HOW BUSINESS CLIMATE AND POLITICAL CLIMATE INFLUENCE ECONOMIC GROWTH AND ECONOMIC DEVELOPMENT IN THE AMERICAN STATES

By

James H. Black

B.S. University of Lowell, 1977

M.B.A. Plymouth State College, 1986

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Advisory Committee:

Carolyn Ball, Ph.D., Associate Professor of Public Administration, Advisor

Mark Lapping, Ph.D., Professor of Public Policy

Edward Laverty, Ph.D., Associate Professor of Public Policy

Stewart Smith, Ph.D., Professor of Resource Economics

Thomas Taylor, Ph.D., Professor of Public Administration

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On behalf of the Graduate Committee for James H. Black, I affirm that this

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file with the Graduate School at the University of Maine, 42 Stodder Hall, Orono, Maine.

Carolyn Ball, Ph.D., Associate Professor of Public Administration, Advisor   (Date)

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HOW BUSINESS CLIMATE AND POLITICAL CLIMATE

INFLUENCE ECONOMIC GROWTH AND ECONOMIC

DEVELOPMENT IN THE AMERICAN STATES

By James Harold Black

Thesis Advisor: Dr. Carolyn Ball

A Lay Abstract of the Thesis Presented
in Partial Fulfillment of the Requirements for the
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Economist Joseph Schumpeter's examination into the relationships between business cycles and periods of economic expansion defines the government's role in markets as limited. However, he viewed government intervention as a precursor to improving the levels of economic growth and expanding an individual's quality of life. This study examines how measures of business and political climate might explain variations in the level of economic growth and development across the states.

Economic growth is gauged from the microeconomic perspective of the individual (per capita income) and from the macroeconomic viewpoint of the state's economy (gross state product). Economic development is defined by changes in a quality of life index. The state's political climate has a component of ideology, measured as state tax burden and by an index that compares the ratio of public to private sector employment and a component that captures the capacity of a state to manage the affairs of government.

The ability of these non-economic, political variables to predict changes in levels of economic growth and development is compared to the explanatory power from six indices of a state's business climate. While the institutions that publish these indices

claim to have identified the socio-economic variables responsible for defining economic growth across the American states, none have identified how the richness of a state's political climate might influence its level of economic growth or economic development.

Each variable is defined in a lagged regression model and used to predict growth and development. The findings show that the ratio of public to private sector employment is the most reliable indicator of changes occurring across both measures of economic growth. While some of the measures of a state's business climate were superior indicators of changes in per capita income, they fell short of predicting changes in GSP. None of the indicators used in this study were able to predict changes in economic development. The findings highlight how states with a high quality of life enjoy higher levels of economic growth. These same states exhibit higher tax burdens and possess smaller governments. It appears that lowering taxes is not a panacea for increasing economic growth *and* improving the quality of life.

DEDICATION

This work is dedicated to the support of my family.

To my wife and best friend Holly, whose patience and steadfast love has allowed me to persevere in life's many journeys and to our two wonderful children Abby and Andrew. They provided the inspiration to begin this journey of discovery and explore the pathways to a more prosperous and sustainable future.

To my mother Muriel and my father Harold, their hard work and sacrifice provided the family with a home filled with joy and love. It was from within that setting that I witnessed how the acts of love, honesty, respect, and a willingness to embrace learning as a life-long experience can be blended into a purpose driven life.

Thank you all.

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Introduction

Today it is all too common to hear the media express concerns over how government policies impact individual freedoms and weaken the integrity of a free market system. Many academic studies agree and cite higher taxes and larger governments as major impediments to economic growth. So it is not surprising to find that across the nation, economists and policy analysts are actively engaged in a search to identify and measure the variables that can help explain the variation in the levels of economic growth observed across the American states. The difficulty in deciphering which variables cause growth begins with the definition of economic growth as opposed to economic development, the definition of business climate and the effect that political climate has over levels of growth and development.

The challenges of segregating the variables that *cause* growth from those that represent the *effects* of growth have popularized efforts to meld these variables into a single index. Today several national and regional institutions publish an index that purports to have identified the variables responsible for variations in the levels of economic growth across the American states. While the titles under which these indices are reported vary widely, each claims to having captured the essence of the state's capacity or its potential for economic growth. This capacity is frequently referred to as the state's business climate.

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While each of these indices capture the factors commonly used to assess the cost of doing business within a state, none acknowledge how the richness that defines a state's political climate influences its level of economic growth or its level of development. This study examines whether business climate indices can predict the levels of economic growth and economic development. These results are compared to how the non-economic factors used to measure a state's political ideology and its capacity to manage the affairs of government influence the levels of economic growth and economic development.

The Utility of Business Climate Indices

Today there is very little research examining the claim that adjusting policy in response to an index of business climate leads to a corresponding change in the patterns of economic growth experienced by a state. Yet this lack of research has not stopped states from adopting measures of business climate as one of their benchmarks for formulating economic policy.

The debate over the value that should be assigned to a business climate index has led some investigators to criticize the way that the terms themselves are used in these reports. The lack of uniformity in the way some of the terms are defined has evolved into tacit disagreements over the methods used for collecting and analyzing these data (CEFD, 2006; MERI, 2005, and Rooks, 2006). This disagreement has been fueled by a recent study that reveals how the definition of the indicators, the selection of measures, and the methods employed to determine the criteria for assigning weightings to the measures have all been heavily influenced by how well they fit the ideological underpinnings of the entity publishing the report (Fisher, 2005). Deller (2004) goes so far as to suggest that

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these biases undermine the quantitative value that can be ascribed to any of these measures.

As the author of the Economic Policy Institute (EPI) study, Fisher (2005) considers such inconsistencies validation that each index is actually measuring something different. He highlights these inconsistencies by questioning how the Beacon Hill Competitiveness Report (BHI) can rank Massachusetts as the most competitive state, yet the Small Business Survival Index (SBSI) ranks it 41st. Likewise, he wonders how the BHI can consider Mississippi to be the least competitive place in the nation, yet the SBSI ranks it as the seventh best place for small businesses. Finally, the business climate assessment made by the Pacific Research Institute (PRI) portrays Kansas with the highest level of something it calls economic freedom, a measure they use to gauge the level of free-market innovation, yet the SBSI ranks it 31st (Fisher, 2005).

Fisher's (2005) critiques are based on the suggestion that because each index purports to be measuring "something of critical importance to a state's economic future and its potential for growth", they should certainly converge around a simple ranking (pp.72-73). It is from within that context that Fisher makes his most stinging indictment and cautions lawmakers against using these rankings as benchmarks for formulating policies. He concedes that while some indices may offer utility in guiding a specific dimension of policy, none can claim having established a universal framework suited to defining how a shift in policy increases levels of economic growth. Yet, in spite of these warnings, one finds numerous references where public officials and state agencies cite their desire to improve their performance in one or more of these indices as justification for arguing for a change in policy (MDF, 2003), (wwwcfed.org/go/scorecard).

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Works by Dye (1980) and those of Holt and Turner (1996) expose the Achilles heel for adopting measures of business climate as a benchmark for altering policy. In their work, *The Political Basis of Economic Development,* Holt and Turner (1996) examine how political environments drive the conditions that increase levels of economic growth. Dye (1980) offers insights into how differences within state policies contribute to the differential in the growth observed amongst the states. These works provided the impetus for comparing how a state's business climate and its political climate might be used to explain changes in the levels of economic growth and economic development.

Before answering the basic question of their utility, the measures of business climate must be placed into context. The utility assigned to measures of business climate are portrayed within the constructs of a regression model. These models tout how a change in the index will translate into a change in the economic performance of a state. However, the variables used to construct the indices contain measures derived from both economic and non-economic sources.

Purpose of this Study

This brings us to the central questions posed by this investigation: how can one assess the utility of a business climate index without first considering whether the political climate of the state expresses a willingness to change, and whether the state exhibits the capacity to produce the type of changes necessary to establish a new level of economic growth?

This investigation tests the hypothesis that variations in a state's political climate, defined from measures that gauge both its capacity to manage the affairs of government and its political ideology, influence the level of economic growth and economic

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development in the American states. It places the Schumpeterian (1934) notion on the causes of growth into an analytical framework to decipher whether a state's approach to adopting programs, policies, and laws has influenced its level of growth or level of development.

This is accomplished by testing the relationship that measures of a state's business climate and measures of its political climate have to changes in measures of economic growth and economic development. The analysis proceeds along in two distinct stages: (1) to examine a gap in the literature, two decades of data are collected that reveal how a state's prevailing political ideology and its capacity to manage governmental affairs may have contributed to the levels of economic growth or economic development within that jurisdiction, and (2) tests are conducted to define how a measure of a state's political or business climate influence levels of economic growth and development when the level of economic development is high and when the level of economic development is low.

While it is easy to understand how the conceptual definitions of the terms economic growth and economic development came to be used interchangeably, the operational definitions adopted by this investigation rely on two very distinct sets of measures. Economic growth is measured by quantifiable changes in the level of per capita income and by the year over year change in gross state product (GSP). Economic development is gauged by measuring the change in a composite of social indicators that define the quality of life within each state. The basis for these definitions is explored in the literature review.

Based on the review of the literature, discussed in the next section, we assert that assessing the influence that a state's political climate has on its economic growth and

development is the first step in constructing objective, non-partisan comparisons of a state's economic performance.

Reason for the Dissertation

The literature reveals a gap in efforts to quantify the relationship between political climate, measures of economic growth, and those of economic development. The literature also highlights how past attempts to improve economic growth while simultaneously seeking to improve an individual's quality-of-life (QOL) have produced mixed results. Nowhere are these contradictions more apparent than in the work of Jorgenson, Ho, and Stiroh (2003). These authors reveal how increasing levels of investments in education failed to sustain the momentum of growth that was underway in the technology sector. The literature review expands upon this topic and highlights how states vary in their ability to spawn the type of policy deemed critical to actively participating in this new global economy. While investigators continue to diagnose the causes for these failures, the absence of an objective, analytical framework suited to explaining the influence that a state's political climate has on its pattern of economic growth and economic development remains a gap in the research.

A review of published dissertations failed to uncover an investigation that examined the relationship between measures of a state's business climate, its political climate, and the level of economic growth and development occurring within that jurisdiction. While Michael Porter's (1998, 2000) seminal works describe how governmental support of economic clusters influences levels of economic growth, he did not delve into the interrelationships between a state's political climate, its business

climate, and the incidents of economic growth and development observed across a range of states.

Determining the influence that political climate has on the dimensions of economic growth and economic development updates the contemporary theories that suggest variations in economic growth are related to changes in the quantity, quality or access to human capital, financial capital, and natural resources. While each of these factors contribute to the growth and expansion of a traditional economy, we posit that these measures have less influence over the levels of growth and expansion occurring in the emerging new or knowledge-based economies (KBE).

Finally, testing the impact of political climate separate from those of its business climate will help arbitrate the debate over whether a specific published index of a state's business climate should be adopted as a benchmark to alter policy in ways that many believe help create higher levels of economic growth.

Contribution to the Body of Knowledge

Over the past two decades policy analysts have attempted to quantify how government intervention in free markets influences the level of economic growth in nation-states. Investigations into the influence that the economic actions of government actions have over levels of growth continue to be scrutinized (Powell, 2003). Levels of taxation, policies of expenditures and the nature of the regulatory environment are the main subjects for these investigations. In their attempts to expose the underlying cause for variations in the levels of growth in developed economies investigators have begun to reexamine the empirical models that have been the mainstay of growth theory (Malizia and Feser, 1999). Those findings highlight how changes in the interrelationships amongst

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the factors of production, land, labor, capital, and resource availability have altered the character of growth in the 21st century.

Within the field of development economics a consensus is emerging that the cost of admission into the new, knowledge-based economy (KBE) requires abandoning the politically expedient remedies that focus on resuscitating vestiges of the old economy. This shift in emphasis needs to be accompanied by the recognition that moving public investments into programs that improve the social and physical infrastructures will help sustain and attract the educated workforce of the future. The management skills needed to effectively allocate public resources between the competing needs of improving the quality of life for constituents and investing to improve the infrastructure for future growth are not evenly distributed across the governments that operate the states (Syracuse, 2001).

As investigators explore ways to quantify the costs and define the benefits of shifting the portfolio of public investments, they have unearthed a series of low-cost measures that help spawn initiatives in entrepreneurship and technical innovation. These include investing in programs that improve the quality of place and the quality of life. Initiatives in each of these areas have had positive impacts on the rate of entrepreneurship and on the rate of economic growth. Kreft (2003) considers initiatives that increase the levels of entrepreneurship as a way for states to accelerate future growth while simultaneously producing a revenue stream that can fund the programs that elevate the quality of life for its constituents. The discovery of a plausible cause-and-effect relationship between growth and quality of life has sparked a renaissance to analyze how the policy instruments known to promote individual well-being might be modified to

improve levels of economic growth and development. It is through this lens that investigators have begun examining the interrelationships between quality of life, quality of place, and the government's role in creating economic growth and economic development within a state (Brookings, 2006).

Daly (1994), a pioneer in the movement to define conditions of economic sustainability, judges sustainability by how well the body politic endorses policies that improve the well-being of individuals. These include such qualitative measures as access to open spaces, levels of happiness, and the capacity to convey this atmosphere of happiness to future generations. Several investigations have defined this notion of well-being as a change in an individual's quality of life (QOL). A series of quantitative measures attributed to the QOL in each state are adopted by this study as the proxy for defining changes in the conditions of economic development.

Quantifying the relationships between a state's business climate, its political climate, and the occurrence of economic growth and economic development is an essential step in deciphering whether the policy environment in a state supports the conditions of economic growth and economic development, or whether it remains locked in a quagmire of economic stasis.

Research Questions

This study seeks answers to the following questions:

1. Can the indicators of a state's political climate, defined as its political ideology and its capacity to manage the affairs of government, improve our ability to explain variations in economic growth as well as those of economic development?

2. Can the index of a state's business climate explain variations in the levels of economic growth and development observed across the American states?

CHAPTER 2: LITERATURE REVIEW

Public Policy in Market Based Economies

Understanding the factors that affect economic growth and development in the

states requires an appreciation of the basic economic theories that define the nature of

interactions between markets and governments. According to Gramlich (1981),

government's intervention in a market economy is based on any of three primary

objectives: (1) improving economic efficiency, often through policies that seek to alter

the parameters of market pricing and thus influence the allocation of resources; (2)

redistributing incomes within a society so as to restore or achieve distributive equity; or

(3) stabilizing prices, employment, and factors that contribute to output so that the rate of

economic activity is controlled.

In most instances, the form of a government's intervention is shaped by the

behaviors emanating from within specific segments of the market. In markets

characterized by the production of private goods these behaviors are fairly predictable.

Efforts by most producers are directed at designing and implementing strategies that help

maximize profits. These producers execute this strategy in a manner that balances

economic risk against a degree of economic certainty. So it is reasonable to expect that

they will play by a set of rules where price is used to efficiently allocate resources,

equitably distribute incomes, and temper the pace of demand. Of course each of these

conditions represents a cornerstone of neoclassic economic theory.

There are occasions when the efficiency of this system comes into question.

During such times there is usually a social or economic problem attached to the way

markets have either over- or under-allocated resources. Under those conditions there is

the expectation that governments will intervene and craft policies that cause the producers to absorb spillover costs or stimulate an expansion of outputs to increase the benefits.

Policies designed to repress the impact of a market failure, or what economists refer to as an act taken to redress a negative externality, seek to restore equilibrium by assessing an incremental cost to the producer. These costs take the form of legislative mandates, regulatory policies, or various forms of taxation. In each case, the intent is the same: insure that the producer absorbs the social costs associated with the production of the private good.

Likewise, whenever private markets produce spillover benefits, governments can use subsidies as a way to encourage higher levels of output. Intervention of this type helps drive the market to new, higher equilibrium point. In instances of under allocation the objective of the remedy is always the same: encourage an increase in the level of outputs.

Throughout the literature there is near universal agreement of an inverse relationship between economic growth and a government's intervention in the economy. Higgins, Levy, and Young (2003) logged over 3000 county based observations and concluded there was a strong negative correlation between the extent to which the public sector was represented, be it federal, state, or state government, and the conditions they used to measure economic growth. When Karabegovic and McMahon (2005) examined the influence that government intervention had on conditions of economic growth across the U.S. they were able to associate increasing levels of government intervention with a reduction in something they referred to as the economic freedom of the individual. They

determined that a reduction in economic freedom produced a negative impact on growth in per capita incomes.

Consistent with the findings of Karabegovic and McMahon (2005), Powell (2003) determined that a reduction in government intervention increased the economic freedom enjoyed by individuals: in this case for citizens in the country of Ireland. Like Karabegovic and McMahon, Powell was successful in assigning significance to the way that a change in the level of economic freedom impacted levels of economic growth.

Since market-based systems account for nearly 80% of the economy's output it is imperative that we understand the influence that government intervention plays in shaping a state's potential for improving its prospects for growth. Attempts to quantify these relationships have led economists and policy analysts to craft a series of economic and non-economic measures into an index that purports to measure a state's capacity for growth. Today, indices of this type are published by a variety of institutions and are most frequently referred to as a measure of the state's business climate. The subject of business climate is explored in a later section of this literature review.

Economic Growth

All too often the words economic development and economic growth are used interchangeably. Since many economists tend to define the term economic development as more economic growth, it is common to find the theories that define how economies expand expressing these changes as changes in levels of economic development. Even today we find several government and non-government agencies explaining changes in their measures of growth in terms that seem better suited to defining the conditions

responsible for producing the change. In some cases we even find government agencies defining economic change as a change in economic development (EDA, 2004).

For Friedman (1962) and other neo-classical economists, economic growth is defined by quantifying changes in output or changes in the levels of per capita income. At this point it is important to acknowledge that regardless of the potential contradictions within the lexicon, there are no contradictions with the findings that all who view growth through the lens of neoclassic theory share a common belief that markets, not governments, should provide the incentives leading to more growth. The neoclassic view of the relationship between markets and governments allows that group to stipulate measures of growth as the changes that occur at the macro level of a state or nation's economy and as changes occurring within the micro economy as measured at the level of the individual. In this section, we examine the logic behind our intent to measure and test the effects that political and business climate have over growth measured both ways.

While Rodrik (2004) is quick to critique the neoclassicists approach to defining and measuring measure economic growth, those methods continue to dominate the literature. As a result, contemporary thought on ways to measure economic growth continue to support the notion that economic growth or improvements in the economy should be assessed from changes in output measures such as gross domestic product, (GDP) or per capita income (PCI).

That approach is supported by Vaughn and Bearse's (1981) suggestion that economic growth be defined by changes in output or changes that affect the scale of an economy. In acknowledging how these measures might slow improvements in the human

condition, these authors suggest amending the neoclassic model so it captures measures that define levels of investment and patterns of personal consumption.

In almost every instance the literature determines economic performance from the measures that support the policy agenda of the neoclassicists. This has resulted in the development of benchmarks that encourage markets to expand in ways that allow individuals to maximize the satisfaction of their preferences. So it is not surprising to find many economists endorsing the findings from publications of business climate indices that extol the virtues of free market policies. In several cases their basis for assessing the efficiency of these policies are captured in the economic construct that touts using traditional cost-benefit analysis (CBA) as the tool for evaluating effectiveness. Naturally within the field of growth economics the adoption of CBA has many critics. Most of the concerns over the use of this tool center around the methods used to define social costs and the way the discount schedule is defined. In each case the underlying issue is whether CBA is an appropriate tool for assessing the loss of an intangible or aesthetic element such as those found in the natural environment.

While economists and others that might consider themselves part of a school of economic growth concede the notion that government's role is to intervene to correct the inefficiencies arising out of market failures, they are just as quick to assert that when a policy adheres to their definition of efficient allocations, measured by maximizing the ability of the individual to exercise free choice over a range of preferences, the incidences of such failures are minimized.

Even if scholars can agree on the proper definition and measure of economic growth there is not a consensus about how it occurs or why the benefits of growth usually

end up being so unevenly distributed. Even the most ardent proponents of neoclassical theory accept that the outcome from a cycle of economic growth will always convey gains to some and losses to others. In her attempts to explain this conundrum Blanke (2003, p.1) points out that while there is nothing more important to the welfare of the citizens in a state than the growth and stability of its economy, the determinants of what defines growth remains one of the "greatest mysteries" of economics.

Blanke's (2003) review of the historical record unveiled the research that has been undertaken to define the conditions that enhance or impede economic growth. She traces the origins of these investigations to Malthus. Malthus' 19th century work was the first to connect the limit on economic growth to the limits of the fixed resources found in the natural environment. By the early 20th century the limits to growth were being redefined by a region's capacity to invest in physical capital and infrastructure. Later these findings were supplemented with Schumpeter's (1934) suggestion that growth was the outcome of a cycle in which private enterprise destroyed and then recreated markets. In accordance with his theory, the limitation to growth is based upon the extent to which free markets perpetuate a cycle of continual renewal. By the middle of the 20th century Solow (1991) countered the Schumpeterian notions of growth derived endogenously and began to depict growth as the outcome of exogenous technical change. In spite of Solow's suggestions that growth results from exogenous change, most investigators today suspect that the rapid pace of structural realignment currently underway in the marketplace results from a mix of both factors. This has reignited investigations to understand how the endogenous conditions unique to local markets may be influencing economic growth.

Increasingly the conditions thought to influence growth are being viewed as a combination of economic and non-economic forces.

Schumpeter (1934) was among the first to uncover the role that endogenous change plays in defining growth. Schumpeter (1934) suggested that internal forces such as the quality and quantity of human capital, the presence of labor exchanges, and the type and level of reinvestments made to establish or preserve market share were among those responsible for driving the type of change he observed in an economy, a change he characterized as a cycle of "creative destruction". While his seminal work was titled *The Theory of Economic Development*, he was, in fact, outlining his theory of economic growth. Today, investigators have focused their attention on understanding how investments in human capital, especially those that help create and diffuse knowledge, influence levels of economic growth.

While research into this nascent field of growth economics continues to advance our understanding of the mechanisms responsible for creating growth, at present nobody has devised a unified theory capable of fully explaining or predicting periods of growth, stagnation, or any of the many transitions that occur between these states of nature. In testimony to that statement we turn to the work by North and Thomas (1973) and Hoff (2001). Each of these authors suggests that while the models explaining economic growth have provided insights into the variables that might be causing growth to occur, they consider measuring factors such as innovation, education, and capital accumulations as circular reasoning, as these are "... not the cause of growth but, in fact, are growth" (North and Thomas,1973, p.2). Rodrik (2004), and Hoff and Stiglitz (2001) posit that changes in economic growth might be better explained by examining the differences

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within or across institutional settings. North defines such institutions as: " ....the rules of the game in a society, or more formally, [they are] the humanly devised constraints that shape human interaction" (p.3). It seems clear that these authors are referring to an ecosystem of factors which we explore and characterize as the political climate of a state.

Of course the uncertainty in establishing the underlying cause for changes in the frequency and durations that define Schumpeter's cycles of growth has a direct impact on the way policy should be structured and how it should be measured. If indeed a goal of government is to facilitate the cycles of growth generated by the private sector while monitoring market conditions and intervening to minimize the generation of negative externalities, then the obvious cannot be left unstated: if we do not know which variables are responsible for causing changes in these cycles and we do not know how to objectively measure the impact of these variables then it is easy to understand how we have reached a point where nearly all government policies are judged efficient! As a result of this uncertainty, policy makers are left without a tool that can help explain how a small change in the dimension of one policy might influence levels of economic prosperity. The real concern is how this limitation may be preventing lawmakers from devising strategies that will prepare their constituencies to adapt to the rapidly changing conditions that characterize participating in a global economy.

Rodrik (2004) suggests that resolving this issue goes well beyond the need to simply differentiate the measures that cause change from those responsible for its effect. He concedes that while the neoclassic models offer a limited tool set from which to evolve policies of growth, their limitations in shaping policies that can sustain growth should be the focus of concern. Here we find him making a direct reference in support of

defining conditions of economic growth separate from those of economic development. Rodrik (2004) uses his description of the complexities inherent in any attempt to establish policies of sustainable growth to make his case for interjecting governments into markets. Rodrik's call for government reforms echoes Porter's (1998) findings. Porter (1998) recommends governments develop policies that show preference to distinct industrial sectors, something he refers to as clusters. He considers government's development of these economic strategies a precursor to sustaining growth. Like Porter, Rodrik (2004) relates our collective failure to converge around an improved economic scenario to variations in the way these governmental institutions are arranged and on the differences he observed in the social preferences expressed by certain cultures. In highlighting the role that these non-economic forces, particularly political forces, play in defining growth, Hoff and Stiglitz (2001) and Rodrik (2004) felt that none of the works examined in their review of the literature produced a thorough understanding of how political processes interact with the economic forces in ways that drive growth in markets. While the authors confirmed that the body of literature continues to view government's intervention in markets as a detriment to economic growth, they felt more was at work here than simply the size of government or a set of policies that expressed a willingness to intervene. These authors seemed to be making a circuitous reference to our inability to understand the dynamics that take place when political cycles and business cycles change.

Economic Development

If proponents of economic growth tend to be dominated by economists then the proponents of economic development are dominated by planners and politicians. It is therefore critical to understand the differences between the way an economist defines a

policy to be efficient and the way a politician would make that claim. The variation in the way each of these groups defines economic efficiency tells the story of how investigators have approached analyzing the influence that politics have on levels of economic development and economic growth within the jurisdiction of a state.

The political culture of a state has a large influence over the nature of planning and the implementation of its economic policy (Wiewel, Tietz and Giloth, 1993). At each step in that "policy process", state and local planners must confront the conflicts that arise from a desire to create change that is (1) acceptable, (2) necessary, and (3) retains or enhances political capital (Dye, 2002, 14.). As a result of their interaction with political forces: citizens, interest groups and bureaucratic agencies, state planners are often relegated to defining efficiency as the successful outcome of a political process. Naturally defining efficiency from such qualitative methods is seen by others as a denial of everything that is right with the neoclassic theory: market based equilibrium and efficiency defined from cost-benefit-analysis. Given the differences in the backgrounds and viewpoints of planners and economists it is easy to understand why investigators have struggled to quantify the influence that the non-economic forces associated with a state's political environment have over its economic growth (or development). One reason for this struggle is the many different ways that past studies have approached the definition of a state's political environment. The other reason is based on the varying approaches to defining efficiency: can this be an efficient outcome if the process used to quantify the gains understates the social cost? The inability to resolve these two issues led Weiwel, Tietz, and Giloth (1993) to conclude that the adoption of a broadly accepted theory of community development ... " is a long way off." (p.95). It does not require a

leap of faith to extrapolate this statement to include state based economic development. In one of the more insightful articles on this subject, Howland (1993) sheds some further light on the reasons these two points of view seem so convoluted: they reflect a misapplication of the neoclassic theory. She finds the criterion that markets remain self-correcting does not apply when the economy of a state or region is small. She suggests that a market's resiliency and its capacity to be self-correcting are only observed when the economic structures are highly diverse. This would suggest that to the extent a state's economy is less diverse it is simply less able to comply with the theoretical guidelines of the neoclassic model. It appears that under those conditions politics step in to fill the gap. So while economists tend to extract their theories of economic growth by looking at ways to optimize economic systems that operate at a large scale, state planners and politicians are forced to examine the issue of growth while addressing a set of conflicts that are very local. Naturally, the planners and politicians resolve these conflicts with the tools at hand: the political processes. These variations in the perspectives held by economists and planners suggest how the investigations into economic growth and economic development in a state have emerged. When the literature discusses economic development in the context of the political environment of a state it approaches the issues from the vantage point of either the politician or the economist but rarely both. This explanation should also shed some light on the conflict that arises between economists that believe they know how something should be done and politicians that must settle for an implementation that is feasible.

Turning back for a moment to economic development, Vaughan and Bearse (1981) were among the first to overtly suggest that economic growth is something

different, and certainly not the same thing as economic development. While they suggest that changes in economic growth should continue to be based upon the type of quantitative measures that gauge changes in economic output, the measures of economic development should rely on qualitative measures of the type used to gauge structural changes within the economy: innovations in institutions, behavioral changes, and the adoption and development of technology.

Unlike neoclassic economists, planners, most politicians, and the other proponents of economic development view the neoclassic model through a lens that portrays the landscape locally, in a state, across a region, or within a tightly-defined locality. This observation is supported by the way the Economic Development Administration (EDA) elects to define economic development: as a set of actions that enhance the productive capacity of land, labor, capital, and technology of a national, state or local economy (EDA, 2004). Since most economists agree that the policies that lower investment costs or provide tax incentives can improve a firm's productive capacity, the definition from EDA underscores the role that states' governments play in creating conditions favorable to improving levels of economic development.

Blakely and Bradshaw (2002) make the case that the term economic development is simply not amenable to being defined by a strict economic model. These authors make it clear that economic development should not be considered part of a unified strategy that defines economic growth. Blakely and Bradshaw (2002) define the term in the context of a 'movement'. This allows them to avoid the dilemma of having to create a unified theory capable of connecting elements of economic growth with those of economic development. This seems an endorsement of the opinion rendered by Weiwel,

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Tietz, and Giloth (1993) that sees the ability to define such a theory a long way off.

Blakely and Bradshaw (2002) defend their definition of economic development as a

movement by claiming that all of the prevailing theoretical models that describe regional

or local economic development rely on the following, general equation:

$$\text{Local and Regional Development} = c \times r,$$

where 'c' equals the economic, social, technological and political capacity of a region,

and 'r' equals its resources: natural resource availability, location, labor, capital

investment, entrepreneurial climate, transportation, communication, industrial

composition, technology, size, export market, international economic situation, and

national and state government spending. Comparing this definition against that put forth

by proponents of the neoclassic theory highlights how much the definition of economic

growth expands when it includes aspects that some suggest represent economic

development. As we will see later, many of the institutions publishing an index of a

state's business climate have used this expanded definition as a way to justify

incorporating more variables into their measures.

Throughout the literature one comes away with the sense that underlying all these

attempts to define the term economic development, is an acute awareness of the need to

have a measure that captures the dynamics of an economy. Principally these measures,

like those proposed by Vaughn and Bearse (1981), seek to define the impact from

changes that result from the loss of some industries and the changes that societies must

undergo as they create space for emerging markets. Today this transformation is being

played out as a decline in traditional manufacturing and a social system struggling with

how to absorb and participate in the new, knowledge-based economy (KBE). The impact

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of this socio-economic transition has rekindled our interest in developing a better understanding of the contribution that human capital and technology makes towards achieving economic progress that can be judged sustainable.

In attempts to address the question of how to capture the dynamic nature of markets, several of the institutions measuring business climate have added indicators to capture levels of innovative capacity. So while the publishers of business climate indices capture these measures as a way to gauge changes in the level of economic growth, their adoption of these measures is more apt to align with measures of economic development. This opinion is consistent with that of Vaughn and Bearse (1981). They expect the measure of economic development to be defined as a structural change within the basic composition and mix of an economy. The real issue is that most indices do not distribute or otherwise differentiate their measures across these two states of nature, growth and development. This surfaces the concern over whether they are measuring growth, development, or both. This matter is explored in a later section.

The need to prepare society to adapt to these shifting economic conditions has not escaped Daly (1994). Once again he leverages the market failure argument to highlight how the effort to formulate policies that adjust GDP, and by inference the GSP, masks our ability to assess whether members of a society posses the capacity to adapt and confront the changes underway in an economy. In deference to suggesting that economic progress continue to be defined from measures used to track changes in the quantifiable measures of output, Daly seeks to alter our definition of progress. He believes the best way to judge progress is to determine whether a society is improving its capacity to

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support the constructs of intergenerational equity. This important subject is discussed in more detail later in this review.

Malizia and Feser's (1999) summary of the major theories of development serve as a testimony to Blakely's (2002) claim that all the economic development theories can be explained by the short form:

Local and Regional Development = c X r.

An overview of the theories that Malizia and Feser (1999) reviewed appear in Appendix A. A quick review of the works outlined in that table highlights how the lexicon has contributed to the proliferation of conflicting definitions. However, a closer examination reveals that all of these theories have focused on a single goal: capturing the more dynamic state of economic development.

While each of the theories of economic development discussed by Malizia and Feser (1999) demonstrate an ability to respond to shifts in the economy, each adopts a slightly different set of dynamics to explain the forces driving economic development. Malizia and Fraser (1999) point out that if one accepts the notion that the goal of development is structural reform then the following theories of economic development would be relevant: the Growth-Pole Theory which views the nurturing of fast moving, gazelle type industries as its primary source of structural change; the Entrepreneurship Theory which supports restructuring the economy around innovative processes, which in turn sponsors different modes of inter-sectional connectivity; the Product Cycle Theory, which is closely aligned with strategies to create knowledge and spawn its diffusion; and finally the Flexible Specification Theory, which highlights Porter's (1998) notion of attaching economic value to creating and supporting highly agile industrial clusters.

Alternatively, evolving a strategy of economic development from within the constructs of the Economic Base Theory, the Staple Theory, the Regional Concentration and Diffusion Theory, or the Interregional Trade Theory will increase government's intervention in an economy. But even those theories that endorse increasing the levels of intervention fail to explain how following the politically expedient strategy of supporting traditional industries and traditional forms of employment encumbers the development of human capital in ways that would support a new era of economic progress.

