EXPLAINING U.S. URBAN ECONOMIC GROWTH 2000-2004: THE ROLE OF THE CREATIVE CLASS, SOCIAL CAPITAL, ECONOMIC FREEDOM, DISTRIBUTIVE POLITICS, AND DEFENSE SPENDING

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ABSTRACT

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The need to sustain economic growth and create jobs has dominated urban policy making in the United States for decades. Feeling pressure to meet this need, city and state governments have rushed to adapt economic policy concepts that have either been untested by researchers in the literature or that need an updated examination. This project explored the effects of Defense Spending, Social Capital, Creative Class Theory, "Economic Freedom," and Distributive Politics on US cities' economic growth.

This study investigated whether US cities' economic growth may be due to the substantial monetary infusion from Department of Defense Prime Contracts awarded in a 273 city sample from 2000-2004. It tested the cities' economic growth and their scores on Florida's (2002) Creative Class Index, Rupasingha et al's (2006) Social Capital Index, and Pacific Research Institutes' "Economic Freedom Index." The performance of these newer theories was compared to the more established theory of Distributive Politics (Lowi 1964; Wilson 1973). Each city's amount of Defense Prime Contracts was tested for inequality distributions using Lorenz Curves and Gini Coefficients. Case studies on West Virginia and Kansas were conducted to investigate state economic policymaking.

Economic growth was measured using the percent change from 2000 to 2004 in Total Employment and Total Personal Income for each city in the sample. The study found a highly significant and positive relationship for economic growth among cities with high Creative Class ratings and high Economic Freedom scores. Social capital, defense spending, and Distributive Politics variables had insignificant and/or negative relationships as explanatory variables for economic growth.

Key Words: Economic Development, Economic Policy, Creative Class, Social Capital, Urban Politics, Distributive Politics, Defense Spending.

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Introduction

Researchers have characterized the demand for economic growth as an "arms race," (Grady 1987; Wolman 1988 in Fleischmann, Green, and Wong 1992), in which policy makers strive to implement economic policy innovations without properly understanding their effects. Policy makers must deliver sustained economic growth in an era of decreased federal aid; heightened public awareness; and increased media scrutiny. Urban economic policy has focused on either government incentives and subsidies or local investment through public-private partnerships (Goetz 1994).

The conventional view of economic development is its role as a positive public good: development "creates jobs, tax revenue, and wealth, and because the benefits of a vibrant economy are shared by everyone; it is in the interest of cities to promote growth" (Goetz 1994, pg. 96). However, opponents of growth often call for more government regulation or intervention, especially when the perception of economic growth encroaches or negatively affects the environment or other conservation efforts. Thus, the resource allocation choices facing local policy makers can become some of the most difficult and controversial political decisions.

Policy makers at the state and federal-level are also faced with these difficult choices. They must regulate industry to protect workers and the environment while simultaneously increasing tax revenue. They must also promote a pro-business climate suitable for attracting new industries. Policy choices in these areas risk alienating

support from both pressure groups and constituents lobbying for either pro-growth or limited-growth economic development.

A large component of this dissertation focused on economic geography and economic policy. Individual US cities played an important role in this investigation. The US Metropolitan Statistical Area (MSA) was chosen as the unit of analysis. An extensive database was designed that used the same 272 cities selected from Florida's (2002) theory of a rising "creative class" movement in America. "Economists, it seems," wrote Martin and Sunley (1996), "are discovering geography." Krugman (1991) explored the specific geographic specialization within nations based on clusters of technological industrialization. Gallup, Sachs, and Mellinger (1999) emphasized the role of location and climates on income level and growth. They concluded that geography seems to affect economic policy choices (1999, pg. 179). The authors' study on transport costs, disease burdens, and agricultural productivity highlighted the difficulty of regions that are separated in distance from rivers and coastline.

Although the physical location of cities is important, this study focused more on human capital, and more specifically, it targeted the role of social capital and the "Creative Class" in explaining economic growth. These theories will be explained in detail in later stages of the dissertation.

> It is hardly possible to overrate the value…of placing human beings in contact with persons dissimilar to themselves, and with modes of thought and action unlike those with which they are familiar…Such communication has always been, and is peculiarly in the present age, one of the primary sources of progress.—John Stuart Mill

The role of state public policy making and its varying degrees of government intervention in the economy was also explored in this study. In other words, to what extent does the concept of "economic freedom" help urban economic growth? Economic freedom is defined as the "right of individuals to pursue their interests through voluntary exchange under a rule of law. This freedom forms the foundation of market economies" (McQuillan 2004). Distributive politics based on Congressional membership in each district was another explanatory component. How much do Congressional pork barrel projects contribute toward economic growth in the member district? Does committee membership in Congress, seniority, or party matter in this regard?

Finally, the role of defense spending was analyzed. Specifically, defense spending and economic growth was analyzed from 2000-2004 in the wake of 9/11. This period included a substantial military build-up to fight the Global War on Terror and the current war in Iraq. Do defense prime contracts boost the local economy or crowd out investment? Does the sharp rise in Defense Prime Contracts awarded to cities result in a multiplier effect for income and employment growth?

Another key aspect of this project addressed the inequality distributions of defense spending inherent in the city sample. Most social scientists who study labor and poverty focus on individual income inequality. This study investigated the inequality of Defense Prime Contracts among US cities. What is the inequality gap in defense

contracts among US cities? Is the gap growing or shrinking? Which cities are the winners and losers?

Most of the research methods in this dissertation were comprised of statistical analysis, however, quantitative analysis does not tell the entire story. Two states were selected—West Virginia and Kansas. Their economic policy strategies were compared and contrasted in case studies with extensive descriptive statistics. This particular analysis was done at the state-level, and that leaves an opening for future research in specific economic policy theories and practices at both the state and urban-level.

The evolution of regional economic development theory and practice is an aspect of this dissertation. State and local policy makers have long been intoxicated by the practice of "smoke stack chasing" or "industrial recruiting" based on granting financial incentives, subsidies, and tax breaks (Drabenscott 2006). Later economic development theories and practices hinged upon the effectiveness of "cost competition" or economies of scale and deregulation of commerce.

The evolution of "regional competitiveness" policy began in the early Nineties and the innovations continue today. These types of strategies included the focus on entrepreneurship; technology transfer and commercializing research from universities; education reform; improving human capital; and emphasizing the unique qualities and amenities of individual cities to attract new business (Drabenscott 2006).

Policy makers feel the pressure to "do something" about job and income growth or risk losing in elections. Unfortunately, many of their policy theories are not tested before implementation and furthermore, not evaluated after they are implemented. Sometimes it is better for policy makers to do "no harm" and intervene less in economic policymaking. The policy comparisons in the case studies on West Virginia and Kansas should give readers many opportunities to make many evaluative judgments on the efficacy of public policy making and economic development. It would be ideal if "best practices" of economic policymaking would emerge, especially if they are combined with the theories of Creative Class, social capital, and Economic Freedom.

Chapter One of this dissertation is an extensive review of the literature that is broken into two parts. The Literature Review summarizes the subfield of urban economic development and defines the key theories of investigation: Creative Class, social capital, Economic Freedom, and Distributive Politics. The impact of these theories on regional economic development is also explained. The second part of the Literature Review focuses on a comprehensive summary of the subfield of defense spending and defense economics. Chapter Two explains the theory development, methods, and data used in the study. Chapter Three contains the multivariate statistical analysis that tests the various theories outlined above. It also determines relationships on the dependent variables of Total Personal Income Growth and Total Employment Growth from 2000 to 2004.

Chapter Four measures and analyzes defense spending inequality distributions among the 272 cities in the sample. Chapter Five compares and contrasts economic policy-making strategies in West Virginia and Kansas. Chapter Six concludes the study with a summary of findings, a recap of academic contributions, and possibilities for further research.

This project explored some established and traditional explanations of urban economic development, along with newer and less-conventional explanations. This study aims to provide academics, policy makers, and policy analysts a better understanding of certain salient theories that are connected to economic growth.

Academic Contributions

The political science and economics literature on cities and economic growth is currently deficient in both quantity and substance. Econometric urban studies of economic development, while systematically controlling for standard variables on large-N studies, have not been widespread. Few of these types of studies have even been attempted in the last ten years. Political scientists have focused on policy choices or variations of choices for economic growth, but they have rarely examined whether the policy choices actually create jobs or wealth. Specialists in urban policy have also left out the effects of Congressional Members and distributive politics. Because of these conditions, this project makes an auspicious contribution to the urban politics subfield.

Social capital, originally operationalized as a state index by Putnam (2000), is now available in a county-level index (Rupasingha et al 2006). This index covers every

county in the US. It is a significant development because now, for the first time, social capital can be compared to Florida's Creative Class sample of 273-cities. However, this newer social capital index from Rupasingha et al (2006) has shortcomings that will be explained later in the project. This dissertation also tests the Creative Class theory in a systematic and empirical manner and makes a significant contribution to the subfield of economic geography. This is one of the first times that the Creative Class theory has been tested empirically.

While many studies have addressed the role of "Economic Freedom" and international development, few have explored the role of economic freedom as it pertains to urban economic development within a country's borders. Moreover, the literature on defense spending and economic growth has not been updated since the early Nineties. This project considers the post-9/11 and Iraq War defense build-up and examines where the defense benefits are being distributed geographically. This type of investigation into defense benefit allocation is a unique contribution to the defense economics literature.

This dissertation updates the distributive politics literature by investigating Congressional effects on how defense benefits are allocated at the county and city-level. Rundquist and Carsey (2002) used state-level data in their work on Congress and defense spending. County and city-level data allows a better glimpse into the connection between the individual and his or her Constituents than using states as the unit of analysis.

Finally, the study contributes to comparative public policy analysis for economic policy-making between two different states (West Virginia and Kansas). Economic

policy strategies are examined along with the particular economic policies that were passed in state legislatures. The goal is to identify and better understand emerging best practices regarding economic development policy.

Research Questions

The main point of this dissertation was to explain the reasons behind economic growth among US cities from 2000 to 2004. Defense spending inequality distributions were also investigated in the city sample from that same period. Finally, state economic policy strategy was analyzed in two states: West Virginia and Kansas. This research will better facilitate economic policy formulation, implementation, and evaluation. The research questions for this project are summarized as follows:

a. To what extent do Regional, Political, Economic, Labor, Social, Location, and National Security factors affect the economic growth of 272-cities in the United States from 2000-2004?
b. Has the geographical distribution of defense spending (measured in defense prime contracts) become more unequal since 9/11? Is this inequality distribution expanding for defense benefits among the cities sampled?
c. What types of economic polices and strategies are states using to promote economic growth? To what extent are they successful in West Virginia and Kansas?

Chapter One: Literature Review and Critique

Introduction to the Literature Review

This dissertation is about US cities, economic growth, and public policy. It investigated the explanations of economic growth that include the role of Creative Class, Social Capital, Economic Freedom, Distributive Politics, and Defense Spending. The emphasis was more on human capital, specifically the Creative Class theory and Social Capital rather than the more traditional "economic stages theory" of development in which regions pass through phases of technology development and industrialization. Above all**,** people matter in the economic development calculus, but growth also hinges upon political leadership, economic policy choices, and an "economically free" business climate.

The first part of the literature review addressed and defined some of the more progressive and innovative economic development theories such as Creative Class and Social Capital. The first part also revisited the more traditional schools of thought such as the classical "Economic Freedom" model of laissez-faire; economic libertarianism and the Distributive Politics model of growth; in which elected representatives direct government spending to their constituents. Government spending, particularly defense spending, is also related to distributive politics. The best way to investigate the distributive politics model is to ask the question—"Where is the money going?" and then "follow the money." To what extent does defense spending (in the form of defense prime

contracts awarded by the Department of Defense) explain economic growth during the major defense build-up in the US from 2000 to 2004?

Since the defense spending literature is so broad and robust, it made up the entire second part of the literature review. The third part of the literature review summarized, reviewed, and identified deficiencies in the economic development and defense spending literature. To guide the reader, the following introductory outline of the literature review is included:

Literature on the Explanations of Economic Growth

- **Cities and Economic Growth**: Who are the winners and losers and why?
- **Creative Class**: Cities that have people working in "creative occupations"; and cities that emphasize technology and tolerance perform better economically.
- **Social Capital**: "It's not what you know, it's who you know." Social capital focuses on social networks and associations that foster trust and reciprocity. These associations and social ties help the dissemination of information critical to economic growth.
- **Economic Freedom**: "The right of individuals to pursue their interests through voluntary exchange under a rule of law" (McQuillan 2004). The more economically free a region is, the more it grows economically.
- **Distributive Politics**: Political decisions are made concerning resource allocation—who gets what, when, where, and why. In this project, distributive politics refers to Members of Congress and pork barrel spending in Congressional districts.

Literature on Defense Spending

- **US Defense Spending and Economic Growth**: This is the classic Keynesian "priming the pump" argument—endogenous defense spending leads to local income and employment growth.

- **Overview of US Defense Spending and Congress**: This section includes more specific distributive politics literature on defense spending.

- **Description of US Defense Spending Process**: The "iron triangle" and military-industrial complex is explained in this section.

- **Theoretical Approaches to US Defense Spending and Congressional Agenda Setting**: This section explores policy shifts during Cold War and after Cold War; incremental budget theory; agenda setting and punctuated equilibrium.

- **International Security Drivers of US Defense Spending**: National security and threat-based defense spending, particularly during the Cold War vis-à-vis the Soviet Union; Post-Cold War ethnic flare-ups; and the Global War on Terror post-9/11.

- **US Defense Spending and Guns vs. Butter Tradeoffs**: Does more defense spending require cuts in social spending?

- **Methodological Approaches to US Defense Spending**: How is defense spending measured and operationalized? What are the key research methods?

- **Local Economic Impacts of Defense Spending**: "The Gunbelt" is composed of regions in the US where the defense-military complex thrives. This section explains "trickle down" theory of defense spending.

Critique and Deficiencies

Explanations of Economic Growth

So what causes some communities to be winners and others to be losers in procurement, R&D, and economic development? For every Palo Alto and Austin there are cities that tried to emulate past success only to find they failed to attract high-tech talent, companies, or defense department dollars. Some researchers have claimed the impact of a certain group of talented people called the "Creative Class" can make or break economic development (Florida 2002). Others have argued that "social capital" (Putnam 2000) influences economic development more. To what extent do creative people or socially connected people really matter in the economic growth?

"Economic Freedom" was developed by the Pacific Research Institute (PRI), a free-market think tank based in San Francisco, California. PRI defines economic freedom as "the right of individuals to pursue interests through voluntary exchange under a rule of law. This type of freedom forms the foundation of market economies and adherents of economic freedom have claimed that commerce be subject to a minimum of government regulation. The index reflects the belief that "state governments should provide a stable legal foundation for legislative or judicial acts which promote economic freedom" (www.pacificresearch.org). To what extent does the Economic Freedom Index positively relate to urban economic growth? Do neo-classical economic policies from state governments contribute to more new jobs and higher income?

Alternatively, do more traditional explanations of pork barrel defense spending impacts, such as distributive spending, punctuated equilibrium, and policy subsystems matter more? In short, the purpose of this study, and its main academic contribution, was to test the newer theories of Creative Class, Social Capital, and Economic Freedom against the more established theory of Distributive Politics to see how each explains economic growth. These explanations included a multivariate regression analysis on a 272-city sample from the 48-contiguous states between 2000 and 2004.

Cities and Economic Growth

What is economic development? Bingham (2003) used the American Economic Development Council's (AEDC) definition of economic development as "the process of creating wealth through the mobilization of human, financial, capital, physical, and natural resources to generate marketable goods and services" (Bingham 2003, pg. 237). Bingham and Mier (1993) further delineated the government's role in economic development by calling for the need "to facilitate and promote the creation of jobs and wealth by the private sector, and to ensure that it does so in a way that serves the short and long-run interests of the broader population" (Bingham and Mier 1993, pg. vii).

How does studying economic growth in US cities fit in to political science? Danielson and Lewis (1996) explored the changes in the discipline of urban politics since researchers such as Dahl (1961) were able to conduct "back door" research in large cities near their universities. The researchers explained the evolution of urban politics and its

contributions to political science and economics; they were able to outline the connections between the two. As suburbs have grown, Danielson and Lewis (1996) maintained that urban scholars have been too preoccupied with the urban core while neglecting the new power base in the suburbs. This, the authors say, has caused the urban politics subfield to lose its "central place in the study of American politics" (1996, pg. 216). The authors' main point was to emphasize the value of analyzing the city at the whole metropolitan-level, even including surrounding counties.

A significant recurring theme in the urban economic development literature is the "city as growth machine" concept (Molotch 1976). This construct explains urban development as "representing the collective and concerted activities of growth coalitions who deliberately work to develop and change the urban landscape" (Holupka and Shlay 2003, pg. 179). Major growth machine stakeholders include the policy makers, local media, developers, banks, insurance companies, and utilities.

Feiock (1991) questioned the conventional wisdom that urban economic development policies were ineffective. He tested 212 cities with a disequilibrium adjustment model on each city's manufacturing activity. He found that "local policies have positive effects on capital investment, but little effects on employment" (Feiock 1991, pg. 322). These types of tests and findings on cities have been difficult to find in the literature. Cities have rarely focused on the impact of economic development policies.

One popular finding is the indirect impact of development policies such as tax breaks, financing incentives, and location incentives. These efforts may influence urban economic growth and development by directly attracting new industries; facilitating the maintenance or expansion of existing operations; and encouraging more intensive land use (Feiock 1991, pg. 645). Feiock also admitted he was troubled about the lack of a strong evidentiary link between economic development policies and employment gains.

Fleischmann, Green, and Kwong (1992) first noted that urban policy makers tend to adopt whatever economic policy that is fashionable in a virtual "arms race"; even though the proposed policies may not fit their community. The researchers also examined the relationship between the two schools of scholarly thought regarding economic development: structure and agency. Structure is based on the "broad economic and political systems" (1992, pg. 677). Agency "relies on the actions of local political and economic actors" (1992, pg. 677).

Logan and Molotoch (1987) called the agency effect "growth machines" which are comprised of city leaders, merchants, realtors, media—all the stakeholders who stand to gain from economic development. The authors found that officials with limited staffs would have trouble implementing economic policies. They recommended that these types of offices recognize limitations from the beginning. However, larger bureaucracies should be aware of the potential for over-regulating businesses. The authors concluded that the best explanation for economic development policy is a mixture between the structure and agency models.

Black and Henderson (1999) looked at urbanization patterns and their effect on growth. The logic here is that increased urbanization creates gains in human capital and more localized information. The authors used the term "knowledge spillovers," to describe efforts to push economic growth upward. Individual city sizes then grow. The authors investigated whether this new urbanization growth encourages income inequality and whether local governments can successfully ascertain changes in their surroundings. They found a "strong positive relationship between city sizes and local educational attainment" (1999, pg. 279). They also found local governments have trouble converting the "internalization of local knowledge spillovers"; and that policy "implementation faced significant problems" (1999, pg. 279).

Goetz (1994) examined the growth of economic development from its early dependence on grants, loans, incentives, and subsidies to its more modern notions of increased concern with equity; the control and regulation of private development; and the direction of tangible growth-related benefits to low-income groups" (Goetz 1994, pg. 85). Goetz (1994) tested the competing models using cross-sectional data on a large sample of US cities. He hypothesized that "political actors and local political conditions are extremely important in explaining the variation in development policy across cities" 1994, pg. 85). Goetz identified a trend toward a more progressive economic development policy. Local governments began placing restrictions on the private sector, which shows that leaders were becoming aware of economic inequality in cities. His findings showed that politics do matter in the economic development policy-making context and this is

heightened by the moralistic political cultural views on aiding those less fortunate (Goetz 1994, pg. 103).

Sharp (1991) contributed an elegant research question and basic hypothesis to this strain of literature—to what extent is economic policy making influenced by the public's accessibility to the policy making process? The main hypothesis of Sharp's study was that economic distress and the resulting call for economic development policy will be most pronounced when the public has the most-readily access to policy making processes. Sharp (1991) concluded, "institutional arrangements across the US from economic development decision-making are variable and not constant" (1991, pg. 145). If this process is made more available to the public, the "magnitude of the economic development policy response will be at its greatest" (1991, pg. 146).

Portney (2003) examined US cities for their commitment to sustainability and environmental issues. He outlined the differences between urban growth as a 'Growth Machine' and 'Smart Growth,' which is sustainable managed growth with a vision of what the future quality of life should be.

Dreier, Mollenkopf, and Swanstrom (2004) uncovered ample evidence concerning economic inequality in the US. The authors determined that economic segregation matters and that "place" could hurt the poor. They believed that people of different economic classes are more likely to move away from each other. The researchers found that the location in which people choose to live has a powerful effect on the political choices they make 2004, pg. 27).

Goldsmith and Randolph (1993) studied the birth of urban poverty by recounting the history of the African-American migration to cities. Once in cities, African-Americans were discriminated against in housing, banking, and insurance. Only white people were able to build homes in the suburbs or in more affluent parts of the city; meanwhile a permanent underclass developed in American cities. The authors recommended that policy makers pay close attention and "stress the connections between political empowerment, economic expansion, and the fight against racial discrimination" (Goldsmith and Randolph 1993, pg. 117).

Wiewel, Teitz, Giloth (1993) outlined the prevailing economic development practices for neighborhoods and communities. Business retention is the threat of losing the neighborhood anchor to relocation. Commercial revitalization is the presence of neighborhood retail associations. Neighborhood capital is the use of alternative financing schemes. Labor-based development is the use of re-training due to plant closings or other shocks to the labor supply. Community organizing is the use of community development corporations or other non-profits, which can take advantage of community development block grants or other funding (Wiewel, Teitz, Giloth 1993).

The authors claimed that communities must take ownership of their own economic policy choices rather than simply depending on redistributive policies from a higher echelon of government. This starts with communities making realistic development goals at the neighborhood level.

Clavel and Wiewel (1991) focused on the four-year mayoral reign of Chicago Mayor Harold Washington from 1983 to 1987. Members of his administration wrote memoirs to share their experiences in urban policy. The Washington era was known for "employing political means to achieve broadly redistributive goals through economic growth" (Clavel and Wiewel 1991, pg. 11). This type of economic growth was redistributive but decentralized; it focused on particular populations and communities and applied different economic tools and techniques depending on different segments of the population. The Washington era was probably best known for its attempt to bridge racial, ethnic, and ideological divides in Chicago. Government agencies in the city were able to make great strides in hiring more minorities than ever before (1991, pg. 290).

Goldstein and Luger (1993) reasoned that economic growth could occur by clustering similar types of industries in one location. These businesses in the "industry cluster" could then complement each other and entrepreneurs could participate in an idea exchange. Therefore, the authors determined that public policy could grant high-tech entrepreneurs technical assistance. The evolution of certain high-tech development programs could attempt to recruit high-tech businesses, modernization of technology processes, and incubation of new homegrown businesses. However, as Goldstein and Luger (1993) pointed out, people matter. Successful high-tech development requires "creative, talented, risk-takers" in a "milieu that is conducive to creativity, dynamism, and regional synergism" (1993, pg. 160). This description of creative workers thriving in

a creative environment curiously foreshadows an upcoming section on Florida's (2002) treatment of the "Creative Class."

The Creative Class and Economic Growth

Other researchers such as Florida (2002) have focused on the movements of scientists, engineers, artists, and musicians to certain "creative" regions of the country. Florida noticed that the inequalities of the US economy coincided with the "rise of the creative economy" (Florida 2002, pg. xv). The key to Florida's theory is place and location. "Place is the key economic and social organizing unit of our time" (Florida 2002, pg. xix). The creative class construct is organized around three principles he calls the Three T's:

> Technology—measured by innovation and high-tech industry innovation. Talent is the second T—not human capital as usually measured by (by number of people holding higher education credentials) but creative capital, which is talent measured functionally, by the number of people actually in creative positions. The third T is tolerance. Places that are open and tolerant have an edge in attracting different kinds of people and generating new ideas (Florida 2002, pg. xix).

Florida said that the key to economic growth is to attract creative people; moreover, since tolerance and openness is a "low entry barrier for people," communities perceived as tolerant and open will have an easier time attracting these talented people. Florida's Tolerance Index is based on a Bohemian Index, which measures the level of authors, artists and musicians, the Melting Pot index measures the number of foreign-born people in a region, and it includes a measure of racial integration.

In a new preface to his latest edition of *Rise of the Creative Class* and in current speaking engagements, Florida warns against policymakers basing decisions on his rankings. And he adds that luring creative types with the construction of bike paths, jogging trails, and coffee shops alone will not rebuild economies. He argued that all communities have creative people and all people are creative in some way. Florida railed against what he and Jacobs (1961) call the 'squelchers'—the controlling leaders, micromanagers, and broader structures of social control and vertical power—that derail the energy of creativity. (Florida 2002, pg. xxiii). Florida is influenced by Schumpeter's (1943) views on "creative destruction" and innovation by entrepreneurs.

> This social function is already losing its importance…Technological progress is increasingly becoming the business of trained specialists who turn out what is required and make it work in predictable ways…Bureau and committee work tends to replace individual action…the perfectly bureaucratized giant industrial unit not only ousts the small or medium-sized firm and "expropriates" its owners, but in the end it also ousts the entrepreneur. (Schumpeter 1943, pg. 123).

Whyte (1956) detailed the rise of the Fifties organization man who seemed repressed by bureaucracy and corporate culture. Jacobs (1961) chronicled the "creativity and diversity" of Greenwich Village in New York City. "Jacob's neighborhoods were veritable fountainheads of individuality, difference, and social interaction" (Florida 2002, pg. 41).

Besides the city, one of Florida's main units of analysis is the creative individual. He builds on the theories of Inglehart (1997) by operationalizing the emergence of the creative individual as the "postindustrial" and often "postmaterialist" man (Inglehart 1997). Inglehart argued that middle-class people in modern democracies were less

concerned about financial well-being, material things, and economic security than the generation preceding them. This assumption is critical to Florida's theory as creative class members are thought to consider the postmaterialist benefits of location first, before they consider market factors such as salary. Economists would consider the postmaterialist decision-making calculus an externality that is difficult to quantify.

Ray (2000) identified these people as the "Cultural Creatives" who have similar occupations, but claim to be more altruistic, self-actualized, and spiritual…they are globalized and extremely concerned about the global environment" (Ray 2000, pg. 11).

Florida said members of the Creative Class value individuality. "They do not want to conform to organizational or institutional directives and resist traditional group-oriented norms (Florida 2002, pg. 77). Creative Class members value meritocracy—being ahead based on achievement, goal setting, hard work, and challenge. This does not always depend on how much money they make. The Creative Class values tolerance and openness; it is considered a fundamental value underlying all associations with organizations and environments (Florida 2002, pg. 79).

