growing medium must have been manufactured or produced:
(i) Without any prohibited material having been included in the medium.
(ii) Without any prohibited material having been applied to the area in which the medium is manufactured or produced for 12 months prior to seeding or inoculation of the medium.
(iii) Using methods that will minimize the migration or accumulation of any pesticide chemical residue in food grown in the medium.
(B) No prohibited material shall have been applied to the area in which the commodity is grown for 12 months prior to seeding or inoculation.
(6) In the case of any raw agricultural commodity that is grown directly from seed without soil or any growing medium, such as sprouts, no prohibited material shall have been applied to the seed, and no prohibited material shall have been applied to the area in which the commodity is grown for 12 months prior to germination of the seed. After January 1, 1992, the seed shall have been produced, handled, and processed in accordance with this article.
(b) Processed food manufactured only from raw agricultural commodities as described in subdivision (a).
(c) Processed food manufactured only from a combination of raw agricultural commodities as described in subdivision (a) and processed food as described in subdivision (b).
(d) Meat, fowl, fish, dairy products, or eggs which are produced, distributed, and processed without any prohibited material having been applied or administered.

CA HLTH & S § 26569.23

26569.23. (a) No food which contains any prohibited material residue as a result of spray drift or any other contamination beyond the control of the producer, handler, processor, or retailer, may be sold as organic unless the amount of residue does not exceed 10 percent of the federal Environmental Protection Agency tolerance level or, where there is no tolerance level, does not exceed the federal Food and Drug Administration action level.
(b) After January 1, 1992, no food which contains any prohibited material residue as a result of spray drift or any other contamination beyond the control of the producer, handler, processor, or retailer, may be sold as organic unless the amount of prohibited material residue does not exceed 5 percent of the federal Environmental Protection Agency tolerance level or, where there is not a tolerance level, the federal Food and Drug Administration action level.

CA HLTH & S § 26569.24

26569.24. (a) No food grown, handled, processed, sold, advertised, represented, or offered for sale in this state, shall be sold as organic unless it also is prominently labeled, invoiced, and represented as follows, or with substantially similar language:

(1) For raw agricultural commodities:
ORGANICALLY GROWN IN ACCORDANCE WITH THE CALIFORNIA ORGANIC FOODS ACT OF 1990.
(2) For processed food:
ORGANICALLY GROWN AND PROCESSED IN ACCORDANCE WITH THE CALIFORNIA ORGANIC FOODS ACT OF 1990.
(3) For unprocessed meat, fowl, fish, dairy products, or eggs:
ORGANICALLY PRODUCED IN ACCORDANCE WITH THE CALIFORNIA ORGANIC FOODS ACT OF 1990.

(b) For unpackaged food sold as organic to consumers, physical attachment to the food of the applicable language set forth in subdivision (a) shall not be required if the language appears prominently on or near the bin or container holding the food.

(c) For food certified by a registered certification organization in accordance with Sections 26569.30 to 26569.34, inclusive, or Section 46009 of the Food and Agricultural Code, the term “CERTIFIED” may be used in labeling food sold as organic by the producer and by any handler if the name of the registered certification organization precedes or follows that term in the same size type, and if subdivisions (a) and (b) have been met.

(d) When unprocessed food that has been certified by two or more registered certification organizations, is commingled by a handler or retailer, but is not processed, the food shall thereafter be labeled as set forth in paragraph (1) or (3) of subdivision (a), and subdivisions (b) and (c), with the name of each certification organization that has certified any of the food.

(e) Except as provided in subdivision (f), when less than all of the ingredients in a multi-ingredient food are produced, handled, and, if applicable, processed in accordance with Section 26569.22, the food shall not be sold as organic. However, those ingredients produced, handled, and processed in accordance with Section 26569.22 may be described using the terms contained in subdivision (r) of Section 26569.21 on the principal display panel of the food if the terms are clearly used only to modify those ingredients and only if 100 percent of those ingredients are produced in accordance with Section 26569.22. The use of the terms shall be limited to no greater than three-quarters of the type size of the statement of identity.

Additionally or alternatively, those ingredients produced, handled, and processed in accordance with Section 26569.22 may be described using the terms contained in subdivision (r) of Section 26569.21 on the ingredient list on the packaging, if all other provisions of this article are met.

(f) No food may be advertised or labeled as “organic when available” or similar terminology which leaves in doubt whether the food is being sold as organic.

(g) The provisions of this article relating to the labeling of meat and meat products and poultry and poultry products shall not be interpreted to authorize any labeling of those products, which is subject to the jurisdiction of federal labeling laws, in a manner inconsistent with those federal labeling laws.

(h) Notwithstanding subdivision (a), until January 1, 1992, any person may utilize existing supplies of labels that conform to the requirements of former Section 26569.13.

CA HLTH & S § 26569.25

26569.25. The director may adopt regulations listing specific substances which are in compliance or not in compliance with subdivision (p) of Section 26569.21 for use in the processing of foods under the enforcement jurisdiction of the department.

CA HLTH & S § 26569.28

26569.28. (a) All persons who produce raw agricultural commodities that are sold as organic shall keep accurate and specific records of the following:

(1) For each field or management unit, all substances applied to the crop, soil, growing medium, growing area, irrigation or postharvest wash or rinse water, or seed, including all substances applied during the time periods specified in paragraphs (3) to (6), inclusive, of subdivision (a) of Section 26569.22, the

quantity of each substance applied, and the date of each application. All substances shall be identified by brand name, if any, and by source.
(2) The quantity harvested from each field or management unit, the size of the field or management unit, the field number, and the date of harvest.
(3) The name and, if applicable, the registration numbers issued pursuant to Section 26569.35 or Section 46002 of the Food and Agricultural Code of all handlers, processors, or retailers to whom the food is sold or otherwise transferred, the quantity of food sold or otherwise transferred, and the date of the transaction.
(b) All persons who produce meat, fowl, fish, dairy products, or eggs sold as organic shall keep accurate and specific records of the following:
(1) Unless the livestock, fowl, or fish was raised or hatched by the producer, the name and address and, if applicable, the registration numbers issued pursuant to Section 26569.35 or Section 46002 of the Food and Agricultural Code of all suppliers of livestock, fowl, or fish and the date of the transaction.
(2) The name and address and, if applicable, the registration numbers issued pursuant to Section 26569.35 or Section 46002 of the Food and Agricultural Code of all suppliers of feed, the quantity of feed purchased, and the date of the transaction.
(3) All substances administered and fed to the animal, including all feed, medication and drugs, and all substances applied in any area in which the animal, milk or eggs are kept, including the quantity administered or applied, and the date of each application. All substances shall be identified by brand name, if any, and by source.
(4) The name and address and, if applicable, the registration numbers issued pursuant to Section 26569.35 or Section 46002 of the Food and Agricultural Code of all handlers, processors, or retailers to whom the food is sold or otherwise transferred, the quantity of food sold or otherwise transferred, and the date of the transaction.
(c) All persons who handle food sold as organic shall keep accurate and specific records of the following:
(1) The name and address and, if applicable, the registration numbers issued pursuant to Section 26569.35 or Section 46002 of the Food and Agricultural Code of all suppliers of the food, the quantity of food purchased or otherwise transferred, and the date of the transaction.
(2) Invoices for each shipment from the supplier that state that the food may be sold as organic.
(3) If the food is labeled or represented to be certified, invoices from the supplier or separate written documentation from a certification organization which states that the food is certified under this article.
(4) All pesticide chemicals applied to the food while in the control of the handler, including the quantity applied, and the date of each application. All pesticide chemicals shall be identified by brand name, if any, and by source.
(5) All substances routinely applied in or around any area or container in which the food is kept. All substances shall be identified by brand name, if any, and by source. This record may be provided in the form of a single list of substances used.
(6) The name and address and, if applicable, the registration numbers issued pursuant to Section 26569.35 or Section 46002 of the Food and Agricultural Code of all persons to whom the food is sold or otherwise transferred, the quantity of food sold or otherwise transferred, and the date of the transaction.
(d) All persons who process food sold as organic shall keep accurate and specific records of the following:
(1) The name and address and, if applicable, the registration numbers issued pursuant to Section 26569.35 or Section 46002 of the Food and Agricultural Code of all suppliers of the food, the quantity of food purchased or otherwise transferred, and the date of the transaction.
(2) Invoices for each shipment from the supplier that state that the food may be sold as organic.
(3) If the food is labeled or represented to be certified, invoices from the supplier or separate written documentation from a certification organization which states that the food is certified under this article.
(4) All substances applied to the food or used in its processing, all substances applied to the food while in the control of the processor, and all substances applied in or around any area or container in which the food is kept, including the quantity of substances applied and the date of each application. All substances shall be identified by brand name, if any, and by source.

(5) The name and address and, if applicable, the registration numbers issued pursuant to Section 26569.35 or Section 46002 of the Food and Agricultural Code of all handlers, processors, or retailers to whom the food is sold or otherwise transferred, the quantity of food sold or otherwise transferred, and the date of the transaction.
(e) All persons who sell, at retail, food sold as organic shall keep accurate and specific records of the following:
(1) The name and address and, if applicable, the registration numbers issued pursuant to Section 26569.35 or Section 46002 of the Food and Agricultural Code of all suppliers of the food, the quantity of food purchased or otherwise transferred, and the date of the transaction.
(2) Invoices for each shipment from the supplier that state that the food may be sold as organic.
(3) If the food is labeled or represented to be certified, invoices from the supplier or separate written documentation from a certification organization which states that the food is certified under this article.
(4) All pesticide chemicals applied to the food while in the control of retailer, including the quantity applied, and the date of each application. All pesticide chemicals shall be identified by brand name, if any, and by source.
(5) All substances routinely applied in or around any area or container in which the food is kept. All substances shall be identified by brand name, if any, and by source. This record may be provided in the form of a single list of substances used. One list may be kept at the retailer's headquarters office if all individual stores operated by that retailer utilize only the substances on the list.