Once again, we find Daly (1996) offering to solve this conundrum: society needs to shift to his definition of progress. His proposal is to replace the current vision of progress, measured by quantitative expansion, something we adopt as our operational definition of economic growth, with measures that define the attainment of goals that center on improving the quality of life, our choice for operationally defining economic development. He submits that the most efficient method for realizing these goals is to replace the extreme individualism of the *Homo economicus*, currently seated at the center of neoclassic economic theory, with an individual focused on both a real and abstract group of others that reside within their community. His support of a communitarian ethic as the vehicle for achieving sustainability melds quite nicely with his rationale for equating sustainability with measures of intergenerational equity. Likewise, the moral claims attached to intergenerational equity provide him with sufficient justification for measuring progress along a vector that is normally used to gauge the quality of life (QOL). In Daly's (1996) case, he wants to insure that the QOL measures taken in the present reflect a set of conditions that individuals can be expected to experience in the future.

By defining sustainability from qualitative, QOL measures, Daly (1996) and others from the school of development (Milbrath, 1989), can argue that policies focused on achieving economic growth will always have a negative impact on society's obligation to future generations. Of course, the willingness to frame a social system around Daly's definition of economic development is totally dependent upon society's worldview of how individuals should relate to the physical environment.

Those possessing the world view of an environmentalist retain an anthropocentric construct and thus limit their considerations of intergenerational equity to the impact that decisions might have on the quality of life for a future generation of humans. This contrasts with the views held by social and deep ecologists, both of which posit that intergenerational equity is a right to be bestowed upon all sentient beings. Social ecologists expect humans to use their labyrinth of social systems to create a safety net able to protect the ecosystem. Those possessing the worldview of deep ecologists lean on the tenets of the precautionary principle and abstain from interfering with nature; do nothing lest it create an unknown harm, now or in the future (Laverty, 2003).

Compared with Daly, Milbrath (1989) is seen to take a more moderate approach to governments' role in markets. He suggests that markets are effective and efficient methods for allocating goods and services and that they produce conditions that stimulate social learning. The following summary stipulates the limited role he sees markets playing in support of economic development (p 27):

- Markets are unable to anticipate and plan for the future;

- Markets while not inherently unjust cannot correct injustice;

- Markets fail to protect us from dangerous externalities;

- Markets undervalue nature;

- Markets fail to provide for public goods, and;

- Markets cannot restrain our growth or provide quality of life in a society that is overcrowded and experiencing shortages.

Milbrath contends that society needs to depend on governments to correct the problems and supplement the deficiencies inherent in market-based economies. His rationale for government intervention is quite simple: he believes that as individuals, our normal reaction to the negative externalities generated by policies to increase levels of growth is to ignore them. This behavioral-based hypothesis leads Milbrath to conclude that governments have a legitimate purpose to intervene in ways that will temper the impact of market failures. While others have hinted at the presence of an appropriate condition for intervention, Milbrath appears to consider the dimension of time, early intervention, approaching preemption, as the only viable method for slowing down a cycle of growth. While his suggestion for preemption stems from a desire to give the political and economic systems time to reflect and redefine the equilibrium point between increasing rates of growth and achieving a predefined quality of life, the neoclassic economist would certainly argue in favor of other methods. What is intriguing here is Milbrath's suggestion that there is a time interval or some trigger point when governments need to intervene in markets. The argument both for and against government intervention in markets finds consensus around the idea that government intervention is legitimate if it is focused on persevering or restoring the quality of life for members of its society. So there is little disagreement with the suggestion that this point of intervention should be triggered by the need to preserve an individual's quality of life.

The contention arises in how to determine the level of deterioration that warrants intervention. Similarly there is need to define the type of intervention needed to restore equilibrium. The measures used to infer the level of government intervention in state-based economies is captured in this study by the measure of a state's political ideology. The selection and treatment of the variables used to create this measure are explored in the methods section of this review.

It is also interesting to note that many of Milbrath's observations mirror those identified by Schumpeter (1934). In his treatise, Schumpeter states that the interrelationship between growth and development is cyclical, framed by the often-quoted phase "creative destruction". Contrasting Schumpeter's analysis of business and economic cycles against the proliferation of economic development theories presented in the earlier section showcases our assumption that government's role in shaping the temporal character of these cycles is poorly understood.

The one bright spot in all this is found in the research that followed Schumpeter. Those investigations have explored the myriad of factors that help guide an economy along the path of creative destruction. In the process several of these investigators have elected to define economic development as economic growth plus some number of measures that indicate changes in the quality of life. Schumpeter's (1934) own observations highlighted how an individual's search for an improved QOL can be a major force in shaping the prosperity of a firm. This serves as yet another data point in support of an interrelationship between what we have come to define as economic growth and those of economic development.

Another way to view government's intervention in markets can be extrapolated from the work by Lentz and Mortensen (2005). These authors focused on understanding the factors that motivate an individual to improve their economic well being. In their scenario, it is easy to understand how the discontent arising from loss of employment could spark an individual's desire to improve their lot in life. If this cascades into an exodus where employees are departing an industry where the level of economic uncertainty is high to move to an industry where the prospects are brighter, then this shift has created a drain of skilled labor in one sector and an infusion of skills into another market. To the extent that this natural migration of labor ignites a structural realignment within an economy, it is easy to see how a government's intervention, denoted as a non-market force engaged to help stabilize the ailing sector of this hypothetical economy, could establish an artificial and protracted period of stasis between the Schumpeterian oscillations that describe periods of economic growth and those of economic development. This behavior is witnessed whenever governments enact policies that attempt to preserve traditional jobs. The literature makes it abundantly clear that political pressure to sustain employment is a key reason governments are willing to intervene in markets (Blakely and Bradshaw, 2002). Under these conditions governments' actions are motivated by trying to preserve the power base that resides within the economic structures of the recent past. Of course, throughout this process governments are allocating resources that might have otherwise been used to improve the capacity of the human capital demanded by a future economy. Apart from the short-lived value that the policies to preserve a status-quo in employment may offer to politicians, investigators have implicated these policies as the primary reason the individuals in a state have been

locked out of enjoying the benefits of more growth (Maine Economic Research Institute, 2005). This was the same conclusion reached by North and Thomas (1973). Their work aligns with the more contemporary studies conducted by Acemoglu, Johnson, and Robinson (2002). Acemoglu, Johnson and Robinson make a structural connection between levels of intervention and the quality of a government institution. They conclude that the quality of the institution accounted for some of the differences in levels of economic prosperity observed across nation-states. From those investigations we can hypothesize that the lack of convergence of prosperity across the American states, a region where on most measures the demographics and economic differences would be considered minor, might be attributed to variations in their political ideology and their capacity to manage the affairs of government.

The literature reveals that during prolonged periods of economic growth the human condition improves and eventually evolves to achieve a new, more enlightened stage of social development. If this is the case then we would expect to find states with high levels of economic growth exhibiting high levels of economic development. The discovery that a lack of economic convergence might be due to variations in the institutional settings across the states is an important finding and one that has proven pivotal to the way the methods for this investigation have been structured.

Numerous studies and books offer policy solutions that address the triad of challenges facing those that must choose between producing more economic growth or more economic development: redirecting the economy, improving the human condition, and protecting the resources of the planet. Most of these recommendations attempt to isolate policies that constitute economic growth from those that foster economic

development. In their seminal piece, *For The Common Good*, Daly and Cobb (1994) offer their own solutions for reconciling the inconsistencies that exist when designing policies of economic growth vs. those of economic development. They discuss each in the context of how contemporary policies on trade, population control, land use regulations, agricultural practices, industry, labor, income policies, taxation, and national security, demonstrate their support of growth over development. Naturally their recommendations seek to alter policy in ways that will help move economic development closer to their goals for achieving sustainability: recommendations for changing patterns of land use reflect an ethic of bio-centric egalitarianism; the policy prescription for addressing population growth focuses on achieving something called "optimal scale". The authors provide insights into the context and meaning of the term scale: "economics for persons in the community must face the question of scale; how many persons simultaneously living at what level of per capita resource use, is best for community, where community includes concern for the future and non-human species as well as those presently living humans? The next question: What are the best means of controlling the scale of population and per capita resource use?" The authors define the optimal population as one that can sustain itself for a "very long time at levels of per capita use that permit 'a good life' for all" (1994, p. 241). This leaves us with the obvious questions of what defines a "good life", and who defines how these conditions are obtained?

Attempts to define the precepts leading to a "good life for all" can be traced to the writings of Aristotle. In his work *Nicomachean Ethics,* he suggests that living well, i.e. leading a virtuous life, allows us to develop what the Greeks call 'eudaimonia', a good guardian spirit. In those writings Aristotle suggests that while living a virtuous life is

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necessary, virtue alone cannot fulfill some of the other criteria required to acquire happiness. His other prerequisites include good fortune, (to bring one the material goods necessary for a happy life), and physical and spiritual health (Aristotle, trans.www. 2006). It is from within these ancient constructs that classical liberalism develops its most stinging critique of economic development. By endorsing the pursuit of individual rights, liberties and happiness, classical liberals consider policies that emphasize economic growth and smaller government as the primary sources for improving the quality of life. These beliefs are reflected in Hobbe's (1651/2000) critique on the dangers of large government, Locke's (1689/2000) examination of the relationship between labor and property rights, Friedman's (1962/2000) views on the link between economic and political freedoms, and Hayek's (1944) treatise on the threat that collectivism holds for democracy (also see Blaug, 2000). The common theme running through all of these writings is a strong belief in the individual's right of self determination. The fact that such rights are articulated as 'inalienable' in the U.S. Constitution continues to influence elements of economic policy. More recently, growth economists have adopted the term economic freedoms as a way to describe their measurement of these rights (Wang, 2005).

Not surprisingly, several of the factors thought to contribute to the good life are captured in the indices that define a state's business climate. As noted earlier, these indices do not differentiate between measures of growth and those of development. As a result their determinates for QOL tend to meld with some of the other variables that economists routinely use to measure material well-being: health, safety, political stability, family life, community life, climate and geography, job security, educational attainment, access to goods and services, political and/or economic freedom, and gender equality

(*The Economist*, 2006). The literature fully endorses efforts that aggregate these variables into indexes that indicate a region's QOL (UN, 2006). International agencies such as the UN have a long history of using selected measures of well-being to help them define the QOL in a region. Towards that end the UN has continued to refine its measures of QOL. Today this institution reports results from an HDI, or human development index. This index measures poverty, literacy, education, life expectancy, and birth rates. A subset of this measure, the HPI, the human poverty index, is used to measure a country's standard of living (UN, 2006).

The importance of capturing levels of economic development should not be understated. The literature provides a wealth of information to support the positive relationship between measures of economic growth and changes in the quality of life (Economist, 2006). Each example points to a strong positive correlation between increased GSP, increased per capita incomes, and improvements in the quality of life. A study by Banerjee and Newman (1993) highlighted this relationship when they examined the problem of trying to sustain a degree of intergenerational equity when the capacity of society is one of low wages and low wealth, as these societies are clearly unable to make even the most basic of bequests to future generations. Any student of freshman psychology will be quick to link those findings to Maslow's (1970, p. 151) hierarchical order of human needs.

A study by Powell (2003) supports the tact taken by the classical liberals and suggests that improving the conditions for economic growth will logically spawn improvements in the QOL. Whether that relationship holds in reverse is unclear. Certainly if Schumpeter's cycles of creative destruction were found to have a closed loop

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or feedback mechanism then this inverse relationship might be inferred. Given the apparent synergy between the type of growth that Daly might judge sustainable, (measured from improvements in the QOL, and the traditional measures used to define levels of economic growth, changes GSP or per capita incomes) it is a bit of a surprise to find Daly willing to replace such easily quantifiable measures of growth with less rigorous measures of progress.

The one item to be gleaned from Daly's assertion that society can achieve a level of social progress while ignoring the policies that promote improvements to the GDP, GSP or per capita income, is that he believes that all developed economies are comprised of citizens that already have the capacity to bestow wealth on their progeny...today. Since this degree of prosperity is not enjoyed by all citizens in all states it is with some trepidation that we would entertain a recommendation to replace the objective determinants of economic growth, measured as GSP and per capita income, with a more subjective measure of progress. Of course this investigation does embrace Daly's notion that defines economic development from measures of QOL.

Finally, it is important to note that much of the neoclassicist's critique surrounding Daly's work on sustainable growth is based on its incompatibility to operate within the political structure of a capitalist, free market system. For example: it is well accepted that in free societies intergenerational equity is addressed by policies of redistribution. Bowles (1998) offers an insightful critique into the use of intergenerational equity as a measure of economic development. He makes it clear that measuring the behavior and openness of markets is an effective way to define how wealth is acquired and passed across generations. When markets are not open and individuals are

not free to pursue their own self interests, the totality of wealth is diminished. It is interesting to note that in connection with the consequential loss of intergenerational wealth, Bowles reveals a diminution in the utility of the other, non-monetary components that are frequently attached to the value chain of intergenerational equity. Many of those measures are used to define the quality of life today and are connected to the strand of QOL that goes on into the future.

These past two sections of the literature review identified the two major and competing views of the economy: economic growth and economic development. However, there are few studies at the state level that examine how these views compete or what drives their respective behaviors. For the reasons stated at the beginning of this section, much of the work cited in this review tends be the work of economists. Many of these works were theoretical in nature or discussed the application of theory to a large national economy. Works by Hoff and Stiglitz (2001) as well as those of Rodrik (2004) support our basic argument that policy analysts need a holistic framework suited to measuring how economic and non-economic factors interact and contribute to conditions of economic growth separate from the way they interact to effect levels of economic development.

Business Climate

As noted in the earlier section, the politics within a state define its policy environment. The nature of these policies affects the behaviors of businesses and individuals alike. As businesses begin to grow they are confronted with a myriad of challenges. Do they invest and expand in local facilities? Do they build a new facility? Do they relocate to another, more attractive jurisdiction? So it is imperative that planners

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and politicians have a tool that can interpret how these policies shape the business communities perception of the state and can anticipate how these businesses will respond to government actions.

While the terms used to define a state's business climate vary widely, the majority of the operational definitions focus on gauging how a state's tax or regulatory environment affects its prospects for attracting or retaining business. Fisher (2005) collected a variety of business climate indices from across the states. His work reveals how all the institutions publishing an index of business climate believe they have captured the mix of conditions that improves the capacity or potential for economic growth. While this list of potential indicators is endless, the indicators selected seem to ebb and flow between measures that the literature considers to be a indicators of economic growth: changes in per capita income, changes in the GSP; and those that may result from growth, higher levels of educational attainment, lower crime rates. These inconsistencies support Fisher's (2005) indictment that the publishers of these indices base their claim of value by employing "circular reasoning" (p. 2). His findings that the only thing these indices have in common is their claim that locations with "lower taxes and fewer government regulations are better" support his critique of a strong ideological biases running though all these reports (p. 2).

While Fisher (2005) naturally questions the utility of using these indices to modify policies of growth, he fails to offer any explicit comparisons of how each index performs relative to its ability to predict or explain changes in the levels of economic growth or development seen across the American states.

In spite of Fisher's (2005) warnings concerning the utility that should be attached to an index of business climate, the popular press and state web sites are riddled with support for using these indexes as benchmarks for improving a state's prospect for economic growth (MDF, 2003). In large part this results from the way states currently compete to attract and retain businesses. It turns out that reporting performance along the dimensions of one or more of these indices is a good way to communicate the value that an independent body attaches to living and working in a state. Based on the advertising space that states purchase to tout their performance in one of more of these rankings one gets the impression that these indices of business climate must be capturing the attention of some businesses. Unfortunately the headline-like exposure awarded this term has caused it to find its way into the lexicon of economic policy. A scan of the Department of Economic and Community Development web sites from several states reveals just how many states are using their standing in one or more of these indexes to communicate their competitive position and to attract new business prospects (MDF, 2003).

So it is not surprising to discover that states like Washington have begun to use their standing in these rankings to justify changes in their tax policies and to adjust their approach to the use of tax incentives to attract and retain businesses (www.cfed.org/go/scorecard). The fact that states have adjusted their polices to shift their position in these rankings has spurred criticism from groups like the American Federation of State, County, and Municipal Employees (AFSCME). The AFSCME's suggestion that the revenues lost from the tax incentives directed at improving a state's business climate simply shifts the tax burden from businesses and onto working families is echoed by other critics of these practices. The basis for their argument is that over time

the perpetuation of government incentives makes it more difficult for local governments to sustain public spending. The AFSCME warns that incentives to improve economic growth in the short run do so at the expense of the quality of life (AFSCME, 1988). While the AFSCME does not quantify these impacts, their warning underscores the danger of adopting a benchmark from a business climate index that focuses on directing a policy agenda of less government and lower taxes. This is simply another example demonstrating the importance of quantifying the relationship between a government's actions to intervene in markets and the level of economic growth or development within the state.

The remainder of this section examines the body of research that suggests improving the measure of business climate will improve a state's prospects for economic growth. This is accomplished by assessing the relationship between measures of business climate and the two silos that have long dominated economic growth theories: place-based theories and people-based theories.

Business climate and placed-based theories of economic growth.

Location-based theories center on assessing how a firm makes the all important decision on where to locate facilities, where to expand existing operations or whether to withdraw operations from geography. Blair and Premus (1987) studied how the location-based theories of economic growth have evolved. Much of their work focused on the nature of economic clusters located around the Silicon Valley area of California and along the high technology strip of businesses located along Route 128 in Boston, Massachusetts. At their inception these theories were simple transportation-based, cost-minimization strategies. Today, they have evolved into a series of hybrid theories

directed at capturing the role that technology plays in driving growth in the new economy. Included in these newer theories are factors that measure the technical competence of the local work force, the cost of state and local taxes, the attractiveness of a state, and factors that contribute to the quality of life. These authors conclude that whenever a firm is operating in the mode of the traditional economy its production costs remain strongly influenced by the physical location of the business. This supports the notion that in certain markets the decision of where to locate has an influence over the firm's ability to position a competitive offer. Included in these author's list of factors contributing to a firm's decision on where to locate are the expansiveness of a state's infrastructure, the composition and cost of its labor pool, the structure of local and state taxes, the quality of life, and the stability of governmental policies.

As noted in the earlier sections of this literature review, Blakely and Bradshaw (2002) posit that the economic development theories of the past have focused on monitoring and measuring factors that influence the 'r' or resource component of this equation. Of course, this is consistent with expectations. The variables associated with 'r' are generally defined as those that influence the firm's production costs. While the actual values associated with each component of 'r' will be specific to an individual firm, many of these values will reflect costs that are ubiquitous across all firms operating within an industrial sector. The inference to be drawn from the literature supports the suggestion that for those firms operating in the traditional economy these costs are driven by the firm's physical location.

The factors influencing both the capacity and the resource component of this equation are frequently embedded into the index that defines a state's business climate:

the expansiveness of a state's infrastructure, the composition and cost of its labor pool, the structure of local and state taxes, the quality of life, and the stability of governmental policies. Despite being confronted by nearly two decades of literature touting the dominance that one or more of those factors play in defining levels of growth, Blair (1991) insists that many of the more subjective, less quantifiable variables such as those discussed in the next section, and thought to define the structure of a state's political climate, while poorly documented, may in fact be equally important.

Porter (1998) reveals that the formation, depth, and support that the governments provide to key economic clusters have a significant influence over the level of economic growth within a state. He defines a cluster as, "a geographical concentration of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions, specifically universities, trade associations" (p. 197). His efforts to link the treatment of clusters to conditions of economic growth has led investigations to decipher the role that physical location might play in predicting growth in the new, knowledge-based economy. Porter (1998) also takes stock of the diminished capacity that governments possess as they try and render support to domestic firms that are confronted by the challenge of participating in global markets. One proposal for addressing this challenge is to have governments intervene in markets in ways that increase their control over the local economy. This can be accomplished by shifting the state's policy agenda towards micro-economic policies that conform to meeting the needs that are unique to a core group of economic entities, or in his terms, industrial clusters. Examples of this would include efforts by local municipalities to link the creation of tax increment financing districts to efforts that attract specific types of

businesses to the location. Such efforts might include the development of business parks where the incubators within that park are designed to meet the needs of a particular class of manufacturers: biotechnology, advanced materials production, information technology and the like.

The literature is generally supportive of the idea of governments intervening in support of industrial clusters. This strategy has been tried in several states and has been shown to preserve jobs and stabilize the local economy (Porter, 2000). As noted earlier, the factors that motivate businesses operating within the same economic sector to relocate are defined by a broad range of variables. While many of these variables represent a set of cost drivers that are shared by all participants in that vertical market, other costs are unique to the firm. They may reflect the conditions associated with servicing a local market or staying within proximity of a political jurisdiction. So before a state can embrace Porter's recommendations and establish a suite of micro-economic policies, the government needs to possess the capacity to evaluate how the policies in place today encumber or enhance the ability of a firm to achieve its business goals. Regardless of the industry segment these goals continue to be defined as operating profitability and attracting capital.

Porter (1998, 2000) did more than consider the importance of clusters: he examined what motivated their behaviors. After examining the decision trees these companies used to formulate a business location decision, he discovered several instances where firms within the same industrial segment were basing their location decisions in response to competitive threats. His analysis exposed these threats as economic in nature and found them to be shared by all producers in that market. He concluded that because

the driving force behind decisions on where to locate originated from the dynamics influencing the industry in which the firm operated, these types of decisions were not amenable to being set into a universal law or theory.

A slightly different conclusion was reached by Evans-Klock (2005). After exploring the process that Japanese automakers used to formulate decisions on where to locate plants in North America, the investigator discovered the location decision was driven by a desire to design greater flexibility into the labor pool. By selecting a location where the labor force was able to operate outside the control of unionized auto workers the company was able to redefine the organizational structures of the plant and create the same high performance, flexible work systems used in Japan. During this same time frame several other automakers, including General Motors, continued to locate or expand in proximity to existing resources and within range of the infrastructure centered in the Midwest. To a large extent these findings counter Porter's assertions on what motivates firms to locate. Here investigators found firms operating in the same industry giving somewhat different reasons for their preference for a location. In the Japanese example the preference is for locations that offer a differential advantage over the competition, in this case in wages and in more efficient modes of organizing labor. They also base their preference on a desire to stay aligned to the core business model and operating philosophy of the parent organization.

Porter's (1990, 2000) statements that there are always other factors motivating a firm to exploit a specific, internally-defined strategic advantage allows him to escape the criticism arising out of these more recent findings. He indicates there will always be cases when these types of strategic factors will trump the central tenets of traditional

location theory. In those instances, the dynamics within the firm will dominate a location decision.

By elevating the requirement that governments must understand the forces that motivate these types of business decisions, Porter (1998) is supporting our hypothesis that a government's capacity to manage these conditions influences the level of economic growth that can be enjoyed within the jurisdiction of a state. Porter's (1998,2000) work investigating the benefits of economic cluster leaves little doubt that to the extent that the sources of these stimuli are better understood, policy makers will be able to customize programs that enhance the level of growth and development in their locale. Since the amount of interaction between the public and private sector has a direct bearing on how well policy cycles and business cycles are integrated, some method for inferring this level of interaction should improve our ability to predict or explain the conditions leading to economic growth.

The belief that location decisions are motivated by the profit maximizing constructs of neo-classic economic theory led Witt (2002) to re-examine the behaviors leading to growth as it is defined by the Schumpeterian cycle of growth: growth through endogenous change. His work reveals that the driving force behind the Schumpeterian cycles of creative destruction, growth followed by decline and rejuvenation, is best represented by a measure of the firm's capacity to survive the natural evolution of market forces. Like Porter (1998), Witt observed that the key to anticipating how a firm will respond to changes in market conditions is through a more thorough understanding of the forces that motive it to succeed: capture more market share, vertical expansion of product lines and the like. In reaching the conclusion that the decision processes associated with

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business location, expansion or contraction, are composed of a very deep mix of psychographics, Witt (2002) provides a justification for those that believe the proper role of government is one of facilitation not intervention: the system is simply too complex to be centrally managed.

In their theoretical investigation to gauge the influence that measures of industrial productivity play in defining economic growth, Griffith, Redding, and Van Reenen (2003) developed a cross country and cross industry analysis that found measures of innovation and research and development useful in identifying productivity changes occurring within an economy. They linked variations in productivity to changes in the rate of technology transfer and to the institution's ability to protect intellectual property. They connected performance in each of those categories to differences in the structure of government policies and the organization of their institutions. Since their work also attributed these differences in productivity to variations in the physical location of the industries we continue to categorize these under the heading of placed-based theories. As a side note, these authors considered the social rate of return from investments in research and development (R & D) to be understated. If this were proven true, then a case can be made that a legitimate role of government is to accelerate economic growth by increasing the level of investments in certain innovative processes. Whether this behavior is representative of intervention or facilitation is exposed in the findings and is discussed later in this manuscript.

Business climate and human capital theories of economic growth.

While the strategies associated with cost minimization are seen as the common thread that runs through the fabric of every business strategy, and labor is often seen as a cost to be managed, there is a growing appreciation of the value that a skilled and dedicated workforce plays in mitigating cost. Certainly there is an understanding of the relationship between poor labor relations and lower productivity. The desire to increase the value of the employee is reflected in the way they are expected to participate in the life of the business: employee involvement, consensus building and six sigma quality initiatives are all ways that employees are being asked to contribute to the economic performance of a business. This desire to establish a more engaged workforce is being reflected in some of the theories that relate the perceived value of human capital to decisions businesses make when they decide to relocate.

Evans-Klock (2005) found that the Japanese automobile manufacturers sought locations where the labor market was conducive to establishing high performance work systems over those geographies that offered incentives, expertise, or where the infrastructure was already centered on supporting the manufacturing of automobiles. In this instance the managing directors of this Japanese firm rated the benefit of moving to a region of higher labor efficiencies (lower cost, and more flexible work rules) , above the benefits of locating to a region proximal to suppliers, vendors, a legacy infrastructure, and a trained labor force. As stated earlier, their decision was based on the desire to redefine a labor environment and secure a long term competitive advantage within their industry. They sought out locations that would allow them to emulate the business practices mandated by the parent company. Clearly the factors that weighed most heavily

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in this recent decision ran contrary to those that have long dominated traditional location theory. Evans-Klock's (2005) found this decision to be in stark contrast to a series of decisions in which General Motors continued to locate and expand in the mid-west. The decision process used by the Japanese automakers highlights the way that the traditional elements of the location theory have been eclipsed by newer concepts that elevate the value of human capital. In a very real sense, the findings by Evans-Klock cast a thin shadow over Porter's (2000) conclusions that clusters play an important role in defining and possibly predicting future economic growth. However, the study by Evans-Klock serves to reaffirm the Schumpeterian notion that the evolutionary component of economic growth is driven from changes within the firm or markets. It appears that this evolutionary and somewhat ephemeral character of growth originating endogenously has stymied efforts to create a unified theory capable of encapsulating explanations for cycles of economic growth and economic development. In his assessment of Schumpeter's theory of economic development, Witt (2002) expresses his concern: " ...the debate on the Schumpeterian hypothesis concerning the relationships between innovativeness and market structure, has made great progress, [yet] the proper place of innovations and the motivation to pursue them within an evolutionary theory of the economic process still needs clarification" (p. 21).

In a study based on the behavioral dimensions of human capital in Danish firms, Lentz and Mortensen (2005) discovered that changes in job types, changes in economic security, and changes in prospects for employment stability motivated workers to relocate from firms with low productivity to those of higher productivity. They found the rate of mobility to be an important contributor to rate of economic growth. The finding that

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economic growth can be achieved by encouraging the migration of knowledge workers to move across firms updates the Schumpeterian notion that expects to find growth spawned from within the cycle of creative destruction occurring within the firms operating in an industry or an economy (1934).

The literature supports what most economists have been saying for a long time, that the epoch of economic turmoil is created by entrepreneurs seeking to define new ways of meeting the demands of rapidly changing global markets. Like the mythical Phoenix, the innovative and productive capacity of this new worker will give rise to a new economic structure, replete with innovative modes of development and new methods of production. By and large this new economy links the fortunes of economic growth and productivity to advances in the fields of information technology, energy, biotechnology, and advanced manufacturing. The recent advances in both the production and use of information technology have led to the development of what some now call the new, knowledge-based-economy (KBE). The momentum within this new market has increased the demand for human capital. This shift in the demand for resources, from physical to human capital, is largely responsible for the disequilibrium observed within both our social and economic systems. In seeking to capture the importance that Blakely and Bradshaw (2002) and others ascribe to the influence human capital plays in the future of economic growth, many of the institutions publishing a business climate index have adopted measures that indicate the level of educational attainment within a state. This seems reasonable as most of the literature attaches a high significance to the relationship between education and measures of economic prosperity. So it is with interest that we find Galor's (2005) research running a bit contrary to the popular notion that levels of

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educational attainment are an indicator of future economic activity. While he agrees that policymakers' efforts to increase access to better education will improve the comparative advantage of an individual, he finds the lack of structure associated with the implementation of these policies counterproductive to achieving that goal. To the extent that this lack of structure fails to elevate human capital across the entire social strata he considers such policies a failure. He places the responsibility for alienating individuals from participating in the new economy squarely onto the backs of institutions. One can logically assume that there is a spectrum of inclusiveness and that somehow this is linked to the demographics of a state. Factors such as age distribution and income, its legacy economic structures, levels of educational attainment, its political climate, and ultimately, its capacity to innovate, would all be expected to influence the rate at which a society can absorb and take advantage of these educational opportunities.

Alternatively, the research conducted by Lentz and Mortensen (2005) and Klettle (2002) highlights how the investments in education and in research and development have created a series of innovative structures the likes of which have been shown to improve the quality and quantity of intellectual capital. So while Galor's (2005) work might provide one with reason to pause and begin to question the amount of spillover benefits coming from investments in education, the consensus within the literature continues to suggest that such investments, whether sourced from within the private sector or the public sector, enhance the state's prospect for improving its economic condition. Since the call to spark more innovation from within a society usually evokes policies to expand investments in education, Galor's (2005) work should serve as a reminder that investments in education, or for that matter any number of other

government-funded remedies, must be accompanied by a cohesive strategy of implementation. In the end this is not about finding solutions, it is about understanding trade-offs. Gauging the effects of the trade-offs that occur in this complex arena of economics policy carries some weighty consequences. The ability to manage implementations, analyze trade-offs, and unravel cause from effect can all be tied to the quality and the capacity of the body politic.

The conclusion to be drawn from a distillation of the literature is clear: to the extent that the business climate benchmark selected by a state continues to be linked to the older, location-based theories of economic growth, the longer their policies will isolate firms from enjoying the kind of organic growth generated by cycles that drive markets to purge inefficiencies and reward innovators. Oddly enough, the current practice to use these indices selectively may explain why business climate indices have not established the normative claim of spawning policies that improve business attraction and retention within a state.

Summary business climate.

Fisher (2005) does not test the interrelationships between improvements in economic growth and the adoption of any of the major indexes of business climate. In more recent work Kreft (2003) examined the impact that very specific indicators of innovation, entrepreneurial activity and venture capital had on conditions of economic growth. He found that there is a one-way causal relationship between state entrepreneurial activity and venture capital: entrepreneurial activity causes the inflow of venture funding, not the reverse.

Based on this review, a clear way to test the effect of a state's business climate on levels of economic growth or development is to define the interaction between a specific set of indices and the changes in levels of growth, measured both as changes in gross state product and per capita income occurring across a suite of states. Determining whether a business climate index can predict changes in the levels of economic growth or development will aid in an assessment of its utility as a benchmark for altering policy.

Political Climate

Political theory supports the premise that the composition and make-up of a government affects its economic policy. The actions governments take are a reflection of its political climate. Thus the measure of political climate affects the shape, form and character of a state's economic policy. There have been numerous attempts to frame a definition of political climate. Those deemed suitable to achieving the goals of this study led to an examination of how the literature defines and measures political ideology and how it defines and measures the capacity of a state to manage its affairs.

This section explores the various pathways that political scientists and politicians have traveled to define the political climate of a region. The literature review revealed the rationale behind the measures most commonly used to define political climate: those of political ideology and political culture. A review of the studies in each of these areas provides the waypoints for designing a methodology that assesses whether a state possesses the political will to change its economic fortunes.

The second dimension of a region's political climate is defined by measuring its capacity to manage. In recent years the Maxwell School at Syracuse University, under funding from the Pew Foundation, has measured the management capacity of state

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governments. According to Maxwell, a state's capacity to manage its affairs is closely linked to its ability to adjust policy and respond to the broad base of socio-economic needs that are expressed by constituents and local businesses.

The perspectives on what constitutes a suitable definition of political climate vary. In their treatise on the role that location and space theories play in economic development, Blair and Premus (1993) suggest that while political climate is a major factor in a firm's decision on where to locate, their investigations only consider it applicable when the location decisions are being made on an international scale. By focusing their definition of political climate on levels of government stability, these authors presuppose that whenever a location decision is constrained to selecting a state or region within the developed economies of the west, political climate plays a minor role. It is worth noting that this assumption runs counter to their own statements claiming that whenever a region's political climate contains elements known to support a business' ability to make sound investments it becomes a major factor in that firm's decision on where to locate. Since it is well within the purview of individual states to enact policies that directly impact a business' returns on such investments, it seems only reasonable to test this aspect of Blair's criteria and assess whether the variations in the political climates across the states have had an influence on the variations in economic prosperity.

To a large extent the difficulty associated with obtaining objective measures of a state's political climate stem from the fact that while the definition of this term is generally understood by political scientists, it is a relative newcomer to the lexicon of economic policy. Elazar's (1984) investigations to define and categorize the political culture of states have redefined the boundaries traditionally used to segregate political

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ideologies. His work defines and characterizes three political sub-cultures: individualistic, moralistic and traditionalist. He then hypothesizes that identifying the presence or absence of these sub-cultures enables one to explain the political views of constituents concerning the role that government should play within that society.