Florida said Putnam's (2000) ideas on social capital center on a healthy civic-minded community that uses reciprocity. If you "do something for someone they are more likely to do something for you" (Florida 2002, pg. 268). Florida echoed Putnam (2000) by summarizing the reasons for this less civic-minded and less trustful society. Longer working hours means more stress; suburban sprawl puts more distance from friends and family; TV and the Internet are solitary activities that take up more our time;

and the generational shift to the "me" generation means more people are tuning out (Florida 2002, pg. 268).

Florida said that other measures of social capital have shifted into different endeavors such as youth soccer. He disagrees with Putnam's latest work on ethnic diversity—"that high levels ethnic diversity suffer from lower levels of participation and community connectedness, slow rates of economic growth, and high levels of income inequality" (Florida 2002, pg.234). Florida countered that the social capital gap in ethnic areas may be because of cultural, language, or citizenship hurdles and that these types of studies "doom" ethnic groups to "slow growth" (Florida 2002, pg. 271).

Florida pointed out that sometimes social capital can thwart outsiders and discourage new ideas and innovation. He used the example of Minneapolis, Minnesota, which has an extremely high degree of social capital for the people who are lifelong residents. Unfortunately, some transplanted people say they do not feel as welcome in Minneapolis. Florida's main conclusion *vis a vis* Putnam is that communities that do well in social capital often do not score well on the Florida indices of tolerance, immigration, and racial integration.

Florida conducted his research using basic multivariate regression analysis. When retired University of Texas statistician Cushing (2001) replicated the Florida models on social capital, human capital, and creative capital against economic development, he found "little explanation for regional innovation and growth" (Florida

2002, pg. 273). Cushing (2001) also found that high-tech regions scored below average on many social capital dimensions.

The Creative Class is made up of three other categorical indexes: Talent (number of creative occupations), Tolerance (Melting Pot, Bohemian, and Racial Integration), and Technology (concentration of technology firms and patent growth rate). This is measure from 0 to 1 with 1.0 being a perfect score. Austin, Texas scored number one with a .963 Creativity Index. Florida found Creative Centers such as San Francisco, Seattle, Boston, Denver, and Boulder have "high levels of innovation and high-tech industry and very high levels of diversity, but lower than average levels of social capital and moderate levels of political involvement" (Florida 2002, pg. 275). Organizational Age Communities are "older, corporate-dominated communities like Cleveland, Detroit, Grand Rapids, and Kalamazoo. They have average social capital, higher than average political involvement, low levels of diversity, and low levels of innovation and high-tech industry." (Florida 2002, pg. 275).

Florida has been routinely criticized in the popular press for being elitist, exclusionary, and left-wing, but also lauded for being a visionary and innovator in urban studies. However, few scholars have actually tested his theory on economic development. Although Cushing and Yetim (in Florida 2002) determined that Austin had 38-percent of its labor force working in high-tech industries in 1999. They compared Austin to other regions in Texas and found that average private sector wages there grew by 65-percent from 1990-1999 to lead the state (Cushing and Yetim in Florida 2002).

Most literature has only addressed the definitions of creative class and the various indexes. Florida (2005) has responded to critics of his connection between cultural externalities and economic growth by citing authors such as Weber (1992) and Bell (1973) that culture creates incentives to promote "effort, thrift, and hard work." (Weber 1992). Bell (1973) posited that culture could have the opposite effect and lead people toward hedonism and away from the work ethic.

Another criticism is that Florida misreads the causes of regional economic growth—that regional growth really comes from a "combination of low costs, traditional business recruitment attraction, and family values" rather than environments geared toward singles and young people (Florida 2005). But as Florida counters, the top five "child-friendly" metros are also top creative cities.

In perhaps the most systematic and empirical test of the Creative Class Theory, Marlet and van Woerkens (2004) questioned the use of a "creative class" index instead of using the more traditional measure of "human capital" (percent of college graduates in a given area). The authors hypothesized that similar economic growth would come from human capital in the same way as it does from creative capital. The authors performed a regression analysis on a number of Dutch cities with per capita income growth as the dependent variable. They concluded that in theory, human capital is not very different from creative capital, although the authors conceded that Florida's Creative Class Index is a better standard than simply using a person's education-level as a measure (Marlet and van Woerkens 2004).

The Dutch study provided an interesting model as developing countries adjust to "brain drain" challenges and modern democracies fend with immigration problems. Florida (2005b) addressed the global competition for talent as he delineated the issues, which confront the US as it tightens it restrictions on international students for educational visas. The US creative economy, according to Florida (2005b) is dependent on international students for science and engineering PhDs and patents. As America becomes increasingly closed off due to these constraints and perceived intolerance, other regions and cities of the world are stepping in and taking creative talent away from the US. Florida said this "flight of the creative class" will "threaten the US global economic hegemony" (Florida 2005b, pg. 3).

Saravia and Miranda (2004) noted that developing countries are taking advantage of the situation and reversing the effects of the brain drain. Students from developing countries are finding opportunities in countries that are friendlier to immigration, such as Canada. These people are receiving excellent educations and then returning to their homelands and sharing the knowledge. The authors cited countries such as India, China, and Brazil for retaining top talent after some citizens received post-secondary education in the US.

Social Capital and Economic Development

Social capital, according to Putnam (2000), is the "connections among individuals—social networks and the norms of reciprocity and trustworthiness that arise

from them" (2000, pg. 19). Putnam believed that individuals benefit from social capital in the networks or connections they make, which can lead to better business or employment prospects. Social capital can have an overall benefit to the public welfare, "a society characterized by generalized reciprocity is more efficient than a distrustful society, for the same reason that money is more efficient than barter" (Putnam 2000, pg. 21).

Putnam (1993) began his work on social capital in Italy during the Seventies. The Italian government at the time organized twenty regional governments, which covered the entire country. Each of the regions were different; some communist, some capitalist, some industrial, some agrarian, some post-industrial. Putnam found that social capital in some of the regions led to a high-functioning society; in others, he found things to be the opposite. "As we expected, some of the new governments proved to be dismal failures—inefficient, lethargic, and corrupt. Others have been remarkably successful. However, some regions created innovative daycare programs and job-training centers; promoted investment and economic development; pioneered environmental standards and family clinics; and managed the public's business efficiently while satisfying their constituents (1993, pg. 19).

Putnam discovered that the structures and institutions of the central government mattered less than civic involvement. "Strong traditions of civic engagement—voter turnout, newspaper readership, membership in choral societies and literary circles, Lions Clubs, and soccer clubs—are the hallmarks of a successful region" (Putnam 1993, pg.

21). Putnam (2000) introduced concepts of social capital, which included "bonding" and "bridging." Bonding refers to social networking, which occurs between people of similar backgrounds, religions, races, ethnicities, socio-economic class. Bridging refers to social networking, which connects people of diverse backgrounds and different religions, races, ethnicities, and socio-economic classes.

Researchers and practitioners in economic development have borrowed Putnam's tenets of social capital. But the dilemma remains—why do some areas develop more strongly than others? Woolcock (1998) said economic development will struggle when "class, sex, and ethnic inequalities are widespread, increasing, and legitimated (1998, pg. 182). Woolcock also cited the lack of government safety nets; minimal rule of law; meaningless elections; widespread war, famine, and disease; and discrimination against minorities as reasons a "community's stock of integration and linkages and its organizational integrity and synergy" will erode (Woolcock 1998, pg. 182).

To formulate and implement the policies that social capital has the potential to fix, bureaucracies also benefit from the closer social interaction and personal ties (Boix and Posner 1998, pg. 692). Boix and Posner (1998) also claimed social capital helps policy makers manage the government by lessening the effects of the principal-agent problem. Principals have to spend less time supervising the destructive, opportunistic behavior of other bureaucrats in their charge. With more social capital, employees are less likely to act in a damaging manner. They will have more "*esprit de corps*" (Boix

and Posner 1998).

Employees in government bureaucracies and corporations can also benefit from "knowledge sharing" (Van den Hoof, de Ridder, and Aukema 2004). Knowledge is considered to be the most "strategically critical resource" (Conner and Prahalad 1996) at a firm or agency and success depends on individuals, departments, and agencies sharing knowledge. Unfortunately, "a large part of an organization's knowledge remains implicit, or "stored in people's heads" (Van den Hoof et al 2004). Van den Hoof et al (2004) examined organizations, found that the norms of social capital, such as mutual obligations, trustworthiness, and collectivism seem to promote cooperation, and increased knowledge sharing. As Adler and Kwon (2002) described it, "reciprocity transforms individuals from self-seeking and egocentric agents with little sense of obligation into members of a community with shared interests, a common identity and commitment to the common good" (Adler and Kwon, pg. 25).

Sobel (2002) said that it is easier to find the benefits of social capital in smaller case studies such as Ostrom's (1999 in Sobel 2002) work on irrigation projects than to find national trends on civic behavior. Ostrom's (1999 in Sobel 2002) critique of Fedderke, De Kadt, and Luiz is along economic lines. This concerns the use of norms and values into quantifiable capital that is more broadly defined.

Appearing to follow Sobel's observations about studying the social capital effects of smaller communities, Gomez and Santor (2001) examined how people who are self-employed often look for small loans to start their own businesses. The authors

hypothesized that neighborhoods with a greater amount of social capital would develop entrepreneurs that are more successful. Their results, based on surveys, concluded that social capital was a determinant in greater earnings for those self-employed.

Why would neighborhoods with higher social capital have a proclivity toward more business success? Putnam (2000) pointed toward social ties and networks and explained. "Social networks provide people with advice, job leads, strategic information, and letters of recommendation" (Putnam 2000, pg. 319). These networks can depend on socioeconomic class. Lin (1999) found that social capital depends on initial positions in the social hierarchies as on the extensity of social connections.

Uzzi (1999) studied banking data on small-business lending and embededness—the degree to which servers have a social relationship with their clients. He found that "firms that embed their commercial transactions with their lender in social attachments receive lower interest rates in loans" (1999, pg. 481). Uzzi (1999) speculated that businesses who have social ties with banks find out first-hand about information such as market shifts, prices, and loan opportunities. These network effects happen, according to Uzzi (1999), because network partners are motivated to share private resources (1999, pg. 481).

Sobel (2002), in his review on the literature of social capital and networks, declared that social interaction depends on networks. He identified different forms of networks: dense, structural, and network structural as important for researchers of social capital to identify. Some networks are better for obtaining information while others are

better at collective action.

The collective action of "embeddedness" happens because of a phenomenon that Fukuyama (1995) calls social trust. As Putnam (2000) paraphrases, "When we can't trust our employees or other market players, we end up squandering our wealth on surveillance equipment, compliance structures, insurance, legal services, and enforcement of government regulations" (Fukuyama 1995).

Lane and Bachmann (1997) looked at the effect of social trust and compared the UK and Germany in their use of industry associations and legal regulations and how those institutions affect the quality between firms. The authors hypothesized that trust is "more reliably produced when these institutions are strong and consistent and business relations are deeply embedded into their institutional environment" (Lane and Bachmann 1997, pg. 226). They found that this institutional stability produced by trust and emebeddedness produces what the authors call "system power" and that this power builds more trust between firms (Lane and Bachmann 1997).

Levi determined that trust may not be clearly dominant as the main component of social capital, "but what is clear is that distrust undermines coalitions and other forms of coordination" (Levi 2000, pg. 246). Distrust, as Hardin (1993) noted, "Breeds more distrust and it can widen the social and economic between those groups that would benefit from trust but have reasons to be mistrustful (Hardin 1993 in Levi 2001, pg. 247).

It is essential for economic development to have an economist's perspective on social capital. Collier (2002) made a succinct and more scientific definition of social capital. He pointed out how social capital is based on a "nonmarket interaction of agents that nevertheless has economic effects" (Collier 2002, pg. 20). These effects are considered externalities because they are external to the usual cost-benefit calculus made by individuals in the market. Putnam, according to Collier (2002), would say that joining a choir would ultimately have economic effect because in time the choir members would form trust. This trust would turn into social relationships and the exchange of information would yield valuable networks within the choir and among other members of the community that result in jobs and business opportunities (Collier 2002).

Sharp (2005) explicated an interesting concept concerning social capital and externalities such as Creative Class which build toward her construct of a "new political culture." Sharp (2005) used census data and survey results to explain this new phenomenon. The author compared her index of "unconventional culture" correspondence to a rival index of similar measurements. Sharp (2005) found that there was a relationship between the pair, and more important, investigated whether social and racial diversity is "an essential component of the conceptualization of new or unconventional political culture" (2005, pg. 153). Sharp (2005) concluded that indicators of racial diversity and/or tolerance should not be included in measurements of unconventional culture.

Other economists have taken the microeconomic principles of social capital's externalities and applied them to the international development economics literature. Knack and Keefer (1997) investigated 29 countries and responses from the World Values Surveys. They found "trust and civic norms are stronger in nations with higher and more equal incomes, with institutions that restrain predatory actions of chief executives, and with better-educated and ethnically homogeneous populations" (Knack and Keefer 1997, pg. 1251).

Temple and Johnson (1998) identified the importance of "social capability" for economic growth. The authors go beyond Knack and Keefer (1997) findings on trust and social capital and use indices on social arrangements in the Sixties for predicting which countries would grow quicker in the developing world.

Berggren (2006) revisited the impact of "trust" on economic growth and studied institutions with updated data and more countries. The author found that the presence of legal structure and private property rights increase the idea of trust. "The idea is that a market economy, building on voluntary transactions and interactions with both friends and strangers within the predictability provided by the rule of law, entails both incentives and mechanisms for trust to emerge between people" (Berggren 2006, pg. 141).

Economic Freedom and Growth

Social capital is a relatively new phenomenon in academic research, but

economic freedom is based on the original writings of Adam Smith, Thomas Jefferson, and Alexander Hamilton. The basic tenets of this philosophy are that governments should take care to refrain from over-taxation and over-regulation. Governments should protect individual rights under the rule of law and leave individuals to pursue their own economic interests. In this construct, economic freedom is just as important as political freedom.

Several think tanks have been instrumental in developing the "economic freedom" concept into an operational index for research. The Heritage Foundation, the CATO Institute, the Fraser Institute, and the *Wall Street Journal* have developed indices for economic freedom. However, these projects have focused on the economic freedom of particular countries around the globe. Clemson University led the first effort to examine economic freedom within a country's borders (Byars, McCormick, and Yandle 1999) by developing an economic freedom index for all 50 US states.

This dissertation used the economic freedom index developed by the Pacific Research Institute (PRI), which is an improvement on the Clemson University research. The PRI researchers gathered data on 143 separate variables under topics such as fiscal policy, regulatory policy, welfare spending, government size, and the Courts. The logic behind the PRI economic freedom index is as follows: higher taxes, over-regulation, frivolous lawsuits, labor unrest, and unchecked growth of the welfare state and red tape violate the principles of economic freedom, which in turn, hamstrings growth. These hurdles then cause people and businesses to move to alternative areas where economic

freedom thrives. It should be noted that the PRI index is a state-level index and does not factor in economic policies at the city-level. However, a caveat will be laid out in detail in the next chapter.

Distributive Politics and Economic Growth

The Distributive Politics argument says that for members of Congress to be elected and remain in office, they must pursue policies that will bring benefits to their districts.

> These are policies that are virtually not policies at all but are highly individualized decisions that only by accumulation can be called policy. They are policies in which the indulged and the deprived, the loser and the recipient, need never come into direct confrontation. Indeed, in many instances of distributive policy, the deprived cannot as a class be identified, because the most influential among them can be accommodated by further disaggregation of the stakes" (Lowi 1964, pg. 690).

The background foundation of Lowi's distributive politics in national security is related to economists such as Hartley and Sandler (1995) and their introduction of an emerging field, defense economics, which analyzes procurement, acquisition, and defense industry policy. Specific research addresses the state economic impact of distributive politics such as Rogerson (1995), who examined the incentive problem between government and defense firms through R&D, uncertainty, economies of scale, and government as the sole buyer. He found that "incentive contracting may involve a trade-off between effort inducement and rent extraction, and thus supplies a theory of incentive contracting" (Rogerson 1995, pg. 332).

Lieberson (1971) took an alternative view by focusing on the defense constituency as a business interest group. Powerful entities crowd out other groups and dominate the political discourse in the defense sector. Other groups thus become less concerned with defense.

Mayhew (1974) began with the basic distributive politics principle that members of Congress have an overriding self-interest in their re-election (Rundquist and Carsey 2002). In addition to rational self-interest, universalism, and economics, Members of Congress are affected by committee membership, political parties, or ideology (Shepsle 1979).

Shepsle and Weingast (1995, pg. 10) described "gains from trade" or how committee members dicker for votes on pet projects, "the value a legislator places on his or her own project…exceeds the burden he or she must bear in supporting the projects of other legislators" (Shepsle and Weingast 1995, pg. 10). Krehbiehl (1991) added that members are drawn to committees for their policy-making expertise and committee-members collectively are rewarded for this expertise (Rundquist and Carsey 2002). Arnold (1979) explicated the "benefit hypothesis" in which constituencies represented on a committee "tend to have their interests better served (Rundquist and Carsey 2002, pg. 29). Carsey and Rundquist (1999); Kamlet and Mowery (1987); and Levitt and Snyder (1995) found that traditional party and committee hypotheses were supported—that constituencies belonging represented by certain parties or committees could benefit from member activity and that this membership by party or committee could be a predictor of

spending. Underlying a Member of Congress' motivation is universalism (Mayhew 1974, pg. 88), "every member, regardless of party or seniority, has a right to his share of benefits" (Mayhew 1974, pg. 88).

Others argue that Congress has little or no distributive effects (Rundquist and Carsey 2002). Clotfelter (1970) found military prime contracts have a weak association with Senate roll call votes. Mayer (1991) and Wheeler (2004) argued that many initial acquisition decisions are made inside the Pentagon. Cobb (1976) found that defense votes and the military industrial complex are not significantly related, and perhaps more important, determined that defense spending analysis will always be flawed since the dependent variable—benefits measured by prime contracts awarded—does not tell the full picture.

Subcontracts are often a key component and it is impossible to tell from the prime contract data what the full economic impact is. Goss (1972) maintained that geographic factors do not affect decision making concerning procurement and that "politics counts for less in selecting weapons contractors than people think" (Goss 1972, pg. 227).

But the proponents of electoral and economic impact make a strong case. Cain, Ferejohn, and Fiorina (1987) wrote of a "personal vote" from constituents who view their member in a positive light for bringing benefits home to the district (Rundquist and Carsey 2002). This personal vote will sometimes help in re-election (Rundquist and Carsey 2002).

US Defense Spending and Economic Growth

> Every gun that is made, every warship launched, every rocket fired, signifies in the final sense a theft from those who hunger and are not fed, those who are cold and not clothed. The world in arms is not spending money alone. It is spending the sweat of its labors, the genius of its scientists, and the hopes of its children.—President Dwight D. Eisenhower, 1950.

Despite these words, many researchers have since revised views on defense spending and their effects on the economy. Markusen (1986) argued that defense spending can act as a much-needed macroeconomic intervention—an injection of "military Keynesianism" to launch expansionary industrial policy (Warf 1993). Defense contractors export goods and services at home and abroad that can create economies of scale. "Bigger is better" as mergers, acquisitions, and a host of other factors concentrate defense spending in certain locations throughout the United States. This has an immediate impact on policy makers as they struggle to define and respond to threats in a post-9/11 world. They must allocate resources to respond to those threats; and still maximize economic development while providing for a fickle and rapidly mobile workforce. "Thus in individual locales, military spending can have particularly important repercussions" (Warf 1993; Daicoff 1973; Erickson 1977).

Since World War II, billions of dollars in defense R&D and acquisition spending has been funneled toward certain geographic locations. Currently Defense R&D makes up a solid majority of federal R&D spending**—claiming 57% of the FY 2005** Federal R&D budget—a 7% increase from the previous year. The President's current defense budget for FY 2007 calls for $84.2 billion in defense procurement—a 10.4% increase

since the previous year. With these figures in mind, policy makers continually strive for their communities to be the next Silicon Valley or "Boston Miracle on Route 128" and emulate the successful military educational complexes at Stanford or MIT. Researchers such as Markusen et al (1991) call these areas of defense research and industrial capacity the "Gunbelt." A Gunbelt city is in a state ranked among the Top 20 states in terms of amount awarded in defense prime contracts. The Gunbelt consists of states, which have the industrial capacity and requisite personnel for continued dominance of the defense sector. Certain Gunbelt states have been more successful than others at procuring federal defense funding and turning these awards into community development.

Overview of US Defense Spending and Congress

Conventional wisdom holds that Congress wields little power in foreign policy making. This may be true on questions of military intervention and the use of force, but Congress does hold the power of the purse and it has oversight ability over the executive branch. The Congressional role in defense spending, acquisition, and procurement centers on explanations such as parochialism; distributive politics; bureaucratic politics; agenda setting; interest groups; the military-industrial complex; universalism; and incrementalism. This review will focus on agenda setting and distributive politics as these topics relate to Congress and defense spending.

First, more can be said concerning defense spending, Congress, and the general state of the field. Over the last twenty years, a shift in national security decision-making

power has occurred in Congress (Lindsay 1994). The Armed Services committees have eclipsed Foreign Affairs, Foreign Relations, and International Relations committees in terms of power and affinity among Members (Lindsay 1994). "Over the past two decades, the Armed Services committees have become Congress' leading actors on defense policy" (Lindsay 1994, pg. 59).

This was not always the case. After World War II, the President's budget authority on defense was rarely challenged. The Russell Amendment of 1959 mandated that all weapons systems be approved in specific annual authorizations. In 1961, this evolved into Congress having line-item authorization and appropriation over the entire defense budget (Lindsay 1994; Mayer 1991). Currently, Armed Services committees in both chambers have the power to authorize and appropriate funding on specific weapons systems, while at the same time both committees often conduct separate and independent budgetary reviews (Mayer 1991).

This leads some researchers to ask if committee jurisdiction and interests allows the Pentagon to spend more in certain budget categories over others. In a research agenda review, Lindsay and Ripley (1992) asked, "Does Congress favor certain budgetary categories (e.g. procurement, research and development, operations and maintenance) over others? If so, why?" (Lindsay and Ripley 1992, pg. 431)

This process, according to Mayer (1991), encouraged Members of Congress to be preoccupied with individual projects and not focused on conducting appropriate policy oversight and national security strategy. Members are also influenced by their state or

district's economic well-being. Mayer (1991) said that members act on the "inside" information they are provided by the Department of Defense concerning the nature of the program.

Therefore, by granting defense contracts to certain geographic locations, the Pentagon acts as its own agent to improve congressional support. Members then gravitate to committees where they "can get projects for their constituents" (Fenno 1971). Distributive studies will be discussed in more detail in a different section of this review, but as Mayer (1991) noted, "one must view with skepticism the entire literature on the distribution of defense contracts and constituency-interest voting…the main flaw lies in the fact that the prime contract data reveals nothing about the distribution of subcontracts" (Mayer 1991, pg 33).

Wheeler (2004), a veteran national security advisor to four U.S. Senators, wrote that the defense pork system is "controlled from beginning to end by military officers and civilian bureaucrats in the Department of Defense, *with only slight modification from Congress*" (Italics added. Wheeler 2004, pg. 92). However, Wheeler lamented the current state of procurement politics in Washington, citing several Members of Congress for irresponsible pork projects that had nothing to do with national security (Wheeler 2004, pg. xi).

Lindsay (1990) also disagreed with the assessment of Congress as a promoter of pork barrel spending and "gunning" for its own electoral interests over the national interest; he affirmed earlier findings that members of Congress vote in accordance with

ideology and not constituency's economic interests (Lindsay 1990). Lindsay (1994) found that new power sources in the Armed Services Committees such as the role of chairmen and larger, more professional staffs affect policy making in the executive branch. This finding affirms Congress' role as an overseer of policy (1994, pg. 77). Congress also created new institutions such as the Arms Control and Disarmament Agency (ACDA), Special Operations Command (SOCOM), and an independent inspector generals' office at the CIA, not to mention recent reforms in the entire intelligence community (1994, pg. 102). These reforms yielded at least an appearance of greater oversight on national security. Hinkley (1994) also denounced the Congressional role in foreign policy making as a myth and little more than members playing the charade of oversight.

Descriptions of the US Defense Spending Process

Researchers such as Wolf (1969) and Russett (1970) had a renewed focus on the military-industrial complex during the Vietnam War. Wolf (1969) noted the validity of criticism for the military-industrial complex—its "secrecy, complexity, dependence on patriotism, and institutional rigidity" (Wolf 1969, pg. 2). Russett (1970) conceded that the politics behind the military-industrial complex are necessary for proponents to bring attention to their cause, "…without bureaucratic politics by the armed services, military needs might well be neglected. Domestic civil demands on government funds have often been insistent and not always worthy; it seems to be necessary for the most deserving of causes to play the basic political game" (Russett 1970, pg. 22).

Adams (1982) updated the "iron triangle" process with a comprehensive study of all facets of this policy subsystem. He described the weapons business and profiled the major defense contractors at the time. Adams (1982) also explained the use of PACs, trade associations, grass roots efforts, public relations, and advertising. He found that Congressional and Executive oversight was more difficult under such a complex system of special interests in the defense community. Adams (1982) recommended wider disclosure of contracting data such as R&D and wider reporting on defense personnel who work in the civilian and federal space. He found that reporting requirements for lobbying and PAC donations in the early Eighties were not adequate to track actual activity (Adams 1982).

Gansler (1989) explored the question of affordability in the weapons acquisition process. Initial estimates at the time of this writing had mushroomed into enormous price tags. Gansler (1989) recommended a shift from additional regulations and statutes to more emphasis on natural incentives for higher quality and lower costs. He called for integrating the civilian economy with the defense economy by using "design to cost" parameters; i.e. designers should plan for affordability at all stages of production.

Other researchers such as Locher (2002) focused on the statutory and regulatory evolution of major congressional legislation. The Goldwater-Nichols Defense Reorganization Act of 1986 made the Chairman of the Joint Chiefs of Staff the principal, non-parochial military advisor to the president. It also established the regional combatant commands, among many other reforms. Locher (2002) outlined arguments that became

the precursor for Goldwater-Nichols, namely that the DoD's Planning, Programming, and Budgeting System (PPBS) demanded too much, did not set priorities, was derived from the desires of the individual services rather than an integrated plan, and it offered no overall strategy on weapons acquisition.