Paragraphs (1) and (2) shall not apply to a person who both produces and sells, at retail, the same food. The records required to be kept pursuant to paragraphs (1) to (4), inclusive, of this subdivision may be kept at the retailer's warehouse or headquarters office.
(f) All records required to be kept under this section shall be maintained by producers, handlers, and processors for no less than two years from the date on which the food is sold and shall be maintained by retailers for no less than one year from the date on which the food is received by the retailer. These records shall be made available for inspection at any time by the director or the Director of Food and Agriculture and by each certification organization that certifies the food, if any, for purposes of carrying out this article and Chapter 10 (commencing with Section 46000) of Division 17 of the Food and Agricultural Code.

CA HLTH & S § 26569.29

26569.29. (a) Notwithstanding any other provision of law, any producer, handler, processor, or retailer of food sold as organic shall immediately make available for inspection by, and shall upon request, within 72 hours of the request, provide a copy to, the director or the Director of Food and Agriculture of any record required to be kept under this section for purposes of carrying out this article and Chapter 10 (commencing with Section 46000) of Division 17 of the Food and Agricultural Code.
(b) Upon written request of any person, the director and the Director of Food and Agriculture shall obtain and provide to the requesting party within 10 working days of the request a copy of the following records required to be kept under this section which pertain to a specific product sold or offered for sale, except that financial information about an operation or transaction, information regarding the quantity of a substance administered or applied, the date of each administration or application, and any other information on that record which is not required to be disclosed under this subdivision shall be removed before disclosure:
(1) Records of a producer, as described in paragraph (1) of subdivision (a) and in paragraph (3) of subdivision (b) of Section 26569.28.
(2) Records of a handler, as described in paragraphs (4) and (5) of subdivision (c) of Section 26569.28, records of previous handlers, if any, and producers as described in paragraph (1) of subdivision (a) of, paragraph (3) of subdivision (b) of, and paragraphs (4) and (5) of subdivision (c) of, Section 26569.28, without identifying the previous handlers or producers, and, if applicable, records obtained as required in subdivision (d).

(3) Records of a processor, as described in paragraph (4) of subdivision (d) of Section 26569.28, records of previous processors and handlers, if any, and producers as described in paragraph (1) of subdivision (a) of, paragraph (3) of subdivision (b) of, paragraphs (4) and (5) of subdivision (c) of, and paragraph (4) of subdivision (d) of, Section 26569.28, without identifying the previous processors, handlers, or producers, and, if applicable, records obtained as required in subdivision (d).
(4) Records of a retailer, as described in paragraphs (4) and (5) of subdivision (e) of Section 26569.28, records of previous processors and handlers, if any, and producers as described in paragraph (1) of subdivision (a) of, paragraph (3) of subdivision (b) of, paragraphs (4) and (5) of subdivision (c), and paragraph (4) of subdivision (d) of, Section 26569.28, without identifying the previous processors, handlers, or producers, and, if applicable, records obtained as required in subdivision (d).
(c) The director or the Director of Food and Agriculture may charge the person requesting records a reasonable fee for the cost of reproducing the records requested and may require specific information on the date and location of sale or offer for sale and details concerning the identity of the product.
(d) Any person who first imports into this state, for resale, food sold as organic shall obtain and provide to the enforcement authority, upon request, the records required to be kept under subdivisions (a) and (b) of Section 26569.28 and, if applicable, subdivisions (c) and (d).

CA HLTH & S § 26569.30

26569.30. (a) On or after January 1, 1992, the term “certified” and variations of that term may be used in connection with food sold as organic only in accordance with this section, subdivisions (c) and (d) of Section 26569.24, Sections 26569.31 to 26569.34, inclusive, and Section 46009 of the Food and Agricultural Code.
(b) Food sold as organic may be certified only by a certification organization registered pursuant to subdivisions (c) and (d), by the director pursuant to subdivision (f), or by a county agricultural commissioner pursuant to Section 46009 of the Food and Agricultural Code.
(c) In order to be registered, a certification organization shall meet all of the following minimum qualifications:
(1) Be the certification organization for at least 10 legally separate and distinct, financially unrelated, and independently controlled persons involved in the production or processing of food sold as organic.
(2) Be a legally separate and distinct entity from any person whose food is certified by the organization. A certification organization shall be considered legally separate and distinct notwithstanding the fact that persons or representatives of persons whose food is certified serve as directors, officers, or in other capacities for the certification organization, so long as those persons or representatives of those persons do not exercise decisionmaking authority over certification of that particular food.
(3) Have no financial interest in the sale of the food, except that fees charged by the certification organization to cover the reasonable costs of operating the certification organization do not constitute a financial interest for purposes of this section.
(d) On or after January 1, 1991, a certification organization which certifies processed food sold as organic, except for processed meat, fowl, or dairy products, shall have registered with the director and shall thereafter annually renew the registration unless no longer engaged in the activities requiring the registration. Registration shall be on a form provided by the director, shall include the filing of a certification plan as specified in Section 26569.33 and payment of the fee specified in subdivision (f). The director shall make forms available for this purpose on or before July 31, 1991. The registration form shall include the names of all persons involved in making certification decisions or setting certification standards for the certification organization. The director shall reject a registration submission that is incomplete or not in compliance with this article.
(e) On or after July 31, 1991, the director may, upon the request of a sufficient number of persons to fund the program's cost, establish and maintain a certification program for processors of food sold as organic and shall establish and collect a fee from all processors of food certified under that program to cover all of the department's costs of administering the program. The certification program shall be subject to all

provisions regarding certification organizations contained in this article, except that the requirements of subdivisions (c) and (d) shall not apply.
(f) The director shall supervise all certification organizations registered with the department, shall establish a complaint procedure concerning noncompliance with this article by certification organizations registered with the department, and shall establish and collect an annual registration fee based on the unit of weight or measure, gross sales or other measure of the amount of food certified by the organization, to cover the costs of the supervision. The registration fee established by the department shall not exceed two thousand dollars ($2,000) per organization. Supervision shall include a written evaluation of the organization's certification plan at least biannually. The written evaluation shall be made available for public inspection.
(g) The director shall have the authority to audit the organization's certification procedures and records at any time. Records of certification organizations not otherwise required to be disclosed shall be kept confidential by the director.

CA HLTH & S § 26569.31

26569.31. Prior to an initial certification, a registered certification organization shall conduct at least two initial physical inspections of the premises at which the food to be certified is produced or processed. These inspections shall include the recordkeeping system necessary for compliance with Section 26569.28 and the area or facility at which the food is produced or processed.

For raw agricultural commodities, at least one initial inspection shall include fertility analysis of the soil or growing medium. Sampling for this analysis shall be no less frequent than one sample per 40 acres or per management unit, whichever is less, except that only one sample shall be required for contiguous parcels managed solely for range or pasturage, and except that, for field crops, sampling shall be no less frequent than one sample per 160 acres or per management unit, whichever is less.

CA HLTH & S § 26569.32

26569.32. (a) A registered certification organization shall no less often than, at the end of each calendar quarter, prepare a list by name of all persons whose production or processing of food is certified or pending certification by the certification organization. This list shall be filed with the department or the Department of Food and Agriculture, as applicable, by the certification organization and made publicly available within 30 days after the end of each quarter.
(b) A registered certification organization shall, at least annually, physically inspect the premises at which the food to be certified is produced and processed. The inspection shall include an examination of recordkeeping and, for raw agricultural commodities, fertility analysis as required under Section 26569.31.

CA HLTH & S § 26569.33

26569.33. A registered certification organization shall adopt and adhere to a certification plan filed annually and made publicly available. Except in the case of a certification program established pursuant to subdivision (e) of Section 26569.30, a certification plan shall be filed as part of the registration required pursuant to subdivision (d) of Section 26569.30. A certification plan shall at minimum include a detailed description of all of the following elements of the certification organization's program:
(a) Minimum information required from producers or processors regarding growing or processing practices and methods for verifying that information.
(b) Qualifications of and training requirements for all inspectors.
(c) Procedures for inspection, including frequency and items covered.
(d) Procedures for soil and tissue sampling and analysis.
(e) Criteria for certification.
(f) Process for certification decisionmaking, including identification of persons with decisionmaking authority.

CA HLTH & S § 26569.34

26569.34. (a) Only food that has been produced, handled, and processed in accordance with this article may be certified by a registered certification organization. No food may be certified unless compliance with this article has been verified by the registered certification organization, in the case of producers, for at least one year, and in the case of processors, for at least six months.
(b) Processed or multi-ingredient food sold as organic may only by certified if all the ingredients are certified.