In general parlance, whenever the term political climate is bantered about by politicians and members of the press, it can be considered an attempt to define the ideological shift occurring within or across one of Elazar's subcultures. Certainly when the term is employed by the mainstream media it rarely describes anything more than a small ideological shift somewhere in a subset of a much larger social setting. From an academic perspective this constrained perspective fails to define the role that a broad array of political factors plays in motivating the actions within a state. To help close this gap, this investigation searched the literature for a method suited to translating a state's political culture into one of political climate. This effort required extracting measures from the broad ecosystem of political factors that Gray et.al. (2004), Hanson (1993), Dye (2002) and others consider influential to determining a state's policy-making environment..."Its long standing historical and cultural patterns, contemporary public opinion and ideology, and the influence of national trends" (Gray, p. 22).

While it is well accepted that public opinion influences the shape and definition of some types of policy, it is unclear how public opinion in a state influences such broad reaching policy areas as economic growth and development. Part of the reason for this uncertainty stems from the fact that everyone tends to view their economic growth issues differently. This makes translating the problems that are voiced by a vocal few into a solution that satisfies the needs of many much more difficult. Saiz and Clark (2004) link

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this problem of perception to the way policy makers view and interpret economic theory. As pointed out earlier, there are situations in the life of a state when the government may need to step in and provide incentives to insure that a legacy industry invests in ways that help secure the economic future of their employees. However, if public opinion considers it more important that government focus on attracting new businesses then the government is going to be confronted with a different set of challenges. In the former condition the policy maker analyzes and then addresses the challenge from within the realm of the variables that define the location theory of economic development (Blair and Premus, 1993). For example, the policy options available are shaped by some of the more traditional choices that states have used to help mitigate the cost associated with some of the firm's basic production factors: tax breaks on capital investment, support for labor training, or simply alter the regulatory environment for the firm in that location. In the case where the government's strategy is to focus on business attraction there is a need for the body politic to understand the role that infrastructure and quality of life play in attracting new business.

Since economic policy is made through a political process we have focused this part of the literature review on exploring what we know about the forces that motivate political change. From there we can decipher the role that a state's political climate plays in spawning economic growth and economic development.

The literature is clear that regulatory environment within a state is a reflection of its political climate. In certain cases the regulatory environment is seen as an impediment to increasing levels of economic growth. David Truman (1981) has argued that while regulatory policies of the type enacted by the EPA and OSHA are affected by a relatively

stable group of actors, other policies, such as those associated with redistribution, for example, tax incentives offered to a business, are more defined, and tend to be formulated in an arena of public awareness. The way different forces act to influence different types of policy is best understood from the vantage point of how policy is created.

One perspective on how government policies are created suggests the importance that government actors, public opinion, bureaucracy, lobbyists and interest groups play in shaping the policy process. Kingdon's (1984) work in this area describes how shifts in policy streams and policy windows motivate changes in a policy agenda. He asserts that three sets of variables (the problem stream, the policy stream, and the political stream), while operating autonomously will converge when either a problem window or a political window is opened. The opening of a problem window usually follows the incidence of a major economic or social problem. Most openings occur when the issue at hand can only be addressed by elevating it to those responsible for governance. Kingdon reveals that a political stream opens in response to changes of the administration, changes in the ideological underpinnings of the representatives, or when there is a shift in the mood of the citizens. Since the most dramatic change occurs when each policy stream is active and when the actions under consideration are in response to political stimuli, it is important to understand which factors motivate change within each of the streams. A simple extrapolation of Kingdon's theory allows us to posit the following: when citizens continue to experience suboptimal economic performance, it is quite likely there will be a convergence of the problem, policy and political streams. This convergence is followed by the opening of a problem window. Through this opening citizens become exposed to the issues and have an opportunity to engage in the political process. At that point they

can elect to open the policy window and pressure their lawmakers to make a shift towards

policies known to shape economic growth, economic development, or both; or they can

leave the window closed. Understanding when it is prudent to open a window and when it

is best left closed is explored in this study by measures of a state's capacity to manage its

affairs.

Political ideology: propensity to regulate.

Another way that political scientists have measured political climate is from

within the realm of its ideological bias. Based on the literature, political ideology can be

defined by measuring a state's propensity towards regulation and by default the growth of

state government. Gray and Hanson (2004), Lester (1990), and Elazar (1984) all endorse

the basic tenet that suggests the extent to which the ideology of a state can be defined as

liberal indicates its political culture being prone to endorse increasing levels of

government regulation. Likewise, the extent to which a state's ideology is defined as

conservative seems indicative of a political culture somewhat less supportive of

increasing regulations.

In a review of the literature to examine the relationship between economic growth

and the size of the public sector, Gordon and Wang (2004) found numerous

contradictions and conflicts in the results presented. While Acemoglu, Johnson, and

Robinson (2002) and others demonstrate a positive relationship between economic

growth and the quality of the government institution, those works appear a bit contrary to

Barro's (1997) findings that provide evidence of a negative relationship between

economic growth and an increase in public expenditures. The influence that increased

expenditures has over levels of economic growth and whether those increases lead to improvements in the quality of government or its size are explored a bit later.

Lester's (1990) discovery that a state's political ideology explained differences in the regulatory activity across the states led this investigation to collect data as a time-series and adopt regression models using lagged exogenous variables. This method attempts to capture the non-instantaneous effect that measures of political climate have over the regulatory environment. This approach is used to frame the way each variable influences the levels of economic growth and development. A detailed description of how these models are structured is provided in the methods section of this study.

Political ideology: government growth.

One of the more traditional methods for measuring ideology involves establishing the extent to which the state legislature is either Democratic or Republican. In states with a liberal ideology citizens see a legitimate role for government and thus one would expect to witness an expansion of the public sector. The opposite is, of course, true for conservative states.

Work by Gray and Hanson (2004) affirms Lester's findings that a state's political ideology can be measured by its predisposition towards regulation. Gray and Hanson (2004) identified three proxies for measuring the tendency towards regulation: patterns and priorities of expenditures, patterns and priorities assigned to revenue sources, and government employment as a percentage of total state employment.

Another approach to gauge the ideology of a state is to examine the size of its government. Studies by both Garand (1993) and Kapeluck (2001) demonstrate the link between the size of a government and these polar measurements of ideology. In their

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investigation to uncover the relationships between economic development (what we call growth), the nature of political institutions, and the scope or size of the public sector, Gordon and Wang (2004) discovered a tie between the regulatory factors they used to judge the qualities of political institutions and the improvements in economic growth. Their research failed to uncover any empirical evidence to suggest that the size of government affected economic growth or that the size of government influenced the regulatory behaviors of public institutions.

The literature supports our approach to explaining the political ideology of a state from dimensions that compare its level of employment in the state and local government against those of its cohorts.

Political ideology: responsive government vs. excessive government.

Some of the earliest works to explain the reason for government growth were conducted by Wagner (1877/2004). His investigations considered government growth to be a function of the economic and social changes that were accompanying our shift towards industrialization and urbanization. Consistent with the axioms of what has come to be known as Wagner's Law, we would expect to find both the form and structure of a state's political climate evolving in parallel with the changes in its economic structure. If this relationship holds then there must be a link between measures of economic growth, measures indicative of a government's responsiveness, and its movement along a spectrum that gauges its capacity to address such change.

In investigations to explain the differences in government growth across states over time, Lowery and Berry (1983) examined a series of works that isolates and characterizes the two theoretical pillars that define strategies of government growth:

measures that indicate a responsive government and measures that suggest excessive government. They contend that the measure of a responsive government can be determined by judging the way the scale of government ebbs and flows with the expectations and demands expressed by its citizens. Alternatively, they characterize as excessive those state governments in which the government supersedes the role that constituents would like to see them occupy. The importance that these findings attach to the size of government justifies our approach to gauging political ideology by normalizing the width and breadth of employment in a state's public sector.

Lowery and Berry (1983) emphasize an important indicator that must be appended to the ecosystem used to describe a state's political climate: the responsiveness of government to the interests expressed by its constituency. Here we focus on what the literature says about how constituencies will respond to conditions that improve economic growth and economic development. Lowery and Berry's (1983) survey of the literature indicated that the most common methods for gauging the responsiveness of government are defined by measures of party control and ideological leanings, the presence or absence of inter-party competition, and the prevailing political culture. While there is the notion that a responsive government is associated with the political culture defined as liberal, one normally thought of as endorsing the continued growth and expansion of government, it is actually found that whenever that expansion is the result of policies known to favor economic growth, such as might be seen from increased expenditures and staffing to support expanding the math and science programs in public education, then these acts can also be considered part of a conservative ideology.

Kapeluck's (2001) search for a linkage between party control and government responsiveness tested the long-held notion that a protracted period of liberal control, or what we might generally term as leadership under control of Democratic parties, increases the size of government, while control under conservative or Republican parties leads to governments that are relatively smaller and more stable.

Of course many investigations have linked the idea of a responsive or excessive government to a conservative or liberal regime. While Kapeluck (2001) expanded his investigation and explored the relationship between the responsiveness of governments in situations of both high and low levels of party competition, he was unable to associate changes in either the scale of government spending or its relative rate of growth to the absence or presence of a political monopoly. Finally, an examination of the seminal works on state politics by Dye (1980, 2002), and Gray and Hanson (2004) also failed to support the claim that a measure of inter-party competition can be used to gauge responsive government. This has left many in the academic community wondering if there is any relationship between the amount of inter-party competition and the responsiveness of governments.

Kapeluck (2001) and Garand (1993) also tested the assumption that whenever the political cultures of a state are judged liberal the growth of its government can be explained as the outcome of a citizenry willing to accept an expanded role for government. Likewise, in the political cultures of the more conservative states one expects to find its citizens endorsing policies that minimize government regulation. Their findings presented a bit of a conundrum. Providing that an allocation of public resources could be shown to produce incentives for economic growth, they found conservative

states were apt to allocate more resources. These included incentives to expand

infrastructure and support policies that lead to a more liberal distribution of tax incentives.

In these and other cases, the justification for increased government intervention by these

conservative states was predicated on the assumption that such actions would act to

correct policies of over-regulation and thus accelerate free market practices. The

expectation that these actions would generate more growth at a faster pace was

inconclusive.

Much of what we think about when we consider Elazar's works tends to focus on

the definition and influence that a political culture has in a society. However, we can

easily extrapolate Elazar's (1984) description of how various cultural modes influence

the state's political systems into an examination of how these cultures would influence

the size of the public sector. States exhibiting the characteristics he attributes to an

individualist subculture would endorse the operation of free and open markets and

express a desire for smaller government. In those instances the legislative representatives

from these states would embrace benchmarks from business climate indices supporting

lower levels of taxation and smaller governments. States with moralist cultures would

embrace government's intervention to curb policies of economic growth as the

constituencies would view such policies as complicit with a proliferation of market

failures. Often within these moralistic cultures the activity to spawn intervention is

carried out by interest groups. As such the call to action may result in no call being

placed, as moralist's are likely to invoke the precautionary principle which simply states

that if we are unable to accurately assess the policy's impacts then do nothing. While

such recommendations are made under the pretense of protecting the public's interest,

this approach remains the subject of intense criticism both from neoclassic economists and those that follow classical liberalism.

The final subculture examined in Elazar's study is that of the traditionalist. He finds the states typifying a traditional culture to be indifferent to the role of government.

Elazar's (1984) classification of the way political subcultures influence state's political systems reinforces one of the key assumptions of this study: assessing a state's capacity for embracing policies of economic development and economic growth mandates a set of measures that can profile the political landscape of a state, something we have elected to define as its political climate.

Antithetically, studies by Erikson, Wright, and McIver (1993) confirm the role that a dominant political culture has on the behavior of the individuals residing within that political boundary. They tie the basic elements that dominate liberal or conservative viewpoints to the endorsement of liberal or conservative policy choices. As was the case with the investigations into the role of party control and inter-party competition, Erikson's investigations to decipher whether changes in government size are a reflection of the prevailing political culture appear inconclusive.

The question of whether a government's responsiveness is related to its capacity to install the appropriate fiscal controls was investigated by Matsusaka (1995). He finds that states with citizen referenda have lower levels of state spending. This suggests that governments, in and of themselves, lack the capacity to install the type of controls that their constituency deems necessary to remain fiscally prudent. At first these findings appear to infer that states with high levels of referenda activity will have lower levels of taxation and then, almost by default, will exhibit a more favorable business climate. Such

a conclusion would be consistent with the literature's suggestion that businesses prefer to locate and expand in areas that exhibit lower levels of taxation. Yet not all referenda states have low taxation and not all occupy a top tier ranking in terms that define their business climate. This brings us to the heart of this investigation: it matters why, where, and how a government spends its resources. For example, a state with an aging population might elect to under-fund local and secondary education while increasing support for health care and prescription drugs for the elderly. While the net result might be lower total expenditures, if other lawmakers determine that the revenues are not being equitably dispended for the purpose of expanding an agenda of economic growth, say by increasing the capacity of human capital by expanding investments in education, the state leaves itself open to being criticized for misallocation of resources. The literature also makes it clear that each of these types of allocation decisions are guided by a state's political climate. Garnering a better understanding of the tenets that define the political climate of a state is crucial to determining the influence that such measures have over the state's potential for increasing its level of economic activity.

In a study to examine the influence that high demand groups have over levels of governmental response, Kapeluck (1991) noted that a positive relationship between the size of high demand groups within the general population and the level of government responsiveness was not unique to the demographic being served. There does not appear to be anything in the literature to suggest that the benefits emanating from these responsive styles of governments would be limited to citizens or that they would not apply equally to businesses and other groups with political influence.

Political ideology: excessive government and its effect on economic growth.

The tenets of economic growth theory are useful for testing whether government has a positive or negative effect on growth. Today the most popular means of gauging its negative impact involves assessing those categorical values that define whether the actions taken by governments can be judged excessive. The most common measures of excess are those that define the methods and means of collecting revenues, the state's use of debt (debt to GSP and non-interest spending), the influence of intergovernmental grants, (percentage of revenue vs. GSP) and constituency size and its standard of living (per capita GSP). Fisher (2005) highlights how the consensus among those publishing a business climate index is that the lower the collective revenues, the more positive the climate for economic growth.

Singleton and Griswold (1999) take a slightly different tact and connect government size to functions deemed critical to expanding and growing in the new economy. They suggest that the presence of multiple layers of jurisdiction impacts the policies of taxation, affects copyright protection, defines the nature of mergers and acquisitions, and establishes the level of consumer protection. However since the authors considers each of these functions a mandate placed on government by the new economy, they caution against focusing solely on the size of government. They submit that measures of excess within a bureaucracy and not its size are better indicators of judging whether the policy environment fosters or stymies innovation and growth. From their work one might infer that the easiest way to mediate the competition for jobs and business development amongst the states is with smaller government and fewer regulations. This recommendation would certainly be consistent with the neoclassic

approach of positioning markets, and not governments, as the clearing house for insuring

efficient distributions. This investigation will test the validity of such recommendations.

The political and management capacity of governments.

According to Honsdale (1981) political capacity is the measure of a government's

"... ability to anticipate and influence change; make informed and intelligent decisions

about policy; attract and absorb resources...and evaluate current activities to guide future

actions" (in Gray and Hansen, 2004, p. 395). As noted earlier, Lester's (1990) approach

is to define political capacity in terms used to measure political culture. He suggests

creating this measure as a composite of variables that delineate the number and type of

political parties, interest group relations, and the source of electoral support. The latter is

generally defined by the level and source of campaign contributions.

Due to the strong emphasis placed on predicting the influence that a political

culture will have on a government's performance (usually measured as policy outcomes),

scant attention has been paid to examining how this same measure might influence the

capacity of governments to manage. In the past, investigators have operated on the

assumption that management capacity is closely associated with the relative size of a

state's government. As a result, efforts to measure capacity have been limited to linking

the state's political culture with its fiscal policies. The Government Performance Project

produced by Maxwell School at Syracuse University (GPP) offers insights into how a

broad suite of variables typically tied to managing and monitoring business performance

might be used to indicate whether a government possesses the management capacity to

change and adapt (Syracuse, 2001). The variables they selected assessed management

capacity along a variety of fairly traditional dimensions, including financial management,

human resource management, information technology management, capital management and a catch-all category they call managing for results (Syracuse, 2001). In the GPP's efforts to measures high and low capacity governments the researchers were careful to define management capacity as potential for performance and not as performance itself (Syracuse, 2001). They discovered that high-capacity governments focus on creating positive change and remain vigilant to the conditions that might impede management's ability to innovate. High-performing institutions were also found to be learning organizations. They actively sought out and incorporated the experiences of others into a suite of best-practice benchmarks. This type of benchmarking was instrumental in helping those states create a shared vision of their future. This allowed those high-performing states to build consensus around a set of actions that would improve their capacity to adapt and address change.

The results from the GPP study offers insights into which governments have achieved high levels of management capacity, which were not trying, and which ones were either improving or regressing. However, the Maxwell report is quick to point out that they are not providing a benchmark against which specific remedies are given; rather their goal is to articulate the conditions against which potential performance or management capacity can be gauged (Syracuse, 2001, Chapter 2).

In a study along the same lines as the GPP, Malhotra (2002) examined the actions that states need to take to prepare members of society to transition to a new, knowledge-based economy. In that investigation he cites a government's capacity to adapt and change as a critical factor for achieving economic growth. In both instances the authors agree that future markets will operate at a rate-of-flux that will challenge the capacity of

governments to react in ways needed to support economic growth. The common themes

running through the GPP and Malhotra's (2002) report is one of readiness and

preparation. Governments need to improve their capacity to adapt and change.

This investigation embraces Maltotra's observation that determining the source of

variations in a government's capacity and its responsiveness will become an increasingly

important predictor of its level of economic growth and economic development.

Summary of political climate.

One of the leading controversies in the contemporary literature concerns the

interrelationship between the size and direction of government growth and the measures

adopted to gauge economic growth and, to a lesser degree, economic development.

This portion of the literature review highlighted how several investigations that

delve into the forces that shape the size of government or its rate of growth have tied

these changes to measures of its political culture or its political ideology. Today,

researchers in these fields are continuing to rely on some of the more subjective yet

traditional measures of ideology: liberal or conservative; legislative structures that are

dominated by democrats or republicans; and the influence of national trends towards

more government or less government. While some of these studies touched on the

influence that each measure plays in improving levels of economic growth, few have

examined their influence on levels of economic development.

In an effort to install some objectivity into the measure that defines a

government's capacity to manage, the Maxwell report offers an important new dimension

to defining the political ideology of a state. Certainly the traditional measures that define

a state's willingness to change have been missing a companion measure that gauges its capacity to actually implement and manage that change.

The literature endorses the approach taken by this investigation that compares the political ideology across states by measuring their relative level of employment in state and local government and as a measure of state and local tax burdens. Combining each of those measures of ideology with an indicator that gauges a state's capacity to manage its affairs provides this investigation with a holistic picture of the political climate within a state. This collection of variables enhances the validity of our claim to have tested the influence that political climate has over levels of economic growth and economic development.

This review highlights the importance of discerning what a government is willing to do from what it is capable of doing. Measuring and testing the effect that each of these variables has over levels of economic growth and development is considered a precursor to examining the interrelationships between a state's political climate, its business climate and the conditions that will enhance levels of growth and development. Finally, the effort to segregate the actions a government is *willing* to take from those it is *capable* of taking fills a gap in the literature and offers a realistic and objective basis for comparing the influence that these non-economic variables have over the economic conditions across states.

CHAPTER 3: DATA SOURCES AND METHODS TO OPERATIONALIZE

VARIABLES

Introduction, Gaps in the Literature

Theoretical basis for this analysis.

The theoretical basis that Schumpeter (1934) develops to define economic growth as the outcome of creative destruction, a cycle driven by the competitive behaviors of actors operating in free and open markets, is based on the following precepts: (1) growth that is deemed sustainable is delivered in stages; (2) each stage is characterized by the way many actors, operating across many markets, respond to competitive pressures that are unique to their market niche; (3) the diversity of response helps to stabilize an economy as only rarely will the conditions that shape the response from one set of actors in one market coalesce into a common response from all actors in all markets; (4) while government plays a legitimate role in helping grow markets, its influence is optimal when its intervention is limited to correcting those market failures that degrade the quality of life for large segments of its population.

Today there continues to be serious debate surrounding what, if any role governments should play in influencing both the duration and characteristic of these cycles. The goal of this investigation is to explore how a state's political climate, defined by measures of its political ideology and measures used to gauge the government's capacity to manage, has contributed to the variations in the level of economic growth and economic development observed across the American States.

It is at this juncture that we expose a major gap in the literature. None of the prior studies on this topic have dissected a state's political climate into elements that define its

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political ideology separate from its capacity to manage. Likewise, none of the prior investigations have examined how factors commonly used to define a state's political ideology, often considered a measure of its willingness to change, interact with factors that define the most basic element of any response: the capacity to do so. By electing to operationally define each factor from within a set of objective determinants, this investigation provides an alternative framework for assessing how the political climate of a state, its willingness to change in response to prevailing economic conditions, and its capacity to shape a response that is appropriate, have influenced levels of economic growth and those of development.

The methodologies selected for this investigation were designed to address the research questions posed by this investigation. The operational definitions for all the variables used in this investigation are presented in the following sections.

Application of Theory

Political theory supports the premise that the make-up of a government, conservative or liberal, Republican or Democratic, will influence how it frames and implements policy. However, establishing a set of non-partisan metrics capable of operationally defining make-up, or what some within academic circles refer to as political culture or political ideology, have proven illusive. As noted in the review of the literature, Gordon and Wang (2004) highlight the conflicts, contradictions, and inconsistencies associated with creating simple, direct, and objective determinations of how a state's political ideology influences its policy choices.

This investigation embraces the works of Lowery and Berry (1983), Garand (1993) and Kapeluck (2001), all of which suggest that a valid representation of a state's

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political climate can be gleaned from the measures of political ideology that dominates the jurisdiction. These investigators quantify ideology by measuring the relative size of the public sector, in this case the larger the size of government the more liberal the ideology. Towards that end we adopt as one indicator of political ideology measures that compare the relative size of employment in the public sector within each state. Lowery and Berry's (1983) investigations explored the various ways this measure was used to assess whether the prevailing political ideology is excessive or responsive to meeting the needs of their constituents. Each of these studies has been instrumental in moving the determinants of political ideology out of the shadows of subjectivity and into the light of an objectively quantifiable variable. This facilitates the adoption of measures well suited to the rigor of the statistical testing undertaken by this investigation.

Finally, a close review of the works by Gordon and Wang (2004) and those of Malhotra (2002) reveals how the underlining quality of political institutions has influenced levels of economic growth. By testing the influence the capacity to manage has on levels of economic growth and economic development this investigation creates a loose connection between the measures used to gauge the capacity of a government to manage and the overall quality of that institution. No direct test is made on the influence that the quality of the institution has over levels of growth or development.

Considered collectively, these studies support our contention that crafting a holistic picture of a state's political climate mandates an operational definition comprised of two distinct dimensions: (1) measures that define its political ideology or its willingness to change; and (2) measures that define its capacity to manage and by default its ability to manage change. This study posits that both measures are indicative of how

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policy choices are formulated and implemented, and as such each is likely to exert its own influence on the variation in economic growth and development across the states.

Finally, the efforts undertaken to define a state's political climate from a set of objectively determined measures side steps any partisan critique of these results. Certainly, the ability to make non-partisan assessments of how political forces interact with economic forces to drive economic growth makes these results more palatable. In their review of the literature, Rodrik (2004) and Hoff and Stiglitz (2001) found the lack of objectivity a major impediment to the adoption of such findings.

The Operational Definition of Economic Growth

Definition.

For the most part, the measures of economic growth continue to rely upon the theoretical framework of the neoclassical economists. Freidman (1962) and his contemporaries support the notion that a measure of economic growth must capture the impact that competitive pressures operating in free markets create when they force producers to reorganize their factors of production. The assertion that increases in operational or management efficiency drive economic expansion allows the neoclassical economist to select quantifiable measures of economic output as their indicator of changes in the level of economic growth. However, within complex economic structures the ability to accurately measure growth requires that those assessments be made at both a macro level, within a state economy, and at the level of the individual. Consistent with those objectives, this investigation defines economic growth as a change in two of the most commonly used measures of economic output: changes in levels of gross state product (GSP) capture the breadth of change occurring at a macro level of a state's economy, and changes in the levels of per capita income measure changes in the economic condition of individuals.

Justification.

Investigations by Vaughn and Bearse (1981) examined the use of neoclassic metrics and considered them reliable indicators of changes occurring within an economy. Likewise, Schumpeter (1934) considers the ability to measure economic output to be a reliable indicator of how well the private sector is reorganizing its factors of production. This measure infers the level of economic growth and overall expansion. Dye's (1980)

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work examining the influence that levels of taxation had over levels of economic growth also relied on the neoclassic determinants of growth.

It was not until the environmental movement of the late 1960's and 70's that arguments began to surface to counter the neoclassic view that more growth equates with a better quality of life. During that timeframe several of the suggestions put forth as alternative measures of growth were reviewed by North and Thomas (1973), and again, later, by Hoff (2001). For the most part their findings are consistent with those of Fisher (2005) and suggest that several of the alternatives proposed, such as measuring changes in the level of educational attainment, or changes in the accumulation of capital, are not measures of growth but are measuring the results of growth. The controversy over which measures cause growth and which measures are indicative of growth's effect have led most investigators to return to the neoclassic view of measuring economic growth from quantitative measures of output such as GDP, GSP, and per capita income.

Data source and type.

The most widely accepted measure for determining changes in a state's level of productive output, (GSP), and measures representing changes in the economic well-being of the individual, (per capita income), are used by this study to operationally define changes in the level of economic growth occurring within a state and changes in the economic growth experienced by the individuals residing in that state.

The Bureau of Economic Analysis' measure of the GSP in each of the 50 states was collected from across all economic sectors operating within that jurisdiction. These data were collected from 1980 to 2006. The absolute GSP value for each state in each year was recorded as reported. Each original value was then converted to represent the

percentage change over the prior year. That value, the percent changes year to year, was tallied for each state in each year and was carried forward in this analysis.

Measures of per capita income in each of the 50 states were tallied from the Census Bureau and the Bureau of Economic Analysis. Data were collected from 1987 through 2005. The values were retained and carried forward in this analysis as absolute dollars.

Limitations.

The limitations of adopting traditional neoclassical measures as our indicator of economic growth are cited by Rodrik (2004). The author's critique focuses on how these measures fail to inspire the development of a culture of growth that can be judged sustainable. At the same time his assertion that policies for sustaining growth need to combine measures of government reforms with other non-economic measures resonates as an endorsement for assessing how a state's political climate influences the conditions of economic growth as something separate and distinct from determining the influence it has over conditions of economic development.

The Operational Definition of Economic Development

Definition.

The operational definition of economic development is based on Daly's (1996) argument that in order to survive as a species mankind must shift its definition of social progress from measures of quantitative expansion in the economy, measures which we have come to call economic growth, to measures that can gauge a qualitative improvement in the quality of an individual's life. His call for such a dramatic change reflects his desire to expose the shortfall of capitalist settings in which the social costs associated with achieving more growth occasionally supersedes the benefits that individuals or communities receive. Clearly an undaunted reliance on neoclassic measures ignores the unintended consequences that more growth may be creating in the lives of individuals. The paradox of how capitalism's choice for measuring social progress has impacted society at large, both for the better and for the worse, remains the subject of studies by economists and sociologists alike. Most of the qualitative determinants that Daly wants to see used to as a measure of progress are echoed in the QOL measures that political and social scientists use to quantify changes in the human condition. Consistent with Daly's worldview, this study segregates the conditions of economic development from those of economic growth, and adopts as its proxy for economic development a set of QOL measures. This proxy is used to quantify and operationally define the levels of economic development within each state.

The selection of QOL as a proxy for quantifying economic development also finds support in the work of Holmes (2002) and in the United Nations reports (2006). Both suggest the fallacy of measuring social progress from within the single dimension of

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outputs that are the result of more growth. Finally, the use of QOL as a proxy for measuring changes in the level of economic development establishes a measure that bridges Schumpeter's periods of growth and destruction. While it is beyond the scope of this work to analyze and dissect these iterations into two distinct periods, this investigation is interested in establishing a framework that can be used to profile how the residence time on each side of this cycle influences levels of economic growth or development. At this point we are only able to infer that cycles of economic growth are spurred by the competitive forces that create more efficient behaviors from within the private sector. Certainly the observations that most markets respond to competitive threats or substitute goods by making incremental improvements in efficiency confirms the assertion that within a complex economic structure any social cost attributed to the ebb and flow within a single market is muted by the oscillations taking place from the growth occurring across all sectors of that economy. Absent a force large enough to influence a diverse set of markets, one rarely finds markets responding in harmony to a set of competitive threats. So it is no surprise to find that the factor best suited to tempering government's intervention in markets is the dynamism inherent in a market-based economy. At the other extreme is the tumult created when forces internal to markets and external to local economics collide to create wholesale destruction of markets. When that destruction disrupts the quality of life for a broad base of the population, governments must intervene and restore the level of economic development. While Schumpeter's theories were not directed at the economic behavior of states, they allow one to assert that when a state languishes on one side of a cycle or the other it

displays a lack of the dynamism needed to increase its level of economic development and economic growth.

A closer review of Schumpeterian theory suggests that the more rapid an economy accelerates through each period and the more pronounced the oscillation within each period; the more likely it is that the levels of both economic growth and economic development will increase. This step-wise function leads to more growth and yields a higher level of economic development. When this is properly choreographed it establishes a style of growth that even the most ardent critics of neoclassic economics would find socially acceptable.

While Schumpeter (1934) stopped short of making any explicit references as to which measures he considered best suited to judging changes in the human condition, he was quick to suggest that whenever market failures lead to a wholesale deterioration in those conditions, then governments need to intervene to curtail any escalation in social costs. However, since he never states how to measure these conditions, his arguments for intervention never explicitly mention trigger points indicative of the ideal point in the cycle when government's intervention is needed or considered optimal. As a result we can only infer that Schumpeter is relying on the capacity of government to respond to the events as they evolve. Such an expectation would seem reasonable as governments would be assumed to possess the capacity to react in ways that stem the impact that negative externalities have over a population. So while Schumpeter (1934) suggests a more mechanical description of how this intervention might occur and Daly (1994) makes several references as to how such unintended costs are best defined by qualitative

measures, in the end both authors seem willing to abdicate this question of timing to the political process.

Holmes' (2002) efforts to create a QOL index from a framework of economic, social and demographic variables provided a template for selecting the indicators used in this investigation. His investigation offers some precise guidelines for defining and quantifying the variables critical to constructing a valid quality of life index.

While the operational definition of economic development developed for this investigation is consistent with Daly's (1994) desire to measure social progress as a change in a series of measures that define quality of life, we necessarily limit these indicators to those that can be tied to the experiences of individuals, and not a community. A good solution to dealing with the paradox of measuring QOL for individuals separate from that of a community can be seen in the way the United Nations (UN, 2006) selects the indicators used to measure the Human Development Index. The measures for the HDI are specifically designed to capture changes in the quality of life of individuals. The approach taken by the UN to specify QOL at the level of the individual and not the community is used as a guideline to help define the elements needed to create the composite QOL index used in this study.

The composite QOL index created for each state is represented by measures of educational attainment, poverty rates, crime rates, income, and health. Values for each of these indicators were collected over the time span from 1980 through 2005.

Justification.

Spurred by the finding of the World Commission on Environment and Development (Brundtland, 1987), Milbrath (1989), Daly and Cobb (1994) and others

raced to pick up the baton and begin replacing the neoclassical construct of economic growth with measures that capture the unintended social cost associated with increasing levels of outputs. These individuals were anxious to define the impact that unbridled economic growth had on the sustainability of the natural environment and on the quality of life for members of a society.

Despite three decades of work to differentiate the conditions of development from those of growth many of the citations continue to use the terms economic growth and economic development interchangeably. In their effort to delineate these conditions, Vaughn and Bearse (1981) suggest that while the measures of economic growth continue to be based on the quantitative changes in an economy, the conditions that define economic development are best depicted by measuring structural changes within an economy. By their definition these qualitative changes would include changes in the behavior and innovative capacity of institutions. The step taken by this study to define economic development as a variable separate and distinct from the measures used to define economic growth acknowledge the importance of partitioning how each condition is assessed.

It is also important to point out that one of Daly's (1994, 1996) suggestions on how to shift a society's measure of progress is the recommendation to adopt a set of qualitative metrics that capture how changes in a social system affect its capacity to support the constructs of intergenerational equity. This struggle to unravel the effects that free and open markets play in creating the type of wealth required to sustain gift-giving across generations was the subject of investigations by Bowles (1998), and by Banerjee and Newman (1993). As noted in the literature review, each of these investigators

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highlights how a system void of wealth and beset by a low wage structure diminishes the capacity of a society to affect a transfer of intergenerational equity. So while Daly's work provided this study with its justification for a proxy that defines changes in the level of economic development, his desire to measure a society's capacity to support intergenerational equity relies on a set of theoretical constructs that defy measurement. Creating and testing the utility of this measure is both unnecessary and outside the scope of this investigation.

But Daly is not alone in trying to quantify the impact that a policy of unbridled growth has on a society. As noted earlier, in their attempt to define economic development as something separate and apart from economic growth, Blakely and Bradshaw (2002) side-stepped the issue of quantification and chose to define economic development within the context of a social movement. Like Schumpeter (1934), Milbrath (1989) is quick to acknowledge the presence of a cyclical relationship between these two opposing states of nature, growth vs. development. He even goes so far as to suggest that this dependency may be amendable to more structured analysis. By defining economic development as something distinct and separate from economic growth this study opens a portal for conducting an analysis into how the non-economic forces of a state's political climate influence the behavior of each variable.

Data source and type.