DeRouen and Heo (2000), in an update of the political business cycle (PBC) literature focused on the domestic political constraints of defense spending. They explained the difficulties in investigating the problem since there is a two-year delay or more between policy formulation of budget plans and implementation. They used Defense Prime Contract Awards to represent political benefits and accounted for variations in presidential approval ratings. The authors hypothesized that Presidents used the awarding of defense contracts in a strategic political to bolster weak approval figures. DeRouen and Heo (2000) used time-series data and found that "presidential approval, war, presidential reelection, and unemployment are determinants of defense contracting" (2000, pg. 753).

Critics of the US Defense Spending Process

Wheeler (2004), a senior Congressional defense analyst, wrote the most scathing indictment of Congress' role in defense spending. He claimed defense appropriation bills are so loaded with pork, earmarks, and set-asides by Members of Congress that the current practices are endangering national security. He recommended a more professional non-partisan staff that remains on the job for an extended period. This

permanent staff would keep the defense contractors and the Pentagon from offering Armed Service Committee staffers future employment in exchange for favorable analysis. The full-time independent staff that would limit the personal Congressional staffs and it would conduct more hearings for the purposes of oversight.

Munson (1993) tracked the activity of the VA-HUD Appropriations Subcommittee through the 1992 budget cycle. Although this committee does not directly appropriate weapons systems, it does fund NASA projects. Munson (1993) claimed these lawmakers have the real "power of the purse." He examined reforms to the appropriations process such as the line-item veto and "expedited recision" which would require Congress to vote up or down on specific items of pork that the President wanted to eliminate.

Other researchers offered criticisms that are more specific: Goodwin (1985) focused on the arms business and one contractor—a case study on the General Dynamics Corporation. Although Goodwin (1985) examined a host of criticisms such as cost overruns, greed, self-serving politics in Congress, bureaucratic largesse, he concluded that "it functions more admirably than is commonly believed" (Goodwin 1985, pg. 322).

Caldicott (2002) claimed that the "George W. Bush's military-industrial complex" is backed by think tanks advocating expansive arms policy that leads to defense contractors (especially Lockheed Martin). These major defense contractors enjoy overwhelming influence on Capitol Hill. Boies (1994) looked at the effect of pressure groups on disaggregated defense spending. He focused on elite social movements such

as the "Committee on Present Danger" a right-wing political action committee. By assigning an "activity index" on the Committee on Present Danger, he was able to use it as an explanatory variable. He found the exogenous factors such as elite pressure groups had a strong influence on defense spending.

Singer (2004) warned of the overdependence of "corporate warriors" or individual contractors working for Privatized Military Firms (PMFs) or Private Security Contractors (PSCs). Singer (2004) concluded that the privatized military poses problems for Congressional oversight and legalities in war. "The US Congress should establish a more consistent and transparent licensing process that specifies oversight of U.S.-based PMFs and sets strict and public reporting requirements" (Singer 2004, pg. 240).

Theoretical Approaches to US Defense Spending and Congressional Agenda Setting

The last 25-years have seen rapid shifts in policy and issue attention in defense spending. Obviously, the Reagan-era build-up of the early 80's was one of the biggest in history. The lightning speed of the first Gulf War, coupled with the collapse of the Soviet Union and the end of the Cold War brought changes to the defense spending agenda. Policy makers expected a sizable peace dividend along with the new world order, in which defense spending cuts could give rise to social spending gains.

Despite these noble intentions to cut defense spending while reducing budget deficits, and therefore enabling social spending, national security policy in the Nineties was fragmented. The strategic, operational, and tactical challenges of containing ethnic

flare-ups and conducting peacekeeping missions replaced the challenges of containing Communism. Unfortunately, operational tempo increased with "Operations Other Than War (OOTW)," deployments in Somalia, Haiti, Bosnia, and Kosovo. The millennium quickly brought in 9/11 and the current wars in Iraq and Afghanistan.

It would appear that historical events drives defense spending in the US. But is it simply critical events that have caused defense spending to ebb and flow the last 25-years? Different schools of thought have emerged to explain agenda setting and defense policy. Researchers such as True (2002) cited the punctuated equilibrium model as the best explanatory construct to describe defense spending. The incremental school remains strong—that defense spending lies captive to inertia and can only rise in increments with baselines and adjustments. The cybernetic scholars explained that defense policy adapts to inputs and then adjusts the outputs accordingly—these scholars "assume that government is well studied as a 'black box'" (True 2002, pg. 155). Others subscribed to the Pentagon's rational system of threat analysis and the pursuit of national interest. In this paradigm, policy and budget planners considered strategy, the threat environment, and national command authority objectives to fashion the best budgetary decisions possible.

The "Color of Money" argument, a favorite of experts in the field of defense acquisition (Tack 2000), has been neglected in the literature. This notion refers to the ownership of the total cost of defense spending. Defense agencies have different "pots" of money which are controlled by different sectors, for example; procurement, research

and development, personnel, or maintenance and operations (Tack 2000). The different sectors become stovepipes that foster interagency rivalry and bureaucratic politics.

Mintz (1988) recognized the problems of the "color of money" concept in his work on resource allocation and the US Department of Defense. He also disaggregated total defense spending into procurement, R&D, personnel, and maintenance. Mintz used each dimension as a separate dependent variable and compared them to economic, political, and foreign policy "shocks." He found that certain domestic pressures such as elections, public opinion, and party control of the White House had strong influence over spending changes in military personnel and procurement. The presence of war had the strongest influence.

True (2002) maintained that punctuated equilibrium theory is better than all these approaches in explaining national security policy behavior and agenda setting. In this construct, political groups are mobilized, issues are defined, positive or negative feedback is processed, and venues are changed. Policy attention is thus shifted from one issue or one institution to another. This would explain times of stability "interspersed with abrupt changes." These changes in "episodic attention" contrast to the unchanging relationships between the organization and the environments that are seen in the other constructs.

Baumgartner and Jones (1993) addressed the presence of "policy monopolies" in the agenda-setting process. Their model differs from Kingdon's (2003) notion of "streams," which involved policies, problems, and politics. These streams, according to Baumgartner and Jones, must be treated and "analyzed separately." The Kingdon (2003)

model assumed a substantial degree of incrementalization in policy-making. Most policies in this model do not vary significantly; a general pattern is in place and policy makes minute changes over time. A "policy window" periodically opens in which ideas can enter the agenda, but most of this change comes slowly. This makes for a stable model when a "general principle of policy action is in place." When the opposite is true, Baumgartner and Jones pointed out that Kingdon's model comes to the forefront. When "new principles are under consideration…the process tends to be volatile, and Kingdon's model is most relevant."

Therefore, Baumgartner and Jones (1993) stressed the importance of policy monopolies as a variable that can explain the ebbs and flows of policy change. Sometimes policy change "bursts," sometimes the change takes place over a "longer wave." As a result, groups want monopolies on expertise and understanding to take advantage of this phenomenon. "Nobody likes protracted conflict and continual competition." Keeping "outsiders" away from one's area of expertise ensures that conflict and competition will be kept to a minimum. Policy monopolies can then define the issue and "mobilize the disinterested" which helps explain "periods of stability and rapid change" in policy (Baumgartner and Jones 1993).

Baumgartner and Jones (1993) characterized these volatile changes with the concept of issue expansion. "Positive-feedback" explains how states will copy successful programs in other states. "Negative feedback" in this cycle refers to decision-makers receiving smaller marginal returns on their inputs. The two phases alternate and make for

a condition unlike the volatility described by Kingdon. Therefore, change in policy comes both incrementally and in bursts. Overcoming this equilibrium (the stage between stability and change) has to do with the "attention of government elites" and the inattention of those "not keenly interested in the particular issue" in the first place.

Agenda setting, for Baumgartner and Jones (1993), is when these equilibria of apathy and attention can be overcome and radically redirect the negative feedback process (Worsham 1998). There certain times when the inertia of this apathy can be over come. The authors call this punctuated equilibrium. Issue attention by institutions like Congress then can be used as a bellwether for defense policy analysis. If defense is on the agenda, it should affect the way defense budgets are authorized over time.

Jones, True, and Baumgartner (1997) explored Wildavsky's incremental budget theory and tested for increasing or decreasing volatility in divided governments using US budgets from 1947 through 1995. They also tested whether budget incrementalism is from political consensus or institutional gridlock. They found that divided government increases budget volatility, which in turn indicates dissensus.

The International Security Drivers of US Defense Spending

Ostrom and Marra (1986) explored the gulf between the two prevailing defense-spending schools of thought during the Eighties. One group of researchers believed the US defense spending strategy hinged upon the spending habits of the Soviet Union while the other group did not. Ostrom and Marra (1986) sought to resolve these differences by

estimating a model accounting for the President's budget request; the Congressional appropriation request; Defense Department expenditures; along with an estimation of Soviet defense spending. The authors found that the US reacted to Soviet military spending and that this "reaction is directly responsible for a very substantial portion of the post-1978 increases in US military expenditures" (Ostrom and Marra 1986, pg. 819).

Zuk and Woodbury (1986) investigated whether US defense expenditures increased during national election years. They found that the electoral effects were negligible, but that war and US-Soviet relations largely explained patterns of US defense spending. The electoral-economic theory assumed manipulation of discretionary spending by a Presidential administration in order to gain better standing with the electorate. Therefore, logic follows that defense spending can also be manipulated for electoral gain.

Zuk and Woodbury (1986) found little evidence to support this type of electoral-defense spending. They did find that defense R&D spending, when disaggregated from total defense authorization, showed a link to relations to the Soviet Union. The Soviet test of a nuclear device in 1953, Sputnik in 1957, and other events during the Cold War gave credence to this theory.

Russett, Hartley, and Murray (1994) looked at the influence of public opinion and its theoretical relationship with US defense spending during the Cold War. The authors cite the evidence of the public's desire for reduced defense spending in the 90's as an example of public influence over the budget. They determined that these attitude changes

towards international cooperation and reduced military spending came about after a dramatic change to the international order after the Cold War. They generally concluded that changes in public attitude were often reflected by policy change—in the case of defense spending by reduced budget requests. More specifically, the authors found that as opinion poll respondents were found to revise their beliefs to a more favorable posture towards the Soviet Union, they also had more "dovish" views on defense spending (Russett, Hartley, and Murray 1994).

Chernoff (1991) explored the US military build-up under Reagan and examined whether this increase in defense spending was part of an overall strategy to "bankrupt" the Soviet Union or if it was a counterbalancing act against the Soviet Union. The difficulty in this type of research is the dearth of reliable data on defense spending from the Soviet Union. Chernoff (1991) determined that the US arms build-up had a "crushing" effect on the Soviet economy. However, he also admitted that US defense spending had been ramped up for decades—so the build-up was nothing new—and Reagan's build up could not alone be attributed for changing Soviet foreign policy. Chernoff (1991) found little evidence for Reagan's defense budget policies being responsible for the downfall of the Soviet Union and the end of the Cold War. Or more clearly, that the Soviet desires to lessen their own defense burden cannot be "shown to be a result of the Reagan administration's massive defense spending increases" Chernoff (1991).

Posen and Van Evera (1983) also examined defense spending under Reagan. They concluded that the public was not very well informed about grand strategy and basic goals as they pertained to military spending. US military strategy under Reagan appeared to be attempting to fight all kinds of wars everywhere at once—including a victorious nuclear war against the Soviets. Posen and Van Evera (1983) argued that this vague, open-ended strategy gave the Reagan administration a blank check to spend on defense wantonly.

Williams (1989) wrote that public consensus for deficit reduction forced the Reagan administration to make deep cuts to freeze growth of the defense budget in the late Eighties. Williams (1989) predicted that programs such as the Strategic Defense Initiative (SDI), and long-range bombers would feel the pain of reduced funding and the Reagan administration would have to make tough choices between strategic and other types of defense spending. The 1988 Presidential Campaign also reflected these political choices. To make matters more difficult, intelligence assessment indicated Soviet strategic forces had limited capabilities compared to existing US strategic forces and systems. This would make the rationale of extra US spending on new US projects a tougher sell to the public and to Capitol Hill. This article explained the difficulties that were laying in wait for the US military's conventional forces as it prepared for land war in the Middle East and smaller "brush fire" wars in remote places of the globe.

Cusack and Ward (1981) examined the US, Soviet Union, and China from 1948 to 1978 from an arms race perspective and from the perspective of the decision makers in

the political environment. They found that the arms race formulation construct did not fully explain defense-spending patterns among the three states. The researchers determined that the US and Soviet Union "military allocation process to influence domestic political and economic conditions receives considerable support" (Cusack and Ward 1981, pg. 429). The authors found that the explanation of military decision-makers responding to political-economic stimuli was a better explanation than the arms race explanation.

Pena (2005) argued that it is indeed possible to fight a global war on terrorism and cut defense at the same time. He said that large conventional force engaged in regime change "will be the exception rather than the rule" (Pena 2005, pg. 41) To reach this level of austerity requires the US to adopt the "balancer-of-last-resort" (2005, pg. 41) strategy and pull back from the Cold War security perimeter. This would enable the US, according to Pena to reduce US military personnel and "unneeded" weapons systems by over a half. This strategy would eliminate the Cold War legacy posture and streamline the military for fighting terror. Pena argued that the threat environment is completely different in the 21st Century and the legacy weapons systems will not be needed in the future. Therefore, future US administrations need to rethink the strategy and threat environment behind military spending.

Gates and Terasawa (1992) factored in the actions of alliances and how alliances affected defense spending. The study is based on the economic principle of defense spending as a public good and free riders as a characteristic of alliances. The authors

determined that free riding in NATO countries makes it difficult to determine an individual country's defense burden. Therefore, "aggregate defense expenditure data cannot measure the distribution of the defense burden (Gates and Teresawa 1992, pg. 101). This makes for tough choices for policy makers when trying to analyze defense costs of the NATO alliance.

Shinn and Ward (1999) examined the influence of political geography on defense spending and economic growth. The authors concluded that regional context and geography matters. Bordering states have an inherent propensity to engage in conflict, but they also have a tendency to engage in an arms trade that leads to mutual economic growth. As the authors wrote, "good neighbors make good neighbors" (Shinn and Ward 1999, pg. 815)

External threat perceptions by US defense policy makers can also contribute to decisions on defense budgeting. As China's economic might and GDP grows from quarter to quarter, so does its potential ability to divert resources to producing more modern arms (Sun and Yu 1999). While the percentage of China's GDP allocated toward the military has actually been decreasing since 1980, countries in the Middle East have seen their military spending as percentage of GDP remain above the world average of 4.2 percent (Gause 1997). The National Security Council (NSC) coordinates these types of threat assessments it receives from various foreign, defense, and intelligence agencies. The Department of Defense then formulates, implements, allocates resources for national

security policy (True 2002). The Planning, Programming, and Budgeting System (PPBS) serves as a performance-based budgeting system for this policy cycle.

US Defense Spending and Guns vs. Butter Tradeoffs

The current global war on terror has incredible costs, which would seem to force governments in NATO countries to scrutinize their spending on defense. At the same time, these countries have pressing needs for social welfare spending, especially as their populations grow in age. There are greater demands for increased spending on old age pensions, health care, and unemployment compensation. The existence of tradeoffs between defense and social spending would then seem intuitively appealing.

However, the main scholarly research concerning comparative governmental spending on defense and domestic spending agrees: there is little trade-off between "guns and butter." The current budget in the United States, with its large expenditures on defense and homeland security, while at the same time funding a long list of domestic programs, brings this topic to light.

European NATO members feel the crunch as well. The United Kingdom faces costs from the Iraq invasion. Germany and France must confront a military that needs transformation to become more mobile and self-sustaining for missions outside of Europe. Members such as Poland and Turkey find different viability in the alliance, but it is not clear what effect this has on the trade-offs of domestic spending. With this background in mind, a new study is in order, which focuses on the "guns and butter"

trade-off in NATO countries. This comparative analysis would be timely and of vital interest to policy-makers and analysts.

The following schools of research on this debate have emerged: Reagan-Thatcher, US domestic, incrementalism, comparative budgetary theory, comparative defense, and "peace dividend." Research on domestic and defense spending reached heightened interest in the 80's after the "Reaganomics" budgets.

Domke, Eichenberg, and Kelleher (1983) hypothesized conditions ripe for trade-offs but found no significant patterns of trade-offs in domestic and military spending. Other factors appear to have been driven "by separate sets of determinants" (Eichenberg et al. 1983, p. 33). Mintz and Huang (1991) looked for more indirect trade-offs between higher defense spending which they believed would crowd out economic growth and welfare spending. The authors' hypothesized that military spending would have a negative impact on economic growth and would thus negatively affect education spending. Mintz and Huang also found no short-term effects on trade-offs, but they did find some significant linkage to the possibility of long-term trade-offs.

Russett (1982) was also unable to find "regular trade-offs in the data from the US Office of the Management of the Budget records for the "last four decades of American history" (Russett, 1982, p. 775). Russett used OLS regression analysis to estimate the change in level of Education (DV) and change in military spending controlling for health, housing, productivity, capacity, GNP, taxes, population under 18, battle deaths, and Republicans. Even though it could be argued education spending comes primarily at

local levels, it was a robust list of independent variables. But the analysis yielded no clear-cut patterns.

Most of this literature originates from the US, is narrow in focus, and is relegated to the cold war. Murray and Viotti's (1982) comprehensive work is also forged under the bitter peace of the cold war, but it offers some interesting conclusions. The authors claim structuralism to be the biggest constraint on policy makers concerning defense spending. The bipolar cold war structure drove spending decisions and individual actors made decisions based on these threats and perceptions. Murray and Viotti admit that the rules and norms of a regime within a security alliance, such as NATO, have more "certainty" and therefore less a need for arms expenditures.

Wildavsky (1975) attempted a comparative look at budgetary theory and found institutional differences can be attributed to differences in budgetary processes. The US has separation of powers and a strong presidency. The UK has a strong cabinet, but its members of the House of Commons have little control over spending. Agencies in Japan must appeal to the Ministry of Finance and to the Liberal Democrats. They also negotiate in a curious process with an extra-parliamentary party. France has a hybrid president and prime minister system that, according to Wildavsky, is able to better close off the budgetary process to outside pressures. But despite these institutional differences, Wildavsky still concludes that the budgetary process is based on incrementalism.

Although many schools of thought on the guns and butter debate are evident, two underlying theories have been neglected in this literature: the "Color of Money"

argument, which is a favorite of experts in the field of defense acquisitions (Tack 2000) and the "free rider" concept, which is a tenet of microeconomics.

The "Color of Money" notion refers to ownership of the total cost of defense spending. Defense departments or ministries have different "pots" of money which are controlled by different sectors, for example; procurement, research and development, personnel, or maintenance and operations (Tack 2000). Since each sector has different accounting rules and parochial interests, which "guard" the pot, it becomes extremely difficult to chart savings or spending across the whole department. Further, not all these "pots" are adequately filled to perform the mission of preparing for war in order to keep the peace. These and other oversight constraints make it difficult to shift funds from one "pot" to another, which in turn make it more difficult to transfer "saved" funds to increases in social spending. In other words, institutional constraints (under this construct) make the guns and butter tradeoff less apparent.

"Free-riding" has to do with getting a good or service without paying for it. In the case of NATO, member countries have no incentive for increasing defense spending individually, especially in areas like procurement or research and development, if they feel that other countries can do it for them (Vlachos-Denglar 2002). Free-riding can help explain the large difference in defense spending between the United States and NATO countries (Russett 1970). It also helps explain some NATO countries' reluctance to conduct peacekeeping operations with "teeth" (Lepgold 1998), although some scholars

recognize the willingness for certain countries such as England and France to take a more active role in European security without the United States, i.e. Bosnia (Kramer 2002).

In this respect, the free-rider concept could negate the guns and butter argument. If countries are already spending less on defense, policy-makers have to make fewer "tradeoff" decisions. The "color of money" and "free-rider" premises help better explicate the guns and butter debate by modernizing the framework of the argument. Since most of the original guns and butter literature occurred during or immediately after the cold war, it is time to update theory and confirm new hypotheses.

Kamlet, Mowery, and Su (1988) devised simulations based on federal budgetary outcomes during the Reagan administration to judge fiscal impact from 1982-86. The authors hypothesized that Presidents following Reagan's term still would have spent runaway amounts on defense even without the tax cuts. They found that the tax cuts were the major contributor to the deficit. This type of deficit spending is an important economic argument against tradeoffs. The Keynesian dynamic of deficit spending during times of recession allows governments to keep spending on social programs, even in times of increased defense spending.

Other researchers search for tradeoffs in US spending on social programs and defense expenditures. Beck (1983) examined various tools of analysis for estimating time series models in US budgetary policy and identified spending shifts before or after politically important times such as elections or administration changes. Kamlet and Mowery (1987) looked at more specific macroeconomic and political factors, which may

affect budget priorities between the US Executive Branch and Congress. They found defense budgets to have more expenditure interdependence with economic factors such as inflation and unemployment. These factors of interdependence were more pronounced in the executive branch than in Congress.

Mintz and Huang (1991) looked at the indirect spending effects of military spending on education spending in the US from 1953-1987. They found no short-term effects, but significant negative long-term effects. Peroff and Podolak-Warren (1979) tested four different tradeoffs concerning defense and health spending in the US from 1929-1974. These tests were based on time, size of defense share of spending, the stage of the budgetary process, and type of financing. They found evidence of health and defense spending tradeoffs during the Vietnam War, but found no overall tradeoffs occur during aggregate times of war and peace. Russett (1970) found the aftereffects of war to be significant in post-war spending habits. He called this phenomena the "ratchet" effect" referring to a country's inability to reduce defense spending to pre-war levels following conflict. Russett (1982) also examined health, education, and defense tradeoffs from 1941-1979 controlling for economic, political, and demographic changes. He found no major evidence of tradeoffs and no evidence of Republican Party influence on tradeoffs. Perhaps the most compelling portion of the literature is based on Wildavsky's (2004) theory on incrementalism in the budget process. Auten, Bozeman, and Cline (1984) challenged this notion with their sequential budget model, which focused on top-

down budget parameters, influence of interagency competition, and the connection between revenues and appropriations.

Berry (1986) identified one of the main limitations of empirical studies in the budgetary process: methodological and theoretical problems in the independent and dependent variables (ratio variable problems). He offered an alternative approach using a null hypothesis combined with the concept of incrementalism and other "built-in" structural variables. Berry found that using simulated data in these alternative approaches helps alleviate the ratio variable problem.

The comparative literature of western democracies focused mainly on the Cold War period. Murray and Viotti's (1982) analysis was admittedly affected by Waltzian structuralism and foreign policy pressures on defense spending. Caputo (1975) suggested using thicker case studies instead of relying on statistical analysis. He recommended these case studies be focused on economic and political factors. Chan's (1995) review of post-Cold War literature found that political and economic constraints discourage change to the pre-Cold War paradigm of no tradeoffs in military and social spending. Domke, Eichenberg, and Kelleher (1983) made the most ambitious and complex comparative model, but found no real short-term evidence of tradeoffs, but they found evidence of long-term tradeoffs taken together model. Eichenberg's (1984) later study on West Germany focused on a disaggregate model of West German social spending. He found little evidence of tradeoffs and any tradeoff could be attributed to bureaucratic politics.

Investigators of peace dividends and defense expenditures looked for signs of economic growth or contraction among countries after the Cold War. The peace dividend is the idea that savings from a reduced military budget can be transferred to social programs and invested in physical or human capital. Peace dividend proponents believe resources allocated toward defense can be used to sustain other industries, which create economic growth. Mintz and Stevenson (1995) first pointed out the difficulty in modeling these phenomena as few researchers have resolved this problem without significant methodological difficulties. Most have used cross-sectional data. Mintz and Stevenson (1995) used time-series data from 103 countries to estimate economic growth. They analyzed defense spending with a multisectorial externality model. In other words, the Mintz-Stevenson model accounted for effects of defense spending externalities creeping in to other sectors of the economy. The authors found that military spending had "a significant positive effect on growth in only about 10% of the cases" (Mintz and Stevenson 1995, pg. 1995).

Ward and Davis (1992) used time series data for the US from 1948 to 1990 and found evidence that military spending hamstrings economic growth. Although the authors concede, that military spending presents "spin-off benefits for private sectors of the economy" (Ward and Davis 1992, pg. 754). The claimed government spending is less efficient than the private sector because federal spending has lower factor productivities. Ward and Davis (1992) make a clear contribution by outlining the political implications of defense budget cuts in the 90's—cutting defense spending to

reduce the overall budget deficit may help boost GDP, but cutting defense spending also means cutting jobs in some Members' home districts.

Heo and Eger (2005) also looked at indirect effects of defense spending. The authors used US defense spending data from 1951 to 2000 and estimated economic growth with a "multilink" model with four sectors of production (investment, employment, technology, and exports). The authors claimed this model better tested "the direct and indirect impacts of defense spending on growth" (2005, pg. 792). Heo and Egger (2005) found a negative relationship between defense expenditures and economic impacts concerning factors of investment and exports, while the overall effect on growth is small. The authors reported a 1-percent increase in defense spending means about a 0.12 percent decrease in economic growth (2005, pg. 808). Their findings showed a negative indirect effect on economic growth through investment and export. The investment effects were with a year lag while the effects from exports occur immediately and with a year lag.

Selected Methodological Approaches to US Defense Spending

Incremental scholars (Ostrom 1977; Wildavsky 1992) focused on "base"-setting for budgetary policy. Most models in this area introduce economic variables such as unemployment or inflation; or political variables such as party of the chief executive and election year. These models also considered external factors such as international threats

and environment. However, incrementalists argued that inertia keeps spending from climbing too much higher above the previous year's level.

Auten et al. (1984) introduced a sequential model, which focuses on "top-down" budget parameters, the influence of interagency competition, and the connection between revenues and appropriations. This model was compared to an incrementalist model which includes budget constraints and other external economic and political variables. The authors found the sequential model has better explanatory powers than the incrementalist model.

Beck (1983) examined various tools of analysis for estimating time series models in US budgetary policy. The article is of importance in identifying spending shifts before or after politically important times such as elections or administration changes. Beck found that the Brown, Durbin, and Evans moving regression is most effective in determining parameter variation, but not as effective in testing hypotheses.

Fischer and Kamlet (1984) unveiled a new model called the Competing Aspiration Levels Model (CALM), which explored trade-offs in defense, non-defense, and fiscal policy. They tested it on US presidential budgetary data from 1955-1980. The authors found that each ensuing year provides a "secure" budgetary base for the next, which supports the traditional incremental argument. Duval (2003) posited that model specification errors in equations from the 'guns and butter' literature have led to less than remarkable results. Duval's new specification focused first on the stochastic/variable

parameter relationship of the classical model then shows how the developed mathematical model empirically confirms the guns and butter trade-off.