CA HLTH & S § 26569.35

26569.35. (a) On or after January 1, 1992, every person engaged in this state in the processing or handling of processed food sold as organic, including the handling or processing of fish or seafood sold as organic, except for processors and handlers of processed meat, fowl, or dairy products, shall have registered with the director, prior to the first sale of such food, and shall thereafter annually renew the registration unless no longer so engaged.
(b) Registration shall be on a form provided by the director and shall be valid for a period of one calendar year from the date of validation of the completed registration form. The director shall make forms available for this purpose on or before October 1, 1991. The information provided on the registration form shall include all of the following:
(1) The nature of the registrant's business, including the specific commodities handled or processed which are sold as organic.
(2) Sufficient information, under penalty of perjury, to enable the director to verify the amount of the registration fee to be paid in accordance with subdivision (c).
(3) The names of all certification organizations and governmental entities, if any, providing certification pursuant to this article.
(c) A registration form shall be accompanied by payment of a nonrefundable registration fee. For handlers and processors subject to the enforcement jurisdiction of the director, the director shall establish a fee schedule to cover the additional cost of enforcing and administering this article in conjunction with other enforcement responsibilities funded from other sources. The registration fee shall not exceed two thousand dollars ($2,000). The director shall publish annually a list of the fee schedule for each registration governed by this article. The setting of fees pursuant to this article shall not be subject to the requirements of Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code.
(d) To the extent feasible, the director shall coordinate the registration and fee collection procedures of this section with similar licensing or registration procedures applicable to registrants.
(e) The director shall reject a registration submission which is incomplete or not in compliance with this article.
(f) A registrant shall immediately notify the director of any change in the information reported on the registration form and shall pay any additional assessment owed if that change results in a higher assessment owed than that previously paid.
(g) Registration forms shall be made available to the public for inspection and copying at the main office of the department. Copies of registration forms shall also be made available by mail, upon written request and payment of a reasonable fee, as determined by the director. All financial information of the registrant shall be deleted prior to public inspection and copying.
(h) The requirements of this section shall not apply to retailers of food sold as organic.

CA HLTH & S § 26569.36

26569.36. This article shall apply to all food sold as organic within the state, wherever produced, handled, or processed, and to all food produced, handled, or processed in the state, wherever sold as organic; except that in lieu of certification under this article, the director may recognize a certification program operating outside the state which certifies processed food sold as organic, except for processed meat, fowl, or dairy products, as functionally equivalent to a certification organization registered under

Section 26569.30, so long as that program meets minimum standards substantially similar to those contained in subdivision (c) of Section 26569.30 and Section 26569.31 and subdivision (b) of Section 26569.32.

CA HLTH & S § 26569.37

26569.37. This article shall not apply to the term “natural” when used in the labeling or advertising of a food.

CA HLTH & S § 26569.38

26569.38. (a) It is unlawful for any person to sell, offer for sale, advertise, or label any food in violation of this article.
(b) Notwithstanding subdivision (a), a person engaged in business as a distributor or retailer of food who in good faith sells, offers for sale, labels, or advertises any food in reliance on the representations of a producer, processor, or other distributor that the food may be sold as organic, shall not be found to violate this article unless the distributor either: (1) knew or should have known that the food could not be sold as organic; (2) was engaged in producing or processing the food; or (3) prescribed or specified the manner in which the food was produced or processed.

CA HLTH & S § 26569.39

26569.39. (a) It is unlawful for any person to certify food in violation of this article.
(b) It is unlawful for any person to certify food as organic unless duly registered as a certification organization pursuant to Section 26569.30.
(c) It is unlawful for any person to willfully make a false statement or representation, or knowingly fail to disclose a fact required to be disclosed, in registration for a certification organization pursuant to Section 26569.30.

CA HLTH & S § 26569.40

26569.40. (a) It is unlawful for any person to produce, handle, or process food sold as organic unless duly registered pursuant to Section 26569.34.
(b) It is unlawful for any person to willfully make a false statement or representation, or knowingly fail to disclose a fact required to be disclosed, in registration pursuant to Section 26569.35.

CA HLTH & S § 26569.41

26569.41. It is unlawful for any person to forge, falsify, fail to retain, fail to obtain, or fail to disclose records pursuant to Sections 26569.28 and 26569.29.

CA HLTH & S § 26569.42

26569.42. It is unlawful for any person to advertise, label, or otherwise represent that any fertilizer or pesticide chemical may be used in connection with the production, processing, or distribution of food sold as organic if that fertilizer or pesticide chemical contains a prohibited material.

CA HLTH & S § 26569.43

26569.43. (a) In lieu of prosecution, the director may levy a civil penalty against any person who violates this article or any regulation adopted pursuant to this article in an amount not more than five thousand dollars ($5,000) for each violation. The amount of the penalty assessed for each violation shall be based upon the nature of the violation, the seriousness of the effect of the violation upon effectuation of the purposes and provisions of this article, and the impact of the penalty on the violator, including the deterrent effect on future violations.
(b) Notwithstanding the penalties prescribed in subdivision (a), if the director finds that a violation was not intentional, the director may levy a civil penalty of not more than two thousand five hundred dollars ($2,500) for each violation.

(c) For a first offense, in lieu of a civil penalty as prescribed in subdivisions (a) and (b), the director may issue a notice of violation, if he or she finds that the violation is minor.
(d) A person against whom a civil penalty is levied shall be afforded an opportunity for a hearing before the director, upon request made within 30 days after the date of issuance of the notice of penalty. At the hearing, the person shall be given the right to review the director's evidence of the violation and the right to present evidence on his or her own behalf. If no hearing is requested, the civil penalty shall constitute a final and nonreviewable order.
(e) If a hearing is held, review of the decision of the director may be sought by any person within 30 days of the date of the final order of the director pursuant to Section 1094.5 of the Code of Civil Procedure.
(f) A civil penalty levied by the director pursuant to this section may be recovered in a civil action brought in the name of the state.

CA HLTH & S § 26569.435

26569.435. No fee established and collected pursuant to this article shall exceed the department's costs of regulating and enforcing the provisions of this article related to the function for which the fee is established.

CA HLTH & S § 26569.44

26569.44. Any fees and civil penalties collected pursuant to this article shall be deposited in the General Fund and, upon appropriation by the Legislature, shall be expended to fulfill the responsibilities of the director as specified in this article.

CA HLTH & S § 26569.45

26569.45. The director shall, to the extent funds are available, enforce the provisions of this article applicable to all processors and handlers of processed food sold as organic, including handlers and processors of fish and seafood sold as organic, except for processors and handlers of processed meat, fowl, and dairy products.

CA HLTH & S § 26569.46

26569.46. (a) The director shall maintain in a central location, and make publicly available for inspection and copying, upon request, a list of all penalties levied within the past five years, including the amount of each penalty, the party against whom the penalty was levied, and the nature of the violation. The list also shall be available by mail, upon written request and payment of a reasonable fee, as determined by the director.
(b) On or before January 1, 1994, the director, in cooperation with the Director of Food and Agriculture, shall prepare a report to the Legislature describing enforcement activities under this article and Chapter 10 (commencing with Section 46000) of Division 17 of the Food and Agricultural Code and containing recommendations regarding the need for, and means of, improved enforcement of this article and Chapter 10 (commencing with Section 46000) of Division 17 of the Food and Agricultural Code.

CA HLTH & S § 26569.47

26569.47. (a) Any person may file a complaint with the director concerning suspected noncompliance with this article by a person over whom the director has responsibility as provided in this article.
(b) The director shall, to the extent funds are available, establish a procedure for handling complaints, including, provision of a written complaint form, and procedures for commencing an investigation within three working days of receiving a written complaint regarding fresh food, and within seven working days for other food, and completing an investigation and reporting findings and enforcement action taken, if any, to the complainant within 90 days thereafter.
(c) The director may establish minimum information requirements to determine the verifiability of a complaint and may provide for rejection of a complaint which does not meet the requirements. The director shall provide written notice of the reasons for rejection to the person filing the complaint.

(d) The responsibilities of the director under this section shall be carried out to the extent funds are available.

CA HLTH & S § 26569.48

26569.48. This article shall apply notwithstanding any other provision of law that is inconsistent with this article. Nothing in this article is intended to repeal any other provision of law not inconsistent with this article.

CA HLTH & S § 26569.49

26569.49. The director may adopt any regulations as are reasonably necessary to assist in the implementation of, or to make more specific, the provisions of, this article.

CA HLTH & S § 26569.50

26569.50. Any reference in law to former Section 26569.11, whether existing or hereinafter enacted, shall be interpreted to refer to this article and Chapter 10 (commencing with Section 46000) of Division 17 of the Food and Agricultural Code as the successor section.

CA HLTH & S § 26850.5

SEC. 11. Section 26850.5 of the Health and Safety Code is amended to read:

26850.5. (a) Notwithstanding the provisions of Section 26850 or any other provision of law, any person may bring an action in superior court pursuant to this section and the court shall have jurisdiction upon hearing and for cause shown, to grant a temporary or permanent injunction restraining any person from violating any provision of Article 4.5 (commencing with Section 26569.20 of Chapter 5. Any proceeding under the provisions of this section shall conform to the requirements of Chapter 3 (commencing with Section 525) of Title 7 of Part 2 of the Code of Civil Procedure, except that the person shall not be required to allege facts necessary to show, or tending to show, lack of adequate remedy at law, or to show, or tending to show, irreparable damage or loss, or to show, or tending to show, unique or special individual injury or damages.

(b) In addition to the injunctive relief provided in subdivision (a), the court may award to such person, organization, or entity reasonable attorney's fees as determined by the court.

(c) The provisions of this section shall not be construed to limit or alter the powers of the department and its authorized agents to bring an action to enforce the provisions of this chapter pursuant to Section 26850 or any other provision of law.

SEC. 12. If any provision of this act or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of the act which can be given effect without the invalid provision or application, and to this end the provisions of this act are severable.

SEC. 13. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution for those costs which may be incurred by a local agency or school district because this act creates a new crime or infraction, changes the definition of a crime or infraction, changes the penalty for a crime or infraction, or eliminates a crime or infraction.

No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for certain aspects of the program or level of service mandated by this act.