The indicators used to measure changes in the levels of economic development in each state in each year include levels of educational attainment, poverty rates, crime rates, income levels, and health. Data from each state on each indicator were collected from 1980 through 2005. The average and standard deviations were calculated for each

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indicator in each year. Boolean algorithms were designed to compare and then recode the original score from each state in each year against the average and standard deviation of all states in that same year. The general form of the filter, less the specification of its conditional formatting, is shown below:

$$\text{If } X > (\bar{Y} + 1.0\sigma) = 1.$$

$$\text{If } X > (\bar{Y} + 0.5\sigma) = 2.$$

$$\text{If } X > (\bar{Y} - 0.5\sigma) = 3.$$

$$\text{If } X < (\bar{Y} - 0.5\sigma) = 4.$$

The goal is to create an index capable of comparing performance across a spectrum of the states.

As noted above, the filtered output was coded as a 1, 2, 3 or 4. In those states where a higher original value portrayed an attribute favorable to improving the quality of life, for example educational attainment, then the states with values exceeding their cohorts by the annual average value plus one standard deviation was coded as a 1. This represents approximately 15.8% of the observations. Original values exceeding the average plus a half a standard deviation were coded a 2. This represents 15.0% of the observations. Original values greater than the average minus one-half of a standard deviation were coded a 3 and represent 38.3% of the observations. Finally, if an original value was more than one half a standard deviation unit below the average, it was coded a 4, and represented 30.85% of the observations. In instances where a higher original value conveys a negative influence on the quality of life, such as higher mortality rates, the Boolean logic was inverted and with that the numbering sequence used to code the variable was reversed. The procedure for coding insured the percentages assigned to top

and bottom performing states remained intact. Considered collectively states coded 1 and 2 represent the top 30% of the states. States coded a 4 represent the bottom 30%. The approach to coding from a mathematically objective method allows this investigation to compare the relative level of performance of each state for each indicator in each year measured.

The final determinate for the level of economic development exhibited by each state in each year is based upon a composite QOL index. The composite index is created by averaging the coded values for each of the indicators observed in that state in that year. For example, if in 1995 a state's crime rate was coded a 4.0, its level of educational attainment coded a 2.0, its index of comparative health coded a 2.0, and the poverty level coded to a 3.0 then the 1995 composite QOL index for that state would be coded as 2.75. The average and standard deviation of this index over the years 2001-2005 is shown in Appendix B. No weightings were assigned to any of the indicators. The following sections highlight the source and type of measurements used to define performance in each of the sub-categories used to create the composite QOL index for each state.

Educational attainment.

The indicator used to define the level of educational attainment is depicted by the percent of the state's population under 25 possessing a high school education. These data were sourced from the Census Bureau. The original values were coded in the manner noted earlier. In a typical year, 2005, the original values ranged from a low of 78.9% attainment (KY) to a high of 92.5% (UT). Across the data set the levels of educational attainment ranged from an annual average of 67.5% to as high as 86.8%.

Poverty rate.

A state's poverty rate is defined by the percent of the population below the poverty rate defined in that year. These data are sourced from the annual social and economic supplement of the U. S. Census Bureau, the Poverty and Health Statistics Branch of HHES, and the Department of Commerce. The original values were coded in the manner noted earlier. In a contemporary year, 2005, raw values for the percent of a population below the poverty line ranged from 5.6% (NH) to a high of 20.1% (MS). Across the data set, the percent of the population in poverty ranged from an annual average of 10.87% to a high of 15.38%.

Crime.

The crime level within each state is defined by the incidence rate of violent crimes per 100,000 of the population. These data were compiled from the statistics collected from the U.S. Justice Department. The original values were coded in the manner noted earlier.

In a typical year, 2005, original values for the incidents of violent crime per 100,000 ranged from 98 (ND) to 761(SC) per 100,000 of the population. Across the data set, incidents of violent crime ranged from an annual average low of 397 to a high of 568 per 100,000.

Income.

The definition of income is based on the actual per capita earnings in each state for the years 1980 thought 2005. These data were collected from the Regional Economic Information System, Bureau of Economic Analysis, and the U.S. Department of Commerce. The original values were coded in the manner noted earlier.

In a typical year, 2005, original values for per capita income across all the states ranged from $24,664 (LA) to $47,388 (CT). Across the data set, per capita income levels ranged from an annual average of $9775 to a high of $33,671.

Health.

The definition of overall health within a state relied on statistics comparing the death rates in each state. These data were collected from all state from 1981 through 2004 and represented the aggregate rate of death from all causes and from both sexes. These data were obtained from the Population Division of the U.S. Census Bureau. The original values were coded in the manner noted earlier.

In a typical year, 2004, the original values for death per 100,000 across all the states ranged from 3588 (HA) to 5608 (AL). Across the data set, death rates per 100,000 populations ranged from an annual average of 4757.3 to 5670.0.

Summary of sub-indices.

Creating a quality of life index for each state in each year provides this study with a proxy for measuring changes in its level of economic development. The selections of indicators to create the sub-indices as well as the method to create the composite index were consistent with the approaches reported throughout the literature. Since the literature failed to offer any justification for assigning weights to any of the individual indicators used to create the composite QOL index, it is created without consideration of a weighting scheme. Adopting Boolean conditioning statements to code the original values provided an objective mathematical method for creating the rankings. Rankings were assigned in relation to cohort states and were determined within each year that the values were collected. The values used to code each indicator ranged from 1.0 (best) to

4.0 (worse). The composite QOL index created for each state in each year establishes an objective method for profiling changes in the level of economic development occurring across all states in all years. This approach facilitates a comparative analysis of the performance across states within years.

Limitations.

While the indicators used to measure the quality of life suggest the depth and effectiveness of a state's social programs, the indicators used in this study were also limited to those that were (1) endorsed by the literature and (2) available from secondary sources. Finally, while studies from within the field of development economics are starting to equate shifts in social capital and changes in the capacity of human capital to changes in the quality of life, no attempt was made to define or otherwise incorporate these more subjective indicators into our proxy for defining the level of economic development within a state.

The Operational Definition of Political Climate

Definition.

Political will and support for policies of growth

As noted in the review of the literature, there are a variety of meanings attached to the term political climate. Within the academic literature the term political climate is most often used in reference to measures that define differences or a change in the political ideology of the state.

Our review of the literature reveals two schools of thought on how to best define and measure political ideology. Lester (1990) suggests the best method for building an ideological continuum ranging from liberal to conservative is to use measures associated

with the propensity to increase or decrease government regulations. Elazar (1984) preferred to define political ideology as something emanating from the cultural differences that define variations in social structures. In a search for a more pragmatic viewpoint this study turned to the work of Garand (1993) and Kapelunk (2001). These investigators define political ideology from measures that compare the relative size and the relative rate of growth of government. Lowery and Berry (1983) examined the dimensions of political climate from measures that define the way that the quantity of funds collected, specifically the burden from state and local taxes were viewed.

By comparing the citations and noting the varying approaches used to define the influence that a state's political ideology has on its economic performance, one finds an array of conflicting images of how politics might be driving economic performance. The source of this conflict appears to stem from the fact that some of the key measures of political performance are missing from their definition of political ideology. The measures that are missing are those that lie outside the paradigm commonly used to frame the political ideology of a state. Any student of behavioral psychology will be quick to point out the weakness in trying to characterize the nature of a response based solely on intent. In cases where a comparison of organizational response is needed, the methodology must quantify facets of the subject's willingness to respond and tie this to their capacity to do so. Towards that end this study captures measures that define a state's willingness to change and its capacity to do so. Both measures are hypothesized to influence a state's approach to attract and retain business and each defines the states' ability to respond to changes in the fast paced world of economic growth.

This study uses a state's willingness to change as it conceptual definition of political ideology. The operational definition is created from the two independent measures highlighted by Garand (1993), Kapelunk (2001) and Lowery & Berry (1983). The first gauges the relative size of employment in state and local government. The second is defined by the absolute levels of taxation borne by its constituents. The later is considered more typical of how political scientists have measured the political ideology of a state (Dye, 1980). Creating two measures of political ideology allows this investigation to test how each variable influences levels of economic growth and those of economic development across the 50 states. This approach also provides an opportunity to examine the impact that the additive effect of political ideology, measured in two ways, and the capacity to manage, has on each dependent variable: economic growth and economic development.

The operational definition of a state's capacity to manage is derived from the grading system that the Pew Foundation's Government Performance Project assigns to each state and is discussed in the next section.

Justification.

As noted in the review of the literature, Blair and Premus (1993) emphasize the importance that a region's political climate plays in a firm's decision on where to locate, whether to invest and expand, or whether to terminate operations and relocate. They see the characterization of these local conditions as an extension of the location theory of economic development. They considered the operational measure of political climate to be comprised of elements that are both economic and non-economic in nature. Again referring to the literature review, the variables these authors select for their operational

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definition exist at the macro level and appear limited to assessing the investment decisions firms encounter when the decision to locate has a global scope. In making this distinction the authors also make it clear they do not expect that the minor variations in the political climate across the U.S. states to exert much of an influence over the investment decisions guiding domestic firms. Yet those claims run counter to their own findings that suggest that whenever a region's political climate is able to influence the factors that businesses rely upon to make investment decisions, such as the incidents of incentives, the level of individual and corporate taxation, the quality of the infrastructure and the array of factors that influence the quality and quantity of the labor force, then the measure of the political climate within a region are important elements in the decision to locate or expand.

While political theory has long held that the political make-up of government institutions influence the form and shape of the policies it creates, the literature does not provide a holistic definition of how the measures used to define the political climate within the jurisdiction of a state might influence its level of economic growth or economic development. By defining the political climate of a state with measures that frame both its willingness to change and its capacity to manage, this study can categorize and analyze the influence that political climate has on clusters of states that exhibit favorable or unfavorable levels of economic growth and those of development. While this bifurcated approach to assessing the impact of political climate is a bit unique, it is an approach that is easily teased from within the interstices of the literature.

For example, the literature provides insights into the relationships between factors that improve or impede our measures of economic growth and those that enhance or

diminish the conditions that affect our measures of economic development. Both Daly (1996) and Milbrath (1989) contend that policies thought to accelerate levels of economic growth, for example tax incentives, are done at the expense of economic development.

While on the surface this observation appears consistent with the Schumpeterian notion of two rather distinct cycles, nowhere does Schumpeter infer that the policies suspected of inducing growth do so at the expense of development. Quite the contrary, he asserts that the holy grail of sustainable growth depends upon perpetuating a cycle where one phase offers to push until the other is needed to pull.

So while the citations in the literature reveal several studies that initially set out to unravel the interrelationships between a state's political culture and its propensity to support economic growth, none have included the non-economic, political variables associated with a government's capacity to manage and none have isolated the effects that a state's political climate has on economic development separate from those of economic growth.

The works by Garand (1993) and Kapeluck (2001) provide a conduit between measures used to indicate the size of government and the characterization of its political ideology. While the relative size of a state's government suggests its bias towards behaviors that might also cause it to be judged as liberal or conservative, our definition of ideology is framed by measures that define a willingness to regulate and have no connection to party affiliations. As an example, our selection of variables remains bounded by the literature and is supported by the desire to obtain a set of objective measures amendable to statistical analysis. Capturing these measures in the form of an

index is an easy way to compare levels of employment in the public sector against all forms of employment within the state.

The literature also suggests a preference to gauge ideology from measures of revenue sourcing and from patterns and priorities of expenditure. Because the latter measure is more susceptible to variations in state demographics, the likes of which might mask the underlying ideological construct, we default to the use of levels of taxation as our second measure of political ideology. Investigations by Gray and Hanson (2004) and those of Lowery and Berry (1983) suggest changes in the propensity to grow government can be gleaned from changes in the levels of taxation and from patterns and priorities attached to those revenue sources. The operational definition used to frame our second measure of political ideology compares the per capita level of state and local taxation across states. A comparative analysis along this dimension serves as a viable test for judging whether government is excessive or responsive.

Political capacity to manage

The second element of a state's political climate is shaped by its capacity to manage its affairs. The importance of this measure is not to be overshadowed by the large body of literature dedicated to describing the influence that political ideology has on the economic conditions within a jurisdiction. From what we can glean from the literature it is reasonable to assume that the trajectory of economic growth in a state is driven by an interaction between a government's capacity to manage its affairs and its ideological willingness to change. At the extremes this is seen as an ideology that endorses the use of incentives to increase the levels of economic growth or it is an ideology that uses increased taxation and expanded regulatory authority to temper levels of expansion. In

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either case the capability to enact the type of changes needed to produce a desired outcome must be factored into an explanation of how political climate influences economic growth.

The concept of political capacity and its role in shaping the regulatory environment has been extensively investigated by political scientists. In fact, the selection of the measures used by this study to define this variable was triggered by Honsdale's (1981, p. 578) description of why it was important to measure the management capacity of a government: it influences... "....the ability to anticipate and influence change, make informed and intelligent decisions about policy; attract and absorb resources...and evaluate current activities to guide future actions". In describing the criteria used to judge an institution's capacity to move society into the new economy, Malhotra (2001) reiterates many of these same points.

The need to make a clear distinction between the measures of political ideology and the measures of a body politics' capacity to manage is validated throughout the literature. Most of these writings focus on how the interaction between these two variables can be used to explain some of the difference in the regulatory environment across the states (Gray, 2004). While the literature explores the way regulation is tempered by ideology, there are no investigations that explicitly link these measures to variations in economic growth or development across the U.S. states.

Embellishing the definition of a state's political climate with a measure of the government's capacity to manage is consistent with trying to better understand the role that this measure plays in the regulatory environment known to have an influences over levels of business attraction and retention. The inclusion of a government's capacity to

manage is also supported by findings that suggest measuring a state's political ideology

provides a necessary but incomplete picture of how a state's government might be

influencing levels of economic growth or development.

The operational definitions adopted for this part of the investigation help quantify

how the political climate of a state, measured as ideology (willingness to change) and its

management capacity (capacity to change), interact to influence levels of economic

growth and economic development.

Data sources and types.

Size of Employment in the Public Sector

An index of employment in the public sector was established as the percent of the

working population employed in state or local government in each state. Employment

data were collected from the Statistical Abstract of the Census Bureau and tallied over the

years from 1990 through 2006. The average and standard deviations for public

employment were calculated from all states in each year. Boolean algorithms of the type

and form described earlier were used to recode the values. Each original value captured

the percent employed in the public sector for each state. This value was compared

relative to the average and standard deviation of public sector employment in all states in

that same year. This allowed each original score to be filtered and coded as a 1, 2, 3 or 4.

The lower values reflect conditions that the literature considers favorable to enhancing

levels of economic growth. In this example a smaller government serves as a proxy for a

lower propensity to regulate and thus yields conditions favorable to more growth. In

those cases where the values exceeded those of its cohorts by the average plus one

standard deviation, these were coded as a 4. Original values that exceeded the average

plus a half a standard deviation were coded a 3. Original values less than the average minus one-half of a standard deviation were coded a 2, and if an original value was greater than one-half a standard deviation unit below the average, it was coded a 1.These coded values provided an objective method for partitioning states into categories that can be roughly defined as the top and bottom third. This allowed each state's government to be positioned along a continuum that represents excessive or responsive governments.

Tax Burden

The U. S. Census Bureau provided the data required to define the level of personal income consumed by the taxes levied within each state. Data relating the percent of a state's tax burden borne by its citizens were collected for the years 1987 through 2007. The values, defined as the percentage of the local tax burden, were carried throughout the analysis in their original or raw form. The ranges of these values varied from year to year. For example, in 2007 the tax burden was highest in VT at 14.1% (ME was second at 14.0%) to a low of 6.6 % in AK.

Capacity to Manage the Affairs of Government

The capacity for a state government to manage effectively is operationally defined from the measures generated in the Government Performance Project (GPP). The Maxwell School at Syracuse University collected the majority of the data used in the GPP. The GPP judges a state's performance in five distinct areas: (1) financial management, (2) human resource management, (3) information technology management, (4) capital management, and a generic category, (5) managing for results. A letter grade is assigned to each state in each category and provides a sense of how well each state is able to manage its affairs and adapt to change.

The letter grades that the GPP assigned for the state's performance in each area were coded into a numeric score and then averaged across all areas to yield a single numerical value for the state in each year. The GPP data used in this study was collected from the study years 1999, 2001, and 2005. The range of data varied year to year. An example can be seen in the data collected in 2005. In that year the variation in grades across the states ranged from 72.0 for Iowa and Alaska to 92.0 for Oregon and South Carolina. The higher scores are indicative of a greater capacity to manage the affairs of government.

Limitations of political climate.

The goal of this study is to create a framework that is judged operationally valid and is capable of being periodically updated. This creates a mandate that these data reside within the public domain, that the measurements remain void of subjectivity or political bias, and that models remain simple to use, update and maintain.

Great care has been taken to insure that the definition, selection, and manipulation of the measures used to define the political ideology of a state comply with that goal. The approach to defining and selecting these data followed the direction set by the literature. The data collection methods conform to the requirement that the measures selected are suited to judging whether a state's government is responsive to meeting the economic needs of its constituency or is excessively engaged in the affairs of the individual.

The major weaknesses associated with this approach are those that differentiate an analysis based on the use of quantitative data accessible from unbiased secondary sources, from an analysis that relies on measures that must, by their very nature, incorporate a degree of subjectivity.

The Operational Definition of Business Climate

Definition.

A review of the academic literature failed to produce an operational definition of business climate that met the goals of this study: objectively derived and openly available for future analysis. Fortunately, several agencies, universities, and nonprofit institutes regularly publish indices define whether the business climate in a state is favorable or unfavorable to increasing the level of economic growth. Included in these indices are measures that their authors claim can explain the variations in the levels of economic growth experienced across the U.S. states.

At a conceptual level the definition of business climate has achieved broad recognition. However, its operational definitions remain quite fragmented. In this study the operational definition of a state's business climate is taken from each of five indices published by three separate sources:

- The Development Report Card for the States (DRC) published by the Center for Enterprise Development contains three distinct indices:
  - *The Index of Performance* assesses the general health of a state's economy.
  - *The Index of Business Vitality* evaluates the robustness of the businesses operating within a state.
  - *The Index of Development Capacity* examines the quantity and quality of the resources utilized today, with an eye towards the demands that will be placed on these in the future.

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- State Business Climate Tax Index: Published by the Tax Foundation, this index assesses how variations in state and local taxes influence the level of economic growth within the state.

- Beacon Hill Index of Competitiveness, BHI: Published by Suffolk University, this index measures the microeconomic factors that influence growth and prosperity within a state.

Details associated with the objectives, measures, and methods used to develop each index are provided in a later section entitled data source and type.

While each of the business climate indices claims to measure the capacity or potential for economic growth, they exhibit a fair amount of diversity in how they operationally define business climate. Since a goal of this investigation is to test whether an index of business climate can help explain the variations in levels of economic growth or economic development, it is hoped that this diversity will provide some insights into the utility surrounding each index. Is it a useful predictor of changes in economic development, economic growth, or both?

Justification.

Over the past decade a plethora of indices have been published that claim to have discovered the cause behind the variations in the economic performance across the U.S. states. Today it is not uncommon to find a reference to a state's business climate ranking appearing in the popular press, in trade journals for economic development, or on the state's web site. For example, the web site for the state of Minnesota showcases a report entitled "Positively Minnesota- A Great Place to Live, Work and do Business", this report along with other items on their web site highlight the state's ranking from no less

than a dozen published sources. They range from Suffolk University's Beacon Hill Index, to reports generated in *Forbes* and reproduced in *Site Selection* magazine. (www.PositvelyMinnesota.com). A review of the web sites of Georgia and Massachusetts demonstrates how each is leveraging its rankings to attract businesses and encourage existing operations to expand (memcclanahan@georgia.com , www.mass.gov/).

The media highlight how several states have begun to rely on their standing in one or more of these indices to justify changes to their tax policy, or to alter their stance on tax incentives. To gain an appreciation of the influence and reach that these rankings carry one need only read the following quote from Rep. Jeannie Darneille, Washington State House of Representatives: "The SCORECARD is just the tool to launch the discussions and spur the policy changes needed to make a real difference." (www.cfed.org/go/scorecard). The scorecard she refers to is part of a new CFED report, the Asset and Opportunity Scorecard which measures a state's business climate (formerly called the State Asset Development Report Card (DRC)).

Recall from the earlier section that this study defines a state's political climate by its level of state and local tax burden, the relative size of employment in state and local government, and its capacity to manage its affairs. Segregating levels of taxation and government size from intervening variables greatly simplifies the assessment of how non-economic variable influences the levels of economic growth or development occurring within a state.

The approach to this investigation is simplification through the segregation of dissimilar measures. This tact serves to shelter this study from the criticisms that investigators commonly cite over the outcomes produced when regression models are

created from an excessive list of unrelated independent variables. While the endeavors to establish a logical connection across a multiplicity of variables often improve the robustness of the inferences, frequently these outputs are no more robust than those constructed from single-variable or bi-variate models. The real concern is that these complex models convey a sense of uneasiness over how the manipulation of a few key variables might influence levels of growth or development. To avoid such criticisms this investigation creates a framework for testing the impact that a limited number of variables might have on a larger number of observations.

Data source and type.

The indicators selected for defining a state's business climate are those that were available in the public domain, were generated in years relevant to this investigation, had a history of being quoted in both the media and in the popular press, and exhibited diversity in the philosophical approach taken to craft the index. The five indices of business climate selected for analysis in this study include:

- *The Center for Enterprise Development: Development Report Card for the States (DRC)*
    - The DRC includes three separate indices. Each is examined as a separate and distinct variable;
        - An index of Performance,
        - An index of Business Vitality and
        - An index of Development Capacity.
- *The Tax Foundation:* The State Business Climate Index
- *Suffolk University:* The Beacon Hill Institute of State Competitiveness

The following section highlights the basic methods each organization used to develop their index. The issues associated with the development and use of each index is provided in the section entitled limitations.

The Center for Enterprise Development.

According to its web site (www.cfed.org),

> "The Center publishes indices of a state's economic performance, its economic vitality, and its economic capacity. The DRC grades all states in three indexes-Performance, Business Vitality, and Development Capacity that measure different aspects of economic health. Each index is composed of two or more sub-indices, also graded, that provide a more detailed understanding of a state's economy. Sub-indexes are made up of anywhere from two to 10 measures for a total of 67 measures. The report card tries to assess whether the opportunities to obtain a better life are expanding and how those opportunities are distributed across and within states. It does so by presenting a portrait of each state, its structure, operation, and potential. The report card is divided into three indexes: Performance, Business Vitality, and Development Capacity".

Each of the indices of Performance, Vitality and Capacity grades states from A through F. Each index is comprised of a series of sub-indices which are also graded. Each sub-index is defined by measures numbering from as few as two to as many as ten. Considered collectively this yields a total of 68 measures used to create three indices.

The general methodology used to create each index involves ranking every measure from 1-50. The process described below is quoted from its web site (www.cfed.org)

- Raw data are collected for the 68 measures.

- Each state is individually ranked in every measure based upon the raw data obtained. The best score is "1", the worst score is "50."

- To calculate sub-index scores, the relevant measure rankings for each state are added together. Sub-index scores are ranked from "1" to "50"-best to worst.

- To calculate index scores, the relevant sub-index rankings for each state are added together. Index scores are ranked from "1" to "50"-best to worst.

- States that rank from 1-10 earn As. States that rank from 11-20 earn Bs. States that rank from 21-35 earn Cs. States that rank from 36-45 earn Ds. And states that rank from 46-50 earn Fs.

- When a tie occurs, each state receives the same rank and the next best performing state is ranked as if the tie had not occurred. For example, if two states have the best score, each receives a "1" ranking and the next state is ranked "3."

The Index of Performance

The CFED creates its index of Performance to assess the return that various investments in both the private and public sector have yielded for its citizens. These include sub-indices of employment, earnings and job quality, equity, quality of life and resource efficiency. For example, within the employment sub-index are measures of

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employment growth and unemployment rates. Within the equity sub-index are measures of income distribution, average annual pay, and poverty rate. The resource efficiency sub-index includes measures on per capita energy consumption, the use of alternative energy, vehicle miles travelled, and a handful of other variables the likes of which the CFED considers representative of how to manage natural resources in a sustainable manner.

The Index of Business Vitality

The CFED developed its index of business vitality as a way to gauge the agility and dynamism of the private sector. This index is comprised of two sub-indices; entrepreneurial energy and the competitiveness of existing businesses. Entrepreneurial energy is composed of variables that measure new company start-ups, employment in the technology sectors, and the level of IPO's. The competiveness sub-index looks at measures of business closings, investment by manufacturing, and measures that gauge the diversity within the industrial base. For more information visit www.cfed.org/go/drc .

The Index of Development Capacity

The CFED uses its index of development Capacity to measure how well the state is managing both its physical and human resources and whether those policies indicate trends that will prepare the state to participate in a global economy. To gauge this performance the CFED builds its development Capacity index from measures used to create 5 sub-indices. The sub-indices include human resources, financial resources, infrastructure resources, amenity resources and natural capital, and a category called innovation assets. The sub-index entitled Financial Assets is comprised of 4 variables. These include measurements of the level of income derived from dividend, interest and

rent, the level of investments being made by venture capitalists, the level of financing offered by the SBIC, and the loans being made to small business. The sub-index for infrastructure resources includes such measures as access to affordable housing, energy costs, and bridge deficiency. The sub-index of human resources includes expenditure levels for education K-12 expenditures, the level of high school completion and attainment, and a measure of college attainment.

To facilitate our analysis of the CFED data set, its letter grades were converted to a numeric value. The method for translating a letter grade to a numeric value adheres to the grading guidelines established by the University of Maine. The conversions were generated for each of the 50 states in each year and for each of the three indices included in this study. The study incorporated data for all years in which all three indices were available: 2000, 2001, 2002, 2003, 2004 and 2006. Across the states the numeric scores ranged from low values of 50 (WY) to highs of 97 (MA).

The uniqueness associated with how each of these indices were constructed provides this investigation an opportunity to test how a series of indices, each comprised of different measures, vary in their ability to predict levels of economic growth and economic development.

The Tax Foundation.

Like the CFED, the Tax Foundation relies on a simple system that ranks the states from 1 (best) to 50 (worst). According to the Tax Foundation, its index is designed to measure how state and local tax laws may have created distortions in the economic performance across the U.S. States. By suggesting that many of the non-tax factors known to influence local economies are in fact outside the purview of lawmakers, the Tax Foundation justifies limiting its analysis to assessing the influence that taxation plays on growth. They also justify their selection of variables by referencing the literature: "Papke and Papke (1986) found that tax differentials between locations may be an important business location factor, finding that consistently high business taxes can represent a hindrance to the location of industry...Bartik (1989) provides strong evidence that taxes negatively impact business start-ups." (www.taxfoundation.org). At first blush these authors would appear to contradict Dye's (1980) findings indicating no strong relationship between levels of taxation and those of economic growth. On closer examination it appears that what Papke and Papke (1986) and Bartik (1989) are looking at are the impacts that taxation has on a certain level, class or category of business decisions. Dye (1980) on the other hand looked more holistically at how levels of taxation influenced the measures of economic activity occurring within a state. Neither conclusion is wrong; it is simply a matter of analytical perspective. Since the intent of this investigation is to determine how measures of business climate and political climate influence measures of economic growth and development in a state, the results of this investigation will provide a more reliable basis for validating or repudiating Dye's work in this area.

The Tax Foundation's State Business Climate is a composite from five sub-indices.

- Business Tax Index: This sub-index measures the economic impact of state corporate tax law. It is comprised of two sub-indices. One measures the rate structure and the other measures the composition of the tax base. Both are weighted equally.

- Individual Income Tax Index: This sub-index measures the economic impact of state and county laws on individual incomes. As was the case with the development of the sub-index of the business tax index, this sub-index is made up from measures that determine rate structure and tax base. The base is affected by such things as the presence or absence of a marriage penalty and the state's approach to taxing capital income.

- Sales and Gross Receipts Tax Index: This measures the economic impact that state and county laws have on the purchase of goods and services. As in the previous indices, measures of both rate and base are used to determine the final ranking. A determination of the impact that taxes levied on products essential to the operation of a business have on its profitability are included in the determination of the impact of the tax base.

- Unemployment Insurance Tax Index: This measures the impact of state unemployment insurance tax laws on business. This index includes two sub-indices. One measures the adherence to a simple formula for determining the rate structure, something the tax foundation refers to as 'neutrality of the structure', while the other measures the tax base.

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- <u>Wealth Tax Index/ Fiscal Balance Index/ Property Tax Index:</u> While the names of these measures have changed over the reporting years the goal has remained the same: to capture the economic impact of asset-based taxation.

As is the case for all its measures, the Tax Foundation relies on measures of tax rate and tax base as their determinate for crafting each sub-index. Example of items determined to have a negative impact on businesses include taxes on items that impede the transfer of wealth and punitive taxes on intangible personal property, such as trademarks, and taxes on inventory.

A description of the general method used to create each index and sub-index used by the Tax Foundation is described below. For more information on the variables used to create each sub-index or the source of data the reader is encouraged to refer to the following web site: www.taxfoundation.org.

For each variable measured by the Tax Foundation a ranking of 1 represents the lowest overall tax burden and a ranking of 50 represent the highest. According to its web site, the State Business Tax Climate Index (SBTCI) is designed as a relative index. Each variable collected is measured relative to the law in force within the other states. The measures are not held against an ideal or arbitrary third party standard. The scale for scoring ranges from 0 to 10 with zero being the worst among the 50 states. For example, the rates vary from a low in the state of New Hampshire (0.85 percent) to rates that are considered on these relative terms to be very high; Oregon and Hawaii (11 percent). As the state with the lowest score, New Hampshire receives a 10. Since both Oregon and Hawaii exhibit the highest rate they each receive a zero. At 6 percent the state of Georgia

is close to the mid-point, so it receives a score of 5.10. Illinois has a rate of 3 percent and scores 7.96, Idaho with a top rate of 7.8 percent receives a score to 3.39. A higher total score equates with a more favorable, lower ranking.

The Tax Foundation's state's rankings were published in 2000, 2004, 2006, 2007 and 2008. The final score that each state receives is used to operationally define the business climate according to the Tax Foundation.

Suffolk University

The data from Suffolk University are captured and reported as the Beacon Hill Index of Competitiveness (BHI). According to the BHI, a state is competitive *"if it has in place the polices and conditions that ensure and sustain a high level of per capita income and continued growth"* (BHI, 2008, p.5). As with the analysis by the CFED, the BHI's business climate measures are constructed from sub-indices. The BHI selects its sub-indices from within the basic economic model that says any given level of output is influenced by the admixture of capital, labor and technology. Its goal is to translate the four components that Porter's (2000) work uses to define competitiveness in the private sector to one able to describe the nature of competition across the U.S. States. As seen in the excerpt below, the BHI breaks these four areas of competitiveness into 8 distinct groupings. A partial list of the measures in each sub-index is as follows. Each major group has its own set of indicators and each is ranked as a factor deemed to have a positive (+) or negative (-) influence on growth (Suffolk, 2008);

- Government and fiscal policy: indicators that capture measures of fiscal constraint and the market's view of performance. Examples include:
  - state and local taxes per capita/income per capita (-)

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- o workers compensation premium rates (-)

- o bond Rating, S & P and Moody's (+)

- Security: indicators of public trust and personal safety. Examples include:

  - o crime index per 100,000 inhabitants (-)

  - o murder index per 100,000 inhabitants (-)

- Infrastructure: indicators include the affordability of housing, access to internet, ease of commuting, energy costs. Examples include:

  - o median housing costs (-)

  - o air passenger miles per capita (+)

  - o electricity price per million Btu (-)

- Human resources: indicators of the skills, knowledge, capacity of human capital as well as the commitment to improve in each area, coupled with access to health care. Examples include:

  - o % of population with health insurance (+)

  - o % of population aged 25+ graduated from High School(+)

  - o infant mortality rate in deaths per 1000 live births (-)

- Technology: indicators of R and D funding, patents assigned, proportion of scientists and engineers in the work force and the relative importance of high tech companies to the local economy.

  - o academic R and D per $1000 GSP (+)

  - o patents per 100,000 inhabitants (+)

  - o science and engineering graduate students per 100,000 inhabitants (+)

- Business incubations: indicators of the birth rate of new businesses. Examples include:

  - venture capital available per capita (+)

  - employer firm births per 100,000 inhabitants (+)

  - % of labor force represented by unions (-)

- Openness: indicators of how well the businesses are connected with those outside the local markets, includes levels of exports and the percent of the population born abroad. Examples include:

  - exports per capita, $ (+)

  - incoming foreign investment per capita (+)

  - % of population born abroad (+)

- Environmental policy: indicators that gauge how well states adhere to a moderate level of activity associated with enacting environmental regulations. Examples include:

  - toxic release inventory in pounds per 1000 sq miles (-)

  - carbon emissions per 1000 sq miles (-)

  - air quality (% good average days) (+)

As noted in the sample list above each index is comprised of one or more sub-index. The values for each index range from 0.00 to 10.00. They have a mean of 5.00 and a standard deviation of 1.00. The score from the index is used to rank each state in each category. States with the lowest overall rank have the highest performance. In the lexicon of the BHI study, variables are the elements used to make up each sub-index. Variables

that rank between 1 and 20 are considered favorable to the state. Those ranking between 30 and 50 are deemed unfavorable.

In its 2008 report the publishers of the BHI claim that improving one point on their competitive index translates into an increase of $1,546 in real per capita income. To obtain a complete listing of the variables included in each sub-index or view the report in its entirety refer to www.beaconhill.org

The values from the BHI for each state in each of the years 2003, 2004 and 2005 were included in this analysis. Typical values of the BHI range from a high of 7.00 (MA), to a low of 3.00 (MS). In each case the higher the number the more competitive the state.

Limitations.

The limitations to operationally defining business climate from within the framework of published measures is found in the exposure this brings to the variety of methods used to construct each index. A brief critique of each appears below.