The Local Economic Impacts of US Defense Spending

Neu (1990) offered a "general framework for thinking about how defense spending may affect the civilian economy" (Neu 1990, pg. 2). Russett (1970) concluded that these economic effects are harmful, "not only does defense procurement benefit some regions more than others; it has a regressive effect on the nation's income structure" (Russett 1970, pg. 129).

Brace (1993) focused on state economies and found that states receiving more defense projects showed more economic growth all things equal. Sandler and Hartley (1995) found that defense firms can have higher profit margins than non-defense firms (Rundquist and Carsey 2002). Cain, Ferejohn, and Fiorina (1987) took into consideration the primary mission of the Pentagon—national security. However, they reported that Members of Congress certainly understand the "salience" of the resulting economic development and job growth (Rundquist and Carsey 2002).

Markusen (1986) claimed that defense spending can be viewed as a form of Keynesianism and that it serves to ignite macroeconomic output. Clayton (1962) wrote the classic case study on economic impacts of defense spending. He found that California received the "lion's share" of the military defense budget because of the existence of research and development facilities in the state, namely the University of

California, Stanford University, and Cal Tech (Clayton 1962, pg. 287). A high percentage of scientists and engineers are educated in the state and choose to remain after graduation. Clayton (1962) found that the Pentagon often awarded major contracts to a single prime contractor and that these contractors were often located in California. The state's large number of military installations also added to the mix. Defense contractors recruited many retiring military officers after they retired from military service. These retirees added to the competitive advantage and industrial base of the California defense military industrial complex (Clayton 1962).

Clayton also determined that Los Angeles dominated in terms of the geographic location where military contracts were awarded. The city landed 61-percent of the total awards in 1959. San Diego County had the highest concentration of defense workers "where three-fourths of the (then) 75,000 workers in manufacturing were employed in defense industries" (Clayton 1962, pg. 288). This economic growth and opportunity made the defense industry California's number one manufacturing sector, and not surprisingly, made it the fastest growing state in the union (Clayton 1962).

Atkinson (1993) turned the conventional analysis around in this strain of literature. Instead of focusing on defense spending, he examined defense spending cuts and regional economic impact from the so-called "peace dividend" and spending draw-down after the Cold War. First, Atkinson recapped the "spatial concentration" of defense spending—"half of all prime contract awards go to just seven states comprising one-third of the U.S. work force" (Atkinson 1993, pg. 108). This observation echoed findings by O

hUallachain (1987) and Markusen et al (1991). Economic impact is focused on "Gunbelt" areas—the military remapping of regions based on defense industrial production (Markusen et al 1991).

Other researchers found defense Research and Development spending to be focused among certain universities causing a proclivity toward certain states. Stousky (1986) observed that 56-percent of these types of R&D contracts went to ten elite universities. Similarly, Mayer and Downs' (1983) study on regional labor migrations found a trend between defense spending and population movement from the "rust belt to the sun belt" (Warf and Glasmeier 1993).

Atkinson (1993) reported that the distribution of defense prime contracts is more concentrated in urban areas than rural areas (pg. 109). He revisited the debate concerning the use of prime contracts and subcontracts as the dependent variable. He posited that the reason for this concentration is due to prime contractors dispersing subcontracts to companies in the vicinity (Atkinson 1993, pg. 109). Pinpointing the effects of defense spending is difficult to determine because the Department of Defense does not distribute statistics on subcontracts. Moreover, researchers estimated that half of all defense contracts are subcontracted (Atkinson 1993 pg. 109). Atkinson's (1993) methodological contribution of DEIMS (Defense Economic Impact Modeling System) as a measurement for employment impact from prime and subcontractors is significant because it is the metric used by practitioners and policy makers. At the time, Atkinson was working as a

Congressional analyst on Capitol Hill, and this shows how applied research methodologies from practicing analysts can make the transition to academia.

Atkinson (1993) also identified the "winners and losers" in defense spending retrenchments, particularly the "losers" in local economies without substantial size and diversity. The "winners," on the other hand, get fatter while economic distribution of benefits formerly present during the Cold War are not redistributed in other forms to the "losing" states.

Atkinson (1993) posed a question for future investigation which happens to be one of the main research questions of this dissertation: "To what extent will the decline in defense spending shift economic activity away from the Gunbelts to other areas of the nation that have fared less well economically in the last ten years" (Atkinson 1993, pg. 120).

The primary research topic of the migration literature (population movements based on geographic concentrations of defense spending) is the effect of government policy on defense migration. A subtopic of the migration literature is the mobility of the workforce and the ability of the industry and government to subsidize employee moving costs (Ellis, Barff, and Markusen 1993; Greenwood, Chalmers, and Graves 1989). Most engineers and scientists in the defense industry must be recruited from other states Ellis et al 1993, pg. 183).

Many of the studies concerning the investigation of defense worker mobility ignore the economic impacts of defense spending (Ellis et al 1993, pg. 183). The Ellis et al (1993) study is an important contribution to the migratory practices of occupation specific industries that will be examined during the section on Creative Class in the next section of this review. It found significant linkage between defense spending concentration and migratory patterns of defense industry scientists and engineers. These findings are potentially salient to policy makers as they look to increase employment or struggle to retain workers in their locales. "Highly trained workers tend to be the most mobile and, therefore, potentially critical to regional economic development" (Ellis et al 1993, pg. 183).

The implication of this type of defense spending is further illustrated by O hUallachain (1987), who focused on the industrial base and the specialization in defense spending. O hUallachain (1987) determined that a significant positive relationship existed between a "state's recent manufacturing employment growth and its degree of specialization in defense production" (pg. 208).

Campbell (1993) took this logic a step further and equated defense spending as a pro forma industrial policy. Campbell built on Markusen et al's (1991) work on the Gunbelt—that region in the US where the defense industrial base flourishes—the Pacific, South Atlantic, New England, and Mountain Regions. Campbell (1993) found that Midwestern universities acted to subsidize the growth of the Gunbelt by exporting scientists and engineers to that region.

Critique and Deficiencies in the Literature

Atkinson (1993) focused on the winners and losers of the Gunbelt--those communities who were able to take advantage of their industrial base, political savvy, and geographical location to grow economically from defense spending during the Cold War. Most of the economic geography literature concerning defense spending was focused on the late Cold War period: 80's to the early 90's. Atkinson (1993) posed an important question that is still deficient in today's literature: "To what extent will the decline in defense spending shift economic activity away from the 'Gunbelts' to other areas of the nation that have fared less well economically in the last ten years?" (1993, pg. 121). This question has not been addressed in the Nineties, during the defense spending drawdown or during the spending upswing after 9/11. It is therefore a good time to revisit the changes in the Gunbelt and regional economic growth from defense spending.

Researchers who have reviewed the urban economic development literature have noticed a need for an update for the 21st century. There have been few empirical tests of economic development theory on large N groups of cities. "…One thinks of a significant number of researchers using econometric techniques and models to determine if economic development programs work, that is, actually do create jobs and wealth. Unfortunately, no such volumes or such research activity has ever happened. In recent years only a handful of economists have been interested in (local) economic development…" (Bingham 2003, pg. 240).

Bingham (2003) cited Wolman's (1996) review of the political science literature concerning economic development. Although Wolman's review outlined the policy drivers behind economic development activity, economic outcomes sought by local officials, and variations in local economic policy, it did not include the role of Congressional members and distributive politics.

Few studies have tested Florida's theory on economic development and the Creative Class. Hoyman and Faricy (2006) empirically tested the migration of members of the Creative Class and the resulting economic growth. However, the results are currently unpublished. Peck (2005) summarized the usual criticisms of Florida (2002). The Creative Class is "anti-family values", "cosmopolitan elitism," "hedonism," and "cultural radicalism" (Peck 2005, pg. 741). Peck (2005) continued with Marcuse's (2003) review of the Rise of the Creative Class, "well written in an almost chatty style, it reads like a series of well-crafted after-dinner speeches at various chamber of commerce dinners" (2005, pg. 741). Hardly a ringing endorsement of Florida's scholarship and that is from one of the author's former teachers.

To be sure, The Creative Class theory is a relatively new concept, so that is one explanation for its lack of empirical investigation activity. One reason is the Creative Class Index itself. The index does not vary from year to year because it is not "issued" each year. Additional scholarly work has been done on social capital as it has entered the lexicon of sociology, political science, and economics. However, the literature has been deficient on empirically testing social capital and economic impacts on a group of

American cities. How does the Creative Class index compare to the Social Capital Index in explaining economic growth?

Scholars have also explained the geography of defense spending and economic development in terms of Congress, distributive politics, and party and committee effects. How does distributive politics perform as an explanation of economic growth compared to the newer theories of social capital and Creative Class?

Case studies on certain states have allowed researchers to examine the political, social, and economic impacts on economic development. Goldstein and Luger's (1993) investigation of high-tech development in North Carolina and Utah is a good example of why case study research can expose important contextual evidence that could normally be hidden in a statistical analysis. For example, North Carolina, with its access to three major research universities, ample real estate, and access to a major airport, was able to recruit large high-tech firms, which served to anchor its research park at the early stage. These initial recruitment successes helped create technical jobs and helped keep talent in the state. Utah focused its high-tech development strategies on "incubating and nurturing" businesses created by the existing labor supply. These efforts were successful, in part, because the state had a large population segment of Mormons and Mormons were thought to have an existing "entrepreneurial culture," which helped the state build high-tech milieus. This in turn led former Utah residents to move back to the state.

The question posed by Goldstein and Luger (1993) was: "Can high-tech development be uniform across different regions; can economic policy be

interchangeable between the two states" (1993, pg. 166)? Their answer was no. Regional differences matter. Therefore, a case study on high-tech development for West Virginia would be apropos since research parks already exist in Charleston and Fairmont. The state has also tried a number of approaches to spur a high-tech economy. Morgantown will have the first building of its research park completed in 2007. It is then necessary to examine some of the strategies and theories behind states such as West Virginia's high-tech growth, especially concerning political, social, economic, and national security dimensions.

Chapter Two: Theory, Hypotheses, Methodology, and Data

Theory and Hypotheses

The main research question is what causes economic growth among a 272 city sample from 2000-2004? Defense spending after 9/11 has skyrocketed; did this influx of income from defense prime contracts into cities explain economic growth? Researchers have claimed domestic defense spending crowds out investment in other areas of the economy. While others have noticed an unequal distribution of defense prime contracts to certain states.

Florida (2002) offered a theory that focused on the economic value of people. He posited that talented, creative, and tolerant will seek out geographic areas where they can find other talented, creative, and tolerant people. These areas will then thrive economically. The first hypothesis is that cities with a higher creative class index will have an increase in economic development in terms of greater per capita income and the creation of jobs in the information sector. The logic here is that cities that have a technology foundation and the talented and creative people in place will be more able to take advantage of an influx in defense spending and multiply the defense benefits into new jobs and growth. The creative cities are the types of cities that already have or can attract many scientists and engineers who work in defense.

Does Putnam's (2000) Social Capital Theory hold weight as an explanatory variable in the same model? Are certain geographical regions able to turn an influx of defense spending into greater economic development because of their advantages in

social capital? The defense community is a social network comprised of active, reserve, and former military personnel, defense contractors, interest groups, lobbyists, civilian DoD personnel, and others. They speak a certain language, join certain clubs, sometimes socialize a certain way, and overall have a separate culture. Geographical areas that have a higher representation of this culture should have higher incidences of trust, embededdness, reciprocity, and networking than areas without the defense community aspects. It was hypothesized that areas with a high social capital will stand to gain more from the post-9/11 defense build-up in terms of economic development.

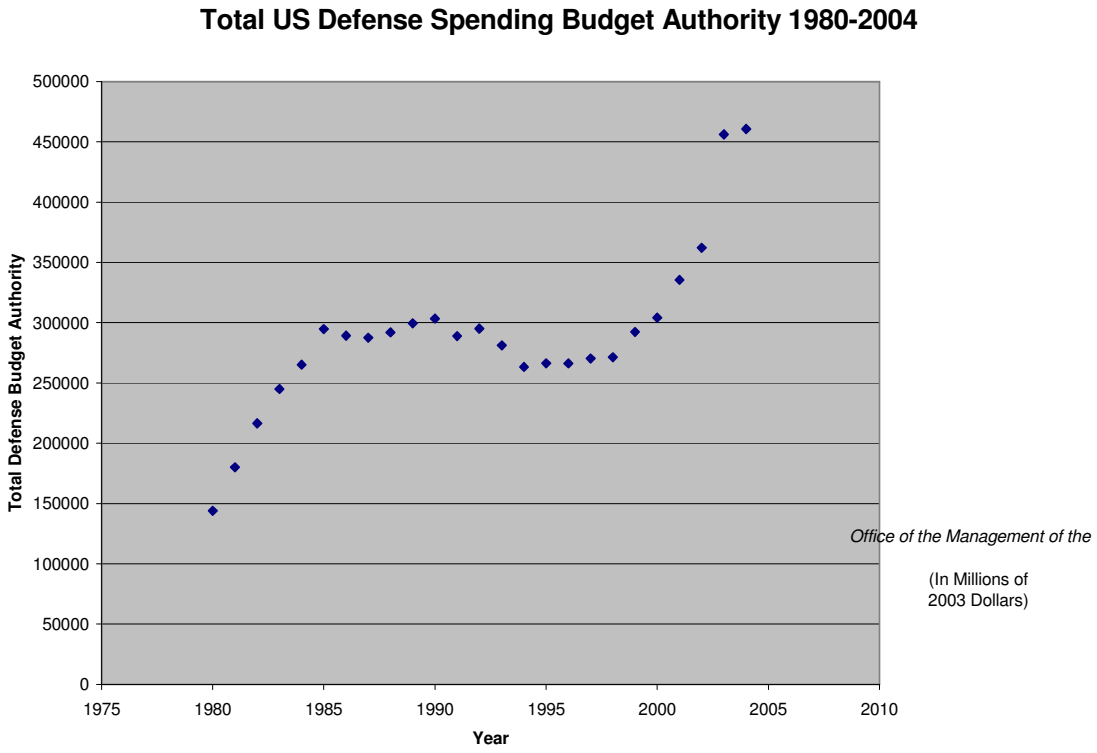
It was also hypothesized that cities in states, which have "economic freedom"—economic policies, which are based on neo-classical liberal foundations of decreased government intervention in commerce better explains economic growth.

Finally, the role of distributive politics was examined. Does the Congressional member work to direct "pork barrel" defense spending project to the home district? Does membership on an Armed Services, Appropriations, Ways and Means, or Rules committee affect this? Does political party matter in this construct?

Therefore, the project tested four main explanatory variables: the effect of defense spending, Creative Class, social capital, and the effect of distributive politics (Congressional Committee and party) on Total Personal Income growth and Total Employment growth. This model is an initial attempt to explore the economic impact of defense spending coupled with the externalities of social capital, creative class, and distributive politics.

The secondary question then is where is the money going? Are the prime contracts in defense distributed in an unequal manner? To what extent are rich cities getting richer on defense contracts? This study also attempted to explain the logic that underlies certain theories on defense spending. Defense spending dropped in 1993 after the collapse of the Soviet Union, stayed constant through the 90's, and increased sharply beginning in 2000.

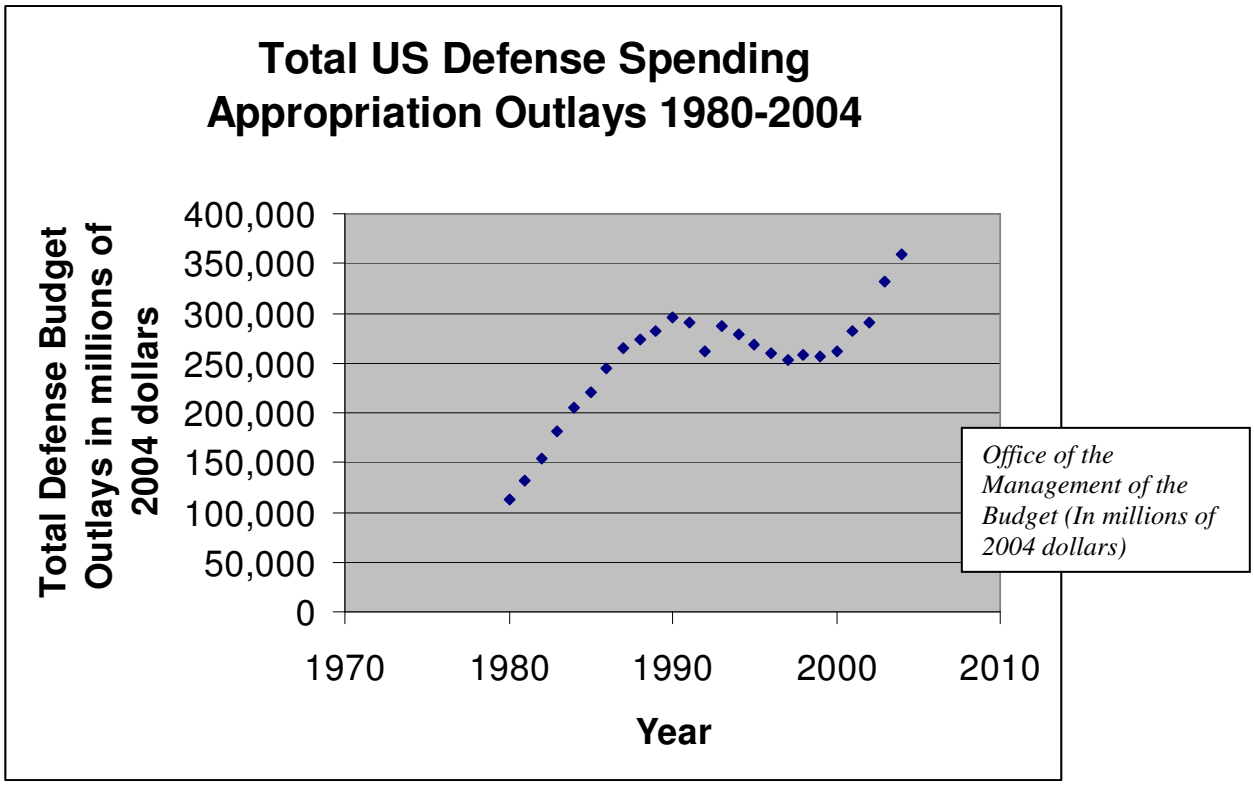
Figure One: Total US Defense Spending Budget Authority 1980-2004



The table above represents total US defense spending authority. True (2002) argued that budget authority "is a more comprehensive measure than appropriations and a more timely link to congressional decision making than outlays" (True 2002, pg. 182).

An additional figure below shows US defense spending appropriations.

Figure Two: Total US Defense Spending Appropriations Outlays 1980-2004



The two figures are similar; however, graphing the defense appropriations outlays is more appropriate for this study since one of the explanatory variables is Defense Prime Contracts (outlays). Rational adherents would argue that steep points in the curve would reflect US response to the geopolitical threat environment. Incrementalists would say that certain parts of the curve show consistent incremental growth while other periods show inertia. Punctuated equilibria theorists would hold for "episodic" policy bursts.

The two outlier points represent 2003 and estimates for 2004. It should be noted that even though this is quite high in real dollars it accounts for only 3.7% and 4.0% of GDP, which is still lower than 1983's national defense spending of 6.1% of GDP during the Reagan-era build-up.

Finally, this project investigated inside the "black box" of state economic policy decision making by examining strategies for economic development. How much are states intervening in markets to promote economic growth and attract new businesses? To what extent are states following their stated economic policy strategies? Case studies were conducted on West Virginia and Kansas to explicate economic policies in rural states and show the differences in regulatory philosophies between the two.

Methodology

For the first substantive chapter, Multivariate Ordinary Least Squares (OLS) analysis was conducted for two regression models on the dependent variables Total Personal Income Growth and Total Employment Growth. The cross-sectional data set consisted of 272 cities in the 48 contiguous US states from 2000-2004.

The second substantive chapter used Difference of Means testing (t tests) to show the growth of inequality distributions among the cities' defense benefit per capita. It also utilized Lorenz Curves and Gini Coefficients—techniques from poverty and inequality economics—to represent changes in inequality distributions for Defense Prime Contracts awarded.

The third substantive chapter consisted of case studies based on the economic policy strategies of West Virginia and Kansas. These states were selected because they are rural, landlocked, low in population growth, and split evenly in the extent to which their state governments are rated as "economically free" by the Pacific Research Institute. These research methods will be described in further detail within the substantive chapters.

Data

The various sources of data used in this study are listed here. The data sources will be explained in further detail in the next chapters. Variables from the multivariate regression analysis are named in quotes after each of the data sources:

- DoD Statistical Information Analysis Division. Variables: "Gunbelt;" and "Military Base."
- Department of Defense Prime Contract Awards by State and Region. Variable: "Defense Benefit Per Capita."
- US Census. Variable: "Population Change."
- Statistical Abstract of the United States
- US Census County Business Patterns Economic Census. Variable: "Manufacturing Jobs Lost."
- State and County Quickfacts
- USA Quick Facts
- Places Rated Almanac. Variables: "Climate;" and "Proximity to Major Airport."

- US Department of Commerce, Bureau of Economic Analysis. Variables: "Total Personal Income Growth;" and "Total Employment Growth;" and "Cost of Labor Change."
- US Department of Labor, Bureau of Labor Statistics. Variable: "Labor Supply Change."
- Social Capital Index from Rupasingha et al (2006). Variable: "Social Capital Index."
- Creative Class Index from Florida (2004). Variable: "Creative Class Index."
- Economic Freedom Index from Pacific Research Institute. Variable: "Economic Freedom Index."
- Clerk-US House of Representatives. Variables: "Party;" and "Seniority" and "House Republican on Armed Services;" and "House Democrat on Armed Services;" and "Member House Appropriations;" and "Member House Appropriations;" and Member House Energy and Commerce;" and "Ways and Means and Rules."
- US Senate. Variables: "Senate Republican on Armed Services;" and "Senate Democrat on Armed Services."
- West Virginia 'A Vision Shared' Economic Development Strategy by Market Street Services, Inc., December 2001.
- West Virginia Development Office
- Kansas Prosperity Summit
- Kansas Governor's Economic Policy Council
- Kansas State Economic Revitalization Plan

Chapter Three: Multivariate Statistical Analysis for US Cities Explaining the Growth in Total Personal Income and Total Employment from 2000-2004

Introduction

What explains urban economic growth in the US? This chapter tested competing theories of economic development including the Creative Class Theory, Social Capital, Economic Freedom, Distributive Politics, and defense spending. The theories tested are a mix of the old and the new. Creative Class and social capital emerged in the mid to late Nineties, while Economic Freedom has entered a growth period in the literature beginning in the Nineties, especially among economic think tanks. These think tanks have devised indices for Economic Freedom, which utilized individual countries or states within countries as the unit of analysis. Distributive politics (Lowi 1964, 1979) emerged as one of the dominant theories of government spending practices in the Sixties and Seventies and continues to appear in the literature today. Defense spending and economic growth entered a growth period in the Eighties during the Reagan defense build-up. It remains to be seen whether defense spending, beginning in 2000, followed by 9/11; the current war in Iraq; and the Global War on Terror; will spawn more research in this area in the coming years.

Statistical Analysis

What explains the economic impact of the increased defense spending after 9/11? To what extent do the theories of Creative Class (Florida 2002), Social Capital (Putnam

2000), Economic Freedom (Pacific Research Institute 2006), and Distributive Politics (Lowi 1964) affect economic growth?

These questions were analyzed using OLS multivariate regression analysis. Two econometric models used two different dependent variables for economic development: Change in Total Personal Income Growth and Change in Total Employment Growth. The sample was made up of 272-cities in the 48 contiguous US state taken from the Metropolitan Statistical Areas (MSAs) originally selected from Florida (2004).

Model One: Total Personal Income Growth

Percent Change in Total Personal Income Growth$= ß_0 + ß_1$ Creative $\text{Class}_1 + ß_2$ Social $\text{Capital}_2 +\% \; ß_3$ Defense Benefit $\text{Growth}_3 + ß_4$ $\text{Population}_4 + ß_5$ Regional $\text{Factors}_5 + ß_6$ $\text{Economic}_6 + ß_7$ $\text{Labor}_7 + ß_8$ $\text{Political}_8 + \beta_9$ $\text{Location}_9 + \beta_{10}$ $\text{Military}_{10} + \varepsilon_i$

Model Two: Total Employment Growth

Percent Change in Total Employment Growth$= ß0 + ß_1$ Creative $\text{Class}_1 +$ ß2 Social $\text{Capital}_2 +\% \; ß_3$ Defense Benefit $\text{Growth}_3 + ß_4$ $\text{Population}_4 + ß_5$ Regional $\text{Factors}_5 + ß_6$ $\text{Economic}_6 + ß_7$ $\text{Labor}_7 + ß_8$ $\text{Political}_8 + \beta_9$ $\text{Location}_9 + \beta_{10}$ $\text{Military}_{10} + \varepsilon i$

Table One: Summary of Dependent Variables

Dependent Variable	Description	Source
% Total Income Growth	2000-04 % Change in Total Income Growth in city	US Dept. of Commerce Bureau of Economic Analysis
% Total Employment Growth	2000-04 % Change in Total Employment in city	US Dept of Labor Bureau of Labor Statistics

Table Two: Summary of Independent Variables

	Independent Variable	Description	Source	Hypothesized Rel.
Key Explanatory	**Creative Class**	Creative Class Index (City)	Florida (2002)	Positive
	Social Capital	Social Capital Index (County)	Rupasingha et al (2006)	Positive
	Economic Freedom Index	Index measures extent to which a state promotes individual economic interests (0=Most Free to 50=Least Free)	Pacific Research Institute	Negative
	Defense Benefit	Defense Benefit Per Capita: % Growth 00-04 (County)	DoD *Prime Contract Awards by State and Region* and US Census	Positive
Regional	**Population Change**	2000-2004 Percent City Population Change	US Census	
	South **West**	Binary Variables controlling for regional population growth	Bingham and Meier (1993)	Positive for 'South' and 'West'
	Texas	Binary Variable controlling for over-sampling and disproportionate pop. Growth (cities in Texas)	1=Texas City; 0=Non-Texas City	
	Florida	Binary Variable controlling for over-sampling and disproportionate pop. Growth (cities in Florida)	1=Florida City; 0=Non-Florida City	

	Climate	Index measuring winter mildness, summer mildness, seasonal effect, and weather severity	*Places Rated Almanac*	
Economic	**Technology Park**	Research Park affil. with univ. in county(Dummy)	Drescher (1998); Web Search	Positive
Economic	***%* Manufacturing Jobs Lost**	Proportion of Manufacturing Jobs to Total Jobs; Percent Loss in city from 2000-2004	*County Business Patterns Economic Census*; Wial and Friedhoff (2006); Hersh (2003)	Negative
Labor	**Labor Cost**	Average Wage Per Job in county 2004	Bureau of Economic Analysis	
Labor	**Labor Supply**	City Unemployment Rate (NOV 2005)	Bureau of Labor Statistics	
Military	**Gunbelt**	States in Top 20 of US Defense Prime Contract Awards (Dummy)	Markusen et al (1991)	
	Military Base	Military Installation in County (Dummy)	Dept. of Defense	
Political	**Political Party of House Member**	Republican Member in District (Dummy)	Clerk-US House of Rep.	
Political	**Seniority of House Member**	House Member Seniority in Years	Clerk-US House of Rep.	
Political	**House Republican on Armed Services**	Republican Member on House Armed Services Committee (Dummy)	Rundquist and Carsey (2002) Office of the Clerk-US House of Rep.	Positive

Political	**House Democrat on Armed Services**	Democrat Member on House Armed Services Committee (Dummy)	Rundquist and Carsey (2002) Office of the Clerk-US House of Rep.	Positive
	Member House Appropriations	Member on House Appropriations Committee (Dummy)	Rundquist and Carsey (2002) Office of the Clerk-US House of Rep.	Positive
	Member House Commerce	Member on House Energy and Commerce Committee (Dummy)	Office of the Clerk-US House of Rep.	
	House Ways and Means or Rules Committee	Member on House Ways and Means or Rules Committee (Dummy)	Office of the Clerk-US House of Rep.	Positive
	Senate Republican on Armed Services	Republican Member on Senate Armed Services Committee (Dummy)	www.senate.gov	Positive
	Senate Democrat on Armed Services	Democrat Member on Senate Armed Services Committee (Dummy)	www.senate.gov	Positive
Location	**Proximity to Major Airport**	Distance from city to Nearest major airport	Places Rated Almanac	Negative
	City Location and Size of City	Ordinal number measuring the distance and size of city compared to adjacent metro area (1-6). "1" is Metro area >500,000	Bingham and Meier (1993)	Negative

Dependent Variables

Total Personal Income Growth: According to the US Department of Commerce's *Bureau of Economic Analysis*, Total Personal Income is the income that is received by all persons from all sources. It is calculated as "the sum of wage and salary disbursements, supplements to wages and salaries, proprietors' income with inventory valuation and capital consumption adjustments, rental income of persons with capital consumption adjustment, personal dividend income, personal interest income, and personal current transfer receipts, less contributions for government social insurance." (www.bea.gov)

The Total Personal Income (TPI) of an area is the income that is received by, or on behalf of, all the individuals who live in the area. Therefore, the estimates of personal income are presented by the place of residence of the income recipients. The specific measurement for this variable is a percentage of TPI growth for each city from 2000-2004. TPI is the standard measurement of income used by current regional development economists. Data was taken from the Bureau of Economic Analysis from the Department of Commerce.