However, notwithstanding Section 17610 of the Government Code, if the Commission on State Mandates determines that this act contains other costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code. If the statewide cost of the claim for reimbursement does not exceed one million dollars ($1,000,000), reimbursement shall be made from the State Mandates Claims Fund. Notwithstanding Section 17580 of the Government Code, unless otherwise specified in this act, the provisions of this act shall become operative on the same date that the act takes effect pursuant to the California Constitution.

2002 AB 2823 (Chapter 533)

CHAPTER 786
FILED WITH SECRETARY OF STATE SEPTEMBER 26, 1994
APPROVED BY GOVERNOR SEPTEMBER 24, 1994

An act to amend Section 46009 of the Food and Agricultural Code, and to amend Sections 26569.22, 26569.29, and 26569.30 of, and to amend, repeal, and add Section 27831 of, the Health and Safety Code, relating to food.

LEGISLATIVE COUNSEL'S DIGEST

AB 2518, Areias. Organic foods: farmers' markets.

(1) Existing law requires any nongovernmental certification organization that certifies certain products as organic to register with the Secretary of Food and Agriculture.

This bill would provide that in lieu of complying with these registration requirements, the Secretary of Food and Agriculture may approve certification organizations that are accredited under the federal organic foods law.

(2) Existing law requires, under certain circumstances, the secretary and county agricultural commissioners to establish a voluntary certification program for producers of organic food products.

This bill would require this program to meet all of the requirements of the federal certification program, including federal accreditation. This bill would thus increase the duties of county agricultural commissioners by requiring that the certification program meet federal requirements, thereby imposing a state-mandated local program.

(3) Existing law, the Sherman Food, Drug, and Cosmetic Law, prohibits application of prohibited materials on any raw agricultural commodity that is grown directly from seed without soil or any growing medium.

This bill would, instead, prohibit the application to any raw agricultural commodity that is grown directly from seed and harvested within 18 days of germination.

(4) Existing law requires the State Director of Health Services and the Secretary of Food and Agriculture to obtain and provide to a requesting party a copy of specified records that are prepared by producers, handlers, processors, or retailers of food sold as organic that pertain to a specific product and identify the substances applied, administered, or added to the product. It provides that this information is not to be considered a trade secret.

Existing law authorizes the director or secretary to charge a reasonable fee to reimburse himself or herself or the source of the records for the cost of reproducing the records requested.

Existing law provides that the above provisions become inoperative on January 1, 1995.

This bill would delete the provision making the foregoing provision inoperative on January 1, 1995.

The bill would authorize a person required to provide these records to petition the State Director of Health Services or the Secretary of Food and Agriculture to deny the request for the records on the ground that the request is frivolous or harassing, and would authorize the secretary or director to waive this information production requirement for the specific request for information that was the subject of the petition.

(5) Existing law authorizes use of the term "certified" and variations of the term in connection with food sold as organic only in accordance with certain laws.

This bill would, instead, require that all organic products be certified by a registered certifying organization and would permit the sale of food as organic only in accordance with certain laws.

(6) Existing law authorizes the director to establish and maintain a certification program for processors of food sold as organic, subject to certain requirements. Existing law authorizes the director to establish and collect a fee to cover the costs of administering the program.

This bill would require that the program meet all of the requirements for federal certification programs, including federal accreditation.

(7) Existing law, the California Uniform Retail Food Facilities Law regulates sanitary standards in retail food establishments, including certified farmers' markets and vehicles selling food, as defined. Existing law prohibits food preparation at certified farmers' markets. Existing law imposes primary responsibility for the enforcement of this law on local health agencies, and provides that the willful violation of any of its provisions is a misdemeanor.

This bill would provide an exception to this prohibition for food samples if certain sanitary conditions are met, including the use of potable water for hand washing and sanitizing and the disposal of utensil and hand washing water in a manner approved by the local law enforcement agency. This bill would authorize vendors selling food adjacent to and under the jurisdiction and management of a certified farmers' market to store, display, and sell food from a table or display fixture apart from the vehicle in a manner approved by the local enforcement agency. It would provide for the repeal of these provisions on January 1, 1997.

To the extent that this bill would increase the duties of local public health agencies by requiring the approval of the local enforcement agency, this bill would impose a state-mandated local program. By imposing new requirements on certified farmers' markets, this bill would expand the definition of a crime, thereby imposing a state-mandated local program.

(8) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state.Statutory provisions establish procedures for making that reimbursement, including the creation of a State Mandates Claims Fund to pay the costs of mandates which do not exceed $1,000,000 statewide and other procedures for claims whose statewide costs exceed $1,000,000.

This bill would provide that for certain costs no reimbursement is required by this act for specified reasons.

However, the bill would provide that, if the Commission on State Mandates determines that this bill contains costs mandated by the state, reimbursement for those costs shall be made pursuant to those statutory procedures and, if the statewide cost does not exceed $1,000,000, shall be made from the State Mandates Claims Fund.

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 46009 of the Food and Agricultural Code is amended to read:

46009.(a) Effective January 1, 1993, a nongovernmental certification organization that certifies raw agricultural commodities, eggs, meat, fowl, or dairy products sold as organic shall register with the secretary and shall thereafter annually renew the registration, unless the organization is no longer engaged in the activities requiring the registration. Registration shall be on a form provided by the secretary, shall include the filing of a certification plan as specified in Section 26569.33 of the Health and Safety Code, and payment of the fee specified in subdivision (b). The registration form shall contain the names of all persons involved in making certification decisions or setting certification standards for the certification organization. The secretary shall reject a registration submission that is incomplete or not in compliance with this chapter and Article 4.5 (commencing with Section 26569.20) of Chapter 5 of Division 21 of the Health and Safety Code. The secretary shall make forms available for this purpose.

In lieu of registration pursuant to this subdivision, the secretary may approve a certification organization that is accredited under the federal organic foods law.

(b) Each nongovernmental certification organization shall pay an annual registration fee of five hundred dollars ($500) to the secretary. Any registration submitted by a certification organization, registered with the department, shall be made available to the public for inspection and copying. The secretary may audit the organization's certification procedures and records at any time, but any records of the certification organization not otherwise required to be disclosed shall be kept confidential by the secretary.

(c) The secretary and the county agricultural commissioners under the supervision of the secretary shall, if requested by a ufficient number of persons to cover the costs of the program in a county as determined by the secretary, establish a voluntary certification program for producers of organic food and processors of organic meat, fowl, and dairy products under the enforcement jurisdiction of the secretary. This program shall meet all of the requirements of Sections 26569.31 to 26569.34, inclusive, of the Health and Safety Code. In addition, this program shall meet all of the requirements of the federal certification program, including federal accreditation.

The secretary shall establish a fee schedule for participants in this program that covers all of the department's reasonable costs of the program. A county agricultural commissioner that conducts a voluntary certification program pursuant to this section shall establish a fee schedule for participants in this program which covers all of the agricultural commissioner's reasonable costs of the program. The secretary may not expend funds obtained from registration fees collected under this chapter for the purposes of adopting or administering this program.

The certification fee authorized by this subdivision is due and payable on or before the 10th day of the month following the month in which the decision to grant the certification is issued. Any person who does not pay the amount that is due within the required period shall pay the enforcement authority providing the certificate a penalty of 10 percent of the total amount determined to be due, plus interest at the rate of 11/2 percent interest per month on the unpaid balance.

(d) This chapter applies to all food sold as organic within the state, wherever produced, handled, or processed, and to all food produced, handled, or processed in the state, wherever sold as organic, except that in lieu of registration under this chapter, the secretary may recognize a certification organization operating outside of the state that certifies raw agricultural commodities, eggs, meat, fowl, or dairy products if the secretary determines that the organization meets minimum standards substantially similar to those contained in subdivision (c) of Section 26569.30, and Sections 26569.32 to 26569.34, inclusive, of the Health and Safety Code. The secretary shall establish, administratively, a procedure for organizations to apply and obtain recognition.

SEC. 2. Section 26569.22 of the Health and Safety Code is amended to read:

26569.22. Except as otherwise provided in this article, no food shall be sold as organic unless it consists entirely of any of the following:

(a) Raw agricultural commodities that meet the following requirements:

(1) The commodity has been produced and handled without any prohibited material or color additive having been applied, and without irradiation.

(2) In the case of any raw agricultural commodity produced from seed, the seed has not been treated with any prohibited material. If untreated seed is not available, seed treated with a fungicide may be used, except for seed used for sprouts, as described in paragraph (6).

(3) Prior to January 1, 1995, in the case of perennial crops, no prohibited material shall have been applied to the crop, field, management unit, or area where the commodity is grown for 12 months prior to the appearance of flower buds. During the 1995 calendar year, in the case of perennial crops, no prohibited material shall have been applied to the crop, field, management unit, or area where the commodity is grown for 24 months prior to harvest. Commencing January 1, 1996, in the case of perennial crops, no

prohibited material shall have been applied to the crop, field, management unit, or area where the commodity is grown for 36 months prior to harvest.

(4) Prior to January 1, 1995, in the case of annual or two-year crops, no prohibited material shall have been applied to the field, management unit, or area where the commodity is grown for 12 months prior to seed planting or transplanting. During the 1995 calendar year, in the case of annual or two-year crops, no prohibited material shall have been applied to the crop, field, management unit, or area where the commodity is grown for 24 months prior to harvest. Commencing January 1, 1996, in the case of annual or two-year crops, no prohibited material shall have been applied to the crop, field, management unit, or area where the commodity is grown for 36 months prior to harvest.

(5) In the case of any raw agricultural commodity that is grown in any growing medium, such as fungi grown in compost or transplants grown in potting mix:

(A) The growing medium must have been manufactured or produced:

(i) Without any prohibited material having been included in the medium.