- The CFED and its Development Report Card (DRC)

While the methods used to score, weight, and collate the data for each of its three indices into a single grade are transparent, the data source and the selection of the variables are not.

The CFED weighs all measures equally. The variables it selects and their applicability to the category assigned is quite subjective. For example, within its Performance Index is the sub-index called QOL. Yet the QOL sub-index does not incorporate variables associated with the level of poverty. Instead, the measure of poverty is reserved as a variable used to create a sub-index that defines a different measure of performance. In this instance the measure is referred to as equity. In another example we

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discover variables used to measure or rank average annual pay are rolled into a sub-index labeled Earning and Jobs. If we refer back to the literature one discovers unanimity with how to best categorize each of these variables: poverty should be included in a measure of QOL, while annual pay levels, of the type used here to craft the annual payroll, is more appropriately used to define a change in the level of economic growth.

Finally, the algorithms adopted by CFED lack statistical rigor. Much of this stems from its desire to simplify both the interpretation of its findings and any outsider's analysis of their data sets. Unfortunately, through the process of moving interval data to ordinal data the CFED has lost some of its underlying fidelity. For example, in its 2007 report, data used to construct the sub-index of Resource Efficiency gives the state of Vermont a score of 13.17. This is derived from a simple average of the state's ranking across all the measures used to create the sub-index. That score, 13.17, is then forced back into an algorithm that creates its final ranking within this sub-index. In this example Vermont receives a ranking of 9th out of a possible 50. By virtue of this ranking the state of VT appears in the top 11 of the 50 states and thus qualifies to receive a letter grade of A. This letter grade is carried forward in their analysis and used to create the state's index in the major category called Performance. Yet within the same sub-index of resource efficiency the state of Rhode Island receives a score of 15.5, ranks 10th and thus also earns a letter grade of A. However, New Jersey, with a score just 0.38 higher than Rhode Island ranks 11th and receives a B as its letter grade. So while the DRC weights all measures equally, the absence of statistical methods to filter values and define performance based on an objective measure of variation creates spurious results and brings into question the value one can attach to their assignment of a state's final grade.

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- The Tax Foundation

The Tax Foundation's index is created from five separate sub-indices. However, they all fall into the same monolith of measuring the influence of state and local taxation on business and individuals. While the methods used to create this index appear to be the most objective of those selected, its weakness lies in the absence of non-tax variables known to influence levels economic growth or development. Unfortunately there is no consensus on exactly how the range of tax rates or structures used by the Tax Foundation might influence the level of economic growth occurring within a state. Despite its inherent limitations, this index is the only measure of business climate to offer a set of economic variables that fall under auspices of state government. Yet the literature makes it clear that taxation is not the only variable useful in helping to define the shape or scope of the economic growth occurring within a region. In fact, as pointed out in the literature, many contemporary studies have suggested that non-tax variables, such as those that define quality of place or quality of life, might overshadow the impact of higher taxes. To date, the academic literature has been unable to reconcile how a tax that impedes the expansion and attraction of new business impacts the level of economic growth experienced by a state. One can only speculate as to why this remains an open issue. For example, it is reasonable to assume that the proponents of less tax and smaller government are unwilling to expose the unintended consequences associated with an uneven use of incentives. Certainly the abatement of taxes for a sector of the economy considered part of a cluster could disenfranchise those businesses that operate outside that cluster. This may reduce the willingness of non-cluster businesses to invest and expand within that geography. Whether the economic stability that results from supporting

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industrial clusters offsets the losses resulting from a lower level of investment by a broad range of non-cluster industries is unclear. Finally the literature is virtually silent on how non-tax variables such as QOL might dilute or potentially offset the influence of higher taxes.

- The BHI

The BHI has a very elaborate method for collecting variables and for weighting their impact. The nature of its investigation centers on Porter's definition of competitiveness. As noted earlier, the measures they adopt are those used to compare the competitiveness of firms operating in free market economies. So while the BHI embraces Porter's general theme, it is important to note that Porter originally developed his micro-economic theory in favor of clusters as a way to improve the competitive landscape amongst players in the private sector. While the BHI's 2010 Report claims that a 1 point increase in the performance is associated with $1,546 increase in real per capita income, the confidence they attach to using measures that frame the competitiveness amongst private sector firms as shaping the competition occurring amongst the states would seem to warrant closer scrutiny (Suffolk, 2010).

Summary Statement on the Limitations of the Indices

The major limitations to the information generated by these indices:

- Several of the measures used to develop the indices or one of its major sub-indices are duplicates of what the literature suggests are measures of economic growth.

- Several of the measures used to develop the indices or sub-indices include measures used to construct the QOL index, our surrogate for measuring levels of economic development.

- Several of the measures used to develop the indices or sub-indices include indicators this study adopts as a determinant of a state's political climate, specifically levels of taxation and measures that reference the size of state and local government.

Despite these limitations each of the five indices selected by this study are used by politicians and policy advisors to guide and formulate policy. Therefore, each needs to be tested in a formal model that examines their ability to predict or explain changes in the levels of economic growth and those of economic development within a state. Most of these indices do not consider the effect of their measures on economic development as defined in this study.

Summary of Methods: Business Climate

The measures used to craft these rather complex indices helps to explain why they offer such little value to policy makers. The fact remains we do not know if these reports are measuring changes in the level of economic growth or economic development. Except for the report by the Tax Foundation, it is impossible to determine which factors are within control of governments. Yet even the Tax Foundation's report contains a mix of rates and conditions. This makes it difficult to determine whether adjusting the tax rate in one category will have a positive or negative impact on the prevailing economic conditions. Finally, there seems to be a direct relationship between the complexity of the index and our ability to decipher whether the change made to improve upon a score or

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ranking will result in changes to the levels of economic growth, economic development, or both.

The confusion surrounding the utility of these reports stems from their inability to segregate and then describe, in an operational sense, how the non-economic forces that this study describes as a state's political climate, influences the body politic's response to shifts in local markets.

This new appreciation of the architectural underpinnings used to create business climate indices justifies the decision not to test the combined influence that business climate and political climate have on conditions of economic growth or economic development. The equation required to test such a relationship would incorporate independent variables with a high degree of serial correlation. As a result this investigation tests the influence of business climate separate from those of political climate. An explanation of the analytics used to answer the research questions is provided in the following section.

Analytical Methods

Regardless of whether an investigation is being launched by a social scientist, or by a practitioner from within one of the pure and applied disciplines, the objective of their analytical methodology remains the same: provide the most efficient means for asking a fixed set of questions from a potentially large set of data. In the social sciences, data collection methodologies tend to be closely coupled to the formulation of the research question under investigation. A good example of this is the way survey instruments are designed and how the responses are analyzed. In the disciplines of chemistry, biology and physics, the nature of the question defines the design of the experiment(s) and establishes the methods used to capture and analyze the data they generate. What differentiates these investigations is the method they use to create or capture data.

From the outset, a goal of this investigation has been to offer a simple, auditable framework capable of analyzing the influence that measures of political climate and business climate have over levels of economic growth and those of development. So by definition this investigation must rely on data originating from secondary sources. As a result, the vast majority of the 10,000 or so variables collected to help answer the questions posed by this investigation were not designed with these questions in mind. Given the origin of these data, the first step in this analysis is to assess how these data vary over time across states. The relationships that each state has to these data are exposed in descriptive statistics and supported by a variety of charting techniques. For example, frequency plots and scatter diagrams identify the presence or absence of symmetry in these data. Pareto charting of the average and standard deviation values of

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each variable in each state proved to be a quick and efficient method for comparing changes in the levels of economic growth, economic development, political climate and business climate across states.

Of course there is a certain temporal character attached to this analysis. Markets are slow to respond and adjust to changes in economic policies. As a result, the effects of a policy change cannot be judged instantaneously. To account for this delay, a lag period, defined in annual intervals, is established for each of the independent variables. The selection of these lags is defined by a series of OLS regression trials that establish that point in the past when the independent variable exhibited its greatest influence over the behavior of each dependent variable. The lag periods yielding the highest correlation coefficients were applied to each exogenous variable. These annual lags are then incorporated into an array of regression models that test the explanatory power of the variables, both as individual contributors and in additive relationships. OLS regression with lagged exogenous variables (OLS-LEV) was adopted as the technique best suited to defining whether the long run movement of data amongst states can be used to predict changes in growth and development. The specification of a generalized, OLS–LEV model as well as examples of how the general model is modified to answer each of the research questions are highlighted later in this section.

Justification.

The criteria for selecting the analytic methods used by this investigation include: (1) an ability to describe patterns of change, (2) an ability to detect vectors of change, and (3) a capacity to define the strength of association. Following Menard's (2002) guidelines for conducting longitudinal research, all the variables used in this analysis were collected

at regular intervals, in this case annually. This enables a comparison to be made of all states within the same year or groupings of years.

Data collection for longitudinal research.

These longitudinal research methods help interpret the differences in the levels of economic growth or development as differences across states in a specified time frame. The dependent variables measure the absolute change in the level of economic growth or economic development occurring within each state. These measures are not rate dependent. The justifications used to examine changes in levels rather than changes in rates are based on the suggestions within the literature and on the uniqueness of the variables used in this study: (1) the measurement of a rate change tends to be influenced by factors external to the political system, specifically changes in demographics; (2) the measurement of a rate change can be artificially skewed by broad based federal policies that by their nature can be applied unevenly, especially in states with small population, for example the closure of military bases; (3) the values used to define a change in rate tends to be more difficult to insert into an analysis that seeks to avoid interpolating data; and finally, (4) measuring changes in levels minimizes the interaction amongst variables when the independent variables have to be lagged.

Data characterization and analysis.

A three step method is used to characterize the behavior of these data across the time series and answers the basic question of whether measures of a state's political or business climate can predict or explain variation in the level of growth and/or development across the states.

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1. Data Characterization: Pareto charts and frequency plots were used to examine the distribution of each value across all states in all years. The descriptive statistics used to characterize these distributions provided insights into the way the variable each shifted across the time series. Measures of dispersion, the annual mean and the annual standard deviation, were calculated for all data. The descriptive statistics for each variable defined as the five-year average from 2001 to 2005 is shown in Appendix B. Any data destined to be translated in to an index were filtered using the values of the sample mean and standard deviation. These values were used in Boolean conditioning statements that filtered and recoded the original values into an index suited to calibrating a state's performance relative to its peers. The values assigned as the index were analyzed in this investigation.

2. Test for Correlation: Correlation tests exposed the relationship between dependent and independent variables. These tests were also used to expose relationships between variables the literature indicates could share a common pedigree. An example would be the relationship of personal income as a determinant of economic growth and its use as a variable to define QOL, our surrogate for defining levels of economic development. These and other relationships were analyzed to identify variables considered highly correlated.

3. Determination of lag periods and the specification of OLS regressions models to analyze time series data: A series of trials were designed to

determine the regression technique best suited to describing how measures of a state's business and political climate influenced levels of economic growth and development. OLS, 2-stage least square (2S-LS), exponential, logarithmic and polynomial models were developed and tested. The techniques associated with OLS regression were deemed the most suited to this investigation.

Lag periods were defined from a series of OLS regression trials. The models producing the highest correlation coefficient, R-squared value, defined that point in the past when each of the independent variables exhibited its highest influence on the dependent variable, either the level of economic growth and/or economic development. These results justified the specification of a 5-to-10 year lag on the measure of state and local tax burden (PC_I_RS), and 10-to-12 year lag on the index of employment in the public sector (PC_I_GEMP). The data used to measure a government's capacity to manage its affairs (PC_C_GPP), did not benefit from the application of a lag.

A review of the literature and a brief correspondence with an author of the Vega-Gordillo and Alvarez-Arce (2003) study helped refine and adapt the algorithms used by this investigation. This led to the specification of a generalized OLS regression model with lagged exogenous variables, OLS-LEV suited to estimating the influence that political climate and business climate have over measures of economic growth and development:

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$$Y_T = \alpha + \beta \sum_{k=1}^{q} X_{T-i} + \beta \sum_{k=1}^{q} X'_{T-i}$$

...where Y_T represents the measures of the dependent variable defined from all cases in time T, where T is either the value for the five year average from 2001-2005 or the base year 2005; k and q represent the number of states (cases), included in each test; X_{T-i} and X'_{T-i} represent one or more of the independent variables whose lag interval i is defined as T-i.

OLS-LEV models are adapted from this general equation and used to examine the time-series data collected for this investigation. The techniques for applying OLS-LEV models to the examination of time-series data are supported by Ostrum (1990). While this type of analysis is frequently thought of as a time-series regression model (TRS), the focus of this investigation is to generalize around the influence that business and political climate have across many states and not across time periods within a state. So while we find the definition of OLS-LEV frequently mentioned in the context of a time-series regression technique, analyzing queries of how each state behaves across all time ranges is outside the scope of this study. An investigation to analyze and then compare state by state performance for the variables defined in this study will be part of a future investigation.

The database compiled for this investigation provided an array of options for designing a model that tests the questions posed by this investigation. To simplify this investigation, each endogenous variable was defined as the average annual value obtained from 2001 through 2005, and as the value in the base year, 2005. Values from these times were used to test the ability of the independent variables to predict economic growth and development. 2005 represents the most contemporary year for which all data required by these analyses are available. To dispel any notion that 2005 could be an outlier, the results from the OLS-LEV models used to test the explanatory power of changes occurring in 2005 were compared to the tests performed on data collected in 1990, 1995 and 2000. The strength of the predictions, judged by comparing R-squared values, and their significance, defined from F-tests, ($p<.05$) indicates the data from 2005 is typical. In those instances where the endogenous variable was defined as an average, the lag periods for the corresponding exogenous variables were also averaged. For example, the test used to determine the ability of state and local tax burden, PC_I_RS, to explain changes in the level of economic growth averaged over 2001-2005 is based on tax burden averaged over the period 1996-2000.

The generalized OLS-LEV model is modified to compare the impact that the annual lag on each exogenous variable has on the behavior of growth and development observed in each of the two time intervals. Except as noted, the tests are made against data collected in all states for each time interval.

The findings from this investigation are presented in three distinct parts. The first assesses the impact that each measure of political climate has over the dependant variables of economic growth, and economic development. The second assesses the

impact that each measure of a state's business climate has over these same dependent variables. The third controls for high and low levels of economic development and tests how variations in that measure affects the ability of political climate or business climate to predict conditions of growth and development. High performing states rank in the top 10 of all states for economic development. Similarly low performing states ranked in the bottom 10. These rankings were based on the average performance over the dataset, 1985-2005.

Specification of the Model to Test Political Climate

To meet the requirements for assessing political climate's influence over levels of growth and development the generalized OLS model was modified and recast into a 6 X 5 matrix. The following example shows one of the 30 equations used to test the influence that political climate has over levels of economic growth and development. In this example, the additive model of political climate is specified against each of the dependent variables: levels of growth defined as per capita income (EG_PCI), growth defined as changes in GSP (EG_GSP), and changes levels of economic development (ED_QOL):

$$EG\_PCI_{n=50}^{T=2005} \propto + \sum_{n=1}^{50} pc\_i\_rs(T = -5) + \sum_{n=1}^{50} pc\_i\_gemp(T = -5) + \sum_{n=1}^{50} pc\_c\_gpp(T = 0)$$

$$EG_{GSP}{}_{n=50}^{T=2005} = \propto + \sum_{n=1}^{50} pc\_i\_rs(T = -5) + \sum_{n=1}^{50} pc\_i\_gemp(T = -5) + \sum_{n=1}^{50} pc\_c\_gpp(T = 0)$$

$$ED\_QOL_{n=50}^{T=2005} = \propto + \sum_{n=1}^{50} pc\_i\_rs(T = -5) + \sum_{n=1}^{50} pc\_i\_gemp(T = -5) + \sum_{n=1}^{50} pc\_c\_gpp(T = 0)$$

To determine their ability to explain or predict changes in measures of economic growth and development, each indicator of political climate is tested individually and as

additive models. This includes the two measures of its ideology, PC_I_RS, and

PC_I_GEMP and the measure of its capacity to manage, PC_C_GPP.

The lag length, T, was designated from the selection process discussed earlier.

Political climate is tested with lags at both 5 and 10 years, in the example above, where T

$= -5$. Running tests against each of these lag period recognizes that while the lag

relationships between each set of variables were not identical, they were always optimal

in the range of 5 to 12 years. No lag was applied to the measure of capacity to manage,

PC_C_GPP, $T = 0$. Each dependent variable undergoes 2 sets of tests. In the first

iteration the independent variable's ability to predict changes in the average value over

the years 2001-2005 is tested. A second iteration tests the ability to predict changes in the

data collected in the base year, 2005.

Specification of the Model to Test Business Climate

To meet the requirements for assessing business climate's influence over levels of

growth and development, the generalized OLS model was defined in a 6 X 6 matrix. Here

the 5 indices of a state's business climate discussed earlier are tested to determine their

capacity to explain or predict changes in the measures of economic growth, EG_GSP and

EG_PCI, and those of economic development, ED_QOL. Each measure of business

climate, the Beacon Hill Index, BC_BHI, the Tax Foundation, BC_TAXF and the

development report card, BC_DRC_ is tested to determine its ability to predict or explain

changes in the level of dependent variables defined both as the five year average and as

data from 2005. The lag applied to all measures of business climate were identical, T $= -2$.

The adoption of a 2 year lag reflects the nature of this variable: (1) measures of business

climate have only recently become available from secondary sources, and (2) these data

are not always published on a regular, annual, basis. Other than the nested measures taken from the CFED development scorecard, where BC_DRC_P is combined with _V and _C, no additive models were specified. The reason for this is simple: those publishing a measure of business climate believe their solo variable explains changes in the conditions this study uses to define economic growth.

The following example demonstrates how the general equation was modified to test the influence that each measure of business climate has over growth measured as per capita (EG_PCI) in 2005:

$$EG\_PCI_{n=50}^{T=2005} = \propto + \sum_{n=1}^{50} bc\_bhi(T-2)$$

$$EG\_PCI_{n=50}^{T=2005} = \propto + \sum_{n=1}^{50} bc\_taxf(T-2)$$

$$EG\_PCI_{n=50}^{T=2005} = \propto + \sum_{n=1}^{50} bc\_drc\_p(T-2)$$

$$EG\_PCI_{n=50}^{T=2005} = \propto + \sum_{n=1}^{50} bc\_drc\_v(T-2)$$

$$EG\_PCI_{n=50}^{T=2005} = \propto + \sum_{n=1}^{50} bc\_drc\_c(T-2)$$

$$EG\_PCI_{n=50}^{T=2005} = \propto + \sum_{n=1}^{50} bc\_drc\_c + v + p(T-2)$$

Specification of the Model Controlling for Economic Development

The third application of the generalized model seeks to determine if the established level of economic development in a state influences the ability of political or business climate to predict changes in the level of growth and development. This iteration was limited to testing the explanatory power for the year 2005. States ranking in the top deciles for levels of economic development are defined as the control group and labeled top performing states: Connecticut, Hawaii, Minnesota, New Hampshire, Colorado, Iowa, Nebraska, Wyoming, New Jersey and Washington were. The states ranked in the bottom

deciles, labeled as bottom performing states, include: Oklahoma, Kentucky, Arkansas, West Virginia, New Mexico, Tennessee, Mississippi, Alabama, South Carolina and Louisiana. Isolating these states into two separate groups allowed a comparison of how variations in the levels of economic development influence the ability of political or business climate to predict variations in the dependent variables.

The following example highlights how the general equation is modified to assess the performance of the top performing states. The first set of equations depict how the formula was modified to assess the influence that all measures of political have over changes in growth in per capita income, EG-PCI, growth in gross state product, EG_GSP and economic development, ED_QOL. The last equation in this list provides an example of how the model was specified to test the influence that a measure of business climate, BC_BHI had over levels of growth across high performing states:

$$EG\_PCI_{n=1-10}^{T=2005} = \propto\ + \sum_{n=1}^{10} pc\_i\_rs(T=-5) + \sum_{n=1}^{10} pc\_i\_gemp(T=-5) + \sum_{n=1}^{10} pc\_c\_gpp(T=0)$$

$$EG\_GSP_{n=1-10}^{T=2005} = \propto\ + \sum_{n=1}^{10} pc\_i\_rs(T=-5) + \sum_{n=1}^{10} pc\_i\_gemp(T=-5) + \sum_{n=1}^{10} pc\_c\_gpp(T=0)$$

$$ED\_QOL_{n=1-10}^{T=2005} = \propto\ + \sum_{n=1}^{10} pc\_i\_rs(T=-5) + \sum_{n=1}^{10} pc\_i\_gemp(T=-5) + \sum_{n=1}^{10} pc\_c\_gpp(T=0)$$

$$EG\_PCI_{n=1-10}^{T=2005} = \propto\ + \sum_{n=1}^{10} bc\_bhi(T-2)$$

Assessing the performance in the bottom performing states is simply a matter of substituting *n =1-10* with n = *41-50:*

$$EG\_PCI \ {}^{T=2005}_{n=41-50} =$$

$$\propto \ + \sum_{n=41}^{50} pc\_i\_rs(T = -5) + \sum_{n=41}^{50} pc\_i\_gemp(T = -5) + \sum_{n=41}^{50} pc\_c\_gpp(T = 0)$$

$$EG\_GSP \ {}^{T=2005}_{n=41-50} =$$

$$\propto \ + \sum_{n=41}^{50} pc\_i\_rs(T = -5) + \sum_{n=41}^{50} pc\_i\_gemp(T = -5) + \sum_{n=41}^{50} pc\_c\_gpp(T = 0)$$

$$ED\_QOL \ {}^{T=2005}_{n=41-50} =$$

$$\propto \ + \sum_{n=41}^{50} pc\_i\_rs(T = -5) + \sum_{n=41}^{50} pc\_i\_gemp(T = -5) + \sum_{n=41}^{50} pc\_c\_gpp(T = 0)$$

In all instances where the general equation is modified: T =lag period applied to the exogenous variable ; EG_ is the percentage change in the annual growth of _GSP or the per capita income in absolute dollars, _PCI in the year(s) specified by the time T; when used as a rank $n=1$ refers to the top ranked state, 50 refers to the lowest ranked state; ED_ is the measure of economic development ; BC_ is the preface used to describe the index defining the state's business climate; T is the date of test year for the data set of the dependent variable, either a 5 year average from 2001-2005 or 2005.

Limitations.

The limitations associated with designing longitudinal research are highlighted by Menard, (2002, p. 3) and include: "(1) the ability to collect data for each variable over multiple time periods, (2) the alignment of cases to the periods under analysis, and (3) the selection of analytical tool suited to comparing data between or among periods." To address these and the other limitations, data used in this study were collected at regular intervals and all were derived from secondary sources.

Ostrom (1990, p.58) expresses several concerns over the presence of serial correlation in lagged models. Each is addressed by the methods adopted for use in this study. First, descriptive techniques identify patterns of convergence or anomalies that

might suggest correlation. Second, where needed, data or relationships were preconditioned using standard regression techniques. The succession of OLS regression trials described earlier helped limit the application of time lags to exogenous or independent variable(s). According to Ostrom, this avoids the unwanted encounter with serial correlation. With none of the lagged exogenous variables demonstrating any outward signs of serial correlation, the study was clear to specify the time interval to be used to test when a change in economic growth or development within the U.S. states responded to changes in its political climate. The specification of a precise time interval supports Ostrom's requirement that the lagged models remain amendable to being analyzed for autocorrelation using traditional modes of intervention, in this case the Durbin-Watson statistic. Isolating the equations into specific time interval(s) has the added benefit of specifying an OLS model with lagged exogenous values that did not require further transformation or manipulation. As note in the literature review, the elimination of weighting schemes helps sidestep any criticism surrounding the bias used to assign weights.

The strategy to restrict the application of time lags to exogenous variables and not apply partial effects to one or more of the explanatory variables (or hand working other variables into more elaborate distributed lag models) kept this study from encountering the pitfalls encountered when analyzing data from a time-series (Ostrom,1990). While these more restrictive methods may have fallen short of producing stronger correlations, they minimized exposing the findings from this study to the limitations cited in the literature.

Causation and Association

Although the term causation is discussed, statistics alone cannot assign causality. The presence of association does not imply causation: but according to Chou (1969) the presence of causation always implies association. Chou (1969, p. 631) provides several explicit reasons why association cannot be used to assign causation: first there is the likelihood that the association between variables is the result of pure chance; second, association between two variables may be due to the influence of a third common variable or an intervening factor; finally, there are occasions when the relationship, while real, fails to delineate the relationship between the variables, in this instance failing to unravel which is the cause and which is the effect.

Chou (1969) suggests that the case for causation must rely on logic and reasoning. He considers these to be the only reliable sources for uncovering errors inherent in any assessment of association. In an attempt to avoid reading causation into spurious associations, the findings presented in this study will be critiqued against research suggesting that economic growth is the logical outcome of discrete acts that seek to enhance the levels of innovation. Some of these acts are within control of markets while others fall under the influence of government regulators (Klette and Kortum, 2002).

Summary on Analytical Methods

Considered collectively, the adoption of these analytical methods offered the following advantages: data could be collected in fixed-time intervals, no interpolations of data were required, the timeframes selected allowed a comparative analysis of all data from all states, and finally, they eliminated the need to create weighting schemes for variables. These factors coalesce into a methodology that addresses many of the shortfalls associated with the design of longitudinal research and the analysis of time series data.

The methodology developed for this investigation is relatively flexible. The data collection methods evolved into a data set that is well suited to supporting the underlying goals of this study: objectivity of data collection, transparency of analytical methods, and simplicity in the interpretation of results.

*Table 3.1 Summary: Sources and Uses of Data for each U.S. State, 2005(* except as noted)*

Variable Name	Source	Description	Range	Average
Business Climate	The Center for Enterprise Development	State Asset Development Report Card		
	BC_DRC_P	Index of Performance,	50-100*	76.9
	BC_DRC_V	Index of Vitality	50-100*	77.1
	BC_DRC_C	Index of Capacity	50-100*	76.9
	Tax Foundation BC-TAXF	State Business Climate Tax Index	1-50	25.5
	Suffolk University BC_BHI	Beacon Hill Index	2.53-7.03	5.00
Political Climate a. Management Capacity	Maxwell School; Government Performance Project PC_W_GPP	**Management Capacity in the areas of:** -Financial Mgt -HR Mgt -IT mgt -Capital Management -Managing for Results	72.0-92.0	81.68
b. Political Ideology	US Census Bureau; Statistical Abstract PC_I_RS	**Government Growth:** Patterns of revenue sources, a percentage of personal income consumed by various forms of taxation	6.7%-14%	10.6%
	PC_I_G_EMP	Local government employment (Index as a percent of total state employment)	1.0-4.0	2.10
Economic Growth	Bureau of Economic Analysis; Census Bureau and Bureau of Labor Statistics, HBS	**Quantitative Changes in Economy**		
	EG_GSP	Changes in Gross State Product	2.41%-14.11%	6.607%
	EG_PCI	Absolute value of per capita income	$24.6-47.3K	$33.3K
Economic Development	Census Bureau	**Qualitative changes in quality of life** Income Educational attainment Poverty rates Crime Rates Health		
	ED_QOL	A composite index of each state's performance	1.25-4.00	2.45

CHAPTER 4: FINDINGS

Introduction

This chapter addresses the essential question of whether the variables used to define the political and business climates across the American states are suited to predicting changes in economic growth or economic development. The findings are portrayed in graphs and the results are presented in a series of tables. The iteration of each model is labeled as a step. The outputs, described in the following sections, were derived from the series of OLS-LEV models specified in the methods section. The tables will highlight how well each variable explains changes in the average level of economic growth or development occurring across the period 2001 to 2005 and in the base year, 2005. While each table is accompanied by a general discussion of its findings, the conclusions to be drawn from this collective work are presented in the following chapter.

Five regression steps will highlight how the combined and individual effects of political climate interact to predict levels of growth and development. As referred to in the methods section, the political climate variable measuring state and local tax burden is labeled (PC_I_RS), the value of the index used to define the ratio of employment in the states public sector is labeled (PC_I_GEMP), and a state's capacity to manage its affairs is shown as (PC_C_GPP).

Tables are also used to address the question of whether six of the more popular measures of business climate are reliable predictors of changes in the level of economic growth or development. The business climate variables are labeled as follows: the Beacon Hill Index (BC_BHI) , the Tax Foundations ranking (BC_TAXF) , and development report card (BC_DRC_). Since the DRC produces individual measures for

development capacity (_C), performance (_P), and business vitality (_V), each of these indices are tested in a manner that defines their individual and additive effects.

Figures 4.1 through 4.7 characterize the behavior of key variables across all states. These figures reveal a collection of states where the levels of economic development (ED_QOL), remained closely aligned to changes in the measures of political climate and levels of growth measured as per capita income (EG_PCI). Data from the top and bottom deciles of those states are selected as controls. Each is then tested to determine whether an established level of economic development influences the ability of political climate or business climate to predict changes in the levels of economic growth. The dependent variables used for this analysis were collected for 2005.

The descriptive statistics for all variables measured as five year averages are summarized in Appendix B. Appendix C depicts the correlations of the variables.

Profile of Economic Growth Across States

Growth as per capita income

Figure 4.1 demonstrates how the levels of per capita income vary across the U.S. States. These data are the average value collected from 1987 through 2005. The figure highlights a disparity in annual earnings of over ten thousand dollars.

This chart gives an indication of how states might be grouped according to levels of income. In a third of the states the average levels of per capita income exceed $25,000. Approximately 40% fall between $20,000 and $25,000. The remainder of the states falls below $20,000.

The observation that these states distributed themselves roughly in thirds helped guide the design of the Boolean filtering algorithms that were discussed earlier. It is also

worth noting the presence of an elite grouping of states. Clearly 10% of the states are

enjoying much higher levels of growth measured by this variable.

This observation, and its relationship to the other findings, is discussed later in the

summary.

Figure 4.1 Profile of U.S. States Average per Capita Income 1987-2005
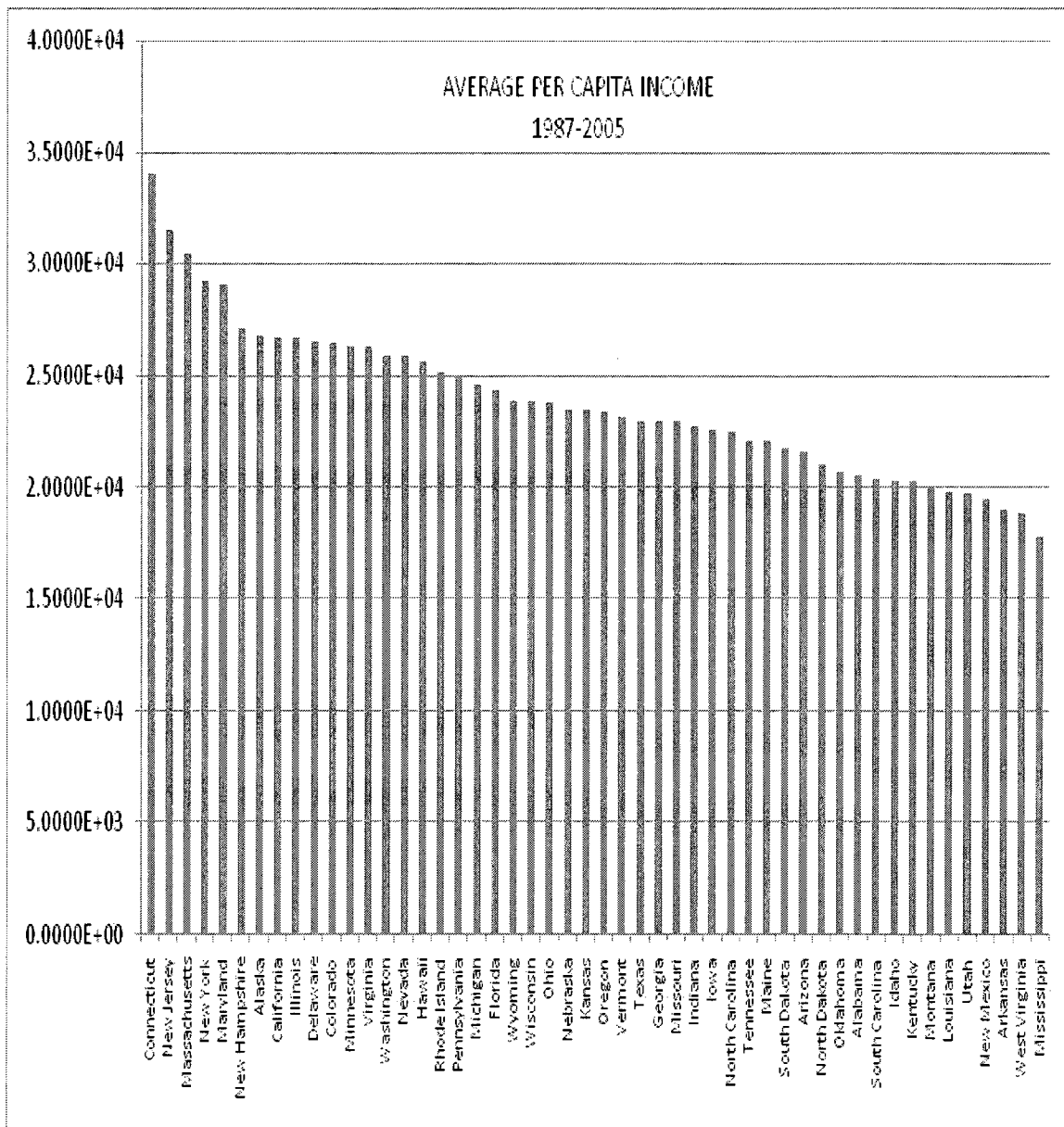
Growth as gross state product

Figures 4.2 and 4.3 highlights how the year over year changes in gross state product varies across the states. The graph depicts the average year over year change in GSP from 1980 through 2005. As seen in this chart, approximately 20% of the states enjoy high levels of growth. Roughly 65% of the states have experienced an average level of change in their output. 15% of the states experience a level of growth that is 18% below the mean of 6.35%.