Total Employment Growth: According to the *Bureau of Economic Analysis*, Total Employment for states and local areas "is made up of estimates of the number of jobs (full-time plus part-time) by place of work. Full-time and part-time jobs are counted as equal weight. Employees, sole proprietors, and active partners are included, but unpaid family workers and volunteers are not included" (www.bea.gov). This specific

measurement for this variable is a percentage of Total Employment Growth in each city from 2000-2004. Data was taken from the Bureau of Economic Analysis from the Department of Commerce.

Assumptions and Caveats: *These variables are standard measurements used by regional economists to estimate economic development and growth. However, many social scientists use local unemployment rate or per capita income to measure economic growth. The downside of unemployment rate, according to some regional economists, is that it does not explain the growth of rapidly growing locations due to transitional and seasonal employment in those areas. Using unemployment rate as the measure for economic growth give some regions a false appearance of prosperity. An area may have low and stable unemployment, but there may be few new jobs created and less economic opportunity in those communities. Therefore, total employment growth is a better measure of economic growth.*

Per capita income is seen as a problematic measurement by economists because there is regional variation in the cost of living among different areas of the US. For example, southern states have lower per capita income because these states have a lower cost of living in the first place. Total Personal Income is thus a better measure of economic growth because it is a equal measure from region to region.

Key Explanatory Variables

Creative Class Index (CCI). Florida (2002). CCI is an "index calculated on three equal parts: Technology, Talent, and Tolerance (Florida 2002, pg. 353). "Talent" is derived from the number of "creative" occupations in a city. These creative occupations are made up of the Super-Creative Core, which is comprised of creative occupations in such fields as Information Technology, Science, Engineering, Architecture, Art, and Music. Creative Professionals are comprised of occupations in Management, Business, Healthcare, and Legal fields. Other Florida (2002) measures, which comprise the CCI, include:

Innovation Index-Measures the patents per capita from US Patent and Trademark Office.

High-Tech Index-(Milken Institute) Ranks metropolitan areas based on a combination of two factors: its high-tech industrial output as a percentage of total US high-tech industrial output; and the percentage of the region's own total economic output that comes from high-tech industries compared to the nationwide percentage.

Bohemian Index-Measure of artistically creative people such as authors, designers, painters, sculptors etc. based on 1990 Decennial Census Public Use Microdata Sample.

Florida's (2004) update of the Creative Class Index hinges on the changes of tolerance measures that have been expanded from new US Census data. The new tolerance measures include the Melting Pot Index (number of foreign born people), Bohemian Index and a Racial Integration Index (Florida 2004, pg. 353). Six racial/ethnic groups were taken into consideration:

- White/non-Hispanic
- Black/non-Hispanic
- Asian/Pacific Islander, non-Hispanic
- Other races (including mixed races), non-Hispanic
- White, Hispanic
- Nonwhite, Hispanic

"For each MSA, we captured the percentages of races/ethnicities within each Census Tract and compared these percentages to the racial and ethnic makeup of the total MSA population. The more the average census tract varied in racial/ethnic makeup from

the MSA as a whole, the lower the MSA's score. The goal is to detect regions where diversity is only apparent—where the MSA is racially and ethnically mixed, but within the region the different groups lead separate lives in separate neighborhoods" (Florida 2004, pg. 353-4).

Hypothesis: The main theory is that creative communities, those cities with talented, educated, tolerant, and technical people will be better equipped and have the foundation to engage the multiplier effect of greater defense spending. These creative cities know how to turn the multiplier effect of defense spending into economic growth. A positive relationship is hypothesized between the creative class index and economic growth.

Defense Benefit Per Capita: (Rundquist and Carsey 2002) The Defense Prime Contract Award (measured in dollars) is one of the standard variables economists use to measure the amount of defense spending distributed geographically in the US. It is not without its detractors. The biggest reason for skepticism is that the measurement does not take into consideration the effects of subcontracts and how those subcontracts are dispersed geographically. A debate on the usage of this variable is a lively one in the literature; however, the consensus is that most subcontracts are awarded to companies fairly close to the original prime contractor (Atkinson 1993). Therefore, using the prime contract figure should not detract significantly from the results. Defense Prime Contract monetary awards are taken from the Department of Defense Statistical Information Analysis Division's *Prime Contract Awards by State and Region*.

Economists also use Defense Benefit Per Capita, which is a derivative of the previous variable. Defense Benefit Per Capita is simply the amount of Defense Prime Contract divided by the population of the particular unit of analysis: state, county, or city. Population data is from the US Census Bureau.

Hypothesis: Following the premise that defense spending acts as a multiplier and as a form of Keynesianism to boost local economies (Markusen 1986), a positive relationship is hypothesized between defense benefits per capita and economic growth.

Social Capital Index: Rupasingha, Goetz, and Freshwater (2006) have expanded on the work of Putnam (2000) and many others and have created a county-level Social Capital Index for the US. The logic behind social capital is that is reduces the transaction costs of doing business by in turn reducing the friction and increasing trust in social relationships (Rupasingha et al 2006, pg. 84). In addition to Putnam (1995) and Fukuyama (1995), Wollcock (2001) defined social capital as "norms and networks that facilitate collective action…formation of groups and other forms of civic activity or collective action are at the heart of this definition" (Rupasingha et al 2006, pg. 84).

The Rupasingha et al (2006) index is focused on individual and community-based associations that are "theoretically important determinants of social capital" (Rupasingha et al 2006, p. 83. "Our approach to dealing with measurement issues follows from the argument that one form of social capital manifests itself in individuals through their participation is associational activities" (Rupasingha et al 2006, pg. 88). In short, the more people join in clubs and civic groups, the higher the social capital in a given

community. The index is based on the number or organizations, associations, and clubs at the county level (per 10,000 people) such as political, professional, business, labor, and religious. It also factors in census participation and voter turnout. It should be noted that the number of civic organizations and clubs in only one component of social capital.

The problem with the Rupashingha et al (2006) index is its over-sampling of civic associations. This index does not factor in the concepts of "trust" and "reciprocity" which are important tenets of Social capital. Rupasingha's (2006) index also does not address Putnam's (2000) concepts of social capital, which include "bonding" and "bridging." Bonding refers to social networking, which occurs between people of similar backgrounds, religions, ethnicities, socio-economic class. Bridging refers to social networking, which connects people of diverse backgrounds and different religions, races, ethnicities, and socio-economic classes.

Rupasingha et al (2006) acquired most of their data from the *Bureau of the Census, County Business Patterns, USA Counties on CD, National Center for Charitable Statistics,* and the *Regional Economic Information System.*

Hypothesis: The main theory is that generally, people in states with high social capital are comfortable networking, have trustful and reciprocal business relationships, and more likely embed themselves into the close-knit defense community. Counties with higher social capital are then able to capitalize on higher defense spending and turn that influx of government funding into economic growth. A positive relationship is

hypothesized between the Social Capital Index, economic growth, and a negative relationship in model three.

Economic Freedom Index: The Economic Freedom Index was developed by the Pacific Research Institute (PRI), a free-market think tank based in San Francisco, CA. PRI defined economic freedom as "the right of individuals to pursue interests through voluntary exchange under a rule of law. This freedom forms the foundation of market economies and should be subject to a minimum of government regulation. The index reflected the belief that "state governments should provide a stable legal foundation for legislative or judicial acts which promote economic freedom" (www.pacificresearch.org).

The Economic Freedom Index is comprised of 50 states and made up of variables including "tax rates, state spending, occupational licensing, environmental regulations, right to work, prevailing wage laws, tort reform, and the number of governmental agencies which regulate commerce" (www.pacificresearch.org). The main categories of the index are Fiscal, Regulatory, Judicial, Government Size, and Welfare Spending.

The index ranges from 0-50 with states having the lowest scores ranked as the "most economically free" while states with scores approaching 50 are ranked as the "least economically free." This means, the lower the score, the greater the economic freedom. In 2004, Kansas ranked number one among the 50 states as the most economically free at 18.18. New York ranked least economically free at 39.50. West Virginia ranked 32nd overall at 27.73. West Virginia also ranked 40th in the Judicial category, 39th in Government Size, and 40th in Welfare Spending.

Each city of the sample received the index rating from their respective state, i.e. all cities in West Virginia received the index score of 27.73. This is not problematic since most of the Fiscal, Regulatory, Judicial, Government Size, and Welfare Spending policies are administered at the state level and theoretically affect each city equally. For cities, which shared more than one state such as Kansas City, MO-KS or Columbus, GA-AL, a weighted proportion of the state index score was based on the population of the city from each state. However, it should be noted that the PRI Economic Freedom Index is more of a control variable since it operationalizes state economic policy and not urban economic policy.

Hypothesis: A negative relationship is predicted between US Economic Freedom index and economic growth. As the economic freedom scores go up, Total Personal Income and Total Employment go down.

Independent Control Variables

Population Change: controlled for population growth from 2000-2004 in each city of the sample. The logic behind this variable is that cities, which have more people, will have increased Total Personal Income and Total Employment. Data is taken from the *US Census* using estimated population statistics for 2004.

Southern Region and Western Region: controlled for US regional economic growth in the South and West. There are three regional dummy variables. Each city is scored a '1" if located in the South and '0' if not. Each city is scored a '1' if located in

the West and '0' if not. The logic behind this builds on work done by Bingham and Meier (1993) that determined the significance of regional effects behind economic growth—namely accelerated development of population and income growth in Western and Southern states. It is hypothesized that the Southern and Western Region variables will be a positive and significant relationship with economic growth.

Texas: binary variable controls for over-sampling of cities and accelerated population growth in Texas disproportionate to other states.

Florida: binary variable controls for over-sampling of cities and accelerated population growth in Florida disproportionate to other states.

Climate: index controls for regional weather differences among cities of the sample. According to the *Places Rated Almanac*, "Each metro area's score for climate comes from averaging four broad factors: winter mildness, summer mildness, seasonal affect, and hazardousness. A metro area's climate score is its percentile on a scale of 0 to 100, which corresponds to its rank. This means, the higher the score the better the climate. San Francisco's final score is 97.45; Charleston, WV's is 51.27, and Winnipeg is 3.96. They are, respectively, among the best, average, and worst North American metro areas for climate" (2000, pg. 290).

Hypothesis: Positive relationship is predicted between climate score and economic growth.

Technology Park: Binary variable indicating the presence of a research or science park in each county. This entity must be affiliated with a university in some way to facilitate technology transfer (commercialization of university research).

According to the Association of University Related Research Parks (AURRP, 1997, pg. 6), a research park is defined as an "(1) existing on prospective land and property consisting of buildings intended primarily for private and public research and development facilities plus high-technology and science-based companies and support services; (2) a contractual and/or formal ownership or operational relationship with one or more universities or other institutions of higher learning and science research; (3) a role in promoting research and development by the university in partnership with industry, assisting in the growth of new ventures, and promoting economic development; and (4) a role in aiding the transfer of technology and business skills between the university and industry tenants" (Drescher 1998). A web search was conducted for each university, city, and county to determine the presence of a research park.

Hypothesis: A positive relationship is predicted between the presence of a technology or Research Park and Total Personal Income growth and Total Employment growth.

Manufacturing Jobs Lost: controls for the percentage of manufacturing jobs lost in each city of the sample from 2000 to 2004. Using the *County Business Patterns Economic Census,* each city was converted to a proportion reflecting the number of manufacturing jobs to total jobs for 2000 and 2004. A percentage was derived from the

amount of change from these proportions. This comprised the overall manufacturing jobs lost percentage in each city from 2000 to 2004. This variable built on work done Wial and Friedhoff (2006) and Hersh (2003) which determined the significance of regional losses of manufacturing jobs and US industrial policy, particularly in the Great Lakes region of Illinois, Indiana, Michigan, New York, Ohio, Pennsylvania, and Wisconsin. The Manufacturing Jobs Lost variable is an important control on the regional effects of economic growth and is intended to control for regional migratory patterns as well. This variable will be dropped in Model Two for the regression on dependent variable "Total Employment."

Hypothesis: Negative relationship between manufacturing jobs lost and economic growth.

Cost of Labor Change: Percentage Change (2000-2004) in average wage per job (James, Ilvento, Hastings 2002). Average wage per job is a control variable for the cost of labor in each county for 2004. It consists of the wage and salary disbursements divided by the number of wage and salary jobs. Data from US Department of Commerce *Bureau of Economic Analysis*.

Labor Supply Change: Percentage change in annual city unemployment rate for 2000-2004. (James et al 2002). Labor Supply is a control variable to represent the available labor pool. Data from US Department of Labor *Bureau of Labor Statistics*.

Gunbelt: (Markusen 1991) Binary control variable indicating a city in a state that is ranked among the Top 20 states in terms of its amount awarded in defense prime contracts in 2004. The "Gunbelt" consists of states, which have the industrial capacity and requisite personnel for continued dominance of the defense sector. The following states are Gunbelt states for this study: California, Virginia, Texas, Florida, Alabama, Missouri, Connecticut, Maryland, Massachusetts, Pennsylvania, New York, New Jersey, Washington, Georgia, Colorado, Washington, DC, Kentucky, Montana, and Ohio. The variable controls for a disproportionate amount of defense contracts, which go to these "Gunbelt" states. Data from the DoD Statistical Information Analysis Division.

Military Base: Binary control variable indicating the presence of a Department of Defense *active* duty installation under the command of a flag-rank officer, not a reserve component or Army or Air Force National Guard installation. This variable controls for the disproportionate amounts of defense prime contracts, which are awarded to cities with military bases. Data from the Department of Defense.

Party: Binary variable indicating the party of House member in district. '1' is Republican and '0' is Democrat. Data from Office of the Clerk—US House of Representatives.

Seniority: Controls for the number of years each district's House of Representative member has served. Data from the Clerk—US House of Representatives.

House Republican on Armed Services: Binary variable indicating the city's district has the presence of a US House of Representatives member on the House Armed Services Committee. Member is also a Republican.

Hypothesis: Positive relationships between all political variables and economic growth. A Republican (majority) member will be better able to steer defense projects to his or her home district (Rundquist and Carsey 2002). Data from Office of the Clerk—US House of Representatives.

House Democrat on Armed Services: Binary variable indicating the city's district has the presence of a US House of Representatives member on the House Armed Services Committee. Member is also a Democrat (Rundquist and Carsey 2002). Data from Office of the Clerk—US House of Representatives.

Hypothesis: Positive, but not as robust relationship since member belongs to the minority party.

Member House Appropriations: Binary variable indicating the city's district has the presence of a US House of Representatives member on the House Appropriations Committee. This member has the power to approve the appropriations round of federal projects and programs (Wheeler 2004). Data from Office of the Clerk—US House of Representatives.

Hypothesis: Positive relationship between this variable and economic growth.

Member House Energy and Commerce: Binary variable indicating the city's district has the presence of a US House of Representatives member on the House Energy and Commerce Committee. The logic of this variable is that a member on this committee will be able to trade influence and steer defense projects to his or her district through the defense appropriation bill. Office of the Clerk—US House of Representatives.

Hypothesis: Positive relationship between this variable and economic growth.

Ways and Means or Rules Committee: Binary variable indicating the city's district has the presence of a US House of Representatives member on the House Ways and Means or Rules Committee. The logic of this variable is that a member on this powerful committee will be able to trade influence and steer defense projects to his or her district through the defense appropriation bill. Office of the Clerk—US House of Representatives.

Hypothesis: Positive relationship between this variable and economic growth.

Senate Republican on Armed Services: Binary variable indicating the city's district has the presence of a US Senate member on the Senate Armed Services Committee. Member is also a Republican.

Hypothesis: Positive relationship between this variable and economic growth. A Republican (majority) member will be better able to steer defense projects to his or her home district (Rundquist and Carsey 2002). Data from www.senate.gov.

Senate Democrat on Armed Services: Binary variable indicating the city's district has the presence of a US Senate member on the Senate Armed Services Committee. Member is also a Democrat.

Hypothesis: Positive relationship between this variable and economic growth. A Democratic member will still be better able to steer defense projects to his or her home district than members will on other committees, but the economic growth will be less robust than Republican colleagues (Rundquist and Carsey 2002). Data is from www.senate.gov.

Proximity to Major Airport: Distance from city to nearest major airport (major airport defined as offering daily international destinations). Data from *Places Rated Almanac*.

Hypothesis: Negative relationship between this variable and economic growth. Cities with a small distance to major airports will enjoy greater Total Personal Income and Total Employment gains.

City Location and Size: Ordinal number corresponding to the city's location and size ranging from 1-6. 1=Major metropolitan area with population greater than 500,000. 2=Medium metropolitan area with population greater than 250,000. 3=Independent Suburb of adjacent MSA located less than 50 miles. 4= Large Exurb: independent city with population more than 100,000 up to 50 miles from major MSA . 5=Medium Exurb: independent city with population 50,000 to 100,000 and located within 50 miles of major

MSA. 6=Small independent and relatively isolated city with population less than 50,000 and at least 50 miles from major MSA.

This variable builds on the work done by Bingham and Maier (1993). The logic is based on the belief that larger MSAs in densely populated regions will have more jobs and more economic opportunity, while smaller and more geographically isolated cities will have less economic growth. Data from *Rand-McNally US Atlas*.

Table Three: Results of Multivariate Analysis of US Economic Development (Percent Growth in Total Personal Income and Percent Growth in City Total Employment) for 272 cities from 2000-2004. Regression results were on Creative Class Index, Social Capital Index, Growth in Defense Benefit Per Capita, controlling for Regional effects, Economic, Labor, Political, Military, and Location.

Independent Variables	**Model One** **Percent Growth in City Total Personal Income (2000-2004)R2=.6412 Adj. R2=.6029 N=272**	**Model Two** **Percent Growth in City Total Employment (2000-2004) R2=.5312 Adj. R2=.4812 N=272**
Creative Class Index	**.0373 (.0150)*** (P>|t|=.010)**	**.0297 (.0136)** (P>|t|=.03)**
Social Capital Index	**-.0161 (.0029)*** (P>|t|=.000)**	**-.0101 (0027)*** (P>|t|=.000)**
Defense Benefit Change	$-7.80x10^{-6}$ ($6.81x10^{-6}$)	$-4.28x10^{-6}$ ($6.21x10^{-6}$)
Population Change	**.4464 (.0705)*** (P>|t|=.000)**	**.4280 (.0643)*** (P>|t|=.000)**
South	.1277 (.0543)	.0345 (.0634)
West	.0467 (.0583)	.0745 (.0043)
Texas	-.04678 (.0100)	-.0257 (.0091)
Florida	-.0468 (.0134)	-.0099 (.0123)
Climate	**-.0001 (.00002) (P>|t|=.000)***	**-.00004 (.00002) (P>|t|=.046)****
Technology Park	-.0151 (.0060)	-.0086 (.0055)
Economic Freedom Index	**-.0030 (.0060)*** (P>|t|=.000)**	**-.0027 (.0006)*** (P>|t|=.000)**

Independent Variables	**Model One** **Percent Growth in City Total Personal Income (2000-2004)R2=.6412 Adj. R2=.6029 N=272**	**Model Two** **Percent Growth in City Total Employment (2000-2004) R2=.5312 Adj. R2=.4812 N=272**
Cost of Labor Change	**.4496 (.1001)***** **(P>|t|=.000)**	.0426 (.0516)
Labor Supply Change	**-.0600 (.0101)***** **(P>|t|=.000)**	**-.0758 (.0092)***** **(P>|t|=.000)**
Gunbelt	.0081 (.0055)	.0071 (.0051) (P>|t|=.16)
Military Base in County	-.0022 (.0064)	.0026 (.0058)
Political Party	-.0013 (.0053)	-.0035 (.0049)
Seniority of House Member	-.0001 (.0003)	-.0001 (.0003)
GOP Rep. on House Armed Services	.0923 (.0079)	-.0053 (.0072)
Dem. Rep. on House Armed Services	-.0124 (.0095)	**-.0201 (.0087)** **(P>|t|=.021)****
Member on House Appropriations	-.0006 (.0064)	-.0097 (.0059)
Member on House Energy and Commerce	.0009 (.0087)	-.0020 (.0079)
Member on House Ways and Means or Rules	-.0555 (.0071)	-.0071 (.0066)
GOP Senator on Armed Services	**-.0192 (.0069)** **(P>|t|=.006)*****	-.0116 (.0063)
Dem. Senator on Armed Services	.0038 (.0072)	-.0201 (.0087)
Proximity to Major Airport	-.0001 (.0001)	-.0002 (.0001)
Location and Size of City	-.0016 (.0020)	-.0019 (.0019)
	Standard errors in parentheses	
***P<.01 (two-tailed)	**P<.05 (two-tailed)	*P<.10 (two-tailed)

Discussion

Goodness-of-fit for both models is particularly strong; both models have high R^2 ratios at .6029 and .4812 respectively. Therefore, there is a large percentage of economic growth explained by the explanatory and independent variables. However, it should be noted that a high R^2 should not always be seen as the sole indicator of a successful model (Wooldridge 2003).

Breusch-Pagan/ Cook Weisberg tests for heteroskedasticity run normal with a Chi^2 of 18.47. Skewness and Kurtosis tests for normality also run within the realm of acceptance at .034 and .374. Multicollinearity is acceptable with mean variance inflation factors (VIFs) at 1.61 and no single VIF running higher than 2.52. VIFs range from 0 to 10 with 10 being the most severe cases of multicollinearity. There are no glaring problems with correlation between different independent variables.

Key Explanatory Variables

Creative Class: Creative Class showed a highly significant positive relationship for Total Personal Income growth and Total Employment growth; both in line with original predictions. Its coefficients were quite small at .03733 and .0297 indicating a relatively weak multiplier. It should be noted that the model had to control for cities located within Texas and Florida; and for cities in the southern and western regions for these results. But the results still fall in line with original theoretical leanings.

Cities that provide a tolerant and diverse atmosphere seem to attract people with "creative" occupations such as Information Technology, Science, Art, Design, and Music. In 2004, Florida updated his 'creative' measures based upon the number of creative occupations in the Bureau of Labor Statistics, "Occupation and Employment Survey of 2001." These talented people often engage in existing high-tech industries or create their own through entrepreneurial efforts. The resulting melting pot of multi-cultured talent results in an atmosphere of economic growth with higher incomes and job creation.

One problem with the Creative Class Index is its near identical nature to Human Capital variables. To test this phenomenon, the Creative Class Index explanatory variable was replaced with a percentage of college graduates (Human Capital index). The regression was run again against Total Personal Income Growth. The results were nearly the same. P>|t| = .018 for Human Capital versus P>|t|= .013 for Creative Class. The similarities between the two variables stand to reason since many people holding creative occupations have college degrees.

Florida (2004) says that his Creative Class Index shows economic growth that is driven by location choices, i.e. creative people look for tolerant and diverse places when choosing a new locale. This decision-making calculus identifies the creative class ingredients (tolerance, technology, and talent) as key factors of migration. People do not move to a particular local simply because the region has high numbers of college graduates (Florida 2004, pg. 222).

These findings reinforced an earlier study on Dutch cities and the Creative Class. Marlet and van Woerkens (2004) questioned the use of "creative class" index instead of human capital. The authors hypothesized that similar economic growth comes from human capital (the percentage of people with higher education degrees in a given area) as it does from creative capital. The authors performed a regression analysis on a number of Dutch cities with per capita income growth as the dependent variable. They concluded that in theory, human capital is not very different from creative capital, although the authors conceded that Florida's Creative Class Index is a better standard than simply using a person's education-level as a measure (Marlet and van Woerkens 2004).