(ii) Without any prohibited material having been applied to the area where the medium is manufactured or produced during seeding or inoculation of the medium.

(iii) Using methods that will minimize the migration or accumulation of any pesticide chemical residue in food grown in the medium.

(B) No prohibited material shall have been applied to the area where the commodity is grown during seeding or inoculation.

If a prohibited material is applied in the area prior to seeding or inoculation, a residue test shall be performed on the commodity grown from that seeding or inoculation.

(6) In the case of any raw agricultural commodity that is grown directly from seed and harvested within 18 days of germination, including, by way of example, sprouts, no prohibited material shall have been applied to the seed, and no prohibited material shall have been applied to the area where the commodity is grown after introduction of the seed. After January 1, 1992, the seed shall have been produced, handled, and processed in accordance with this article.

(b) Processed food manufactured only from raw agricultural commodities as described in subdivision (a), except as follows:

(1) Water, air, and salt may be added to the processed food.

(2) Ingredients other than raw agricultural commodities as described in subdivision (a) may be added to the processed food if these ingredients are included in the national list adopted by the United States Secretary of Agriculture pursuant to Section 6517 of the federal Organic Foods Production Act (7 U.S.C. Sec. 6501 et seq.) and do not represent more than 5 percent of the weight of the total finished product, excluding salt and water.

(c) Processed food manufactured only from a combination of raw agricultural commodities as described in subdivision (a) and processed food as described in subdivision (b).

(d) Meat, fowl, fish, dairy products, or eggs that are produced, distributed, and processed without any prohibited material having been applied or administered.

SEC. 3. Section 26569.29 of the Health and Safety Code is amended to read:

26569.29.(a) Notwithstanding any other provision of law, any producer, handler, processor, or retailer of food sold as organic shall immediately make available for inspection by, and shall upon request, within 72 hours of the request, provide a copy to, the director, the Attorney General, any prosecuting attorney, any governmental agency responsible for enforcing laws related to the production or handling of food old as organic, or the Secretary of Food and Agriculture of any record required to be kept under this section for purposes of carrying out this article and Chapter 10 (commencing with Section 46000) of Division 17 of the Food and Agricultural Code. Records acquired pursuant to this subdivision shall not be public records as that term is defined in Section 6252 of the Government Code and shall not be subject to Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code.

(b) Upon written request of any person that establishes cause for the request, the director and the Secretary of Food and Agriculture shall obtain and provide to the requesting party within 10 working days of the request a copy of any of the following records required to be kept under this article that pertain to a specific product sold or offered for sale, and that identify substances applied, administered, or added to that product, except that financial information about an operation or transaction, information regarding the quantity of a substance administered or applied, the date of each administration or application, information regarding the identity of suppliers or customers, and the quantity or price of supplies purchased or products sold shall be removed before disclosure and shall not be released to any person other than persons and agencies authorized to acquire records under subdivision (a):

(1) Records of a producer, as described in paragraph (1) of subdivision (a) and in paragraph (3) of subdivision (b) of Section 26569.28.

(2) Records of a handler, as described in paragraphs (4) and (5) of subdivision (c) of Section 26569.28, records of previous handlers, if any, and producers as described in paragraph (1) of subdivision (a) of, paragraph (3) of subdivision (b) of, and paragraphs (4) and (5) of subdivision (c) of, Section 26569.28, without identifying the previous handlers or producers, and, if applicable, records obtained as required in subdivision (d).

(3) Records of a processor, as described in paragraph (4) of subdivision (d) of Section 26569.28, except for processing aids that are not residual in the product and spices and seasonings exempt from labeling requirements in Parts 145 and 146 of Title 21 of the Code of Federal Regulation, records of previous processors and handlers, if any, and producers as described in paragraph (1) of subdivision (a) of, paragraph (3) of subdivision (b) of, paragraphs (4) and (5) of subdivision (c) of, and paragraph (4) of subdivision (d) of, Section 26569.28, without identifying the previous processors, handlers, or producers, and, if applicable, records obtained as required in subdivision (d).

(4) Records of a retailer, as described in paragraphs (4) and (5) of subdivision (e) of Section 26569.28, records of previous processors and handlers, if any, and producers as described in paragraph (1) of subdivision (a) of, paragraph (3) of subdivision (b) of, paragraphs (4) and (5) of subdivision (c), and paragraph (4) of subdivision (d) of, Section 26569.28, without identifying the previous processors, handlers, or producers, and, if applicable, records obtained as required in subdivision (d).

This subdivision shall be the exclusive means of public access to records required to be kept by producers, processors, handlers, and retailers under this article.

A person required to provide records pursuant to a request under this subdivision, may petition the director or the Secretary of Food and Agriculture to deny the request based on a finding that the request is of a frivolous or harassing nature.

The secretary or director may, upon the issuance of such a finding, waive the information production requirements of this subdivision for the specific request for information that was the subject of the petition.

(c) Information specified in subdivision (b) that is required to be released upon request shall not be considered a "trade secret" under Section 26235, Section 1060 of the Evidence Code, or the Uniform Trade Secrets Act (Title 5 (commencing with Section 3426) of Part 1 of Division 4 of the Civil Code).

(d) The director or the Secretary of Food and Agriculture may charge the person requesting records a reasonable fee to reimburse him or her self or the source of the records for the cost of reproducing the records requested.

(e) Any person who first imports into this state, for resale, food sold as organic shall obtain and provide to the enforcement authority, upon request, proof that the products being sold have been certified by an accredited certifying organization or have otherwise been produced in compliance with this article.

(f) The director shall not be required to obtain records not in his or her possession in response to a subpoena. Prior to releasing records required to be kept pursuant to this chapter in response to a subpoena, the director shall delete any information regarding the identity of suppliers or customers and the quantity or price of supplies purchased or products sold.

SEC. 4. Section 26569.30 of the Health and Safety Code is amended to read:

26569.30.(a) Commencing January 1, 1996, all organic products shall be certified by a registered certifying organization, and food shall be sold as organic only in accordance with this section, subdivisions (c) and (d) of Section 26569.24, Sections 26569.31 to 26569.34, inclusive, and Section

46009 of the Food and Agricultural Code. The Secretary of Food and Agriculture, director, and the county agricultural commissioners shall carry out this subdivision to the extent that adequate funds are made available for that purpose.

(b) Food sold as organic may be certified only by a certification organization registered pursuant to subdivisions (c) and (d), by the director pursuant to subdivision (f), by a certification organization registered pursuant to Section 46009 of the Food and Agricultural Code, or by the Secretary of Food and Agriculture or a county agricultural commissioner pursuant to Section 46009 of the Food and Agricultural Code or a federally accredited certification organization.

(c) In order to be registered, a certification organization shall meet all of the following minimum qualifications:

(1) Be the certification organization for at least five legally separate and distinct, financially unrelated, and independently controlled persons involved in the production or processing of food sold as organic.

(2) Be a legally separate and distinct entity from any person whose food is certified by the organization. A certification organization shall be considered legally separate and distinct notwithstanding the fact that persons or representatives of persons whose food is certified serve as directors, officers, or in other capacities for the certification organization, so long as those persons or representatives of those persons do not exercise decisionmaking authority over certification of that particular food.

(3) Have no financial interest in the sale of the food, except that fees charged by the certification organization to cover the reasonable costs of operating the certification organization do not constitute a financial interest for purposes of this section.

(d) Effective January 1, 1992, a certification organization which certifies processed food sold as organic, except for processed meat, fowl, or dairy products, shall register with the director and shall thereafter annually renew the registration unless no longer engaged in the activities requiring the registration. Registration shall be on a form provided by the director, shall include the filing of a certification plan as specified in Section 26569.33 and payment of the fee specified in subdivision (f). The director shall make forms available for this purpose on or before December 1, 1993. The registration form shall include a written statement affirming compliance with all requirements for certification organizations specified in Section 26569.30 to 26569.34, inclusive, and confirmation that each component of the organization's certification plan has been filed as specified in Section 26569.33. The director shall reject a registration submission that is incomplete or not in compliance with this article.

(e) Commencing July 31, 1991, the director may, upon the request of a sufficient number of persons to fund the program's cost, establish and maintain a certification program for processors of food sold as organic and shall establish and collect a fee from all processors of food certified under that program to cover all of the department's costs of administering the program. The certification program shall be subject to all provisions regarding certification organizations contained in this article, except that the requirements of subdivisions (c) and (d) shall not apply, and the program shall meet all of the requirements for federal certification programs, including federal accreditation.

(f) The registration fee shall be five hundred dollars ($500), unless the certification organization is also registered as a certifier of producers by the Secretary of Food and Agriculture under Section 46009 of the Food and Agricultural Code, in which case the registration fee shall be one hundred dollars ($100).

(g) The director may audit the organization's certification procedures and records at any time. Records of certification organizations not otherwise required to be released upon request or made publicly available shall not be released by the director except to other employees of the department, the Department of Food and Agriculture, a county agricultural commissioner, the Attorney General, any prosecuting attorney, or any government agency responsible for enforcing laws related to the activities of the person subject to this division.