Figure 4.2 Profile of U.S. States Average Gross State Product 1980-2005
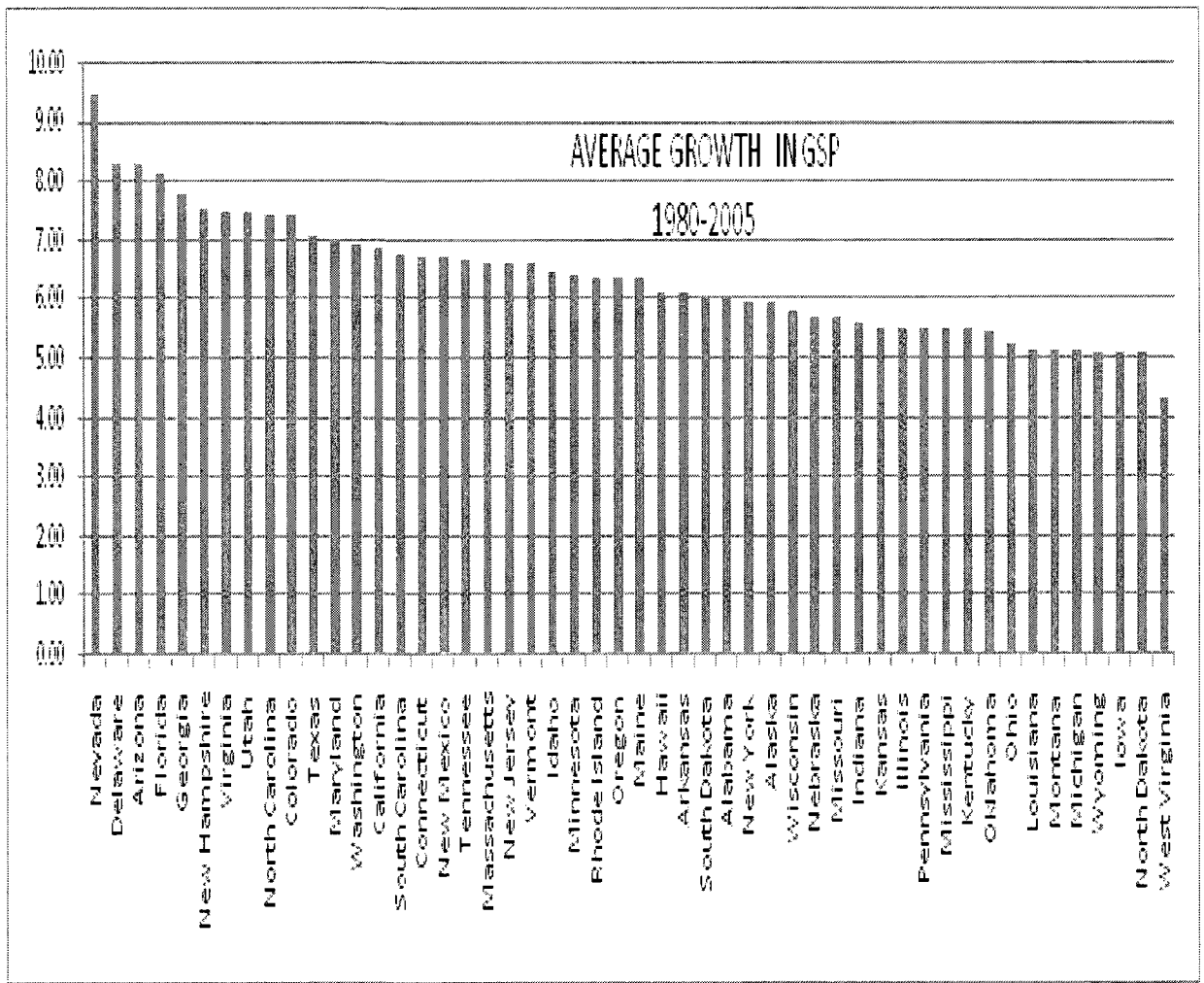
Figure 4.3 highlights the nature of the standard deviations within each state over

this same timeframe. The chart offers little to suggest an opportunity for convergence to

either a higher or lower rate of growth. The standard deviation appears as the darker of

the two bars. The lighter bar is the average for that state over the 15 years.

Figure 4.3 Profile of U.S. States Average and Standard Deviation GSP 1980-2005

NOTE: Nationwide the 25 year avg. growth rate of GSP, all states= 6.35%, D of 1.03% vs. an avg SD of 3.35% within states

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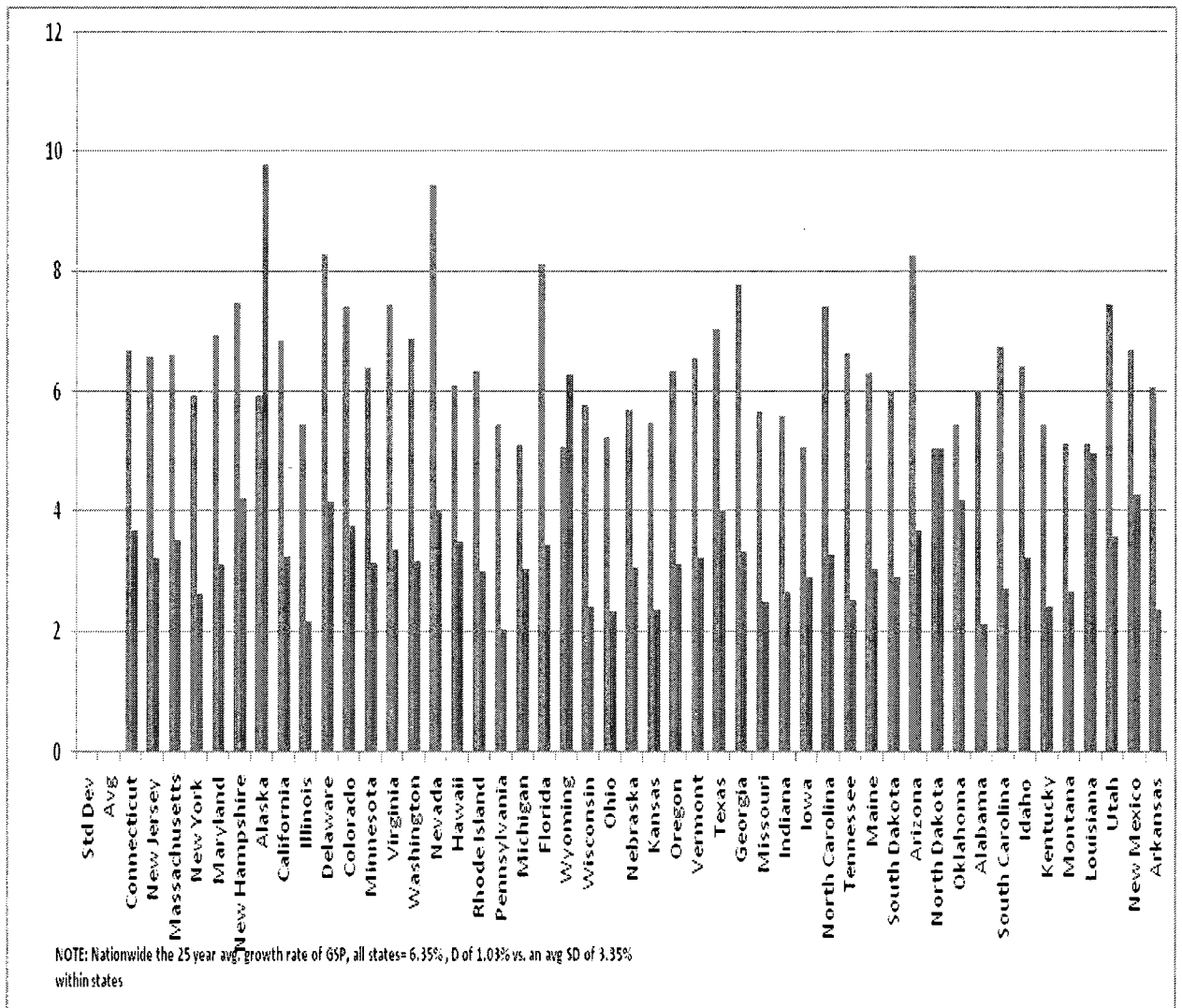
Profile of Economic Development Across the States

Figure 4.4 portrays the average level of economic development in each state over the years 1980 to 2005. Recall from the methods section that the QOL is a composite index where a lower value defines a higher QOL. This chart displays a familiar picture: roughly a third of the states enjoy a high quality of life, defined as QOL values less than 2.00. A second group exhibits a QOL that would be defined as average: QOL values between 2.00 and 3.00. A third group displays values exceeding 3.0. This final grouping clearly exhibits a particularly low QOL. Quality of Life ranges from 1.00 to 4.00.

In comparing the rankings here to those that depict growth measured as per capita income (Figure 4.1), one finds several instances where states occupying the top tier in terms of economic growth exhibit top tier performance in the composite quality of life index. So while the states of Connecticut, Massachusetts, New Hampshire, Wisconsin, Delaware, Minnesota and Illinois diverge in terms of industrial base, geography, and size, they converge around these measures of growth and those of development. Likewise, states such as Louisiana, West Virginia, Arkansas and New Mexico have low levels of income and are among those states ranked low in the quality of life index.

Figure 4.4 Profile of U.S. States Average Economic Development, QOL 1980-2005
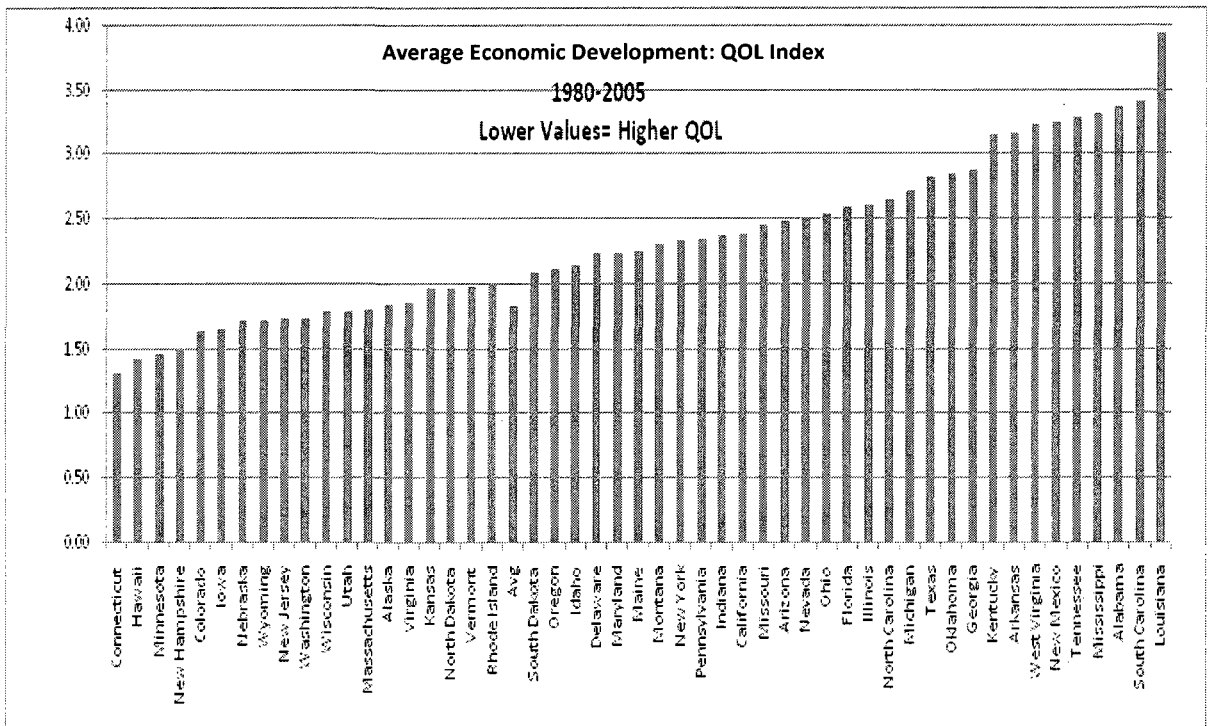
Profile of Political Climate Across the States

As outlined in the section on method, the indicators of a state's political climate

incorporate two measures of its political ideology. Ideology is defined by measuring the

size of state and local government and assessing the tax burden on individuals. Each

measure is compared to the average from across all states in that year. That comparison

serves as the benchmark for categorizing the government as excessively engaged in the

affairs of the individual or responsive to meeting their needs.

Size of government.

As noted in the methods, the measure used to gauge the size of state and local

government was developed as an index. As was the case in all indices developed for this

investigation, the lower the number the more favorable the conditions for economic growth. Figure 4.5 depicts the variation in the average of this index across all states. The data were collected over the years 1987 through 2005. Here the states distribute themselves into four distinct groups. Approximately 30% of the states exhibit a comparatively low level of employment in the public sector. This is defined by an index value of less than 1.50. States falling in this category outwardly display a political ideology deemed favorable to enhancing levels of economic growth. A second grouping, representing 35% of this sample, exhibits levels of public employment on par with the levels observed over all states and time ranges. This is defined by an index that hovers at or slightly above 2.00. Roughly 20% of the states have levels above the average. These states are categorized as high and therefore potentially unfavorable to growth. However, they are not immediately classified as excessive. This third group is defined by index values 2.50 to 3.00. Finally, there is a fourth group where the political ideology seems indicative of governments that could be judged excessive. About 15% of the states have values of over 3.00 and would fall into that category. The assignment of states to categories is based on the suggestion by the literature that as the size of a state's government expands beyond some norm, (in this analysis statistically beyond or below the average) it starts to perform functions that other states have chosen to outsource. A quick comparison of the data presented in Figure 4.5 alongside that presented in Figure 4.4 suggests some overlap between states that have low ratio of its citizens employed in government and those with high QOL. Examples include Massachusetts, Connecticut, Colorado, and New Hampshire.

Figure 4.5 Profile of U.S. States Average Government Employment 1987-2005
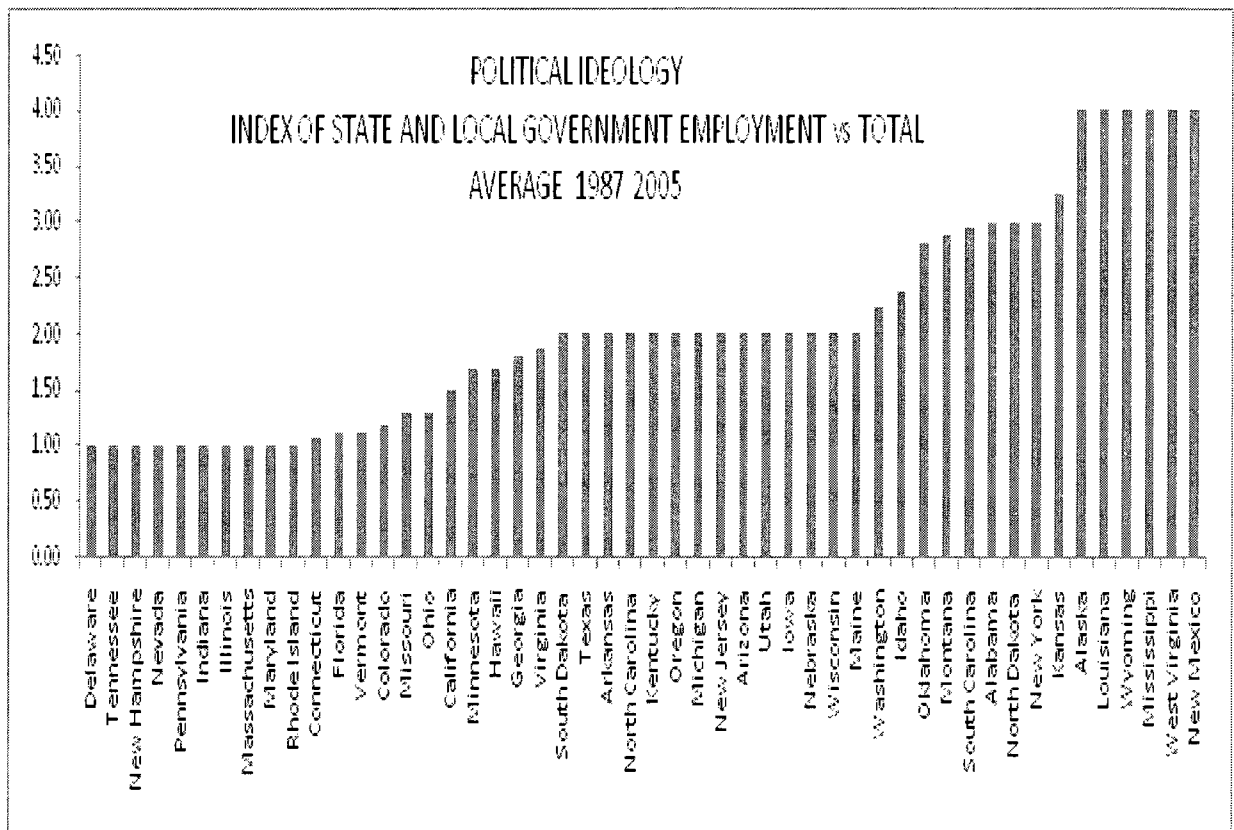
State and local tax burdens

Figure 4.6 depicts the variations in the average level of state and local tax burden

across all states over the years 1987 to 2005. A comparison of the distribution of states

listed here against those appearing in the chart for the QOL (Figure 4.4) reveals a rather

startling find: several of the states with the highest tax burdens enjoy a high quality of life

and have the highest levels of economic growth. For example, the states of Washington,

Minnesota, New Jersey, and Connecticut exhibit tax burdens in the top 20-30% of those

measured, yet each ranks in the top 20-30 % in the categories of economic development

(QOL) and in economic growth (PCI). So while several of the business climate reports

tout the relationship between lower taxes and higher levels of economic growth, their

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claim is not borne out of these data. Take the case of the state of Alabama. The tax

burden is low. Based on the reports from the business climate indices one would assume

that its citizens would enjoy a higher quality of life and a higher overall level of

economic growth. On the contrary, Alabama occupies the lowest tier in terms of

economic growth (per capita income), and has the same position in the QOL index.

Dye's (1980) suggestion that tax burdens have no direct impact on economic growth

seems to have merit. Only New Hampshire occupies a top 10 position in all categories

that the literature would define as favorable to improving economic growth: it has a high

level of growth, measured either as GSP or per capita income, it has a low tax rate, it has

a low ratio of employees working in state and local government, and it enjoys a high

quality of life.

Figure 4.6 Profile of U.S. States Average Tax Burden 1987-2005
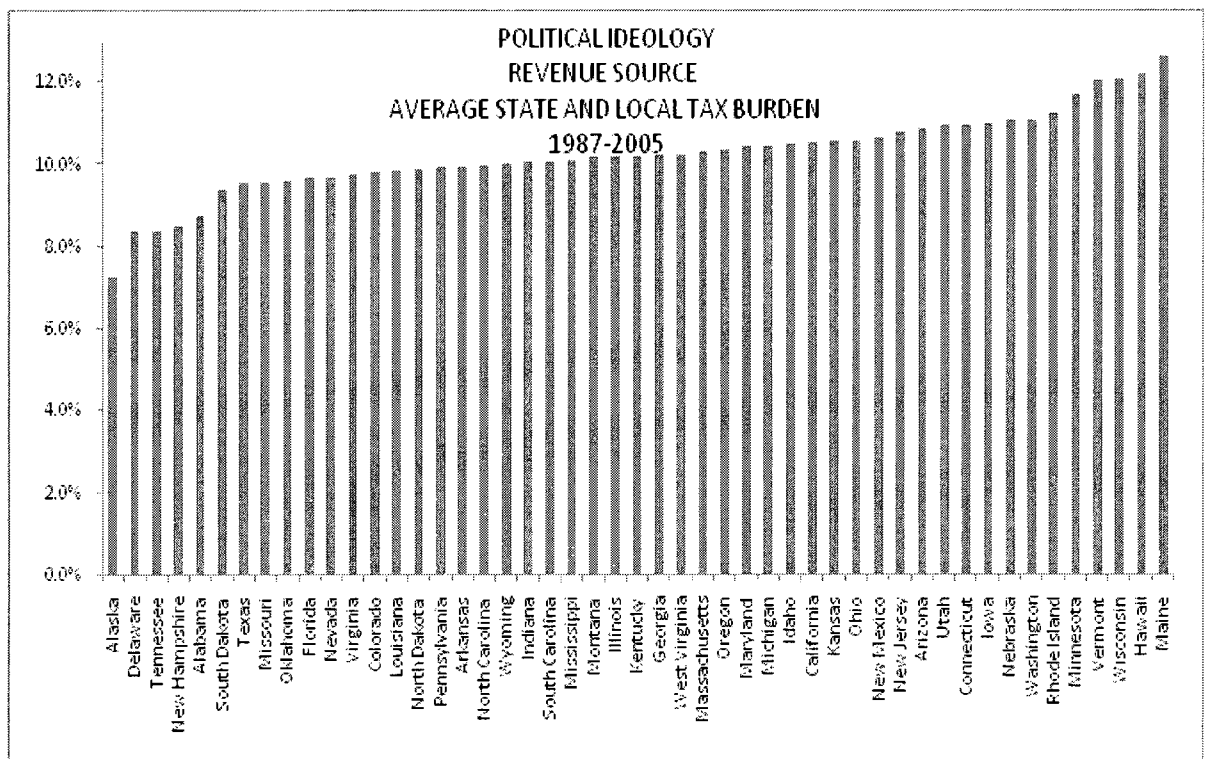
Figure 4.7 highlights how over the years a narrow variance in the measures associated

with tax burdens suggests little convergence around an acceptable or lower level of

taxation (standard deviation is the small solid bar). Over time state governments have

gravitated to a burden that allows them to operate and serve the needs of their

constituency. From the data presented in this section it appears there is some benefit to

shifting this paradigm. Several states where taxes are high and growth, both in per capita

income and GSP is low need to reconsider the role their governments are performing. As

seen in the earlier Figure 4.6, history suggests that it would be a rare occasion for a state

to stray from the rates already established. Appendix B details the descriptive statistics

for the variables used in this study.

Figure 4.7 Profile of U.S. States Average, Standard Deviation Tax Burden 1987-2005
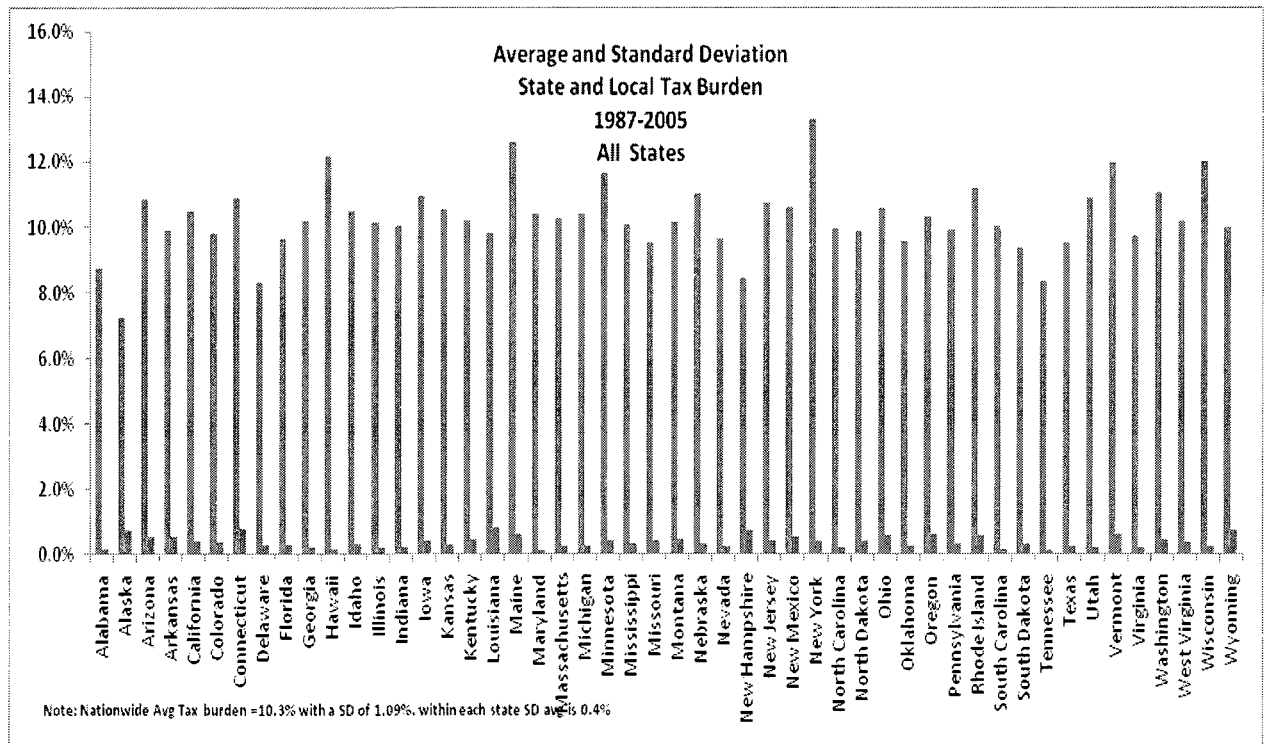
Economic Growth Measured as Per Capita Income

This section highlights the results of the OLS-LEV tests used to define the ability of business climate and political climate to predict changes in the level of economic growth measured as the per capita income of individuals within a state. The measures of the dependent variable are depicted in actual dollars. See Table 3.1 for an explanation of the variables used in these tables. In all instances PC_ stands for political climate. The designation (_I) indicates a measure of ideology and the designation (_C) indicates a measure of political capacity to manage. For example the abbreviation for political climate, ideology defined by revenue source, tax burden, is shown as PC_I_ RS.

Table 4.1 Five Year Average, Per Capita Income vs. Political Climate

Step	Variable	Annual Lag	R-square (adjusted)	Coefficient	SE (coeff)	Constant
1	PC_I_RS	10	0.035	72361.131	4397.830	23390.981
2	PC_I_GEMP	10	0.231***	-2143.544***	564.450	35324.978
3	PC_C_GPP	0	0.003	47.431	127.155	27043.256
4	PC_ I_RS	10	0.249***	51474.440	49021.739	
	+ GEMP	10	(0.217)	-2074.018***	567.772	29843.281
5	PC_ I_RS	10		53071.280	49665.685	
	+ GEMP	10	0.251**	-2111.569***	581.913	
	+ GPP	0	(0.202)	-42.521	114.985	33212.371

*p<.05; ** p<.01; ***p<.001; n=50.

Economic growth: 5 year average per capita income vs. political climate.

The only measure of political climate suited to predicting economic growth when growth is defined by the average level of per capita income over the years 2001 to 2005 is the ratio of employment in state and local government (PC_I_ GEMP). Recall from the methods section, the value of (PC_I_GEMP) is that of an index. It was derived by comparing the ratio of each state's level of employment in the public sector against total employment. The index was used to establish a relative level of employment in each state in each year. The values range from 1.00 (a statistically lower percentage of employment in the public sector) to 4.00 (a statistically higher percentage). The values were used to make comparisons of this measure across the states.

A hypothetical example adopted from the values in step 2 helps to explain the influence that levels of government employment have over levels of economic growth:

$$EG\_PCI = 35324.98 - 2143.54 \ (PC\_I\_GEMP).$$

Since a higher index represents a larger ratio of employment in the public sector, every 1.00 point of change in the index of (PC_I_GEMP) represents a loss of $2143 in personal income. This model explains 23% of the variation in economic growth measured as per capita income ($p<.001$).

While the additive models combining measures of employment with the level of tax burden (PC_I_RS), or a state's capacity to manage (PC_C_GPP), improve the explanatory power of the outputs in step 2, R-square of 0.231 ($p<.001$) vs. R-square of 0.249 ($p<.001$), the adjusted R-square of 0.217 reduces the significance of these multi-variable models. The size of the SE attached to the coefficient (PC_I_RS) and

(PC_C_GPP) indicates these multivariate models are exhibiting an unreliable level of interaction.

The outputs in steps 2, 4 and 5 demonstrate how increasing levels of employment in the public sector have a negative impact on levels of personal income. The values assigned to the coefficients for (PC_I_GEMP) and the standard error of these estimates remains within 5% of one another. These finding from this table are supported by the works of Karabegovic and McMahon (2005) and that of Higgins, Levy, and Young (2003), all of whom revealed a negative correlation between increases in the representation of the public sector and the measures they used to define economic growth.

The regression tests in steps 3 and 5 suggest that the measure used to gauge a states capacity to manage (PC_I_GPP), adds no value to the explanatory power of a model defined solely by levels of government employment.

Table 4.2 Per Capita Income in 2005 vs. Political Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE (Coeff)	Constant
1	PC_I_RS	5	0.000	NA	NA	NA
2	PC_I_GEMP	10	0.201**	-2135.705**	613.740	37687.733
3	PC_C_GPP	0	0.026	166.870	145.995	19658.219
4	PC_I_RS	5	0.201**	-1363.870	54494.831	37828.366
	+ GEMP	10	(0.167)	-2135.473***	620.300	
5	PC_I_RS	5	0.210*	-3500.580	54876.443	30090.551
	+ GEMP	10		-2063.532**	632.059	
	+ GPP	0	(0.158)	95.625	136.345	

*p<.05; ** p<.01; ***p<.001; n=50.

Economic growth: per capita income 2005 vs. political climate.

The results in Table 4.2 indicate that the only measure of political climate suited to predicting economic growth when growth is defined by the level of per capita income in 2005 is the ratio of employment in state and local government (PC_I_ GEMP). These results confirm those seen in Table 4.1. In both examples, when political climate is defined as employment in the public sector (PC_I_GEMP), these OLS-LEV models are able to explain between 20% and 23% of the variation in levels of per capita income.

Inserting actual data into these models reveals the utility of these estimates. In the base year 2005 the per capita income in Alabama was $29,623 and the index of employment was 3.0.

EG_PCI (2005) = 37687.733 -2135.705(PC_I_GEMP)

The model estimates the level of per capita income at $31,280 or within 5% of that observed.

Inserting these same determinants from the state of Connecticut, where the level of employment in the public sector (PC_I_GEMP), is relatively low, defined as a score of 1.0 and the level of per capita income is relatively high at $47,388, yields an estimated income of $35,552. The error of this estimate is over 25% of that observed. This suggests the model is sensitive to variations in the initial level of income.

Contrary to the popular notion that an increase in taxes hinders growth, this model discounts the notion that this measure of political ideology (PC_I_RS) can reliably predict a change in the level of per capita income. As noted in the review of the literature, these are the same conclusions reached by Dye (1980).

Table 4.3 Per Capita Income 2005 vs. Business Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	BC_ BHI	2	0.265***	2494.944	599.954	20812.463
2	BC_TAXF	2	0.000	NA	NA	NA
3	BC_DRC-C	2	0.356***	206.116***	40.001	17392.780
4	BC_DRC-P	2	0.374***	206.331***	38.495	17371.807
5	BC_ DRC_V	2	0.130**	123.847**	46.157	23764.323
6	BC_DRC_C +DRC_P +DRC_V	2	0.488*** (0.455)	91.090 147.736** 59.488	51.097 44.067 42.122	10294.209

*p<.05; ** p<.01; ***p<.001; n=50.

Economic growth: per capita income in 2005 vs. business climate.

The results in Table 4.3 define whether measures of business climate can reliably predict economic growth measured as per capita income. A lag period of 2 years was applied to all measures of business climate. The rationale for this selection was presented in the methods section.

With the exception of the data from the Tax Foundation, the findings in Table 4.3 suggest that any measure of business climate can reliably predict between 13% and 37% of the variation in the level of per capita income ($p<0.01$ or higher). While the additive effects of the development report card offers the greatest potential for predicting changes in per capita income, the variables in that additive model appear to be interacting as the variables have lost the significance (adjusted R-squared of 0.455, ($p<.001$)).

In their 2006 report the BHI claims that every 1.0 point rise in its index translates to a $416.80 increase in per capita income (R-Square of 0.84, ($p<.05$)) (Suffolk

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University, 2006). For the rankings published in 2008 they claim that same 1.0 point increase translates into a $1,546 increase in per capita income, yet the R-squared has dropped to 0.10. Finally, for that same year (2008), they claim that a 10 point increase in the overall ranking equates to a $1,130 increase in per capita income (Suffolk University, 2010). The outputs from the models produced by this investigation indicate that the BHI index has the capacity to explain 26.5% of the variation in the level of per capita income:

$$\text{EG \_PCI}_{(2005)} = 20812.463 + 2494.944\,(\text{BC\_BHI}_{(2003)}).$$

Since the BHI is quick to point out that their data represents a time lag of from 1 to 3 years we will take the liberty of using the output in step 1, Table 4.3 to test their estimates.

The BHI data indicates that in 2006 Maine was ranked 36th with an index of 4.33. In 2008 it climbed 10 points in the ranking to 26th and had a score of 4.70. By inserting the difference between these scores (0.370), into the model in Table 4.3 one anticipates an increase in real per capita income of $923. This value is slightly less than that predicted by the BHI. In fact, the most recent data suggests that over those years the income in ME increased $2,707. Across those same years a similar shift occurred in the ranking for the state of Alaska. In 2006 the BHI ranked Alaska 14th with a score of 5.75, and by 2008 it had slipped to 24th and had a score of 4.82. Inserting the difference in these scores into the equation developed here results in a loss in per capita income of $2,320. In point of fact, over that interval Alaska experienced an increase in per capita income of $5,141.