When the Human Capital variable (percent college graduates) was regressed along with the Creative Class Index against the Total Personal Income growth dependent variable, multicollinearity and correlation between the two variables was considerably higher. Correlation between Human Capital and Creative Class was .7072, which is quite high. At first glance, it appeared that there is not much difference between the two. However, Florida's (2004) index seemed to tease out intangible factors such as race, diversity, tolerance, and other factors in his index which reflect post-industrial and post-materialist views inherent in works from Inglehart (1997) and others. In this respect, Creative Class could be seen as a modern theory that is beginning to reflect political, social, and cultural attitudes of the 21st century, although it could certainly stand more investigation by empirical testing.

This discussion then begs the age-old question of what drives migration regarding regional economic development. Do people move to an area because of better paying jobs? Or are better paying jobs a result of an influx of talented people? Florida would say the latter question is apropos and he would add that people making relocation decisions based on post-materialism—tolerance, diversity, and openness—has become more prevalent than simply taking a new job in a new area based on a higher salary.

Social Capital: The Social Capital Index's (Rupasingha et al 2006) negative relationship with the economic growth dependent variables was enigmatic. Its relationship to economic growth was significant. However, its relationship to economic growth was predicted to be positive, but it turned out to be negative. Thus, social capital had an upside down relationship with economic growth. In other words, in regions where social capital is normally strong such as New England and North Central states, economic growth lagged.

Conversely, in regions where social capital is weak—in Southeastern states for instance, economic growth boomed. The study attempted to control for regional changes in economic development from 2000-2004—aspects such as regionalism, climate, location, manufacturing jobs lost, and others; but the negative sign on social capital remained.

One of the reasons for the negative sign is the changing demographics in the US. In short, people seem to be transient. They move to new locations and they may not join as many clubs and organizations simply because they are new in town. This could

explain why migrations to the southern and western cities confound the social capital findings. Fewer people are living in states with high social capital (North Dakota, South Dakota, and New Hampshire) that Putnam identified in 2000. They are moving to states in the South and to the West, but many may not immediately join clubs and organizations in their new homes. This could partially explain the findings in the Social Capital Index.

Other explanations relating to the Social Capital Index from Rupasingha et al (2006) have to do with measurement. The Social Capital Index could be seen as flawed in that it counts the number of civic associations in each county (with voter turnout data) and does not take into account reciprocity and trust. Rupasingha's (2006) index also does not address Putnam's (2000) concepts of social capital, which include "bonding" and "bridging." Bonding refers to social networking, which occurs between people of similar backgrounds, religions, races, ethnicities, socio-economic class. Bridging refers to social networking, which connects people of diverse backgrounds and different religions, races, ethnicities, and socio-economic classes.

Defense Benefit Growth: Defense Benefit Growth, the measure of per capita amount of Defense prime contracts awarded from 2000 to 2004, resulted in a negative and insignificant relationship in both models. Reasons for these findings are not immediately clear. The amount of dollar inputs to many communities from defense contracts is relatively small compared to other factors. The "Gunbelt" of regional states with disproportionate amounts of prime defense contract awards are focused on states in

the Southeastern and Western regions, so it is difficult to isolate the Defense Benefit Growth variable.

Studying patterns of the distributional politics of defense spending may be better captured by the use of case studies. For instance, more and more defense contracts are coming from information technology (IT) contracts instead of the traditional manufacturing of ships, tanks, and aircraft. The place of performance for defense IT contracts can be conducted virtually anywhere. Recipients of these contracts do not have to depend on major industrial sites with robust manufacturing capabilities such as those found in the upper Midwest or ocean-side areas.

Moreover, major defense contractors have merged creating less competition. Thus, the economic geography of defense spending is less readily apparent. Case studies of these particular areas may be better used to tap into these new phenomena behind 21st century defense spending.

Economic Freedom Index: A negative relationship was predicted for the Pacific Research Institute's Economic Freedom Index. As the Economic Freedom score grows smaller, total personal income and total employment rises (the lower the score, the more economically free a state is). For example, the number one ranked state overall (Kansas) scored an 18.18. West Virginia scored 27.73 ranking it 32nd overall. The Economic Freedom index variable showed a highly significant relationship in both models along with the predicted negative sign, although the index had a small coefficient of -.003 and -.0027 for the two models respectively. The index reflects the belief that "state

governments should provide a stable legal foundation for legislative or judicial acts which promote economic freedom" (www.pacificresearch.org).

The main categories of the index are Fiscal, Regulatory, Judicial, Government Size, and Welfare Spending. The Fiscal sector factored in sales, excise, license, and corporate and personal income taxes. The Regulatory sector factored in purchasing regulations, labor legislation, and public school regulation, environmental laws, seatbelt laws, and other drivers'-license requirements. The Judicial sector is focused mainly on the number of medical-liability torts. The authors of the index also factored in the number of attempts at tort reform, number of lawyers per capita in a state, compensation for judges, and whether judges are appointed or elected. The Government Size sector factored in the number of government agencies and number of government employees per capita. The Welfare spending sector factored in the state governments' spending on food stamps and other social spending programs.

The index ranges from 0-50 with states having the lowest scores ranked as the "most economically free" while states with scores approaching 50 are ranked as the "least economically free." This variable reflected economic policy-making at the state level and it bodes well for states, which have progressive policies regarding governmental role in commerce. However, the economic freedom variable is for state- level policy and not local economic policy. In short, states that have a more classically liberal stance on the regulation and intervention of commerce tend to do better in terms of economic growth.

This bodes well for cities in states such as Virginia and Colorado, which boast high-tech and high-creative talent in cities such as Washington, DC, Denver, Boulder, Fort Collins, and Colorado Springs, Colorado. Colorado and Virginia ranked second and third overall on the US Economic Freedom Index of 2004. Washington, DC and Denver ranked in the top 20 of Creative Class cities. Colorado Springs is ranked is ranked 26th in the Creativity Index, Fort Collins is 17th, while Boulder is unranked, but it only stands to reason that it would have many people with creative occupations. The following table better summarizes these relationships:

Table Four: Relationships represented between cities that have high rankings in Creative Class while located in states with high rankings in Economic Freedom. Sample Mean derived from 272-MSAs.

City	Creative Class Rank	Economic Freedom Rank	Total Personal Income Growth 2000-2004	Total Employment Growth 2000-2004
Washington, DC-Alexandria, VA-Arlington, VA	11th overall in US	3rd (18.86)	23.05%	6.54%
Richmond, VA	54th	3rd (18.86)	21.95%	2.33%
Charlottesville, VA	45th	3rd (18.86)	19.45%	4.89%
Denver, CO	14th	2nd (18.81)	15.87%	0.88%
Fort Collins, CO	17th	2nd (18.81)	15.54%	5.09%
Colorado Springs, CO	26th	2nd (18.81)	15.92%	2.07%
Mean of Sample			16.18%	2.5%

This small sample of cities with high Creative Class and Economic Freedom Indices faired well with solid economic growth from 2000-20004. Total employment growth for the Virginia cities and Fort Collins, CO was quite strong. Total Personal Income growth was also consistent among the six cities in both states.

Control Variables

Political Variables: Political variables reflecting the distributive politics theories of Lowi (1979) either had the wrong predicted positive or negative relationship or had insignificant relationships. **"**GOP Senator on Armed Services" for Model One resulted in a negative and weak but highly significant relationship. **"**Democratic Representative on House Armed Services" for Model Two resulted in a weak negative relationship, but significant. This may be because regional population migrations from the Northeast and North Central states to states in the Southeast and West have made distributive politics, in which a particular Congressional member can steer "pork" to his or her district, yield lesser effects on economic growth. To be sure, the use of Congressional earmarks have increased as members add more and more pork to defense and transportation appropriations bills, but these earmarks appear to be having less of a multiplier effect on economic growth than in the past.

Ted Lowi originally wrote *The End of Liberalism* in 1969 when he first outlined in detail the concept of distributive politics (Lowi originally introduced the concept of distributive politics in 1964). The patterns of regional economic growth have turned

upside down since then. "More than one-third of the nation's loss of manufacturing jobs between 2000 and 2005 occurred in seven Great Lakes states: Illinois, Indiana, Michigan, New York, Ohio, Pennsylvania, and Wisconsin. Between 1995 and 2005, the US lost more than 3-million manufacturing jobs" (Wial and Friedhoff 2006, pg. 1).

Members of Congress from industrial states used to be able to direct manufacturing job legislation to their home district and see jobs created and income growth. The practice of manipulating legislation to benefit the home district is still alive, but economic growth output is less apparent today. Retail, health, and IT-related jobs are growing faster and it remains to be seen whether Congressional distributive politics of earmarks and set-asides are able to create economic growth in these new employment sectors. Therefore, the efficacy of distributive politics in the Lowi manner, which were so successful circa 1979, seems to be less effective in 2007. That is not to say distributive politics should be ignored, it simply says that these practices have a less than robust effect on specific economic growth measures such as Total Personal Growth and Total Employment Growth.

Population: The city population growth variable finished highly significant with the predicted positive relationship. Cities, which grow in population, have higher Total Personal Income and Total Employment. This variable is an important control for the effects of regional population migration. As manufacturing jobs are lost in cities in the Northeast and Midwest, people move to cities in the Southeast and West. Florida (2004) would say these migratory patterns are based on people with creative occupations

selecting new locations, which are perceived as more high-tech, open, tolerant, and diverse. Other researchers would say people simply migrate to areas of the country where they can find jobs or other economic opportunity—they are driven to maximize utility. Florida (2004) would counter that people are looking for more than a certain salary; they are motivated by quality of life and post-materialist issues.

Climate: Climate resulted in a negative and weak relationship but highly significant in both models. The reasons for these results are not clear. The predicted relationship was positive—cities with higher climate scores (good weather) have greater economic growth. It should be noted that the climate scores factor in the chance for weather disasters, so high performing urban economies in states such as Florida or Texas have higher incidences of hurricanes and tornadoes. Controlling for cities in these states should have considered this.

Cost of Labor and Labor Supply: Cost of Labor Change (average wage per job) finished with a strong, positive, and highly significant relationship with economic growth in Model One. This stands to reason as income grows and as more jobs are added to a city's economy, wages increase. Labor supply (annual unemployment rate) finished with a negative and relatively weak relationship in both models.

Chapter Four: US Cities and Inequality Distributions for Defense Prime Contracts Awarded

Introduction to Defense Spending and Inequality Distribution in US Cities

The last chapter attempted to explain economic growth by using a model that tested various theories used in economic policy—some old and some new. However, another primary theme driving this study was to investigate the distribution of defense spending to cities in the US. Where does the money go once Congress has appropriated the defense budget and supplemental spending for each fiscal year? Did this distribution change from 2000 to 2004 after the defense build-up after 9/11? This is an important research question that needed to be updated in the literature. When it comes to receiving federal money for defense projects, some cities win and some cities lose.

Atkinson (1993) identified the "winners and losers" in defense spending retrenchments, particularly the "losers" in local economies without substantial size and diversity. The "winners," on the other hand, got fatter while economic distribution of benefits formerly present during the Cold War were not redistributed in other forms to the "losing" states.

Atkinson (1993) posed a question for future investigation that happens to be an excellent research question for further study. He asked, to what extent will the decline in defense spending shift economic activity away from states that have the traditional defense industrial base to other areas of the nation that have fared less well economically

in the last ten years or to areas that have a lesser dependence on manufacturing (Atkinson 1993, pg. 120). Does geography matter? Does location determine the level of defense prime contracts received by each city?

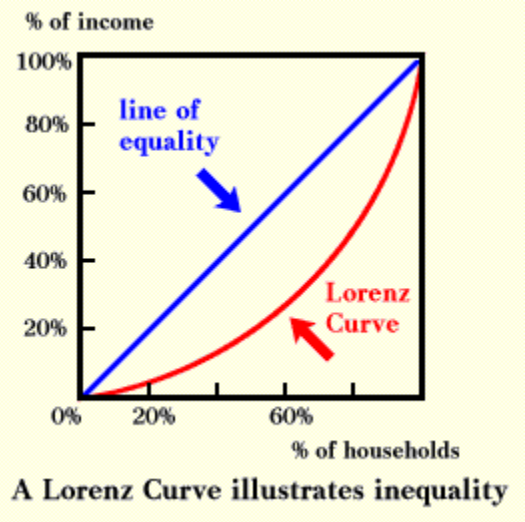
Inequality Distribution Methodology: Difference of Means Tests, Lorenz Curves, and Gini Coefficients

To answer the questions on defense spending distribution for US cities, a research methodology was devised consisting of two groups of tests. The goal was to investigate the extent of defense contract award inequality distribution in the 272-city sample from 2000 to 2004.

The first set of tests consisted of "difference of means" on Defense Prime Contract award amounts. Since difference of means tests are usually done with blind samples in psychology or clinical trials in pharmaceutical research, the methods for this study were modified for social science statistical analysis

The second set of tests used principles and methodology from poverty and income inequality economics to help better measure the trends of change in the distribution patterns of Defense Prime Contract Awards in metro areas from 2000-2004. Economists are able to measure income inequality by first graphing the dispersion of income (Wolff 1997, pg. 50). This graphical technique is called the Lorenz curve, which "represents the relative size distribution of income" (Wolff 1997, pg. 60).

Figure Three: Sample of a Lorenz Curve



The same graphical technique was used to chart the "inequality" distribution of Defense Prime Contract awards. The 273 city sample was graphed with the cumulative distributions of dollar amounts of Prime Contracts in 2000 and again in 2004. The two different Lorenz curves were then available for analysis. This difference would also be a way to measure the theoretical "shift" in the inequality distribution for Defense Prime Contracts Awarded from 2000 to 2004.

Results for the Difference of Means Test

The means for Defense Prime Contracts Awarded were predicted to be larger in 2004 compared to 2000. Therefore, there was a positive difference predicted for each difference of means test. The following table summarizes this hypothesis:

Table Five: One-Tailed Test Prediction

Variables	Null Hypothesis	Alternative Hypothesis
Def. Prime Contracts Awarded 00-04	H_0: μDEF2000 = μDEF2004	H_a: μDEF2000 < DEF 2004

A t-test was conducted for the pair using SPSS statistical analysis software. Table Six below summarizes the sample statistics from Defense Prime Contracts Awarded 2000 and 2004.

Table Six: Paired Sample Descriptive Statistics

Year	Variable	Mean	N	Std. Deviation	Std. Error Mean
2000	Defense Prime Contracts	225077120.71	273	653794089.42	39569418.36
2004	Defense Prime Contracts	361226773.25	273	960705179.29	58144522.53

Table Seven: Difference of Means Test

Variables	Difference of Mean	Std. Dev.	N	t	Signif.
Def. Prime Contracts Awarded 00-04	-1.36×10^8	411273232	273	5.47	.000***

Discussion of Difference of Means Tests

A positive difference was predicted for the t-tests, in other words, the means would grow larger from 2000 to 2004. The t-test was highly significant (P<|t| = .000) in Table Seven. This finding is intuitively appealing since there was a significant build-up

in defense spending from 2000 to 2004. The distribution of contract awards to each city of the sample resulted in larger difference of means from 2000 to 2004.

Results of Tests with Lorenz Curves and Gini Coefficients

The second group of tests used Lorenz Curves and Gini Coefficients. Economists measure the difference between the line of equality and inequality (Lorenz Curve) with the Gini coefficient. The Gini coefficient was thus derived from the Lorenz curve, and is "proportional to the area between the 'line of equality' and the Lorenz curve" (Wolff 1997, pg. 63). The distance of the curve from the line of equality yielded a higher Gini coefficient and thus reflects a higher degree of inequality. A Gini coefficient of zero, for a equal distribution, would have zero area between the line of equality and the Lorenz curve.

The Gini Coefficient is calculated by:

$$G = |1 - \sum_{k=1}^{n} (X_k - X_{k-1})(Y_k + Y_{k-1})|$$

Therefore, the cumulative distributions of Defense Prime Contracts were plotted with Lorenz curves. Then the Gini Coefficients from 2000 and 2004 were compared. This resulted in a more reliable way of measuring change in the "inequality distribution" of Defense Prime Contracts Awarded.

Hypotheses: The inequality distribution of Defense Prime Contracts Awarded was predicted to grow or shift outward from 2000-2004 according to results of the difference

of means and Gini Coefficient comparisons. The Gini Coefficients would then grow larger, approaching "1.0," and indicating greater inequality distribution in Defense Prime Contracts Awarded.

A statistical analysis package called StatsDirect was used to produce the Gini Coefficients for Defense Prime Contracts from 2000 to 2004. Notice how large the following Gini coefficients are within each curve. This denotes a high amount of Defense Benefit inequality distribution among the cities sampled from 2000 to 2004.

Figure Four: Analysis for 2000 Defense Prime Contracts Awarded

Positive non-zero observations = 273

Variance coefficient = 2.45597

Re-samples = 10

Bias = 0.015082

Standard error (bootstrap) = 0.020526

Gini Coefficient = 0.755463

Percentile 95% CI = 0.697154 to 0.771157

BCa 95% CI = 0.728524 to 0.771157

Unbiased estimator of population Gini coefficient = 0.75824

Percentile 95% CI = 0.699717 to 0.773992

BCa 95% CI = 0.731203 to
0.773992

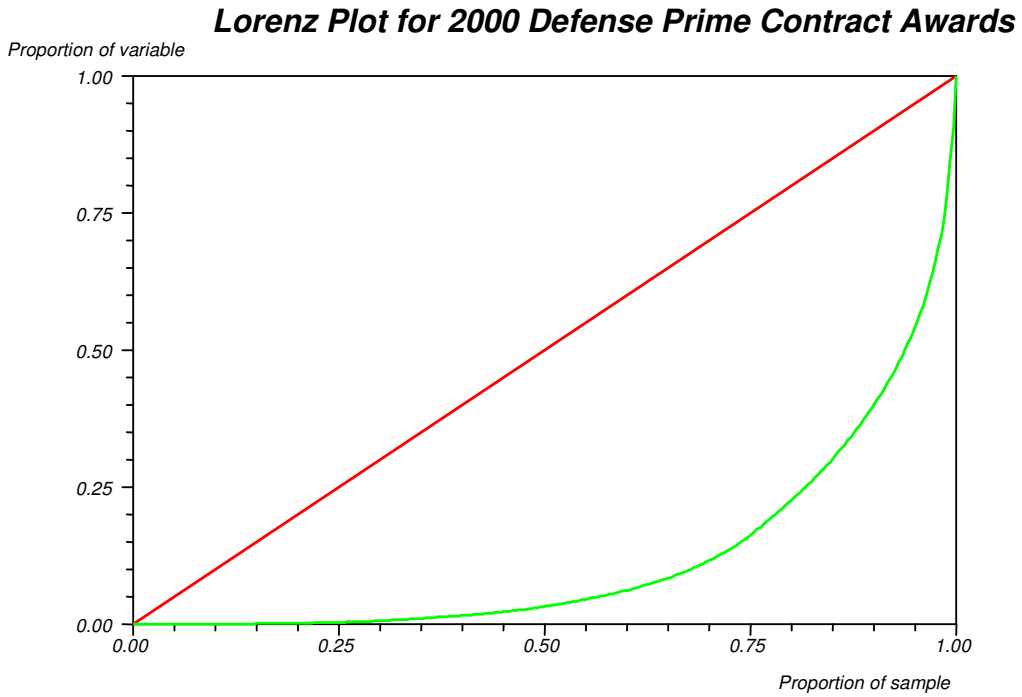


Figure Five: Analysis for 2004 Defense Prime Contracts Awarded

Positive non-zero observations = 273

Variance coefficient = 2.376299

Re-samples = 10

Bias = 0.001144

Standard error (bootstrap) = 0.019038

Gini coefficient = 0.753513

Percentile 95% CI = 0.706522 to 0.769016

BCa 95% CI = 0.706522 to 0.769016

Unbiased estimator of population Gini coefficient = 0.756284

Percentile 95% CI = 0.709119 to 0.771844

BCa 95% CI = 0.709119 to 0.771844

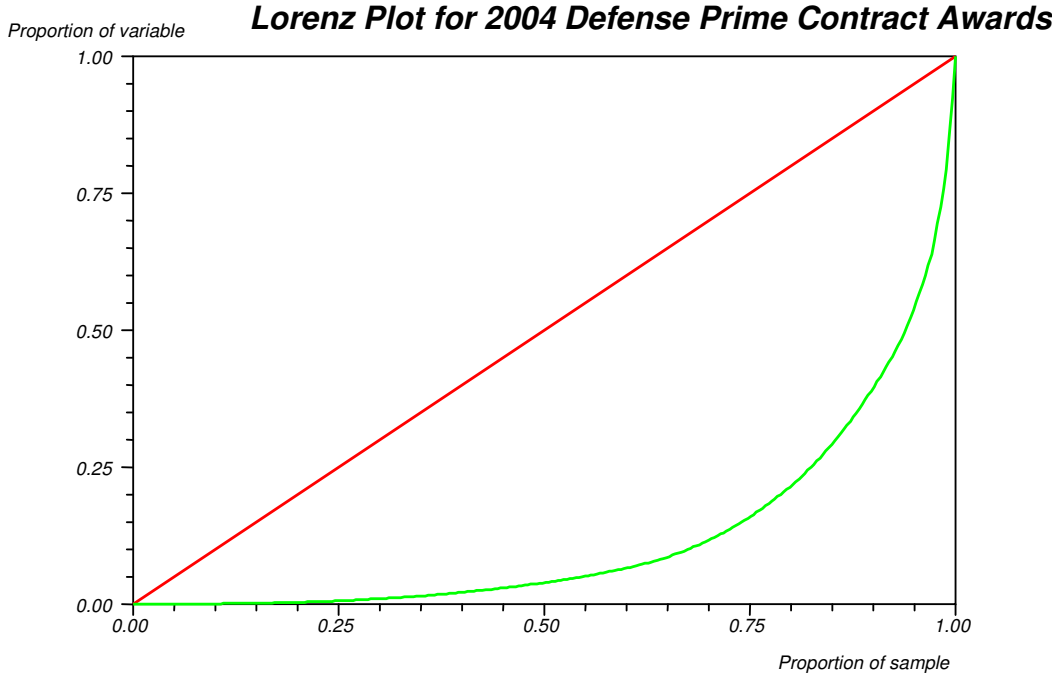


Table Eight: Gini Coefficients from preceding (Figures Four and Five) for 2000 and 2004 on Defense Prime Contracts Awarded

Analysis	2000 Gini Coefficient	2004 Gini Coefficient	Difference
Defense Prime Contracts Awarded	0.755463	0.753513	-0.00195

Table Eight summarizes the Gini coefficients from each analysis. The inequality distribution is very high, approaching one (perfect inequality).

However, the difference in the Gini coefficient is quite small, but the results are not within the predicted direction since the inequality distribution Lorenz Curve for Defense Benefit Per Capita appears to have shifted slightly inward

Discussion

When it comes to defense spending distribution, are the poor cities getting poorer and the rich cities getting richer? It appears that the urban distribution of Defense Prime Contracts awarded in the US is becoming equal. This is an extremely slight change, but the Gini Coefficients from 2000 to 2004 have shrunk a bit and this is evidence for a more equal distribution of Defense Prime Contracts. However, the findings in the Gini Coefficient comparison were not in line with the prediction of the study. It was believed that the distribution of Defense Prime Contracts would be more unequal. So where are the defense dollars going?

One reason for this could be the shift in the US economy away from manufacturing and toward the information technology field. This shift is forcing the

defense industrial base in the US to change as well. If defense prime contracts are moving away from manufacturing jobs to jobs in the information technology sector, then that would explain some of the change in inequality. The geography of the defense industrial base is changing because the "place of performance" is changing. In other words, information technology jobs can be performed anywhere in the US. Large amounts of land, labor, and capital are not needed. Therefore, Defense Prime Contracts are being distributed to area to less-traditional areas. Geography, when it comes to defense contracts, it does appear to matter.

The defense and aerospace sector is changing as well. Mergers have eliminated much of the competition in aerospace. Boeing, Northrop Grumman, and Lockheed Martin are the main three competitors in domestic aerospace. Mergers and acquisitions eliminate redundant facilities and locations for production. For this reason, there would be fewer factories and, therefore, a change in the geographical disbursement of Defense Prime Contracts.

Globalization has added overseas competition to defense and aerospace. The European Aeronautic Defense and Space (EADS) conglomerate is competing for US defense contracts as well. China has emerged as a competitor that is difficult to beat in terms of price and economies of scale. Parts manufactured in Asia costs less and they are sometimes produced more efficiently. Intellectual property is not enforced and some manufacturers in Asia are able to reverse-engineer some aerospace components.

US defense manufacturers must comply with tougher restrictions on accounting

due to Sarbanes-Oxley regulations. The large suppliers must answer to share holder and show consistent growth in earnings. Domestic aerospace suppliers comply with "Buy American" regulations on specialty metals and other components. There are often delays and exorbitant prices for specialty metals produced in the US. Sometimes these metals such as titanium are not available at all domestically.

These trends in aerospace and defense affect the distribution of defense prime contracts. Defense money is being dispersed to areas outside states in the traditional defense industrial base. The trends of change shown in this study are slight. However, the study only measured change from 2000 to 2004. It remains to be seen whether the geography of defense spending distribution will continue to change in the future.

Chapter Five: Case Studies on State Economic Policy; West Virginia and Kansas

The purpose of this chapter is to provide a narrative with ample descriptive statistics giving context to the political economies of West Virginia and Kansas. These states were selected because they are rural, landlocked, low in population growth, and split evenly regarding the extent to which their state governments intervene in commerce. This chapter also explicated the major explanatory themes for economic development for this project: Defense Spending, Social Capital, the Creative Class Theory, and the economic freedom concept.

It is important to study defense spending and economic development since overall federal discretionary spending is lowered when it is crowded out by exceedingly more entitlement spending. Thus, defense spending has become an evermore-prominent piece of discretionary spending. Wheeler (2002) claimed that more and more spending earmarks are hidden in the defense appropriations bills and it is clear that the choices behind these actions are political choices. These policy choices are "pushed" exceedingly more by defense contractors and policy makers at the local level while being "pulled" by legislators at the national level.

Political Scientists can also study these questions in a basic way—by adding to the academic body of knowledge or they can study these questions in an applied fashion with the results used to aid the decision making of local elected officials. For example, many elected officials have used the Creative Class theory to rationalize spending

decisions made for jogging trails, pedestrian malls, and outdoor music festivals to recruit individuals with who have "creative occupations." However, Florida (2005) reminded policy makers that the main purpose of the creative class index is to identify areas in which to improve the *existing* creative people who already inhabit the location. "…In order that we may develop future models of social organization that better align economic development with the further development of *all* human potential" (Florida 2005, pg. 176).

Social capital is related to the amount of trust and social networking in a given area measured by the amount of civic participation and associations in those locations. In short, people who worship together, who vote together, and who bowl and golf together, conduct successful business enterprises and increase economic development.