SEC. 5. Section 27831 of the Health and Safety Code is amended to read:

27831. Certified farmers' markets shall meet the provisions of Article 6 (commencing with Section 27590) and, in addition, shall meet all of the following requirements:

(a) All food shall be stored at least 15 centimeters (6 inches) off the floor or ground or under any other conditions which are approved.
(b) Food preparation is prohibited at certified farmers' markets with the exception of the food samples. Distribution of food samples is allowed provided that the following sanitary conditions exist:
(1) Samples shall be kept in approved, clean, covered containers.
(2) All food samples shall be distributed by the producer in a sanitary manner.
(3) Clean, disposable plastic gloves shall be used when cutting food samples.
(4) Food intended for sampling shall be washed, or cleaned in another manner, of any soil or other material by potable water in order that it is wholesome and safe for consumption.
(5) Potable water shall be available for hand washing and sanitizing as approved by the local enforcement agency.
(6) Potentially hazardous food samples shall be maintained at or below 45 degrees fahrenheit. All other food samples shall be disposed of within two hours after cutting.
(7) Utensil and hand washing water shall be disposed of in a facility connected to the public sewer system or in a manner approved by the local enforcement agency.
(8) Utensils and cutting surfaces shall be smooth, nonabsorbent, and easily cleaned or disposed of as approved by the local environmental health agency.
(c) Approved toilet and hand washing facilities shall be available within 60 meters (200 feet) of the premises of the certified farmers' market or as approved by the enforcement officer.
(d) No live animals, birds, or fowl shall be kept or allowed within 6 meters (20 feet) of any area where food is stored or held for sale. This subdivision does not apply to guide dogs, signal dogs, or service dogs when used in the manner specified in Section 54.1 of the Civil Code.
(e) All garbage and rubbish shall be stored, and disposed of, in a manner approved by the enforcement officer.
(f) Notwithstanding Article 11 (commencing with Section 27670), vendors selling food adjacent to and under the jurisdiction and management of a certified farmers' market may store, display, and sell from a table or display fixture apart from the vehicle, in a manner approved by the local enforcement agency.
(g) This section shall be repealed on January 1, 1997.

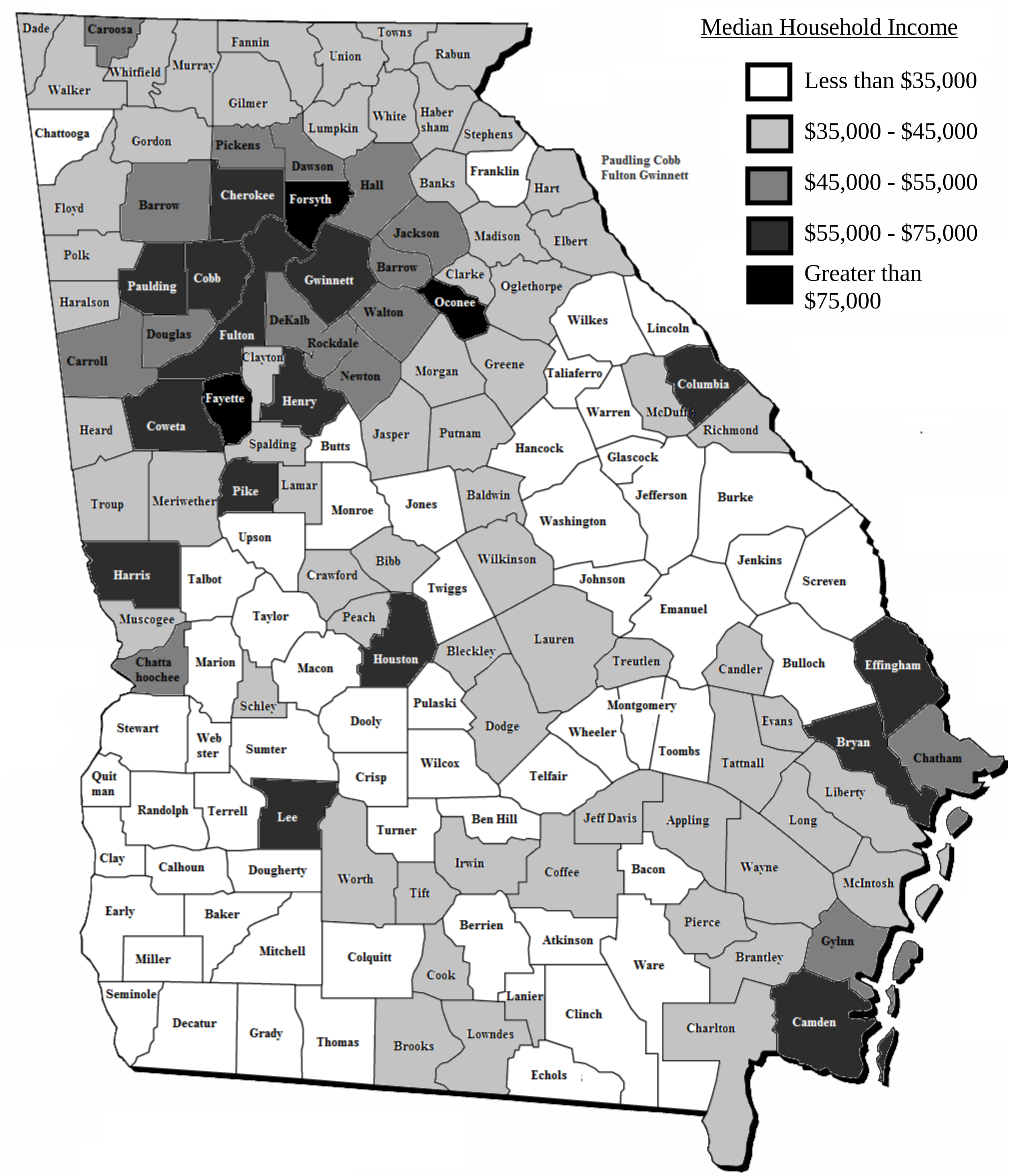
SEC. 6. Section 27831 is added to the Health and Safety Code, to read:
27831. Certified farmers' markets shall meet the provisions of Article 6 (commencing with Section 27590) and, in addition, shall meet all of the following requirements:
(a) All food shall be stored at least 15 centimeters (6 inches) off the floor or ground or under any other conditions which are approved.
(b) Food preparation is prohibited.
(c) Approved toilet and hand washing facilities shall be available within 60 meters (200 feet) of the premises of the certified farmers' market or as approved by the enforcement officer.
(d) No live animals, birds, or fowl shall be kept or allowed within 6 meters (20 feet) of any area where food is stored or held for sale. This subdivision does not apply to guide dogs, signal dogs, or service dogs when used in the manner specified in Section 54.1 of the Civil Code.
(e) All garbage and rubbish shall be stored, and disposed of, in a manner approved by the enforcement officer.
(f) This section shall become operative on January 1, 1997.

SEC. 7. No reimbursement is required by this act pursuant to Section 6 of Article XIIIB of the California Constitution for those costs which may be incurred by a local agency or school district because this act creates a new crime or infraction, changes the definition of a crime or infraction, changes the penalty for a crime or infraction, or eliminates a crime or infraction.

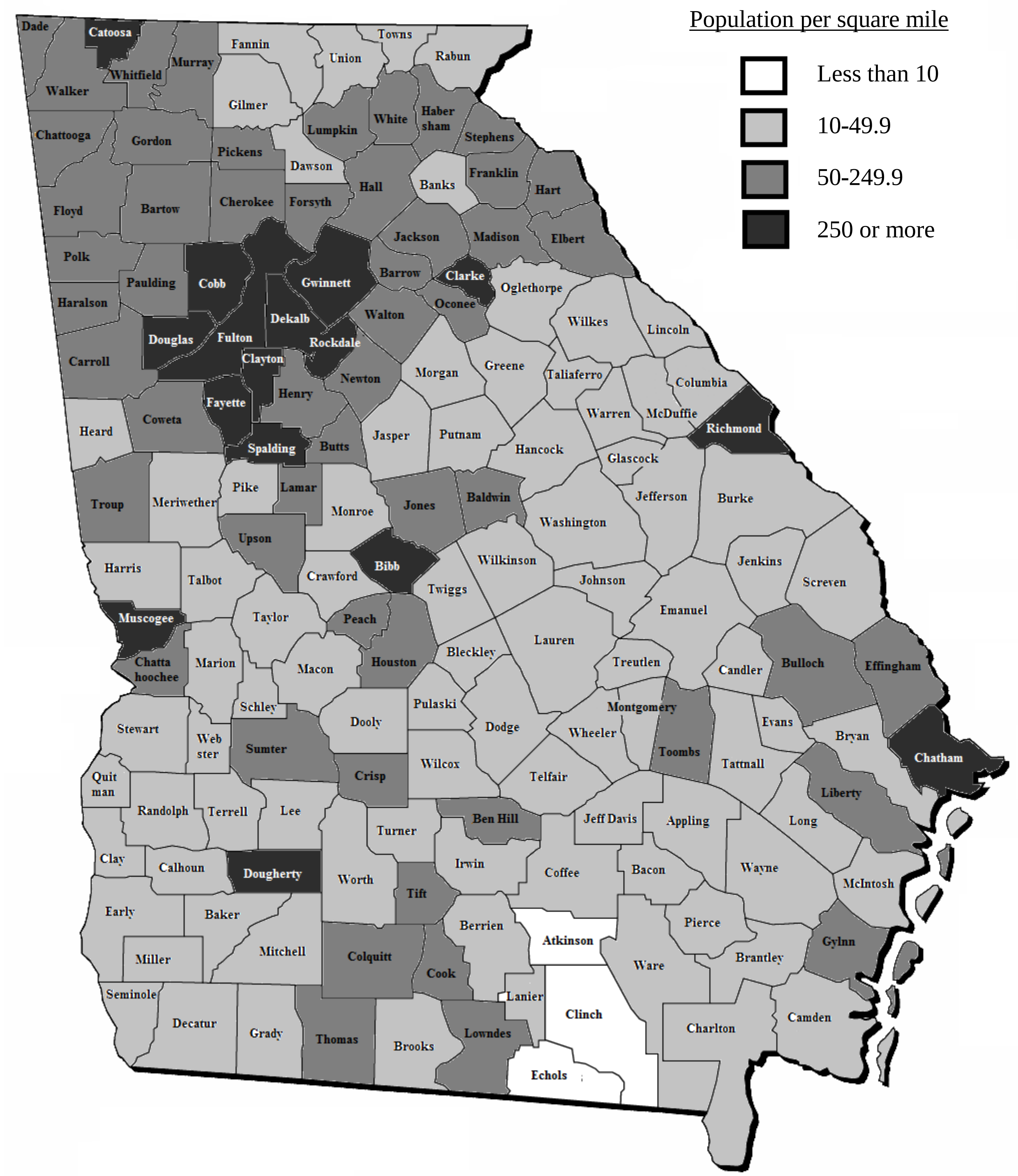
Moreover, for certain costs, no reimbursement is required by this act from the State Mandates Claims Fund because the local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act.