Clearly none of the models discussed in these examples offers the reliability expected from a good forecasting tool. Yet the estimates calculated by the models

developed in this study and those of the BHI produce errors that were surprisingly close to one another. For the state of Maine the BHI estimates a gain of $1,130. This represents an error of $1,577. The error of the estimate produced from the models developed from this investigation was $1,784. The difference between these two estimates is approximately 14%. In the example of Alaska the BHI error amounts to $6,271. The error produced from the models developed by this investigation is $7,461, a difference of 19%.

Once again, the explanatory power of the political climate variables developed for this investigation appears sensitive to the extremes in per capita income. The same appears to be true of the BHI index of competitiveness.

Economic Growth Measured as Gross State Product

This section highlights the ability of business climate and political climate to predict changes in the level of economic growth measured as the annual change in gross state product.

Table 4.4 Five Year Average, Gross State Product vs. Political Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	PC_I_RS	10	0.102*	-38.300*	16.363	9.286
2	PC_I_GEMP	10	0.139**	0.516**	0.186	4.248
3	PC_C_GPP	0	0.018	-0.036	0.039	8.266
4	PC_ I_RS	10	0.216**	-33.562*	15.559	7.822
	+ GEMP	10	(0.183)	0.470**	0.180	
5	PC_ I_RS	10		-33.132*	15.770	
	+ GEMP	10	0.218**	0.460	0.332	8.731
	+ GPP	0	(0.167)	-0.011	0.037	

*p<.05; ** p<.01; ***p<.001; n=50.

Economic growth: 5 year average gross state product vs. political climate.

The results in Table 4.4 highlight how the measures of political ideology interact to produce a small, but nonetheless significant influence over changes in economic growth defined as gross state product. An increase in the levels of taxation decreases the level of a state's GSP. Increasing the size of the public sector appears to have a positive influence on the value of the products produced by the state's economy (EG_GSP). The interplay between these two variables is shown in a hypothetical example developed from the equations in step 4 of Table 4.4:

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$$EG\_GSP = 7.822 - 33.562 \ (PC\_I\_RS) + 0.470 \ (PC\_I\_GEMP)$$

This model is directed at predicting economic growth measured as the value of economic output from a state. The model tests the scenario that over a 5 year time frame the state increases the tax burden by 1%. That move reduces the change in GSP by an average of 0.336%. This finding is consistent with those elements of the literature that associate a state's failure to attract and retain business to levels of taxation. A closer look at the equation derived in step 4 suggests that the negative influence from increasing taxes can be offset by increasing employment in the public sector. For example, if the average value assigned to the index of employment in the public sector were to increase 1.00, the loss of GSP, due to the hypothetical tax increase, could be offset by 0.470%. While the additive model appears significant ($p<.01$), it explains less than 20% of the variation in a state's GSP.

Finally, the outputs in Table 4.4 continue to demonstrate the value of using political ideology as a predictor of economic growth. The smaller correlation coefficients produced here (R-square = 0.139 ($p<.01$) suggest the measure of public sector employment is better suited to predicting changes in the level of economic growth measured as per capita income (EG_PCI), (R-Squared =23.1%, ($p<.001$)) than growth measured as gross state product. The fact that this variable surfaces as being significant in both models offers some hope that there is some utility to this variable. It should also be noted that in Table 4.1 the measure of growth is per capita income and the coefficient attached to the measure of government employment is negative. In Table 4.4 the measure of economic growth is defined as change in GSP and the coefficient attached to the measure of government employment is positive. This is to be expected. This finding

validates the value of the neoclassic economic models suggesting that economic growth

be measured two ways. Clearly each is measuring something different.

Table 4.5 Gross State Product in 2005 vs. Political Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	PC_I_RS	5	0.112*	-75.393*	30.665	14.407
2	PC_I_GEMP	10	0.187**	1.111**	0.334	4.319
3	PC_C_GPP	0	0.036	-0.104	0.078	15.117
4	PC_I_RS	5	0.304 ***	-76.867**	27.445	12.245
	+ GEMP	10	(0.274)	1.124***	0.312	
5	PC_I_RS	5	0.314***	-75.594**	27.578	16.851
	+ GEMP	10		1.081***	0.318	
	+ GPP	0	(0.269)	-0.057	0.069	

*p<.05; ** p<.01; ***p<.001; n=50.

Economic growth: gross state product in 2005 vs. political climate.

While the results from the tests made against the data collected in 2005 are similar

to those produced from the averaged data, there are a few noteworthy exceptions.

The outputs in step 4 highlight the combined influence of taxation (PS_I_RS)

and employment in the public sector (PC_I_GEMP). These two measures of ideology

produce an additive model that improves the explanatory power produced from either of

the individual measures. The additive model yields an adjusted R-square of 0.274 (p<.01).

A hypothetical example using the equation shown in step 4:

EG_GSP = 12.245 - 76.867 (PC_I_RS) + 1.1124 (PC_I_GEMP)

In this example we see how increasing the state and local tax burden by 1% translates

into 0.76% reduction in the level of economic growth measured as the GSP. As we

observed in the models constructed from the 5-year average data, increasing the level of

employment in the public sector by a 1.00 value of the index will offset the loss of

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growth created by a 1% increase in tax burden 1.1124-0.7687 = 0.3427. Examining the

ratio of the coefficients highlights the inflection point at which increasing the size of the

public sector fails to absorb the negative effect of increased taxation. This occurs at the

point where the level of taxation goes above 1.46%. These findings appear to contradict

the claims that a government's size is negatively correlated with levels of economic

growth. Alternatively, this finding appear to confirm Singleton and Griswold's (1999)

suggestion that we need to shift away from relying on measures of a bureaucracy's size to

determine if the policy environment fosters or stymies innovation, and instead begin to

adopt indicators that judge the quality of the institution. The nature of this contradiction

and its relationship to the finding from this investigation are reexamined in the summary.

Table 4.6 Gross State Product in 2005 vs. Business Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	BC_ BHI	2	0.004	NA	NA	NA
2	BC_TAXF	2	0.137**	1.087**	0.393	0.861
3	BC_DRC-C	2	0.017	NA	NA	NA
4	BC_DRC-P	2	0.084*	-0.053*	0.025	10.678
5	BC_ DRC_V	2	0.087*	-0.054*	0.026	10.792
6	BC_DRC_C +DRC_P + DRC_V	2	0.136*	0.052 -0.072* -0.069*	0.035 0.030 0.029	13.510

*p<.05; ** p<.01; ***p<.001; n=50.

Economic growth: gross state product in 2005 vs. business climate.

In earlier findings measures of business climate seemed well-suited to predicting level of economic growth measured as per capita income. The outputs in Table 4.6 make it clear that none of the business climate measures are suited to predicting changes in economic growth when it is measured as a change in the level of gross state product.

The goal of publishing an indicator of business climate is to suggest ways to change policy to attract and retain business. The prescriptions offered should be able to predict changes in the level growth measured as GSP. The measure of business climate best suited to predicting levels of growth in GSP is the one created by the Tax Foundation. It has an R-squared of 0.125 (p<.05). Yet that measure remains subordinate to the explanatory powers of a simple, objective determinant of a state's political climate (see step 4 Table 4.5; adjusted R-square = 0.274, (p<01)).

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Economic Development

This section highlights the ability of a state's business and political climate to predict changes in the level of economic development occurring within a state. Recall from the methods section that economic development is defined by a proxy that indexes the quality of life enjoyed by individuals within a state. An index value of 1.00 indicates a high quality of life. By contrast, a value of 4.00 suggests the presence of conditions that hamper the prospects for achieving a high quality of life.

Table 4.7 Five Year Average Economic Development vs. Political Climate

Step	Variable	Annual Lag	R-square (adjusted)	Coefficient	SE(coeff)	Constant
1	PC_I_RS	10	0.142**	-23.455	8..310	4.849
2	PC_I_GEMP	10	0.091*	0.217*	0.099	1.968
3	PC_C_GPP	0	0.001	NA	NA	NA
4	PC_ I_RS	10	0.209**	-21.565**	8.119	4.265
	+ GEMP	10	(0.176)	0.188*	0.094	
5	PC_ I_RS	10	0.231**	-22.375**	8.624	2.556
	+ GEMP	10	(0.181)	0.207*	0.100	
	+ GPP	0		0.022*	0.021	

*p<.05; ** p<.01; ***p<.001; n=50.

Economic development: 5 year average vs. political climate.

Table 4.7 highlights how a state's political climate influences its level of economic development.

When compared to the measures of economic growth, the first change noted is the change in the precedence relationship assigned to the individual variables. However, the results in Table 4.7 reaffirm the utility that can be attached to combining the indicators of political ideology, employment in the public sector, and levels of tax burden. They predict changes in the levels of per capita income (Table 4.1, step 2, adjusted R-square of 0.217, (p<0.001)), changes in gross state product (Table 4.4, step 4, adjusted R-square of 0.183, (p<.05)), and changes in development (Table 4.7, step 4, adjusted R-square of 0.176, (p<.05)), at or about the same level. Again, the consistency of these findings

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strengthens the case for adopting measures of political ideology as an indicator suited to predicting changes in the levels of economic development and economic growth.

The outputs in Table 4.7 highlight the presence of a positive relationship between measures of employment in the public sector (PC_I_GEMP), and levels of economic development within a state. When tested as a single variable this measure of political ideology only explains a modest amount of the variation in economic development (9.1% , (p<.05)). The additive models produce results that are roughly twice as strong: adjusted R-square of 0.176 (p<.01).

A hypothetical example is based on the equation in step 2:

$$ED\_QOL = 1.968 + 0.217 \, (PC\_I\_GEMP)$$

$$ED\_QOL = 1.968 + 0.217 \, (2.07)$$

$$ED\_QOL = 2.41$$

Inserting the average value of political ideology measured as level of employment in the public sector (PC_I_GEMP) lagged from the period 1990-1995 predicts a level of economic development consistent with the average observed over the period 2001 through 2005. While the model can only explain 9.1% of variation in these relationships, the coefficients assigned to this variable are consistent throughout the table and reinforce the presence of an inverse relationship between levels of employment in the public sector and the conditions that improve levels of economic development. Recall that a higher value in the (ED_QOL) index is a lower quality of life! Since lawmakers have control over the social programs that improve an individual's QOL, such as public safety, healthcare, and access to education, and since the call to improve these conditions is often used to justify increasing the size of government, these results appear antithetical. Yet the

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literature makes it clear that more government does not necessarily equate with better government. To that point, these findings seem to suggest that more government does not by default create a system capable of providing its citizens with a higher quality of life. In terms of the 17.6% of the variation in levels of economic growth explained by the additive model shown in step 4, less government elevates the quality of life for individuals.

As anticipated, the level of taxation also has an inverse relationship to levels of economic development. Again recall that the lower the index of economic development (measured as the composite index of quality of life), the higher the quality of life:

$$EG\_QOL = 4.840 - 23.455 \ (PS\_I\_RS)$$

Every 1% increase in the state and local tax burden increases the quality of life by 0.235 points. This equation only explains 14.2% of the variation in level of economic development, $(p<.01)$.

Table 4.8 Economic Development 2005 vs. Political Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	PC_I_RS	5	0.028	-10.378	8.901	3.524
2	PC_I_GEMP	10	0.041	0.175	0.100	2.089
3	PC_C_GPP	0	0.001	NA	NA	NA
4	PC_I_ RS	5	0.089	-10.610	8.706	3.183
	+ GEMP	10	(0.051)	0.177	0.099	
5	PC_I_ RS	5	0.095	-10.876	8.785	2.219
	+ GEMP	10		0.186	0.101	
	+ GPP	5	(0.036)	0.012	0.022	

*p<.05; ** p<.01; ***p<.001; n=50.

Economic development: 2005 vs. political climate.

The results in Table 4.8 suggest an inability to attach significance to the

explanatory power of these outputs. However, the signs on the coefficients presented both

here and in the previous analysis indicate that the presence of more government or higher

levels of taxation reduces the level of economic development within a state.

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Table 4.9 Economic Development 2005 vs. Business Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	BC_ BHI	2	0.457***	-0.490***	0.077	4.901
2	BC_TAXF	2	0.000	NA	NA	NA
3	BC_DRC-C	2	0.287***	-0.028***	0.006	4.584
4	BC_DRC-P	2	0.498***	-0.036***	0.005	5.197
5	BC- DRC_V	2	0.011	NA	NA	NA
6	BC-DRC_C +DRC_P + DRC_V	2	0.532*** (0.502)	-0.013 -0.029*** 0.005	0.007 0.006 0.006	2.519

*p<.05; ** p<.01; ***p<.001; n=50.

Economic development: 2005 vs. business climate.

The results in Table 4.9 highlight how measures of business climate vary in their ability to predict changes in the level of economic development. For example, the BHI index is a much better indication of changes in the levels of economic development (R-squared of 0.457, (p<.001)) than it is an indicator of change in either growth measured as per capita income (R-squared of 0.265, p<.001, Table 4.3, step 1) or growth in gross state product (R-squared of 0.004, p=NA, Table 4.6, step 1). Similar variations are seen in the way the development report card's measure of performance (BC_DRC_P), predicts change over these variables. A closer examination of these relationships reveals that the variables used to create the series of DRC indices have similarities to those used to create our QOL index. This may explain its strength to predict our measure of economic development: it is measuring the same thing.

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The variability around what each of these business climate indices appears to be measuring was expected. Fisher, (2005) based his critique of these indices on the suggestion that they incorporate measures that are themselves indicators of growth or are measuring the results of growth.

Recall earlier that we hypothesized that an accurate prediction of growth requires indicators that can measure the changes that occur on each side of the Schumpeterian cycle of growth. Any model designed to predict growth must capture the quantitative improvements in an economy and the qualitative improvements that define changes in the quality of life. To the extent that Fisher considers the treatment of these qualitative measures as outcomes of growth, he is correct. The inability of the published index to differentiate between these two measures is witnessed by the way they vary in their ability to predict the outcomes. The results in Table 4.9 confirm the assumption tendered at the outset of this study that some indices are better indicators of growth while others are better indicators of development.

Controlling for Economic Development

One of the most compelling arguments used to counter policies of growth are those that suggest the negative impact that such policies will have on the QOL enjoyed by the majority of citizens. This investigation develops a simple model that puts that argument to the test.

Models are created to determine how the level of economic development in a state affects the ability of business and political climates to indicate changes in levels of growth and development. The real question is whether the initial conditions that define the presence or absence of economic development dilute or reinforce the ability of

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political climate or business climate to predict changes in the levels of growth. Based on the literature the expectation is that states will respond differently.

For this round of tests states are divided into two groups. Those states ranked in the top decile for levels of economic development include Connecticut, Minnesota, Washington, New Hampshire, Colorado, Iowa, New Jersey, Hawaii, Wyoming and Nebraska. States ranked in the bottom decile include Oklahoma, Kentucky, Arkansas, West Virginia, New Mexico, Tennessee, Mississippi, Alabama, South Carolina and Louisiana. The details associated with this exercise are provided in the section on methods.

Table 4.10 Top 10 States, Per Capita Income vs. Political Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	PC_I_RS	5	0.003	-20122.603	137520.862	39680.469
2	PC_I_GEMP	5	0.077	-1520.391	1855.788	40454.043
3	PC_C_GPP	0	0.075	-244.900	304.570	57337.675
4	PC_I_ RS	5	0.077	-2753.411	143264.151	40731.652
	+ GEMP	10	(0.000)	-1514.174	2010.062	
5	PC_I_ RS	5	0.163	43236.848	158685.976	58902.640
	+ GEMP	5		-1622.110	2072.721	
	+ GPP	0	(0.000).	-281.831	360.125	

*p<.05; ** p<.01; ***p<.001; n=10.

Economic growth: per capita income vs. political climate, top 10 states.

These findings indicate that where the level of economic development is already high the variables used to define a state's political climate prove to be unreliable indicators of changes in per capita income.

Table 4.11 Bottom 10 States, Per Capita Income vs. Political Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	PC_I_RS	5	0.574**	-191960.283**	58520.740	47169.925
2	PC_I_GEMP	5	0.532*	-1379.440*	457.499	31780.477
3	PC_C_GPP	0	0.076	-121.115	149.477	37445.083
4	PC_I_ RS	5	0.644*	-122198.633	82539.499	42217.238
	+ GEMP	5	(0.542)	-722.037	615.908	
5	PC_I_ RS	5	0.669	-92506.763	96151.560	46035.478
	+ GEMP	5		-890.504	686.110	
	+ GPP	0	(0.540)	-79.309	115.648	

*p<.05; ** p<.01; ***p<.001; n=10.

Economic growth: per capita income vs. political climate, bottom 10 states.

Comparing the findings in Table 4.11 with those in Table 4.10 indicates the wide

swings in the predictive power of each variable. These variations are in response to the

level of economic development enjoyed by a state.

Table 4.11 exposes some significant differences in the capacity of the models to predict

growth in per capita income. Table 4.10 demonstrates how a high quality of life mutes

the power of political climate to predict changes in the level of economic growth. In

states where the level of QOL is low, these same variables play a significant role in

predicting a change in economic growth. Increasing levels of taxation in low QOL states

decreases per capita earnings in a far more dramatic way than in states where the QOL is

high. In states with a low QOL every 1% change in the level of state or local tax

decreases per capita earnings by approx $2,000 (R-squared = 0.574. (p<.01)).

Based on this model, the 2005 per capita income in the state of Louisiana is predicted to be $27,013. The actual value was $24,664, an error of approximately 10%.

$$EG\_PCI = 47,169 - (191960 *0.105) = \$27,013.$$

Note, in 2000 the tax burden for this group of states ranged from 8.3% to 11.1%

Table 4.12 Top 10 States, Per Capita Income vs. Business Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	BC_ BHI	2	0.024	NA	NA	NA
2	BC_TAXF	2	0.000	NA	NA	NA
3	BC_DRC-C	2	0.139	117.533	103.458	27774.842
4	BC_DRC-P	2	0.208	214.768	148.248	19181.197
5	BC- DRC_V	2	0.278	136.399	77.761	27117.154
6	BC-DRC_C +DRC_P +DRC_V	2	0.312 (0.000)	-21.216 111.200 112.870	156.232 202.397 132.785	21168.002

*p<.05; ** p<.01; ***p<.001; n=10.

Economic growth: per capita income vs. business climate, top 10 states.

In states with a high level of QOL the measures of a state's business climate are unable to reliably predict change in the level of economic growth measured as per capita income.

Table 4.13 Bottom 10 States, Per Capita Income vs. Business Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	BC_ BHI	2	0.433*	2287.033*	925.632	18901.839
2	BC_TAXF	2	0.243	1637.756	1022.795	19540.224
3	BC_DRC-C	2	0.056	NA	NA	NA
4	BC_DRC-P	2	0.250	114.000	69.816	20940.100
5	BC- DRC_V	2	0.036	NA	NA	NA
6	BC-DRC_C +DRC_P + DRC_V	2	0.273 (0.000)	21.863 101.773 25.325	95.651 88.369 60.495	18558.103

*p<.05; ** p<.01; ***p<.001; n=10.

Economic growth: per capita income vs. business climate, bottom 10 states.

Clearly a pattern is beginning to emerge. There is reason to begin questioning the value of using business climate indices to predict economic outcomes. From the results presented thus far it appears that measures of business climate have the capacity to predict changes in levels of per capita earnings in states that exhibit low levels of economic development. A quick comparison of the results presented in Table 4.13 and those in Table 4.11 reveals how the measure of political ideology that gauges levels of taxation (PC_I_RS) is the best predictor of growth in states when the level of development is low (R-squared = 0.574, p<.01). From Table 4.13 one can see that from within the cadre of business climate measures the best predictor of growth when levels of development are low is the BHI (R-squared = 0.433. (p<.05)), but that is still subordinate to the measure of political ideology.

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Table 4.14 Top 10 States, Gross State Product vs. Political Climate

Step	Variable	AnnualLag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	PC_I_RS	5	0.010	-23.709	84.744	9.259
2	PC_I_GEMP	10	0.529*	2.459*	0.820	2.095
3	PC_C_GPP	0	0.190	-0.241	0.176	26.272
4	PC_I_RS	5	0.577*	-53.294	59.986	7.469
	+ GEMP	10	(0.456)	2.579*	0.842	
5	PC_I_RS	5	0.721*	-16.348	56.625	22.066
	+ GEMP	10	(0.582)	2.492*	0.740	
	+ GPP	5		-0.226	0.129	

*p<.05; ** p<.01; ***p<.001; n=10.

Economic growth: gross state product vs. political climate, top 10 states.

When the level of economic development in the state is high, its political ideology, defined as the level of employment in the public sector, is a reliable predictor of changes in its GSP. Overall, this measure of ideology is a better predictor of change in GSP when the quality of life is high (R-square = 0.529. (p<.05)) than it is of the states considered in aggregate (R-square of 0.18,(p<.01), Table 4.5)).

The positive sign attached to the coefficients in both models indicates that a higher ratio of employment in the public sector yields higher GSP. Recall that the lower the index of employment the lower the relative percent of the work force employed in public sector. Note the results presented here are the opposite of those observed when growth measured as change in per capita income. There the relationship of increasing levels of employment is reversed. The influence of this variable is highest in low performing states (see Table 4.11 steps 2 and 4).

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The equation from the results in Table 4.14:

$$EG\_GSP = 2.095 + 2.459 \, (PC\_I\_GEMP)$$

While Table 4.14 suggests that the additive effects of political ideology coalesce to produce a model with higher R-squared values (adjusted R-square of 0.582, p<.05) the small sample size, (N=10), is a signal cautioning against assigning too much significance to the combined effect of these variables.

Finally, while the output is not deemed statistically significant, it is worth noting that this is the first time that the R-squared associated with the capacity to manage (PC_C_GPP) has been elevated into the double digits.

Table 4.15 Bottom 10 States, Gross State Product vs. Political Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	PC_I_RS	5	0.100	82.614	87.447	-1.453
2	PC_I_GEMP	10	0.205	0.920	0.640	4.133
3	PC_C_GPP	0	0.059	-0.103	0.147	15.300
4	PC_I_RS	5	0.205	-3.795	125.794	4.453
	+ GEMP	10	(0.000)	0.941	0.980	
5	PC_I_RS	5	0.212	-21.791	155.107	2.367
	+ GEMP	10	(0.000)	1.055	1.158	
	+ GPP	0		0.045	0.188	

*p<.05; ** p<.01; ***p<.001; n=10.

Economic growth: gross state product vs. political climate, bottom 10 states.

The findings presented in the prior tables demonstrate how the measure of employment in the public sector has a far more dramatic impact on the prediction of GSP where the level of QOL is high. As noted from Table 4.14, the measure of employment in the public sector explains more than 50% of the variation in the growth of GSP in these high performing states. The significance of this finding is consistent with those in the literature. These models simply state that in states where the level of QOL is high, increasing the ratio of employment in the public sector increases GSP. The piece missing from this puzzle is an appreciation of the starting point for these determinations, or what some prefer to call the initial conditions. When compared to states with low levels of economic development, the states exhibiting high levels of economic development already have a lower ratio of employment in the public sector. This might suggest that an

incremental improvement in staffing yields a benefit in states where the levels of

development are already high. This matter is the discussed in detail in the summary.

Table 4.16 Top 10 States, Gross State Product vs. Business Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	BC_BHI	2	0.048	NA	NA	NA
2	BC_TAXF	2	0.205	1.238	0.861	0.181
3	BC_DRC-C	2	0.081	NA	NA	NA
4	BC_DRC-P	2	0.046	NA	NA	NA
5	BC- DRC_V	2	0.105	-0.047	0.049	10.498
6	BC-DRC_C +DRC_P + DRC_V	2	0.462 (0.193)	0.071 -0.029 -0.133	0.085 0.111 0.073	13.539

*p<.05; ** p<.01; ***p<.001; n=10.

Economic growth: gross state product vs. business climate, top 10 states.

The findings in Table 4.16 are consistent with the results in Table 4.6. There the business climate ranking produced by the Tax Foundation predicted 12.5% of the change in the level of GSP. In this table the Tax Foundation's measure of business climate is the only variable able to predict change in the gross state product when the conditions of economic development are high. However the output did not satisfy the criteria: (p<.05). It is not until one realizes that the states with the highest levels of development also exhibit high levels of economic growth, measured both as per capita income and as gross state product, and that these same states have some of the highest levels of taxation, that such findings might be mistaken as counter intuitive.

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Table 4.17 Bottom 10 States, Gross State Product vs. Business Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	BC_ BHI	2	0.025	NA	NA	NA
2	BC_TAXF	2	0.000	NA	NA	NA
3	BC_DRC-C	2	0.085	0.073	0.085	2.391
4	BC_DRC-P	2	0.015	NA	NA	NA
5	BC- DRC_V	2	0.035	NA	NA	NA
6	BC-DRC_C +DRC_P + DRC_V	2	0.158 (0.000)	0.095 -0.061 -0.015	0.106 0.098 0.067	5.746

*p<.05; ** p<.01; ***p<.001; n=10.

Economic growth: gross state product vs. business climate, bottom 10 states.

In contrast to the conclusions drawn from the results presented in Table 4.13, which established a viable role for using measures of business climate to predict changes in the level of per capita income in the low-performing states, no such claim can be made as to their utility for predicting changes in the GSP within those same states. A comparison of the results between these tables highlights the difficulty in defining the utility of these measures: are they to be used to predict changes in the level of per capita income, or change the GSP? Are they to be used to shape policy in a state with a high level of economic development, or one in which the level of QOL is hampering chances of growth?

Table 4.18 Top 10 States Economic Development vs. Political Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	PC_I_RS	5	0.077	7.657	9.358	0.820
2	PC_I_GEMP	10	0.026	NA	NA	NA
3	PC_C_GPP	0	0.160	-0.027	0.022	3.867
4	PC_I_RS	5	0.112	8.500	9.941	0.871
	+ GEMP	10	(0.000)	-0.074	0.139	
5	PC_I_RS	5	0.115	7.923	11.542	0.643
	+ GEMP	10		-0.072	0.151	
	+ GPP	5	(0.000)	0.004	0.026	

*p<.05; ** p<.01; ***p<.001; n=10.

Economic development 2005 vs. political climate, top 10 states.

The analysis in Table 4.18 defines whether the measures of political climate can exhibit a synergistic influence over the level of economic development in states where the level of development is inherently high. Indications are that the models developed for this investigation have failed to capture the forces responsible for enhancing the conditions of development when the levels are already high. One explanation worthy of exploration (and one that is touched upon in the literature) is whether high-performing states already possess the political capacity to foster economic development. If this were found to be the case then it would be logical to expect to find that these state have already created ways to monitor and manage the Schumpeterian cycles of creative destruction. Finally, if the theoretical literature is correct, these same states would also have devised sophisticated checks and balances that mute the influence that a change in the political climate might have over the prevailing level of development.

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Table 4.19 Bottom 10 States Economic Development vs. Political Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	PC_I_RS	5	0.002	NA	NA	NA
2	PC_I_GEMP	10	0.085	NA	NA	NA
3	PC_C_GPP	0	0.002	NA	NA	NA
4	PC_I_ RS	5	0.140	-14.888	22.132	4.430
	+ GEMP	10	(0.000)	0.183	0.172	
5	PC_I_ RS	5	0.183	-22.225	26.726	3.579
	+ GEMP	10	(0.000)	0.229	0.199	
	+ GPP	5		0.018	0.032	

*p<.05; ** p<.01; ***p<.001; n=10.

Economic development 2005 vs. political climate, bottom 10 states.

As was seen in Table 4.8, political ideology is a poor predictor of changes in economic development. This condition is reflected again in Table 4.19, where the ability to predict changes in the level of economic development in states when the QOL is low is nonexistent. The explanation, as to why these models failed to show how changes in the political ideology of a state might influence levels of economic development when the level of development is already low, is complex. However, the answer is revealed, at least in part, by the finding that the majority of states exhibiting low levels of economic development have state governments that are, by comparison, larger in size. One gets the sense from the literature that, as the level of employment in the public sector increases, citizens begin to view the function of government as excessive. It is quite plausible that as this size of government continues to expand it reaches a tipping point and causes an opening in one of Kingdon's (1984) policy windows. If this is what is taking place then it

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is also reasonable to postulate that when citizens become aware that the ratio of employment in the public sector is above a benchmark, say the national average, they may judge themselves possessing governments deemed excessive, and begin to seek remedies that temper any further expansion.

Table 4.20 Top 10 States Economic Development vs. Business Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	BC_ BHI	2	0.233	-0.206	0.107	2.770
2	BC_TAXF	2	0.036	NA	NA	NA
3	BC_DRC-C	2	0.046	NA	NA	NA
4	BC_DRC-P	2	0.517*	0.024*	0.008	3.676
5	BC- DRC_V	2	0.058	NA	NA	NA
6	BC-DRC_C +DRC_P + DRC_V	2	0.615 (0.422)	0.001 -0.032* 0.006	0.008 0.011 0.007	3.752

*p<.05; ** p<.01; ***p<.001; n=10.

Economic development 2005 vs. business climate, top 10 states.

The index of performance, DRC_P, published by CFED is the only variable expressing an ability to predict changes in the level of economic development in top-performing states. While this appears encouraging, a probe into the components that CFED uses to construct this index reveals that it shares several of the measures this investigation adopts to define conditions of economic development. Somewhere nested in this index is the problem of intervening variables. The index is comprised of over 60 variables so we are unable to selectively sort and delete measures. While the utility of this measure remains in question, for purposes of consistency, the remainder of this investigation will continue to analyze the value of using (BC_DRC_P) to predict changes in the level of economic development.

Table 4.21 Bottom 10 States Economic Development vs. Business Climate

Step	Variable	Annual Lag	R-square (Adjusted)	Coefficient	SE(Coeff)	Constant
1	BC_ BHI	2	0.089	0.181	0.204	2.774
2	BC_TAXF	2	0.104	0.187	0.194	2.536
3	BC_DRC-C	2	0.140	0.016	0.014	2.497
4	BC_DRC-P	2	0.028	NA	NA	NA
5	BC- DRC_V	2	0.001	NA	NA	NA
6	BC-DRC_C +DRC_P + DRC_V	2	0.141 (0.000)	0.016 0.001 0.001	0.018 0.017 0.011	2.385

*p<.05; ** p<.01; ***p<.001; n=10.

Economic development 2005 vs. business climate, bottom 10 states.

In states where the level of economic development is already low, the measures of business climate failed to produce a variable that could reliably predict changes in the level of economic development. The deterioration in ability of (BC_DRC_P) to predict change in states with low levels of development helps legitimize the earlier decision to disregard further consideration of this measure.

Summary: The Role of Business and Political Climate in Predicting Economic Growth and Development

This discussion summarizes the findings and places them into the context of the two questions posed by this investigation:

1. Can an indicator of a state's political climate, defined by measures of its political ideology and its capacity to manage, improve our ability to predict future growth and development?

2. Does the index of a state's business climate correlate with changes in either economic growth or development?

Table 4.22 provides a simplified method for interpreting these findings. Graphical symbols are used to summarize, at a glance, how well each variable predicts changes in each measure of the dependent variable. This table highlights how the individual and additive measures of political climate (PC_) and business climate (BC_) vary in their ability to predict changes in levels of economic growth in per capita income (EG_PCI), changes in economic growth measured as gross state product (EG_GSP), and changes in the level of economic development defined by the quality of life index (ED_QOL). The table gauges the explanatory power of each variable to predict the value of each dependent variable as either the five year average, or as the value assessed in the year 2005. Table 4.22 also provides a glimpse of how the predictive power of the explanatory variables is influenced by the presence of economic development. The table highlights the ability of these variables to predict levels of economic growth and development when the level of economic development is high, top performing states, and when it is low, bottom performing states.

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While the qualitative definitions of poor, fair, good or very good are arbitrary, the range assigned to each symbol is found by dividing the range of the R-square results presented in Tables 4.1 through 4.21 into quartiles. The R-square values used to create this table ranged from 0.091 to 0.582. All values receiving a rating above 'poor' possessed an R-squared value with significance at or above ($p<.05$). A few of the relationship rated 'poor' may not have satisfied that criterion.

Table 4.22 Relative Performance of Political Climate and Business Climate to Predict
Changes in Economic Growth and Economic Development

Variable	Economic Growth as Gross State Product EG_GSP	EG_GSP Top 10	EG_GSP Bottom 10	Economic Growth as Per Capita Income EG_PCI	EG_PCI Top 10	EG_PCI Bottom 10	Economic Development as Quality of life ED_QOL	ED_QOL Top 10	ED_QOL Bottom 10
PC_I_RS	●	●	●	●	●	⊙	●	●	●
PC_I_GEMP	◉	⊙	●	◉	●	⊙	●	●	●
PC_C_GPP	●	●	●	●	●	●	●	●	●
PC_RS +_GEMP	◉	⊙	●	◉	●	⊙	●	●	●
PC_RS +_GEMP +_GPP	◉	⊙	●	◉	●	●	●	●	●
BC_BHI	●	●	●	◉	●	○	⊙	●	●
BC_TAXF	●	●	●	●	●	●	●	●	●
BC_DRC_C	●	●	●	○	●	●	◉	●	●
BC_DRC_P	●	●	●	○	●	●	⊙	⊙	●
BC_DRC_V	●	●	●	●	●	●	●	●	●
BC_DRC_C +_DRC_P +_DRC_V	●	●	●	⊙	●	●	⊙	●	●

⊙= Very Good, R-square values ≥ 0.451   O = Good, R sq values from 0.301- 0.450

O = Fair, R sq values from 0.151- 0.300   ● = Poor, R sq values ≤ 0.150

Note: values greater than 'poor' have (p<.05); R-square values at this significance ranged
from 0.091 to 0.582

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The interpretations of the results presented in Table 4.22 are fairly straightforward. As previously discussed, there are indications of spurious correlations between the measure of (BC_DRC_P), a measure of economic performance, and the measures used to create the composite QOL index used by this investigation. The influence of this value is depicted in the shaded regions of the table. Results in the shaded areas will not be discussed in the context of these findings.