Economic freedom addresses the notion that prosperity comes from a government which favors a less-regulated atmosphere with lower taxes, fewer torts, and a smaller welfare state. As Thomas Jefferson wrote, "A wise and frugal government…shall leave (people) otherwise free to regulate their own pursuits of improvement, and shall not take from the mouth of labor the bread it has earned."

West Virginia

West Virginia was selected first as a case study because it has huge disparities of income and is a geographically diverse state. West Virginia is a special case because the state has low Creative Class rankings (no WV city ranked higher than 206th overall in

creativity), low social capital (ranked 42nd on Putnam's scale), and low scores on the Economic Freedom Index (32nd overall). However, it had a substantial economic turnaround in employment, per capita income, and Gross State Product from 1999-2004. West Virginia is ranked 46th in the nation in the amount of Defense Prime Contracts awarded, yet prime contracts rose 278% from 2000-2004.

Table Nine: Location and Defense Prime Contract Recipients for West Virginia—Per Capita Defense Benefit and Percent Change in Prime Contracts 2000-2004

City	Creative Class Index	Social Capital Index	2004 Per Capita Defense Benefit (County) $	% Change in Defense Prime Contracts '00-'04 (County)
Rocket Center	Not Ranked	-0.2185	$1,778.30	140%
Fairmont	NR	.2854	584.65	275%
Charleston	.326	.4054	316.20	3741%
Martinsburg	NR	-0.3351	277.05	1584%
Wheeling	.289	.9487	140.14	389%
Parkersburg	.283	.4446	129.72	470%
Morgantown	NR	.1309	126.37	340%
Huntington	.260	.1243	110.38	353%
West Virginia		-0.83 (42nd)	154.01	278%
Total US			**692.61**	**65%**

West Virginia did not score well on the Creative Class Index. While many communities were not ranked, four West Virginia cities were placed in the bottom quartile and none of them placed in the top 100 in separate measures for Talent, Technology, and Tolerance. West Virginia also scored low on the Social Capital Index with scores hovering around zero and an overall ranking of 42nd in the U.S (Putnam 2000).

Despite the lagging nature of the rankings in Creative Class and social capital, West Virginia showed solid gains in Defense Prime Contracts awarded and some gains in certain dimensions of economic development. Rocket Center/Mineral County, West Virginia, is an excellent case in point. Rocket Center, WV is an office park located 15 miles north of Keyser, WV. Rocket Center itself actually has no permanent residents. The park hosts a Department of Defense installation—NAVSEA (US Naval Sea Systems Command) Allegheny Ballistic Laboratory. The lab is currently operated under contract by Alliant Techsystems. Rocket Center also has an office complex and the "Senator Robert C. Byrd Institute for Advanced Flexible Manufacturing." The significance of Rocket Center is that it is easier to pinpoint the economic effects of a substantial amount of defense spending ($1778.30 per person) going into Mineral County each year. Rocket Center gained nearly 18% in per capita income from 1999-2003 above the national rate of 12.6%. Martinsburg of Berkeley County also displayed fast growth at 1584% in defense prime contracts.

Charleston rose 3741% in defense prime contracts during the sample period. Most counties (except for McDowell County) with the highest populations in West Virginia had above national average gains in Defense Prime Contracts awarded. Although nearly all counties in West Virginia, with the exception of Mineral, lag behind the national mean for defense benefit per capita, with only Rocket Center above the national mean.

Table Ten: West Virginia City and Economic Growth: Percent Change in Per Capita Income and Percent Change in Unemployment Rate

City	Creative Class Index	Social Capital Index	% Change in Per Capita Income 1999-2003 (County)	% Change in Unemp. Rate 2000-04 (City)
Morgantown	Not Ranked	.1309	27.10%	-50%
Fairmont	NR	.2854	21.70%	-49%
Charleston	.326	.4054	21%	-33%
Rocket Center	NR	-0.2185	17.60%	-14%
Martinsburg	NR	-0.3351	17.60%	-7.70%
Huntington (.260)	.260	.1243	16.30%	-24%
Wheeling (.289)	.289	.9487	16.10%	-29%
Parkersburg (.283)	.283	.4446	13.10%	-22%
West Virginia		-0.83 (42nd)	18.40%	-32%
US Mean			12.60%	+37.50%

Economic growth measured by percent change in per capita income and unemployment was strong for West Virginia in 2000-2004 (prior to and after 9/11). All counties sampled had above national average for per capita income percent change. Morgantown led the way with a 27.1% increase. Fairmont/Marion County and Charleston/Kanawha County followed with +20% gains. West Virginia reduced its unemployment rate at a rate much higher than the national average. Morgantown and Fairmont cut their unemployment rates in half in the four-year span.

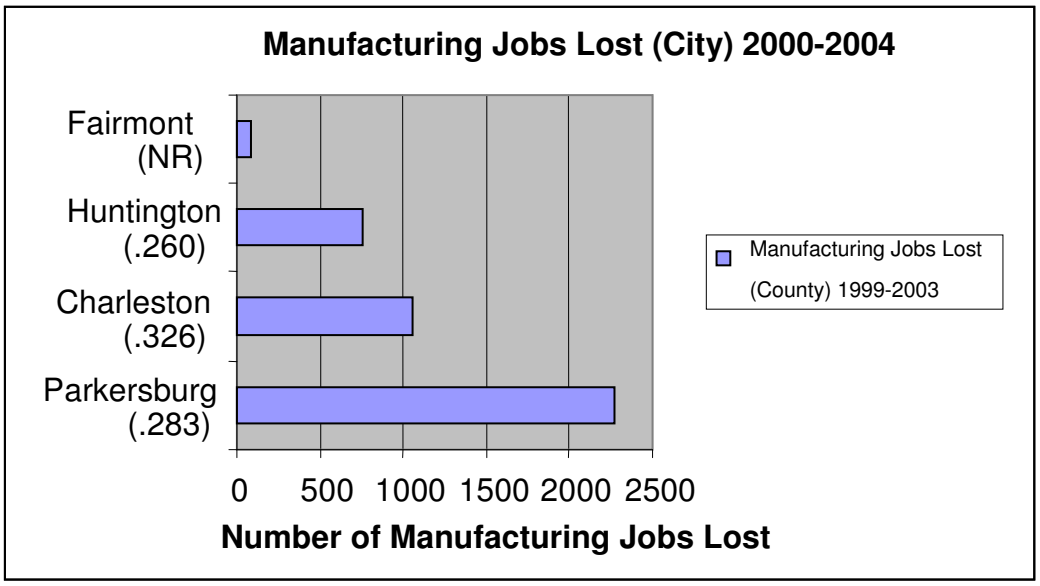
Table Eleven: West Virginia City and Economic Growth: Total Personal Income Growth and Total Employment Growth 2000-2004

City	Creative Class Index	Social Capital Index	% Change in Total Personal Income 2000-2004	% Change in Total Employment
Morgantown (NR)	NR	.1309	26.5%	7.84%
Charleston (.326)	.326	.4054	16.71%	8.98%
Huntington (.260)	.260	.1243	16.18%	0.10%
Wheeling (.289)	.289	.9487	14.19%	1.21%
Parkersburg (.283)	.283	.4446	14.17%	-0.57%
West Virginia		-0.83 (42nd)	18.1%	1.9%
Sample Mean			17.18	2.50%

Morgantown again led the way in Total Personal Income growth and finished second to Charleston in Total Employment growth. The remaining cities from this table lagged behind the sample mean. Charleston, Huntington, Wheeling, and Parkersburg underperformed compared to the sample mean in Total Personal Income growth while Huntington, Wheeling, and Parkersburg also underperformed compared to the sample mean.

West Virginia as a state added only 10,448 new jobs from 2000-2004, a gain of 1.9% which is below the sample city mean of 2.50% growth in Total Employment in that period. This is a troubling statistic as the state contemplates its slow population growth (0.5% from 2000 to 2005). West Virginia's population gained only 8512 people during that period.

Figure Six: Manufacturing Jobs Lost in West Virginia Cities 2000-2004



West Virginia followed national trends and lost manufacturing jobs. Parkersburg lost over 2200 manufacturing jobs. Huntington and Charleston lost a combined 2820 manufacturing positions.

West Virginia State Economic Development Policies

What are state and local policy makers doing to promote economic growth in West Virginia? One can observe West Virginia state economic policymaking by the rankings from the Pacific Research Institute's (PRI) Economic Freedom Index. Recall that West Virginia was ranked 32nd overall in the 2004 index released by PRI.

Table Twelve: Pacific Research Institute's 2004 Economic Freedom Index for West Virginia

State	Fiscal		Regulatory		Judicial		Gov't Size		Welfare Spending	
Rankings	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
West Virginia	24.02	25	28.97	34	33.13	40	30.83	39	31.38	40

West Virginia, according to the Pacific Research Institute's Economic Freedom Index, has its worst rankings for the Judicial and Welfare Spending dimensions. Both of these sectors ranked 40th in the US. West Virginia also ranked 39th in the US in Government Size. The state ranked near the middle on the Regulatory and on Taxation dimensions. These scores would seem to pose problems for firms conducting business in the state and for those industries considering a move to West Virginia since the state ranked 32nd overall of all U.S. states in the Economic Freedom Index for 2004.

In the spring of 2000, a West Virginia competitiveness agency commissioned an outside entity (Market Street Services, Inc.) to conduct an economic analysis of the state's growth potential. It also aimed to identify deficiencies in the current economic plan and develop a new strategy for the state's economic development. The consulting firm initially determined what has already been discussed—that West Virginia has substantial constraining factors, which could serve to hamstring economic growth:

- According to Market Street Services, West Virginia Is Hurt By Low Per Capita Income Growth:

- West Virginia Per Capita Income Growth was 35% below the national average in 1997
- Every county in West Virginia has per capita income lower than the national average

- Rapidly-Aging Population with Low Population Growth
  - West Virginia has highest median age in the nation at 38.1 years
  - From 1990 to 1997, West Virginia lost population in a key entrepreneurial demographic: 26 to 35

- The State Lags in Education
  - 34% of West Virginians did not have a high school diploma in 1990
  - Percentage of population with at least a bachelor's degree in 1998 was 16.3%. The US average was 24.4%

- The Economic Structure is Not Improving
  - Wages in West Virginia are below average in US for all occupations except mining
  - Average annual earnings are approximately 82% of national average

Market Street Services (2001) maintained that the state is mired in the Old Economy with an over-dependency on 'bricks and mortar' manufacturing, coal, timber, and steel. Regional geographic competitors such as Kentucky, Virginia, North Carolina, and South Carolina are thriving economically by comparison (2001, pg. 3). Many West Virginia counties have extreme poverty with double-digit unemployment rates. Market Street Services argued that the state has not embraced change; that it has leadership and other elites who do not want change; that public involvement to initiate political and

economic change is low, and that no single vision or strategy guides the state in terms of economic development.

Market Street Services (2001) recommended that West Virginia invest in its "intellectual architecture" for the 21st Century by: improving its educational attainment; increase technical education; conducting workforce re-training; investing in research and development, and encouraging lifelong learning. To improve its economy, West Virginia must diversify its economy, reform capital formation, increase entrepreneurship, integrate technology, and restructure incentives. Market Street Services (2001) said that to be competitive, West Virginia must reform government regulation; redevelop infrastructure; create a new tax structure for the 21st century; use progressive methods of land-use zoning including mixed-use zoning for improved city-design; and invest in public health for its citizens.

Finally, Market Street Services (2001, pg. 15) recommended that West Virginia begin a more robust regional cooperation with its neighbors; develop young leaders who will remain in West Virginia; begin more public-private collaboration on economic development projects; improve West Virginia's frayed national image and repair stereotypes; and increase the state's underdeveloped non-profit sector.

How has West Virginia fared since the 2001 report? Has it enacted the recommended reforms? According to the West Virginia Development Office, educational attainment has improved with the advent of the Promise Scholarship program, which pays for college tuition in West Virginia for qualified students. West

Virginia is one of the only states that comply with the federal No Child Left Behind requirements. The state also has a network of regional workforce development offices, which retrain unemployed workers. The Development Office draws attention to a new Venture Capital Act, which provided $25-million in state funds to be potentially matched by $75-million of federal funds. It has also displayed West Virginia University's efforts in forensic identification, biometrics, and nanotechnology.

Each year, *Vision Shared*, a group of business and political leaders designed to tackle the state development issues identified in the 2001 Market Street Services report, publishes an evaluation delineating the goals and quantifiable attainment measures that were set forth in 2001. The 2005 *Vision Shared* report was the latest evaluation released. West Virginia appears to be moving forward on many of the parameters required for improved economic growth. The following performance measures were taken from "The Vision Shared Implementation Plan: A Progress Report to Stakeholders Calendar Year 2005":

Goal I: West Virginia Intellectual Infrastructure for the 21st Century:

- Competitive progress was made in four areas:
    - College enrollment rate
    - Percentage of people 25-years or older completing high school
    - GED Attainment Rate
    - Customized Job Training Delivery
- Four measures suffered a decline in competitiveness:
    - Reading proficiency in elementary students

- Mathematics proficiency in middle school students
- Percentage of people 25-years or older with a bachelor's degree or higher
- Engineering personnel in the workforce

- Improvement Efforts

  - Reorganization of the community college system.
  - Offering cash payments to people who pass the GED.
  - An increase of math and science courses needed for high school graduation.
  - Continued compliance with the federal No Child Left Behind standards.

Goal II: New Economy

- The State Achieved Benchmark Attainment in 6 of the 18 Goals:

  - Growth in Manufacturing Exports
  - New Firm Start-Ups as a Percentage of Existing Firms
  - Manufacturing Capital Investment
  - Growth in Tourism Income
  - Growth in Tourism Employment
  - Decline in Unemployment Rate (although employment in New Economy sectors declined)

- Nine Other Performance Measures Experienced Competitive Improvement

  - Per Capita Personal Income
  - Growth in Manufacturing Exports
  - Manufacturing Capital Investment
  - Poverty Rate
  - Unemployment Rate
  - Federal R&D Grants
  - Academic R&D Expenditures
  - Improved State Gross Product
  - Growth in Total Employment

- These Measures Experienced Competitive Decline:

- Average Annual Wage
- Patents Issued
- Venture Capital Investment
- Percentage Employment in High Tech Sectors

- New economic development entities created since 2001:

  - West Virginia Clean Coal Initiative to develop coal gasification and coal liquefaction technologies
  - $25-million Bioscience Research Facility at WVU's Health Sciences Center
  - Mid-Atlantic Technology Research Center (MATRIC)

Goal Three: Results Based Government

- Six of the Nine Performance Measures Experienced Competitive Improvement

  - Workers' compensation rates for key industries
  - Health insurance coverage for people under 65
  - Infant mortality rates
  - Percentage of obese adults
  - Percentage of population served by water and sewer
  - Number of high speed Internet access lines in service

- Two Performance Measures Experienced Competitive Decline

  - Total state business revenues collected
  - Birth rates for teenagers 15-19 years of age

- Improvement Efforts

  - Privatizing Workers' Compensation; still an existing $1-billion shortfall.
  - Civil justice and insurance reform; insurance rate reduction to save $50-million savings to West Virginia taxpayers.
  - Healthy Lifestyles Act which puts Phys Ed back into K-12 curriculum and requiring healthy vending food in school cafeterias.

Goal Four: Building Bridges and Empowering Citizens:

- Five Measures Experienced Competitive Gains
    - Household charitable contributions
    - Foundation giving
    - County participation in economic development activities.
    - Percentage of cities participating in Main Street programs.
    - Industries of the Future Special Project Award.
- Two Measures Experienced Competitive Decline
    - Industries of the Future grants
    - Industry financed R&D expenditures
- Improvement Efforts
    - Industry of the Future program: industry/ government/ higher education collaboration chart a long range road map for energy efficiency.
        - Establish annual energy project priorities.
        - Partner with the US Department of Energy for implementation of these projects.
        - Since 1997, the Industry of the Future program has brought in $30-million of funding for the state.

Discussion

Although West Virginia has conducted a laudable number of reforms since 2000, many deficiencies remain. Educational reforms have hinged on the number of math and science courses required to graduate, but have not addressed exactly why students should be taking these courses and what sort of futures these students will have in West Virginia if they consider staying in the state after graduation. Students need to know what math and science classes will do for them in the future.

A new curriculum involving 21st century problem-solving skills is being implemented by the West Virginia Department of Education through the "Partnership for the 21st Century" program. This program is borrowed from an educational non-profit in Arizona called The Partnership for 21st Century Skills. "Professional Development for the 21st Century," takes into consideration realistic skills that will be needed in the future workplace, in addition to statistical measurements on standardized tests for math and science and more rigorous coursework. A student's professional development in West Virginia is now considered just as important as curriculum, graduation rates, and test scores. Educational content will include global awareness, financial, economic, business and entrepreneurial literacy, civic literacy, and health and wellness awareness. Critical thinking and problem solving coupled with collaboration skills and innovation awareness should address the need for more young entrepreneurs in the state. The program also emphasizes leadership and communication skills along with information technology literacy.

The New Economy sector has made progress, but West Virginia still needs more improvement. The number of patents issued, the percentage employed in high technology occupations, and venture capital investments are considerably low. The changes and investment in education at the K-12 level will help in the future, but currently West Virginia is lagging in innovation and technology.

Perhaps more troubling is the emergence of "brain drain" problems in West Virginia. The reports have not addressed this issue. The 25-35 year-old demographic,

one of the most important age groups for entrepreneurial and innovative skills, continues to leave the state. Many students who take advantage of the Promise Scholarship—essentially a college tuition waiver program for qualified students—are graduating from a West Virginia college or university and then are promptly leaving the state. The brain drain issue or the issue of population growth stagnation has not been addressed by West Virginia leaders. With a median age of 38.1, the state's population is not getting any younger. Because of West Virginia's almost zero population growth, tax revenues from state income tax are also eroding.

The state also does not appear to be catering toward the Florida (2004) concept of creative occupations. Young leader recruitment, although it exists at West Virginia University and Marshall University and in programs such as the Boys and Girls State leadership program for gifted high school students, does not seem to be a priority with political elites. It is also not clear how everyday citizens are being empowered to participate in West Virginia government. Performance metrics take into account donations to non-profits and foundations, but most middle-class, lower-middle-class, and people at the poverty-level are not able to make these types of donations in the first place. Therefore, donation levels are not an adequate measure of civic associations.

West Virginia is historically low on Putnam's (2000) and Rupasingha et al's (2006) social capital measures and it is not evident that West Virginia's leaders are concerned with bringing new people, especially 25-35 year-olds, into the policy-making process.

Regulatory, Legal, and Welfare reform is still lagging and problematic for West Virginia. The state has not adequately addressed tort reform—specifically medical malpractice insurance rates for doctors in the state. Even though efforts to move the workers' compensation program to the private sector are laudable, the legislation comes too late. There is still $1-billion in unfunded workers' compensation liabilities. Liabilities also exist in other state employee retirement pension funds. This will pose a serious problem when Baby Boomers begin to retire.

Healthcare costs in all states continue to rise. According to the West Virginia Department of Health and Human Resources, Medicaid costs have risen 7-9% each of the last four years. These increasing costs come at a time when the federal government is cutting Medicare and Medicaid funding to states, which places even more pressure on both state programs.

To be sure, West Virginia has enjoyed a certain degree of economic recovery from 2000-2004. Unemployment in the state has fallen dramatically. Morgantown and Charleston has carried much of the state's economic growth while other cities and counties have remained stagnant. It is not clear which specific state economic policies have helped this growth. Certainly, the atmosphere of a new administration (Governor Joe E. Manchin III), which appears to be acting on some of the state's problems, has helped. The state is currently running a budget surplus, primarily thanks to tax revenue from the booming coal and energy industry.

Efforts to bring the K-12 educational curriculum into the 21st Century are also encouraging. However, West Virginia is by most definitions, a modern welfare state with a continuously eroding tax base, and a population with numerous cases of chronic disease and unhealthy lifestyles. West Virginians are generally paid less and are less-educated than other Americans, although these measures are improving. As more of its citizens enter into retirement age, it remains to be seen whether the state's social services can keep up with the demand for the welfare of its citizens.

Overall, West Virginia has come a long way economically between 2000 and 2004. Its leaders have recognized the need to fashion an economic strategy. The state should be saluted for sticking to this plan and bringing in more stakeholders for new ideas. West Virginia is making great strides toward setting realistic goals to meet its shortcomings and most important, it is evaluating these goals with quantifiable milestones each year. Continuation of these habits should multiply West Virginia's economic growth in the future.

Kansas

Kansas was selected as one of the case study because, like West Virginia, it is a rural, low-population, land-locked state. Kansas performed better on Florida's (2004) Creative Class Index with one city, Wichita, ranked in the top 100 at .664. Lawrence, Kansas and Topeka also finished solidly at .564 and .540 respectively. Kansas also rated better than West Virginia on the Social Capital Index. Kansas is ranked 17th while West

Virginia is ranked 42nd in the U.S. in the social capital rankings. The biggest disparities between West Virginia and Kansas are in the Economic Freedom Index from the Pacific Research Institute. Kansas finished number one in 2004 as the most economically free state in the U.S., while West Virginia finished 32nd.

Do these relatively high rankings in Creative Class, Social Capital, and economic freedom mean that Kansas had more economic growth from 2000 to 2004? The results on economic growth for Kansas are mixed.

Table Thirteen: Location and Defense Prime Contract Recipients for Kansas: Per Capita Defense Benefit and Percent Change in Prime Contracts 2000-2004

City	Creative Class Index	Social Capital Index	% Change in Per Capita Income 1999-2003 (County)	% Change in Unemp. Rate 2000-04 (City)
Wichita, KS	.664 (62nd)	0.2261	14.20%	57.10%
Lawrence, KS	.564 (109th)	0.8277	16.90%	46.70%
Topeka, KS	.540 (122nd)	2.2404	10.50%	58.50%
Kansas City, MO-KS	.790 (32nd)	0.6144	9.40%	NR
Kansas		0.38 (17th)	12.22	64.70%
US			12.60%	42.50%

Kansas had disappointing gains in unemployment rates from 2000 to 2004 with the four Metropolitan Statistical Areas (MSAs) experiencing unemployment rate gains above 45% for the four-year period. Percentage change in per capita income growth was slightly below the U.S. mean. Lawrence and Wichita performed better in per capita income growth with Lawrence finishing at 16.9%. The relatively higher scores Kansas enjoyed in Creative Class and social capital yielded rather mediocre gains in economic growth. Topeka had a very high social capital score and decent Creative Class Index, yet it had relatively low per capita income gains and it experienced a 59% gain in unemployment from 2000 to 2004.

Table Fourteen: City and Economic Growth in Kansas: Percent Change in Per Capita Income and Percent Change in Unemployment Rate

City	Creative Class Index	Social Capital Index	2004 Per Capita Defense Benefit (County) $	% Change in Defense Prime Contracts '00-'04 (County)
Wichita, KS	.664 (62nd)	.2261	1712.57	62%
Lawrence, KS	.564 (109th)	.8277	182.17	931%
Topeka, KS	.540 (122nd)	2.2404	158.44	313%
Kansas City, MO-KS	.790 (32nd)	.6144	899.78	667.5%
US			692.61	65%

Kansas benefited from increased defense spending from 2000-2004. Lawrence, Topeka, and the Kansas City, MO-KS area had triple-digit gains in the amount of defense prime contracts awarded.

Table Fifteen: City and Economic Growth in Kansas: Total Personal Income Growth and Total Employment Growth 2000-2004

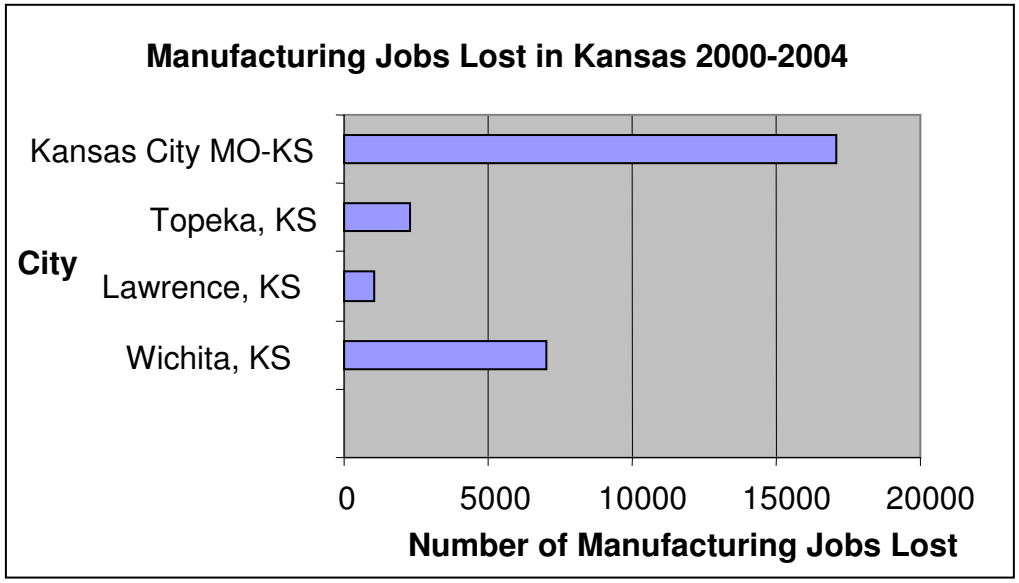
City	Creative Class Index	Social Capital Index	% Change in Total Personal Income 2000-2004	% Change in Total Employment
Wichita, KS	.664 (62nd)	0.2261	16.57%	-1.56%
Lawrence, KS	.564 (109th)	0.8277	19.93%	5.29%
Topeka, KS	.540 (122nd)	2.2404	11.86%	-3.02%
Kansas City, MO-KS	.790 (32nd)	0.6144	14.43%	1.31%
Kansas		0.38 (17th)	13.90%	-1.10%
Sample Mean			17.18	2.50%

However, Topeka and Lawrence had modest per capita defense benefits, so the overall proportion of defense spending to its Total Personal Income was negligible. Kansas finished overall below the sample mean in Total Personal Income and Total Employment growth. Lawrence again performed well in economic growth when

measured by percentage change in Total Personal Income and percentage change in Total Employment.

Lawrence, a city with a major university, finished with a 20% gain in Total Personal Income and 5.3% change in Total Employment; both measurements were above the sample mean. Topeka, despite its strong Creative Class and social capital rankings, performed below the sample means in Total Personal Income and Total Employment growth. Kansas lost 18,373 manufacturing jobs from 2000 to 2004; 11% of its total manufacturing jobs. It had a net loss of 12,455 jobs from its Total Employment figure resulting in a net -1.1% loss. The information sector gained 2866 jobs from 2000-2004, so that offset some of the losses from manufacturing. Healthcare was the fastest growing employment sector in Kansas gaining 12,353 jobs or growth of 8%.