However, notwithstanding Section 17610 of the Government Code, if the Commission on State Mandates determines that this act contains other costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code. If the statewide cost of the claim for reimbursement does not exceed one million dollars ($1,000,000), reimbursement shall be made from the State Mandates Claims Fund. Notwithstanding Section 17580 of the Government Code, unless otherwise specified in this act, the provisions of this act shall become operative on the same date that the act takes effect pursuant to the California Constitution.

Appendix L – Maps of Georgia Wealth and Population Density



Per Capita Income by County (2010 U.S. Census)



Population Density by County (2010 U.S. Census)

Appendix M – Southeast Regional State Political Conditions

State Legislature Professionalism Ranking (PR), State Government Partisan Control (GPC), and Political Culture (PC)																
Year	**Alabama** (PC 8.57)		**Florida** (PC 7.80)		**Georgia** (PC 8.80)		**Kentucky** (PC 7.40)		**Mississippi** (PC 9.0)		**North Carolina** (8.50)		**South Carolina** (8.75)		**Tennessee** (8.50)	
	PR	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*
1990	.122	S	.253	S	.123	D	.095	D	.147	D	.181	S	.181	S	.128	D
1991	.113	S	.252	D	.120	D	.094	D	.144	D	.176	S	.174	S	.126	D
1992	.103	S	.251	D	.117	D	.093	D	.140	S	.171	S	.166	S	.124	D
1993	.094	S	.251	S	.115	D	.091	D	.137	S	.165	D	.158	S	.122	D
1994	.085	S	.250	S	.112	D	.090	D	.134	S	.160	D	.150	S	.121	D
1995	.076	S	.250	S	.110	D	.088	D	.130	S	.154	S	.143	S	.119	S
1996	.067	S	.249	S	.107	D	.087	D	.127	S	.149	S	.135	S	.117	S
1997	.076	S	.245	S	.108	D	.096	D	.124	S	.156	S	.133	S	.117	S
1998	.085	S	.242	S	.110	D	.104	D	.121	S	.163	S	.132	S	.117	S
1999	.094	D	.238	R	.111	D	.113	D	.118	S	.170	S	.130	S	.117	S
2000	.104	D	.234	R	.112	D	.122	S	.116	D	.177	D	.129	S	.116	S
2001	.113	D	.230	R	.113	D	.131	S	.113	D	.184	D	.127	S	.116	S
2002	.122	D	.227	R	.115	D	.139	S	.110	D	.191	D	.126	S	.116	S
2003	.131	S	.223	R	.116	S	.148	S	.107	D	.198	S	.124	R	.116	D
2004	.122	S	.221	R	.116	S	.146	S	.108	S	.195	S	.130	R	.116	D
2005	.113	S	.217	R	.116	R	.144	S	.110	S	.192	D	.136	R	.117	S
2006	.105	S	.213	R	.116	R	.143	S	.111	S	.189	D	.143	R	.117	S
2007	.096	S	.210	R	.116	R	.141	S	.112	S	.186	D	.149	R	.117	S

Year	Alabama (PC 8.57)		Florida (PC 7.80)		Georgia (PC 8.80)		Kentucky (PC 7.40)		Mississippi (PC 9.0)		North Carolina (8.50)		South Carolina (8.75)		Tennessee (8.50)	
	PR	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*	*PR*	*GPC*
2008	.087	S	.206	R	.116	R	.139	S	.114	S	.183	D	.155	R	.118	S
2009	.078	S	.210	R	.116	R	.137	S	.115	S	.180	D	.161	R	.118	S
2010	.069	S	.208	R	.116	R	.135	S	.116	S	.177	D	.167	R	.118	S

PR (State Legislature Professionalism) 0 = least professionalized; 1 = most professionalized
GPC (Partisan Control of State Government) D = Democrat; S = Split/Divided; R = Republican

Appendix N - Text of Georgia Legislation

2000 SB 477

First Reader Summary

A bill to be entitled an Act to amend Title 2 of the Official Code of Georgia Annotated, relating to agriculture, so as to provide for the certification and labeling of organic food and feed; to provide a short title; to provide definitions; to provide for what constitutes organic food or feed; to provide for items which may be used in the production, preservation, and processing of plants and animals intended to meet the standard of identity for organic food or feed; to provide for regulation of identification, advertisement, promotion, labeling, and packaging of organic food and feed; to provide for regulation and standards for production, distribution, and processing practices; to repeal conflicting laws; and for other purposes.

By: Senators Ragan of the 11th and Meyer von Bremen of the 12th

A BILL TO BE ENTITLED AN ACT

To amend Title 2 of the Official Code of Georgia Annotated, relating to agriculture, so as to provide for certification and labeling of organic food and feed; to provide a short title; to provide definitions; to provide for regulation of identification, advertisement, promotion, labeling, and packaging of organic food and feed; to provide for regulation and standards for production, distribution, and processing practices; to prohibit the use of the words "certified organic by" in the advertising, promotion, packaging, or labeling of food or feed ingredients, articles, commodities, or products except under certain conditions; to prohibit certain substitutions and commingling; to provide for labeling of organic food or feed ingredients, articles, commodities, and products; to provide for inspections and analyses; to provide for fees; to provide for rules and regulations; to provide for practices and procedures; to provide for appeals; to provide for penalties; to repeal conflicting laws; and for other purposes.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF GEORGIA:

SECTION 1.

Title 2 of the Official Code of Georgia Annotated, relating to agriculture, is amended by adding at the end thereof a new Chapter 21 to read as follows:

2-21-1.

This chapter shall be known and may be cited as the 'Georgia Organic Certification and Labeling Act.'

2-21-2.

As used in this chapter, the term:

(1) 'Certification' means the verification of authentic organic practices in the production or processing of organic food or feed and is an annual process by which the producer or processor of fresh, wholesale, or retail organic food or feed receives written certification from the department or a department approved certifying entity that, through the on-site inspection of the production, storage, processing, transportation, distribution, and required audit trail practices used by an organic producer or processor, consumers are assured that organic food or feed is produced and processed in compliance with Code Section 2-21-3. For purposes of complying with Code Section 2-21-3, certification does not require membership in nor imply a contractual agreement to produce or process organic food or feed for a certifying organic organization, business, firm, or individual. However, certification or the use of organic labeling shall require the maintenance of records and documentation verifying full compliance with the organic standards. All records shall be made available to the department or an approved certifying entity upon request.

(2) 'Certifying entity' means any organization, business, firm, or individual that:

(A) Has standards for certification of organic food or feed production or processing which meet or exceed standards set by the department and which are approved in writing by the Commissioner or his or her designee; and

(B) Meets such education, experience, financial, and ethical standards as are set by rules promulgated by the Commissioner and meets the requirements of Chapter 5 of this title.

(3) 'Commissioner' means the Commissioner of Agriculture of this state.

(4) 'Department' means the Georgia Department of Agriculture.

(5) 'Feed' means any article or substance normally intended to be consumed by animals for physical subsistence and health.

(6) 'Food' means any article or substance normally intended to be consumed by humans for physical subsistence and health.

(7) 'Organic' means an agriculture management system that enhances biodiversity, biological cycles, and soil biological activity to produce agricultural commodities and foster human and environmental health.

(a) Upon testing, any agricultural ingredient, article, commodity, or product which is identified, labeled, advertised, packaged, or promoted as organic shall contain no more than 5 percent of a level established as toxic by the United States Food and Drug Administration, the United States Environmental Protection Agency, the Environmental Protection Division of the Department of Natural Resources, or the United States Department of Agriculture.

(b) Producers, brokers, distributors, and processors of an organic food or feed product which is identified, advertised, promoted, labeled, or packaged as organic shall keep accurate records of all purchasing, shipping, and storage practices which transpired while any organic commodity or product was in the possession of a producer, broker, distributor, or processor. Accurate records shall include the location at which such organic commodity or product originated.

(c) Upon the effective date of this chapter, any qualifying organic production, distribution, or processing practices shall be deemed eligible for certification upon approval by the department. The department shall review any organic production, distribution, or processing practice which began prior to the effective date of this chapter and may approve certification if such practice meets the requirements as set forth in this chapter and the standards adopted by the department.

2-21-3.

(a) No person may use the words 'certified organic by' in the identification, advertising, promotion, packaging, or labeling of a food or feed ingredient, article, commodity, or product unless that ingredient, article, commodity, or product complies with the requirements of Code Section 2-21-3 and unless the producer, distributor, or processor has a certification in good standing from the department.