In terms of answering the questions posed by this investigation:

- <u>Does the index of a state's business climate correlate with improvements in either economic growth or development?</u>

The ability of a business climate indicator to predict levels of economic growth or development was sporadic. Only two of the five tested in this investigation would seem be able to answer this question in the affirmative.

The BHI, a measure of a state's business climate, is able to measure aggregated changes in the economic development across the states (R-squared ≥ 0.451). It also demonstrates the capacity to predict changes in growth when the growth is measured as per capita income (R-squared range from 0.151- 0.300). The BHI is unable to assess changes in GSP.

Like the BHI, the measure of business climate defined by the DRC as capacity of the state to accommodate growth, (BC_DRC_C) is also able to predict levels of economic development and changes in economic growth expressed as per capita income. This index of capacity does a slightly better job than the BHI at predicting economic growth measured as per capita income, and is a bit weaker than the BHI at predicting changes in the levels of economic development.   The ability of the Tax Foundations ranking to

predict changes in the levels of economic growth was limited to the incidents where growth was defined as the change in GSP in the states with a high level of economic development or when growth was defined as per capita income and the state exhibited a low level of economic development.

- <u>Can an indicator of a state's political climate, defined by measures of its political ideology and its capacity to manage improve our ability to predict future growth and development?</u>

There are some surprises here as well. The much-touted relationship that suggests a political ideology of high taxation (PC_I_RS) inhibits levels of economic growth did not dominate these findings. Table 4.5, step 1 shows how, on an individual basis this indicator has the capacity to explain 11% of the variation in economic growth measured as GSP (R-squared= 0.112, (p<.05)). The influence of taxation is only expressed when it is combined with the other measure of political ideology (employment in the public sector). Table 4.5 , step 4 shows how the additive effect of these two measures predicts changes in the level of economic growth measured as changes in the state's GSP (adjusted R-square = 0.274, (p<.01)). When the measure of growth is per capita income, the combined affect is less pronounced (Table 4.2, step 4, adjusted R-square = 0.167 (p<.01)).

It is clear from these results that the levels of taxation are poor indicators of economic growth or economic development. The only time the level of taxation came into the picture was when the growth is measured as the level of per capita income. That influence is restricted to the states where the level of economic development is low. While the sample size was low (n=10) indicators are that a 1% increase in taxation

decreases earnings in those states by approximately $2,000 (Table 4.11. R-squared = 0.574, (p<.01)).

Equally surprising, the political climate variable used to gauge a state's capacity to manage its affairs (PC_C_GPP) failed to demonstrate a capability to predict levels of growth or development.

The overwhelming winner from these iterations was the political climate variable that defined ideology as the ratio of individuals employed in the public sector of a state. As seen in Table 4.22, this measure of a states' political ideology was able to predict changes in the level of GSP across all states, GSP across the top 10 states, and it demonstrated the capacity to predict changes in the levels of growth as per capita income across all states and within the bottom 10. As was the case with the other measures of a state's political climate, this measure of political ideology could not reliably predict changes in the level of economic development.

It is worth noting that in cases where the measure of economic growth was per capita income, the value of the coefficient attached to the political ideology (PC_I_GEMP) was negative. However, recall that this measure is an index. The lower the value the more favorable the conditions are to economic growth. Therefore an increase in employment index increased its negative effect on growth. In the outputs where growth was defined by GSP the coefficient remained positive. This suggests that increasing levels of employment in the public sector increases the value of economic output from the state. In states where the level of economic development was high, increasing the size of government was a very attractive strategy (Table 4.14, step 2, R-square= 0.529, (p<.05)). However, the states with high levels of economic development have ratios of

employment in the public sector that is below the average for the data set. This conundrum will be explored in the final chapter.

- When compared to a measure of business climate how well do these simple indicators of political climate stack up?

How do they compare in terms of defining economic growth as a change in gross state product?

In the category of predicting levels of economic growth as gross state product, Table 4.22 clearly indicates that measure of a state's political ideology, defined as the ratio of public sector employees in a state (PC_I_GEMP), outperforms any of the other measures tested. The favorable predictions seen in the additive models can be attributed to the contribution of this variable. The only business climate measure able to predict levels of growth as gross state product was the ranking from the Tax Foundation. Yet that variable was only successful at defining changes in the GSP of states where the level of economic development was high (Table 4.16, step 2. R-squared = 0.474, (p<.05)). None of the variables selected by this investigation are able to predict change in the level of GSP for bottom-performing states.

How do they compare in terms of defining economic growth as a change in per capita income?

This same measure of political ideology (PC_I_GEMP) does a credible job of predicting changes in growth measured as per capita income (Table 4.1, step 2. R-square = 0.231, (p<.001)). Three out of the five measures of business climate, (BC_BHI), (BC_DRC_C), and (BC_DRC_ P), as well as the additive model from all the DRC indices, demonstrate explanatory powers for predicting growth as per capita income that

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were at or above the level achieved with political ideology (PC_I_GEMP). Unlike the earlier test in which the models failed to predict changes in the level of performance for GSP in bottom performing states, here the variables are unable to predict changes in economic growth as per capita income in the top-performing states. In terms of predicting change in economic growth occurring in the bottom-performing states the measures of political ideology were rated 'very good'.

How do they compare in terms of defining economic development?

As seen in Table 4.22 all of the tests used to define the capacity of a state's political climate to predict changes in the level of economic development failed. The DRC's measure of capacity (_C) and the BHI index of business climate were the only two measures of business climate suited to predicting changes in economic development. By far the best indicator for predicting levels of economic development is the BHI index; however, this same variable only rated fair in its ability to predict changes in economic growth measured as per capita income and was poor in predicting economic growth as changes in a state's GSP.

What measure should we use?

A quick and easy way to assess these values is to assign each level of performance a numeric value. This can be accomplished by assigning a "1" to a level of performance judged fair, a "2" to performance judged good and a "3" to performance level judged very good. Under that scoring system, the state's political ideology defined by its level of public sector employment (PC_I _GEMP) scores the highest, receiving a total of 8 points. The BHI and the Tax Foundation each receive a score of 6 and thus are in a tie for second.

When compared to the complex nature of the index used to define a state's business climate, the measure of state's political ideology, defined as the level of employment in the public sector, has greater explanatory power than any of the other variables tested. The attraction of this measure resides in its simplicity: it is easy to define, it exhibits the capacity to measure changes in economic growth occurring at both the macro level of the economy and the micro-level of the individual, it is easy to benchmark and it is well within auspices of lawmakers to control. Further refinements of these first pass models are warranted. The last section of this study ties these findings to the literature and suggests areas of further investigation.

CHAPTER 5: CONCLUSION AND AREA OF FUTURE RESEARCH

This investigation determined whether the measures of a state's business climate or its political climate can predict changes in the levels of economic growth and economic development occurring in the American states. These findings also test, in a small and measured way, whether Schumpeter's (1934) theory on the role that governments play in spawning growth can be applied to the economies of the American states.

The following section should be viewed as a companion to the summary section that was provided at the end of the previous chapter. Rather than elaborating on the outputs from the analytical models, this section focuses on connecting the findings from this investigation to the theory and academic literature that integrates subjects of economic growth, economic development and politics.

Business Climate as an Indicator of Economic Growth and Development

Fisher's (2005) investigations into the utility offered by business climate indices hinted at some of the shortfalls attached to these measures. Apart from their value as a marketing tool suited to helping promote the benefits of locating a business to a specific state, the publicized measures of a state's business climate offer little additional value to policy makers and politicians. The findings that these indices lack the ability to predict change in the levels of economic growth or economic development validates Fisher's (2005) concern over using these indices as benchmarks to justify changes in economic or even social policy. While the literature hints at this lack of utility, the outputs from this investigation provide, perhaps for the first time, a quantifiable basis for rejecting these indices as benchmarks for altering policies of growth or development.

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As presented in the previous chapter, the political ideology of a state, measured as its level of taxation, is also a poor indicator of changes in the level of economic growth occurring within the state. Recall that many of the business climate indices publish their findings from an ideological bias that positions lowering taxes and decreasing the size of governments as the prescription for increasing levels of growth. The finding that the level of state and local tax burden fails to indicate levels of economic growth erodes the ideological underpinning of many of these published reports. A key conclusion to be drawn from this investigation is that a policy prescription of lowering taxes and decreasing the size of government is not a universal cure for improving the conditions of economic growth.

The findings from this study help expose a few of the reasons that business climate indices fail to predict changes in the levels of economic growth or development within a state: several of the variables used to create the index are designed to measure changes in economic growth; others are designed to measure changes in the levels of economic development. As pointed out by Vaughn and Bearse (1981) economic growth and economic development are related but they should not be considered the same thing.

While the measures of business climate may have utility in other areas, their weakness in terms of predicting changes in economic growth or development can be traced back to how the variables are collected and how they are incorporated into these indices. The expansion of the indices of business climate into such complex structures speaks to the way these indices have embraced Blakely and Bradshaw's (2002) expanded definition of what defines growth. However, they seem to have failed to consider how to design an index that: (a) segregates the causes of economic development or the cause of

economic growth from the effects of either condition, and (b) differentiates between the way economic forces and non-economic forces, or political forces, contribute to growth and development. In a sense, the findings from this investigation can simply be thought of as a way to get the topic of growth and development grounded. It bring us back to the basics of understanding how to define and measure growth separate from development and how to define and measure economic factors separate from non-economic influences.

Political Climate as an Indicator of Economic Growth and Development

Understanding how a state's political climate influences its prospects for economic growth or development is best examined from within the context of how Schumpeter (1934) views incidences of growth. While most of the investigators that have analyzed Schumpeter's work put him into the category of a laissez-faire economist, his suggestion that governments play a legitimate, albeit limited role in enhancing the prospects for economic growth exposes a chink in that armor. Schumpeter (1934) proposes that growth is optimal when governments limit their intervention in markets and only focus on policies that preserve, protect, or restore the quality of life enjoyed by society. The policy actions that Schumpeter considers to be a legitimate role of government parallel the measures of QOL this investigation uses to gauge the level of economic development in a state.

Schumpeter never tested whether the benefits emanating from a cycle of creative destruction were impacted by the political ideology of government. A glimpse into how these interactions occur at the state level is revealed in the findings of this investigation. As noted earlier, the findings from this investigation suggest that variations in measures that define a state government's political climate as excessive (Lowery and Berry, 1983)

measured here as a percent of personal income consumed by state and local taxes, actually has very little impact on the state's propensity to grow or on its ability to improve the quality of life. Quite the opposite is true. States with high levels of taxation enjoy the highest levels of economic growth and have the best QOL. However, when the continuum from responsive government to excessive government is gauged from an ideology of government size we find states with smaller governments enjoying higher levels of economic growth and economic development (QOL).

This seems to be telling us that the definition of what constitutes measures of responsive and excessive needs to be refined. It is difficult to justify how you would judge a state excessive because of high taxes and responsive because of its smaller government. The fact that many past investigations have made these determinations based on subjective measures of responsiveness, political factors with high temporal character (party control, interparty competition), appears to be one of the reasons the literature continues to wrestle with how such measures might be affecting the scale of government spending or the rate of its growth. Of course, measures of size and spending are used throughout the literature to gauge governments along the continuum of being either responsive or excessive (Kapeluck, 2001).

It is because most governments tend to intervene with markets in limited ways that the forces of markets, not governments are credited with driving the cycles of innovation: creation followed by destruction. As these cycles work to cleanse the market of its least efficient producers, they spawn a rebirth in the economy. The end result is an increase in the levels of economic growth and the overall quality of life. In market based economies these cycles of stabilization and destabilization tend to be short lived. Since

market failures are rarely synchronized across all segments of an economy the impact

that a single market failure has on society is usually quite small. In what we might call

this 'normal mode' , the process leading to attrition creates an economic structure that is

more agile; it moves faster, it has a greater capacity to adapt and rebound, and it can be

sustained at a higher plateau for a longer period of time. However, the claim that

capitalistic systems can reconstruct and create growth without intervention seems dubious.

While markets can leverage innovation to reorganize production functions they do

little to mitigate the social impact that occurs during a period of market destruction (Daly,

1994, Milbrath, 1989). During periods of market correction there are aspects associated

with a government's intervention that need to be better understood. This would include

understanding the impact that various levels of intervention might have over the

prospects for restoring a QOL. Likewise, it would be critical to forecast the impact

coming from different types of intervention. Of course, the idea of timing is equally

important: is intervention defined by a trigger point or is it one of continual vigilance?

For example, if the *level* of intervention is too high the markets will be buoyed by an

artificial sense of calm. Inefficient producers will be shielded from the fall-out,

innovation will have been curtailed and in its wake, growth will have been slowed. If the

type of intervention is not correct, say by offering broad-based financial incentives rather

than focusing on expanding education, then the vector of economic prosperity will not

have been changed. Finally, if the *timing* is wrong, here the competing scenarios of *too

little too late*, or *more help than needed* both come to mind, then the evolutionary

character that Schumpeter ascribes to economic change will be interrupted. In an attempt

to identify the impact that the first element in this chain of events, the level of

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intervention, might have on growth, this investigation highlights the value that a measure of political ideology has to predict changes in the levels of growth. It also shows how the influence of political climate varies between states that exhibit an inherently high level of economic development and those with low levels of economic development (defined by the proxy QOL). These tests were developed as a way to glean a bit of information about how the measure of political climate might be touching on Schumpeter's cycles.

The results of this study seem to be echoing Howland's (1993) concerns over what happens to the prosperity of a region when the policies of growth are based on a misapplication of neoclassical economic theory. Certainly states such as Iowa would fit Howland's definition of an economy where the economic output is derived from a fairly simple, market-based system. Under those conditions she finds the market-based systems more rigid and less able to conform to the rule of resiliency as it is stipulated in neoclassical economic theory. This may explain why states that exhibit some of those same economic characteristics (small economies), may, from time to time, need to replace the normal course of growth as it would have otherwise been dictated by free market processes, creation and destruction, with a level of intervention that is defined by the political forces. These forces are those of the political culture that are embodied in the work by Elazar (1984) and are operationally defined in this study as measures of political climate: ideology and capacity to manage. This may offer a partial explanation for the finding that as the size of state government increases it continues to have a negative impact on economic growth measured as per capita income (larger governments impede growth and economic opportunity within the micro economy of the individual), yet that same increase within the public sector enhanced the level of economic growth defined at

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the level of the macro economy of a state (Table 4.1, step 2 and Table 4.4, step 2). When

the economy of the state is small and not very complex the effects of intervention would

be expected to vary

As shown in Figure 5.1, several states with high levels of economic development,

high levels of growth and smaller governments have very complex economies (NJ, CT).

Where the level of economic development is high this measure of ideology, government

employment, ceases to be a reliable predictor of growth in per capita income and

becomes a predictor of growth measured as GSP (Tables 4.10 and 4.14). Again, what is

not revealed in these numbers is shown in Figure 5.1. Figure 5.1 depicts the way that

measures of economic development (ED_QOL), economic growth in per capita income

(EG_PCI) and the two measures of political ideology, taxation (PC_I_RS) and

government employment (PC_I_GEMP) have behaved over time. The graph shows how

the behavior of each measure varies with the level of economic development in a state.

States where the initial condition is one of high levels of economic development appear

in this graph in the darker lines. Those with the lowest levels of economic growth are

shown by the lighter shaded lines. Each element of this graph represents the trend of

between 15 and 20 years of data for each variable. For ease of examination these data are

displayed with markers denoting the point of each 5-year average. The revelation here is

that states with a high quality of life enjoy some of the highest levels of economic growth.

These same states have an ideology that seems willing to spend more of their earnings to

support the role of government, yet at the same time the size of the government is smaller

when compared to its counterparts.

Figure 5. 1 Characterization of Top 10 and Bottom 10 States Ranked in Economic Development
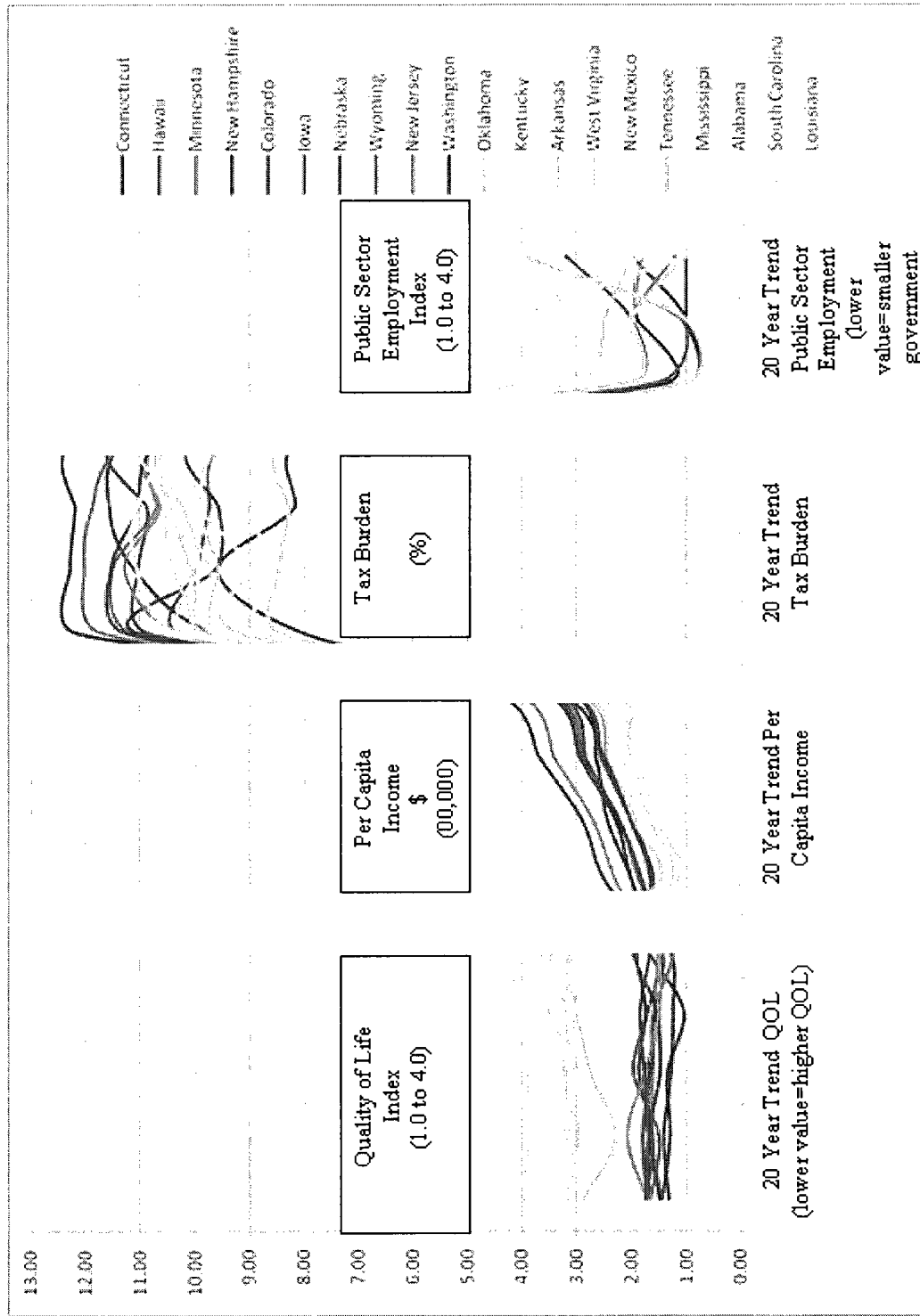
NOTE: Top 10 States in QOL = Bold Lines, Bottom 10 States in QOL = Light Lines

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While there is no indication that any of the measures used by this study to define the political climate of a state have the capacity to predict levels of economic development, a different story emerges concerning how well these variables can measure levels of economic growth.

Across the states, a measure of the state's political ideology, defined by the relative size of employment in the public sector, was able to account for between 20% and 25% ($p<.001$) of the variation in economic growth measured as personal income. When this same independent variable was tested to predict levels of growth in GSP it remained significant, however, the explanatory power dropped to between 15% and 20% ($p<.01$). When tested against the data set that controlled for levels of economic development, the utility of the variable to predict changes in per capita income in states where the level of economic development was low, was doubled (Table 4.11, step 2, R-squared = 0.523, ($p<.05$)). However, this same independent variable was unable to predict changes in the level of per capita income when the level of economic development was high.

This distinction suggests that top tier states operate closer to the optimum point where the cycles of growth and development are being skillfully synchronized to foster cycles of creative destruction. Ideally these results should have been easy to tie back to Singleton and Griswold's (1999) suggestion that a government's quality and not its size is the most important factor for judging the nature of a policy environment. So while the literature indicates that these results should have highlighted the influential role that a state's capacity to manage its affairs had over levels of growth or levels of development,

the tests to determine the utility of that variable failed to demonstrate any explanatory powers.

Political Climate, Business Climate and Ways to Change the Level of Economic Prosperity

While this study failed to reveal a universal prescription for enhancing the economic future of all states, it is clear that one non-partisan indicator of a state's political climate helped to expose the source of a state's outward bias towards fostering cycles of economic growth, economic development, or its willingness to languish in a state of economic stasis. The utility of this variable, the relative size of public sector employment, lies in its ability to demonstrate how the policies that expand government's interaction in free markets limit the capacity of the individuals to improve their economic well being.

While the models produced in this study provide policy makers with a set of metrics that are actionable, their real value is found in their utility as a starting point for manipulating variables under their control, the relative size of government and to a much lesser extent, the levels of taxation. The ability to understand how a push or pull on one of these levers impacts levels of economic growth is not something lawmakers currently possess. Certainly states such as Maine have high taxes, low levels of growth and enjoy a quality of life on par with the rest of the nation. In states such as these the levels of taxation may indeed be a lever that needs to be pulled.

Consistent with the work of Erikson, Wright and McIver (1993) it could be assumed that where the society is deemed liberal it would tend to be more liberal in the type of policy choices it makes. Under that scenario one expects to find states with higher

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levels of QOL and higher levels of growth willing to see a higher percentage of their incomes used to expand the role of government. That behavior is seen in the examples where several of the states with high levels of economic development accept a condition of higher taxes. The conundrum arises when you look at Figure 5.1 and realize these same states have smaller not larger governments. The argument that Kapeluck (2001) and Garand (1993) make in suggesting that states with a political culture judged liberal increase the size of government in response to the citizens willingness to accept a broader role for government is not borne out of the findings from this investigation. In fact, a quick look at Figure 5.1 shows that the states with the lowest levels of economic development also have the largest governments. While this investigation deliberately avoids making any attempt to tie its findings to any of the more subjective variables of a conservative or liberal ideology, it is clear that the states in this category are generally considered some of the more conservative southern states: Louisiana , Alabama, South Carolina. The conclusion here is really a note of caution: looking at the economic policies that improve growth through a lens that defines governments as responsive or excessive is ill advised. Clearly, the complexity of the local political scene, the interaction of the politics with the local economy, and the size and structure of the economy of the state need to be taken into account. It seems growth may not be a factor amendable to being judged by the political ideologies when they are measured from within a party affiliation, interest groups, excessive or responsive governments and the like.

The sense from this investigation is that the political factors of importance are those that express the capacity of the government to manage within the constraints of the size and complexity of its economy. In large complex economies the ability to measure

the importance of a government's capacity to manage appears to be muted by the size of economy itself. That is not to suggest the capacity of a state's government to manage is not important. What is being measured by Pew and others may not be capturing the significance elements that are important for each government to manage. While all states acknowledge the need to improve their capacity to manage, there is an uncertainty as to what it is they need to be managing. This may explain why the capacity to manage did not emerge from this investigation as a measure that supports economic growth or development. For example this study found that in states with large complex economies, New Jersey and Massachusetts, the critical mass needed to effectively manage the public sector is smaller than in states where the economy is less complex. One explanation for this is offered in neoclassical economic theory: the more complex the market the more resilient the economy. These markets create, in a Schumpeterian way, a level of growth that also accelerates the individual's quality of life. Over time these complex economies 'learn' and eventually become synchronized with or play a leadership role in the policy arena. Under these conditions government's can focus on improving infrastructure and creating the type of social change that supports innovation and economic growth. Through this evolutionary process governments appear to have an opportunity to become more efficient when compared to states where the economies are small and the markets less resilient. The states with lower levels of economic diversity appear to have limited options for creating economic strategies. These less complex economic structures also minimize the opportunities for governments to outsource certain functions. The changes that occur within these less complex economies are readily explained by the public's desire to open one of Kingdon's (1984) policy windows. Changes in the levels of

economic growth may not be the result of market failures or even how they are handled: rather it may be the result of a misapplication of economic theory. Whenever the economic conditions prevent markets from managing growth and development it appears the only remedy is political intervention.

While the findings support Schumpeter's basic assumptions that smaller governments lead to more vibrant economies, they failed to highlight the role that a measure of a government's capacity to manage, an indication of the quality of the institution, plays in sustaining economic growth. Like the conclusions from Dye's (1980) works, this study asserts that the level of taxation has little influence over the incidences of economic growth.

One of the most significant discoveries of this study was the finding that the politics deemed conducive to economic growth take nearly a decade to translate into a measure of growth. As such, a state's economic policies must be able to weather the storms of several political seasons.

Regardless of whether the failure to adopt a longer planning horizon is due to a change in political administrations, lack of political will, or the inability to manage the affairs of government the outcome is always the same: as citizens seek to reelect those candidates that have demonstrated an ability to improve the qualitative measures that improve their quality of life the political capital of that regime is retained. The antithesis is also true; by failing to understand the benefit of enduring short term losses for the longer gains that accrue from periods of economic growth, the electorate routinely bypasses those candidates best qualified to orchestrate the cycles of change that are needed to rekindle growth. By default this leads to a dichotomy of ideologies; those

seeking to expand the role of government and those that view government as the facilitator of market forces.

In summary, changing a state's economic fortunes starts when the citizens express a willingness to abandon a monolithic approach towards electing politicians from within a party and begin electing politicians that demonstrate a pragmatic approach to governing: consensus building. Given the long time frames this investigation has assigned to the benefit streams of economic policies within a state, the capacity to work across party lines appears to offer the best opportunity for having continuity in these policies.

Only then can we be assured that our elected officials will be effective and able to enact the economic strategies than benefit both the constituency and their progeny.

APPENDIX A: SUMMARY OF ECONOMIC DEVELOPMENT THEORIES

Summary of Economic Development Theories

Theory	Basic Categories	Definition of Development	Essential Dynamic	Strengths and Weaknesses	Application
Economic Base	Export or basic and non-basic, local or residentiary sectors	Increasing rate of growth in output, income or employment	Response to external changes in demand; economic base multiplier effects	Most popular understanding of economic development in the United States and a simple tool for short-term prediction. Inadequate theory for understanding long-term development	Industrial recruitment and promotion for export expansion and diversification, expansion of existing basic industries, import substitution by strengthening connections between basic and non-basic industries, and infrastructure development for export expansion
Staple	Exporting industries	Export-led economic growth	Successful production and marketing of the export staple in world markets. External investment in and the demand for the export staple	Historical perspective on economic development. Descriptive theory difficult to apply	Build on export specialization. State does everything possible to increase competitive advantage. Character of economic base shapes political and cultural superstructure
Sector	Primary, secondary, and tertiary sectors	Greater sectoral diversity and higher productivity per worker	Income elasticity of demand and labor productivity in primary and secondary sectors	Empirical analysis possible. Categories are too general	Promote sectoral shifts. Attract and retain producers of income elastic products
Growth Pole	Industries	Propulsive industry growth leads to structural change	Propulsive industries are the poles of growth	General theory of initiation and diffusion of development based on the domination effect	Growth center strategies
Regional Concentration and Diffusion	Commodities and factors (Myrdal) or industries (Hirschman)	Higher income per capita	Spread and backwash effects (Myrdal) or trickle-down and polarization effects (Hirschman)	Address the dynamics of development	Active government to mitigate backwash effects and reduce inequalities (Myrdal). Location of public investments spurs development (Hirschman)
Neoclassical Growth	Aggregate (macro) or two-sector regional economy	Increasing rate of economic growth per capita	Rate of saving that supports investment and capital formation	Supply-side model	Government should promote free trade and economic integration and tolerate social inequality and spatial dualism
Interregional Trade	Prices and quantities of commodities and factors	Economic growth that leads to greater consumer welfare	Price adjustments that result in equilibrium terms of trade; price-quantity-effects	Unique emphasis on consumer welfare and price effects. Ignores the dynamics of development	Government intervention should promote free trade. Infrastructure development, efficient local government
Product Cycle	Products: new, maturing, or standardized	Continual creation and diffusion of new products	New product development; innovation	Popular basis for understanding development among researchers	Development strategies promote product innovation and subsequent diffusion
Entrepreneurship	Entrepreneurs or the entrepreneurial function	Resilience and diversity	Innovation process; new combinations	Mediated theory	Support industrial milieu or ecology for development
Flexible Specialization	Production regimes, industrial organization	Sustained growth through agile production, innovation and specialization	Changes in demand requiring flexibility among producers	Detailed analysis of firm/industry organization; aggregate outcomes and relationships seldom specified	Encourage flexibility through adoption of advanced technologies, networks among small firms, and industry cluster strategies

Source: Malizia and Feser (1999). Understanding Local Economic Development.

APPENDIX B: DESCRIPTIVE STATISTICS: AVERAGE 2001 TO 2005 *(EXCEPT AS NOTED *)*

Variable	N of Cases	Minimum	Maximum	Range	Average	Standard Deviation	Note
EG_PCI	50	23288.400	44185.200	20896.800	30894.988	4431.671	Dollars
EG_GSP	50	2.006	9.524	7.518	5.314	1.377	Percent
ED_QOL	50	1.210	4.000	2.790	2.416	0.715	Index 1.0 to 4.0
PC_I_RS	50	0.066	0.133	0.067	0.103	0.012	Percent
PC_I_GEMP	50	1.000	4.000	3.000	2.072	0.961	Index 1.0 to 4.0
PC_C_GPP	50	69.667	92.000	22.333	81.207	5.023	1-100
BC_BHI *	50	2.893	7.083	4.190	5.005	0.938	Index 1-10
BC_TAXF	50	1.000	49.600	48.600	25.500	14.467	Rank 1 to 50
BC_DRC_C**	50	50.000	97.000	47.000	76.986	12.984	50-100
BC_DRC_P**	50	50.000	97.000	47.000	76.963	13.177	50-100
BC_DRC_V**	50	52.143	97.000	44.857	77.197	11.766	50-100

* The BHI average was for 3 years

** The DRC average was over 7 years

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APPENDIX C: CORRELATION TABLE 2005 DATA

Pearson Correlation Matrix

	2005_ED_QOL	2005_EG_GSP	2005_EG_PCI	2005_PC_I_RS	2005_PC_I_G_E MP	2005_PC_W_GPP	2004_BC_DRC_P	2004_BC_DRC_C	2004_BC_DRC_V	2005_BC_BHI	2004_BC_TAXF_IDX
2005_ED_QOL	1.000	0.142	-0.606	-0.153	0.133	-0.071	0.082	0.026	-0.068	-0.653	0.035
2005_EG_GSP	0.142	1.000	-0.115	-0.339	0.179	-0.023	-0.163	-0.185	-0.119	0.049	0.366
2005_EG_PCI	-0.606	-0.115	1.000	0.056	-0.023	-0.130	-0.076	-0.171	-0.038	0.466	0.070
2005_PC_I_RS	-0.153	-0.339	0.056	1.000	-0.079	0.164	-0.027	0.054	0.214	-0.241	-0.708
2005_PC_I_G_EMP	0.133	0.179	-0.023	-0.079	1.000	-0.098	-0.484	-0.375	-0.489	-0.197	0.262
2005_PC_W_GPP	-0.071	-0.023	-0.130	0.164	-0.098	1.000	0.137	0.324	0.211	0.246	-0.017
2004_BC_DRC_P	0.082	-0.163	-0.076	-0.027	-0.484	0.137	1.000	0.509	0.090	0.071	-0.202
2004_BC_DRC_C	0.026	-0.185	-0.171	0.054	-0.375	0.324	0.509	1.000	0.553	0.081	-0.099
2004_BC_DRC_V	-0.068	-0.119	-0.038	0.214	-0.489	0.211	0.090	0.553	1.000	0.089	-0.183
2005_BC_BHI	-0.653	0.049	0.466	-0.241	-0.197	0.246	0.071	0.081	0.089	1.000	0.261
2004_BC_TAXF_IDX	0.035	0.366	0.070	-0.708	0.262	-0.017	-0.202	-0.099	-0.183	0.261	1.000

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BIOGRAPHY OF THE AUTHOR

James Harold Black was born in Lynn, Massachusetts on March 4, 1956. He was raised in Lynn and graduated from Lynn English High School in 1973. He attended Lowell Technological Institute and graduated in 1977 with a Bachelor's of Science degree in Biological Science. He earned a Masters Degree in Business Administration from Plymouth State College in 1986. He entered the graduate program at The University of Maine in 2002.

James has held a variety of senior management and executive positions in manufacturing and technology firms. Over the past decade he has focused on entrepreneurial initiatives that support the planning, design and implementation of manufacturing information systems. James is a candidate for the Doctor of Philosophy degree interdisciplinary in Public Policy and Administration from The University of Maine in May 2010.