(b) No person who produces, processes, distributes, or transports an advertised, promoted, identified, tagged, stamped, packaged, or labeled organic food or feed ingredient, article, commodity, or product may substitute or commingle any ingredient, article, commodity, or product which does not comply with Code Section 2-21-3.

(c) Any fresh, wholesale or retail organic food or feed ingredient, article, commodity, or product shall be tagged, stamped, labeled, crated, bagged, packaged, or be in any other standardized form which complies with state and federal regulations pertaining to inspection, identity, contents, weight, measure, and grade and must bear the official seal of the certifying entity which provides certification of the organic production, distribution, or processing practices for such organic food or feed ingredient, article, commodity, or product.

(d) Any food or feed ingredient, article, commodity, or product labeled as organic must be certified by the department or a department approved certifying entity as meeting the requirements of this chapter prior to being sold in the State of Georgia after July 1, 2000.

(a) The department or a department approved certifying entity may inspect at any reasonable time any area where food or feed identified, labeled, advertised, packaged, or promoted as organic food or feed is produced, processed, stored, distributed, transported, or sold.

(b) The department or a department approved certifying entity may require a laboratory analysis for the purpose of substantiating the standard of identity of any organic ingredient, article, commodity, or product.

(a) The Commissioner shall promulgate rules and regulations fixing and establishing reasonable definitions and standards for organic food and feed commodities or products being produced or sold within the State of Georgia.
(b) The Commissioner may adopt, by reference, pursuant to Chapter 13 of Title 50, known as the 'Georgia Administrative Procedure Act,' regulations for production, handling, and marketing of organically produced agricultural products as set forth by the United States Department of Agriculture.
(c) The Commissioner is authorized by rule or regulation to adopt fees which may be charged, collected, and retained by certifying entities as compensation for the services of such certifying entities under the provisions of this chapter.
(d) The Commissioner is authorized to adopt reasonable rules and regulations necessary to carry out this chapter, to provide for the approval of certifying entities, and to provide for the certification of organic food and feed. Any person, producer, broker, distributor, or processor of an organic food or feed product which is adversely affected by any action of an approved certifying entity shall have the right to appeal to the Commissioner. Such appeal and any further proceedings shall be subject to Chapter 13 of Title 50, known as the 'Georgia Administrative Procedure Act.' Any person who violates any provision of this chapter shall be guilty of a misdemeanor."
SECTION 2.
All laws and parts of laws in conflict with this Act are repealed.

2002 SB 361

By: Senators Ragan of the 11th, Smith of the 25th, James of the 35th, Seabaugh of the 28th and Blitch of the 7th

AN ACT

To amend Chapter 21 of Title 2 of the Official Code of Georgia Annotated, known as the "Georgia Organic Certification and Labeling Act," so as to provide that no person who produces, processes, distributes, or handles an advertised, promoted, identified, tagged, stamped, packaged, or labeled organic food or feed ingredient, article, commodity, or product may substitute or commingle any ingredient, article, commodity, or product which does not comply with Code Section 2-21-3; to repeal the requirement that certain organic food or feed ingredients bear the official seal of the certifying entity; to require the registration of persons who produce, process, distribute, or handle in this state any food or feed ingredient, article, commodity, or product labeled as organic; to provide for exceptions; to require the registration of any organization, business, firm, or individual acting as a certifying entity in this state; to provide for terms and conditions of registration; to provide for fees; to provide for classifications; to provide for practices and procedures; to repeal conflicting laws; and for other purposes.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF GEORGIA:
SECTION 1.
Chapter 21 of Title 2 of the Official Code of Georgia Annotated, known as the "Georgia Organic Certification and Labeling Act," is amended by striking Code Section 2-21-4, relating to packaging and labeling, and inserting in its place the following:
2-21-4.
(a) No person may use the words 'certified organic by' in the identification, advertising, promotion, packaging, or labeling of a food or feed ingredient, article, commodity, or product unless that ingredient, article, commodity, or product complies with the requirements of Code Section 2-21-3 and unless the producer, distributor, or processor has a certification in good standing from the department.
(b) No person who produces, processes, distributes, or handles an advertised, promoted, identified, tagged, stamped, packaged, or labeled organic food or feed ingredient, article, commodity, or product

may substitute or commingle any ingredient, article, commodity, or product which does not comply with Code Section 2-21-3.
(c) Any fresh, wholesale or retail organic food or feed ingredient, article, commodity, or product shall be tagged, stamped, labeled, crated, bagged, packaged, or be in any other standardized form which complies with state and federal regulations pertaining to inspection, identity, contents, weight, measure, and grade.
(d) Any food or feed ingredient, article, commodity, or product labeled as organic must be certified by the department or a department approved certifying entity as meeting the requirements of this chapter prior to being sold in the State of Georgia after July 1, 2000.
(e) On and after January 1, 2003, no person shall produce, process, distribute, or handle in this state any advertised, promoted, identified, tagged, stamped, packaged, or labeled organic food or feed ingredient, article, commodity, or product unless such person has first registered with the department; provided, however, that retail food sales establishments licensed under Article 2 of this chapter that do not process or repackage certified organic commodities shall be exempt from registration provisions set forth in this chapter. On and after January 1, 2003, no organization, business, firm, or individual shall act as a certifying entity in this state unless such organization, business, firm, or individual has first registered with the department. The Commissioner shall establish by regulation registration standards for producers, processors, distributors, handlers, and certifying entities not inconsistent with this chapter. Registration shall be made upon forms prescribed and furnished by the department. Registrations shall expire on the last day of December of the year for which they are issued. The Commissioner shall establish by rule a registration fee for certifying entities in an amount of not less than $25.00 nor more than $500.00 per annum and may establish classes of certifying entities with different registration fees for each class."
SECTION 2.
All laws and parts of laws in conflict with this Act are repealed.

2010 HB 1055 (Section 1-14)

AN ACT To amend provisions of the Official Code of Georgia Annotated relating to fees; to change the amount of the fees; to provide for new fees; to provide for promulgation of rules and regulations regarding fees; to change fees and certain other provisions regarding special license plates; to provide for the retention of certain fees by state agencies or other entities; to change fees and certain other provisions regarding bona fide coin operated amusement machines; to correct cross-references in the Official Code of Georgia Annotated; to amend Chapter 8 of Title 31 of the Official Code of Georgia Annotated, relating to the care and protection of indigent and elderly patients, so as to provide for a payment to be imposed on hospitals to be used to obtain federal financial participation for medical assistance payments under Medicaid; to provide for a short title; to provide for definitions; to establish a segregated account within the Indigent Care Trust Fund for the deposit of provider payments; to provide for a method for calculating and collecting the provider payment; to authorize the Department of Community Health to inspect hospital records for purposes of auditing provider payments; to provide for penalties for failure to pay a provider payment; to authorize the Department of Community Health to withhold Medicaid payments equal to amounts owed as a provider payment and penalty; to provide for the collection of payments by civil action and tax liens; to provide for the appropriation of funds in the segregated account for medical assistance payments; to provide for application of the “Georgia Medical Assistance Act of 1977”; to provide for automatic repeal of such amendments to said Chapter 8; to amend Title 48 of the Official Code of Georgia Annotated, relating to revenue and taxation, so as to revise and change certain provisions regarding the manner and time of making the state ad valorem tax levy and gradually eliminate such levy over a period of time; to provide for applicability; to provide that such provisions shall not abate or affect prosecutions, punishments, penalties, administrative proceedings or remedies, or civil actions related to certain violations; to provide for a complete exclusion of certain retirement income from Georgia taxable net income over a period of time; to provide for related matters; to provide for effective dates; to repeal conflicting laws; and for other purposes.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF GEORGIA:

SECTION 1–14.

Said title is further amended by revising subsection (e) of Code Section 2–21–4, relating to registration of organic products, as follows:

“(e) On and after January 1, 2003, no person shall produce, process, distribute, or handle in this state any advertised, promoted, identified, tagged, stamped, packaged, or labeled organic food or feed ingredient, article, commodity, or product unless such person has first registered with the department; provided, however, that retail food sales establishments licensed under Article 2 of this chapter that do not process or repackage certified organic commodities shall be exempt from registration provisions set forth in this chapter. On and after January 1, 2003, no organization, business, firm, or individual shall act as a certifying entity in this state unless such organization, business, firm, or individual has first registered with the department. The Commissioner shall establish by regulation registration standards for producers, processors, distributors, handlers, and certifying entities not inconsistent with this chapter. Registration shall be made upon forms prescribed and furnished by the department. Registrations shall expire on the last day of December of the year for which they are issued. The Commissioner shall establish by rule a registration fee for certifying entities in an amount of not less than $25.00 $75.00 nor more than $500.00 $1,000.00 per annum and may establish classes of certifying entities with different registration fees for each class. Any fees collected pursuant to this Code section shall be retained pursuant to the provisions of Code Section 45–12–92.1.”

LIST OF ABBREVIATIONS

[AMS] Agricultural Marketing Service
[CASFS] Center for Agroecology and Sustainable Food Systems
[CDFA] California Department of Food and Agriculture
[CDHS] California Department of Health Service
[CCOF] California Certified Organic Farmers
[ERS] Economic Research Service
[EHA] Event History Analysis
[FAO] U.N. Food and Agriculture Organization
[GDA] Georgia Department of Agriculture
[IFOAM] International Federation of Organic Agriculture Movements
[NOFPA] National Organic Food Production Act
[NOP] National Organic Program
[NOSB] National Organic Standards Board
[OTA] Organic Trade Association
[USDA] United States Department of Agriculture
[WACO] Western Alliance of Certification Organizations