Figure Seven: Manufacturing Jobs Lost in Kansas Cities 2000-2004



Kansas, like West Virginia and many states in the U.S., lost a significant number of manufacturing jobs between 2000 and 2004. The Kansas City, KS and Wichita areas were the hardest hit. Topeka and Lawrence also experienced modest losses.

Table Sixteen: Pacific Research Institute's 2004 Economic Freedom Index for Kansas

State	**Fiscal**		**Regulatory**		**Judicial**		**Gov't Size**		**Welfare Spending**	
Rankings	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Kansas	**22.29**	**13**	**21.28**	**4**	**21.75**	**13**	**24.50**	**22**	**11.63**	**2**

The Pacific Research Institute's Economic Freedom Index ranked Kansas as 2004's most economically Free State. Kansas scored 18.18 overall; number one in the U.S. Individual rankings in the six sectors showed Kansas was among the states with the least government intervention in commerce and the least welfare spending. It also finished well in the Fiscal and Judicial sectors. Kansas had high social capital and Creative Class scores and arguably was the best state in which to do business. In theory, Kansas should have performed better in economic growth; the people with creative class occupation should have benefited from the optimal conditions for commerce: low torts, low taxes, few statutes, regulations, red tape, and a small welfare state. Higher social capital, especially in Topeka should have resulted in more social trust and the networking and civic association ties essential to commercial growth did not result in higher economic development in Kansas.

Kansas State Economic Development Policies

Why did Kansas have mediocre growth when all the requirements for success appeared to have been met? What were some of the state economic policies that lead to these outcomes?

In 2000, the Kansas Governor's Economic Policy Council held the Kansas Prosperity Summit in which participants fashioned a "State Economic Revitalization Plan." The plan was an amalgamation of seven different regional economic development plans from around the state. This "master" plan had ten priorities:

1. **Business Retention and Recruitment**

    a. Enhance business incentives to retain rural businesses
    b. Compete with Missouri to attract new businesses to the state
    c. Set-aside more funding to use for tax incentives to attract new industry

2. **Energy Policy**

    a. Renewable Energy
        i. Ethanol/Biodiesel/Biomass
        ii. Wind
    b. Energy Efficiency and Conservation

3. **Value Added Agriculture**

    a. Agri-tourism
    b. Ag-Based energy (ethanol, biodiesel, biomass)
    c. Rural entrepreneurial focus

4. **Workforce Development**

    a. Develop programs that will clearly link educational activities with real business needs
    b. Develop a seamless regional network of K-12, vocational/technical, community college for applied training
    c. Integrate and assist the growing Latino population

5. **Seed Financing and New Business Assistance**

    a. Web-based one-stop clearing house for user-friendly information from state agencies assisting small business
    b. Regional angel networks

6. **Life Sciences**

    a. Develop a business development program which will enhance the life science industry:
        i. Kansas research and development tax increment financing (TIF)
        ii. Kansas R&D tax vouchers

7. **Rural Business Development**

    a. Rural business development tax credits
    b. Regional business development foundations

8. **Inventory of Support Programs**

    a. Communications describing all business assistance information will be developed in each region of the state by 2004

9. **Image and Marketing**

    a. One time funds will be made available by 2004 to support the development of regional marketing plans
    b. The image of Kansas must be revamped and become more aggressive; needs to be exciting, flexible, and durable
    c. The state's history must be promoted in conjunction with the marketing plan

10. **Tourism**

    a. Define a statewide tourism strategy that includes:
        i. Agri-tourism
        ii. Water recreation
        iii. Nature-based or ecotourism
        iv. Heritage or culture-based experiences

How has Kansas performed in meeting these goals? What kinds of economic policies has the state enacted since the advent of the strategic report? *Kansas, Inc*. was formed in 1986 to provide the state with non-partisan, objective research, analysis, feedback, and recommendations on economic development issues. The organization issues a report each year on the state's development efforts from the previous fiscal year. In 2005, *Kansas Inc*. reported on the agencies and policies that are connected to economic development.

The Kansas Department of Commerce was involved in:

- 27 successful new business locations with more than $358-million in capital investment and 5,533 jobs.
- 122,270 Kansas were employed by some form of international trade
- A new advertising program called "Kansas…As Big As You Think."
- The promotion of agri-tourism with 173-registered agri-tourism vendors led by 13-wineries with $1.2 million in collective sales.

The Kansas Technology Enterprise Corporation (KTEC):

- Improved Angel Tax Credit investment legislation to aid innovative entrepreneurs.
- Worked to attract top-tier individual professionals to populate the state and assist in venture management, technology incubation, and strategic business development.

The Kansas, Inc. economic overview for 2005 focused on:

- Population: the population of Kansas has increased at a lesser rate than the six-state region and the U.S. as a whole. Kansas population increased 0.4%.
- Average annual wage for Kansans in 2004 was $32,742.
- Gross State Product (GSP) for Kansas increased 6.2% from 2004; since 2000 GSP increased by 18.77% less than the regional and US average.

What types of economic development legislation did Kansas enact? According to Kansas Inc.'s "Economic Development Legislation in Kansas: an FY 2005 Report Update", the state enacted several innovative measures:

- **Sales tax enterprise zone exemption**. Purchases related to construction or remodeling of buildings located within "enterprise zones" are exempt from sales taxes.
- **Individual Development Account program (IDA):** a savings program in which certain individuals and families qualify to have their charitable donations matched by the state and are subject to certain tax incentives and exemptions.

- **The Kansas Film Services Commission** aids tourism by one member to the film services commission from each congressional district.
- **The Economic Growth Act of 2004**:

    - **Angel Investor Tax Credit**: greatly expands the number of businesses that can be deemed "qualified" by the state to receive angel funding. Tax credits are amended to be cumulative of $20-million and are able to be carried over each year until 2006.
    - **Emerging Industry Investment Act**: language is expanded so more bioscience businesses can take advantage of tax incentives related to state government aid to the bioscience industry.
    - **Qualified Manufacturer Act**: a qualified manufacturer in Kansas (which has at least a $26-million investment in the state can apply for the return of up to $1-million state refund from employee income tax withholding.
    - **The Kansas Downtown Redevelopment Act**: as tax revenue improves from increased property value assessment, the tax increment generated by the improvement will be credited to each individual taxpayer.

Discussion

It should be evident that Kansas has innovative taxation and fiscal policies to encourage investment and growth. Taxation policies in the state are highly progressive and they favor the individual firm and individual taxpayer. The economic development policies enacted in 2004-2005 reinforced the claim that Kansas is one of the most "economically free" states in the country. However, Kansas had sluggish economic growth from 2000-2004 even though the state seemed to have all the ingredients for success. It has several taxation incentive programs that are friendly to business. It attempts to attract "innovative" and entrepreneurial individuals in a manner that would make Florida (2004) proud.

Some goals of the economic strategic plan were not addressed. The energy plan with renewable fuels such as ethanol and biodiesel had no legislative activity. The image and marketing plan remained rather vague. Rural poverty, unemployment, and wage deflation in rural counties lacked policy vigor and direction. A strategy for improving population growth needed further clarity as did the immigration policy concerning the growing number of Latino residents in Kansas.

Kansas should be saluted for beginning a private, non-partisan, and objective think tank for analyzing economic policy (*Kansas, Inc.*). This entity has enabled the state to create innovative economic policy, especially with incentives such as tax increment financing (TIFs); angel investor tax credits; qualified manufacturer tax refunds; and individual development savings accounts (IDAs).

Why then did Kansas have less-than optimal growth from 2000-2004? The state has progressive economic policy, high social capital, and high Creative Class scores, and large awards from defense prime contracts. To be sure, there is a lag time for economic policy to become effective. Some of the economic policies cited recently went into effect and it is not clear how effective they will be in the future. Kansas, like many states, is transitioning from the Old Economy to the New Economy. The state is shedding manufacturing jobs in favor of jobs in the information, retail, and healthcare services. It is not clear where Kansas falls on this transition curve.

Will the state continue to lose manufacturing jobs or has the job losses in that sector peaked? The future for an agricultural state such as Kansas would be the

renewable energy sources made from agricultural products: ethanol from corn, cellulosic ethanol from switch grass, and biodiesel. However, there is little evidence of an energy policy strategy from Kansas policy makers. The bioscience and life science industry, so successful in agricultural states such as Kentucky and South Carolina, have yet to gain traction in Kansas. It is still an intuitively appealing notion that the favorable business climate in Kansas could bootstrap new industries in energy and the life sciences in the next decade.

Chapter Six: Conclusion

What explains US urban economic growth from 2000-2004? The main point to take away from this study is the role of people and policy in economic development. More specifically, creative people matter. People who work in social networks that encourage trust and reciprocity matter. It matters where people with creative occupations decide to live because "place" is becoming more and more important in regional economic development. If what Florida (2004) says is true, that people with creative occupations look to relocate to cities with tolerance, openness, and diversity, then it is important for urban planners to keep this in mind. However, Florida (2004) does not call for a "creative brain drain" consisting of cities raiding others for talented people, he argues that each city has plenty of creative people and that the city must create environments, in which these people flourish.

This study showed that it is not just creative people working alone to increase economic growth. Successful cities need a business climate that is conducive to entrepreneurship. The Economic Freedom Index showed a highly significant positive relationship with the economic growth dependent variables. Cities in states which are economically free have creative entrepreneurs who want economic liberty—to be free from paying higher union wages; free from regulatory red tape; free from paying higher payroll taxes; and free from frivolous lawsuits. This combination of creative entrepreneurs networking in an economic free environment is a key finding and conclusion from this study.

This dissertation showed the success of two states, Colorado and Virginia, which were rated 2nd and 3rd overall as the most economically free. Cities in these states that also had high creative class score performed well in terms of economic growth. These two states and their cities would be excellent sources for future case study research. Economic policy at the state and local level could then be examined in more detail.

Defense Benefit Growth, the Social Capital Index, and Distributive Politics had insignificant or negative relationships as explanatory variables when regressed with Total Personal Income growth and Total Employment. The reasons social capital and Distributive Politics had problems are primarily due to regional and economic factors, which cause population growth and migration to occur in cities and states in the Southeast and West. Cities that have high social capital are generally located in the Northeast and upper Midwest. This is where economic growth has lagged in the last two decades. Manufacturing jobs and industrial policy—a staple of economic development strategies for numerous cities and members of Congress—have given way to job growth in information technology, healthcare, and retail sectors.

The manufacturing jobs lost in those regions are not coming back. This aspect of the US economy confounded the performance of the Social Capital Index and the predicted positive relationship between social capital and economic growth was actually reversed. The demographics of US cities are also changing daily as people continue to change jobs and move to different locations. People who have just moved to a particular

community often do not immediately join clubs and organizations. This apparently had some effect on the Social Capital Index.

The results on social capital may have been affected by flaws in the measurement of the social capital index from Rupasingha et al (2006). The Rupasingha index (2006) essentially counts the number of civic associations in each county and does not take into account reciprocity and trust. Rupasingha's (2006) index also does not address Putnam's (2000) concepts of social capital, which include "bonding" and "bridging." Bonding refers to social networking, which occurs between people of similar backgrounds, religions, races, ethnicities, socio-economic class. Bridging refers to social networking, which connects people of diverse backgrounds and different religions, races, ethnicities, and socio-economic classes.

Moreover, Lowi's (1969, 1979) theories on distributive politics have a lessened effect in 2006 for the same reasons. It is more difficult for Members of Congress to spark economic growth through earmarks, pork, and set-asides than it was decades earlier. It is widely documented that more and more pork dollars are being distributed, but this analysis showed little evidence for the efficacy of these attempts when testing them against increased Total Personal Income and Total Employment.

The Defense Benefit explanatory variable had negative and insignificant relationships with economic growth in both models. Increased defense-related prime contract awards cannot hurt a local economy, but there was little evidence of a multiplier effect—that increased defense spending resulted in more income or jobs at the local level.

Perhaps using prime contracts awarded as the unit of analysis is to blame—this measurement does not take into consideration the role of subcontracts. Defense contracts have a prime contractor located in one city and several subcontractors that can be located anywhere in the US. So in reality, measuring defense spending by prime contracts can be misleading. The geographical disbursement of prime contracts does not tell the whole story.

Whatever the cause, it is certainly difficult to isolate the effects of defense spending on local economic growth. Statistical analysis may not be the best tool for tapping economic growth as a dependent variable. Case studies of specific cities and states may be a better research method to examine Social Capital, Distributive Politics, and Defense Spending. These case studies could supplement the statistical analysis in this project and would make for worthwhile research in the future.

It should be noted that this multivariate analysis is merely a snapshot in time from 2000-2004. One should not be misled by the findings concerning Total Personal Income Growth and Total Employment Growth. Cities grow at different rates depending on their size. Growth rates are also not the sole evaluative measure for a city's economic health. For example, San Francisco, a major MSA, finished last out of the 272 city sample in economic growth (see Appendix One). The city had only a 2.18% gain in Total Personal Income and a -4.59% loss in Total Employment. This does not mean that San Francisco is weak economically; it simply means that growth slowed in San Francisco from 2000-2004. In short, larger cities will not grow as fast as smaller cities. Moreover, it should be

emphasized that growth rates should not be seen as the sole evaluative criteria for a city's overall economic health.

The success of the research methodology in the second chapter was a pleasant surprise in this project. The difference of means testing, Lorenz Curves, and Gini Coefficients told a convincing story. The inequality distribution for defense prime contracts measured by the Gini Coefficient became smaller as more cities were able to win a larger amount of defense prime contracts from 2000 to 2004. The inequality distribution also became equal. The Gini Coefficient for defense prime contract awards showed a greater inequality distribution.

This project made many academic contributions. It addressed important issues in the defense economics literature. It revisited the question of whether geographical distribution of defense benefits is becoming less unequal and builds on work by Markusen et al (1991), Atkinson (1993), Campbell (1993) and others. This question has not been examined since the end of the Cold War and defense-spending patterns have changed drastically since then.

This study also tested Florida's (2002) Creative Class theory and its effects on economic development. Florida's data is recent and has not been systematically tested except for Cushing's (2001) replication of Putnam's (2000) data. Cushing (2001) compared data on innovation, diversity, and creativity to social capital data. Cushing (2001) found that cities that ranked high on innovation and technology also ranked low on social capital. Cushing (2001) served to validate Florida's general thesis on creativity

versus social capital, but there seems to be a deficiency in the literature on economic development and the creative class. Simply put, do regions with higher creative class levels and higher social capital levels have improved economic development? Florida (2005) claimed that policy makers are making decisions about urban planning based on the creative class rankings. This project will shed more light on many difficult subjects faced by policy makers and policy analysts.

In conclusion, people in creative occupations that network in commercial environments that have lower taxes, fewer torts, and smaller government (all things equal) have an economic advantage. These findings are empirically linked to gains in Total Personal Income and Total Employment in US cities. It appears that creative people and state economic policy that is business-friendly can lead to some gains in economic growth.

Case studies in states such as West Virginia and Kansas do not completely support these claims, but there is evidence in the case studies to back up some of the findings in the regression analysis chapter of this project. West Virginia has low Creative Class scores, low social capital, increased defense contract awards, and an unfavorable business climate, yet it showed solid gains in per capita income, unemployment rates, Total Personal Income, and Total Employment. This economic growth was primarily led by three cities: Charleston, Morgantown, and Martinsburg. Policy makers in West Virginia fashioned a very specific set of goals in their economic development strategy and evaluated these goals with quantitative performance measures.

Kansas has comparatively high Creative Class scores, high social capital, increased defense contract awards, and a very favorable business climate, yet its economic growth from 2000 to 2004 lagged in its six-state Midwestern region and it was behind on various national averages. Kansas did not have a yearly quantitative evaluation of its performance measures as West Virginia had.

The most striking competitive challenge facing both states is lagging population growth. Leaders in West Virginia have failed to address this problem in their performance measures. Kansas is attempting to attract individual talent; people who can manage innovative industries, which are entrepreneurial and able to secure intellectual property. West Virginia gets the edge in its progressive education policy including the "Promise Scholarship" program and its strategy to teach K-12 based on 21st century problem solving skills and professional development in addition to performance-based metrics of curriculum and test scores. Both states fail to address the notion of improving every day citizens' access and participation in government. Both states should bolster recruiting efforts for young leaders, especially minorities and women.

This study has succeeded in many ways. It has determined a connection between economic growth, the Creative Class theory, and economic freedom. It has shown the growth of cities and the inequality distributions of Defense Prime Contract awards. And it has looked inside the black box to investigate economic policy making in West Virginia and Kansas; two rural states that are struggling to remain competitive with low population growth.

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Appendix One

Table One: Study Sample of 272-cities Total Personal Income Growth and Total Employment Growth in Percent from 2000 to 2004

City	Total Personal Income Growth Percent (2000-04)	Total Employment Growth Percent (2000-04)
Yuma, AZ	34.27%	18.25%
Merced, CA	33.96%	7.06%
Fayetteville, AR	32.89%	12.90%
Laredo, TX	32.52%	15.83%
Fort Myers, FL	32.27%	2.50%
Las Vegas, NV	31.77%	15.55%
McAllen, TX	30.40%	19.51%
Fort Walton, FL	29.76%	8.97%
Las Cruces, NM	28.90%	11.02%
Visalia, CA	28.60%	2.86%
Bakersfield, CA	28.59%	6.03%
Cheyenne, WY	28.19%	6.50%
Naples, FL	26.96%	20.15%
Jacksonville, NC	26.39%	7.10%
Panama City, FL	25.75%	12.60%
Dover, DE	25.68%	11.12%
Fresno, CA	25.58%	4.37%
Rochester, MN	25.46%	6.64%
Brownsville, TX	25.45%	9.47%
Richland, WA	25.38%	2.50%
Norfolk, VA	25.36%	4.68%

Missoula, MT	25.27%	9.06%
Bismarck, ND	25.02%	6.19%
Killeen, TX	24.97%	3.64%
Fayetteville, NC	24.88%	3.63%
Fort Pierce, FL	24.87%	2.50%
Sante Fe, NM	24.65%	4.69%
Bellingham, WA	24.39%	9.61%
Phoenix, AZ	24.34%	8.30%
Clarksville, TN	24.23%	5.60%
Sacramento, CA	23.83%	9.57%
Anniston, AL	23.82%	3.13%
Yuba City, CA	23.49%	7.47%
Sioux Falls, SD	23.15%	6.25%
Orlando, FL	23.13%	8.57%
Washington, DC	23.05%	6.54%
El Paso, TX	22.97%	4.26%
Billings, MT	22.87%	6.91%
Elkhart, IN	22.69%	2.38%
Houma, LA	22.64%	6.89%
Rapid City, SD	22.58%	-2.18%
Ocala, FL	22.52%	11.44%
Des Moines, IA	22.48%	3.23%
Jonesboro, AR	22.40%	2.33%
St. Cloud, MN	22.17%	6.56%
Hattiesburg, MS	22.06%	3.62%
Alexandria, LA	22.05%	2.19%
Reno, NV	22.03%	8.04%
Richmond, VA	21.95%	2.33%

Charleston, SC	21.95%	-0.94%
Lawton, OK	21.87%	2.52%
Auburn, AL	21.85%	2.25%
Modesto, CA	21.83%	5.03%
Lewiston, ME	21.81%	3.45%
Shreveport, LA	21.78%	2.60%
Redding, CA	21.74%	7.44%
Provo, UT	21.73%	7.26%
Albuquerque, NM	21.70%	4.97%
Dothan, AL	21.61%	1.99%
Melbourne, FL	21.55%	2.50%
Medford, OR	21.54%	8.63%
Lakeland, FL	21.54%	7.01%
Flagstaff, AZ	21.51%	8.52%
Huntsville, AL	21.07%	4.99%
Madison, WI	20.80%	7.37%
Nashville, TN	20.79%	2.93%
Jackson, MS	20.70%	4.44%
Baltimore, MD	20.56%	3.67%
Little Rock, AR	20.55%	1.75%
Daytona Beach, FL	20.50%	12.82%
Bryan-College Station, TX	20.48%	5.48%
Stockton, CA	20.47%	9.19%
Waterloo, IA	20.43%	0.98%
Tucson, AZ	20.40%	4.87%
San Luis Obispo, CA	20.39%	4.88%
Fargo, ND	20.37%	6.14%
Portland, ME	20.33%	4.75%

San Diego, CA	20.27%	6.08%
Myrtle Beach, SC	20.16%	5.49%
Springfield, MO	20.10%	5.05%
Providence, RI	20.02%	2.72%
Lawrence, KS	19.93%	5.29%
Corpus Christi, TX	19.81%	3.31%
Birmingham, AL	19.64%	1.67%
Johnson City, TN	19.62%	0.95%
Omaha, NE	19.60%	0.77%
Oklahoma City, OK	19.57%	1.81%
Boise City, ID	19.48%	-0.74%
Charlottesville, VA	19.45%	4.89%
Savannah, GA	19.40%	9.60%
Decatur, AL	19.27%	-2.68%
Jacksonville, FL	19.17%	4.63%
Grand Junction, CO	19.10%	8.82%
Tuscaloosa, AL	19.09%	3.95%
Charlotte, NC	19.08%	2.65%
Lake Charles, LA	19.03%	-1.63%
Appleton, WI	18.96%	9.35%
Tampa, FL	18.93%	5.97%
Gainesville, FL	18.91%	5.55%
Bangor, ME	18.88%	1.64%
Pensacola, FL	18.85%	3.13%
Sarasota, FL	18.85%	0.88%
Fort Smith, AR	18.77%	0.25%
Great Falls, MT	18.73%	2.27%
Montgomery, AL	18.68%	3.07%

Memphis, TN	18.63%	-0.13%
Pine Bluff, AR	18.58%	-0.40%
Pueblo, CO	18.43%	0.38%
Gadsden, AL	18.28%	-0.95%
Houston, TX	18.20%	4.69%
Barnstable, MA	18.17%	6.66%
Salt Lake City, UT	18.17%	0.69%
New Orleans, LA	18.16%	2.36%
New London, CT-RI	18.16%	2.50%
Longview, TX	18.09%	-4.87%
Chico, CA	18.00%	3.58%
Iowa City, IA	18.00%	8.20%
Columbia, MO	17.98%	3.40%
Knoxville, TN	17.96%	5.92%
Corvallis, OR	17.91%	2.46%
Wilmington, NC	17.89%	9.43%
Lafayette, LA	17.89%	4.95%
Los Angeles, CA	17.88%	1.73%
Roanoke, VA	17.85%	-1.39%
Columbus, AL-GA	17.79%	-1.89%
Evansville, IN	17.65%	-0.62%
Burlington, VT	17.49%	3.68%
Baton Rouge, LA	17.45%	2.04%
Odessa, TX	17.34%	4.58%
Lincoln, NE	17.31%	5.81%
Yakima, WA	17.30%	4.98%
Pocatello, ID	17.26%	3.63%
South Bend, IN	17.24%	-1.83%

Athens, GA	17.09%	3.52%
Augusta, GA	17.08%	9.84%
Dubuque, IA	16.96%	1.78%
Miami, FL	16.92%	8.76%
Waco, TX	16.89%	2.38%
Texarkana, AR	16.77%	0.58%
Indianapolis, IN	16.74%	1.84%
Sheboygan, WI	16.72%	-1.01%
Charleston, WV	16.71%	8.98%
Sumter, SC	16.67%	-3.61%
Raleigh-Durham, NC	16.64%	4.62%
Monroe, LA	16.61%	2.69%
San Antonio, TX	16.58%	4.34%
Wichita, KS	16.57%	-1.56%
Grand Forks, MN	16.55%	4.62%
Tallahassee, FL	16.51%	3.97%
Harrisburg, PA	16.48%	1.35%
Salinas, CA	16.35%	2.50%
Columbia, SC	16.30%	1.17%
Wausau, WI	16.27%	3.89%
Huntington, WV	16.18%	0.10%
Florence, SC	16.09%	-1.19%
Duluth, MN	16.02%	-0.62%
Minneapolis, MN	15.98%	2.14%
Columbus, OH	15.93%	1.82%
Philadelphia, PA	15.93%	1.68%
Colorado Springs, CO	15.92%	2.07%
Denver, CO	15.87%	0.88%

State College, PA	15.86%	7.13%
Enid, OK	15.81%	2.50%
San Angelo, TX	15.79%	0.77%
Louisville, KY	15.77%	-1.31%
Green Bay, WI	15.76%	3.43%
Fort Collins, CO	15.54%	5.09%
La Crosse, WI	15.49%	2.30%
Wichita Falls, TX	15.41%	0.37%
Albany, GA	15.28%	-2.10%
Allentown, PA	15.16%	3.36%
Cincinnati, OH	15.14%	0.82%
Quad Cities, IA	15.12%	-1.70%
Lynchburg, VA	15.10%	0.17%
Biloxi, MS	15.07%	2.50%
Cumberland, MD	15.02%	1.04%
Kalamazoo, MI	14.96%	-2.02%
Amarillo, TX	14.84%	-0.11%
Joplin, MO	14.60%	-0.92%
Dallas-Fort Worth, TX	14.55%	1.16%
Macon, GA	14.51%	0.53%
Seattle, WA	14.48%	-0.77%
Greenville, NC	14.48%	2.66%
Bloomington, IN	14.45%	3.47%
Atlanta, GA	14.44%	2.70%
Kansas City, MO	14.43%	1.31%
Lubbock, TX	14.40%	2.71%
Casper, WY	14.33%	10.37%
Wheeling, WV	14.19%	1.21%

St. Louis, MO	14.19%	-0.14%
Parkersburg, WV	14.17%	-0.57%
Terre Haute, IN	14.12%	-0.38%
Springfield, MA	14.07%	0.02%
Albany, NY	13.98%	1.51%
Bloomington, IL	13.91%	-0.48%
Champaign-Urbana IL	13.89%	1.14%
Tyler, TX	13.84%	4.82%
Chattanooga, TN	13.64%	0.53%
Hartford, CT	13.59%	-0.08%
Goldsboro, NC	13.59%	-3.24%
Tulsa, OK	13.33%	-1.37%
Jackson, TN	13.33%	-1.34%
Peoria, IL	13.33%	-2.01%
Pittsfield, MA	13.16%	2.35%
West Palm Beach, FL	13.14%	2.50%
Grand Rapids, MI	13.13%	-1.16%
Mansfield, OH	13.05%	-3.78%
Cedar Rapids, IA	13.02%	-2.25%
Glens Falls, NY	12.92%	3.30%
Beaumont, TX	12.91%	-1.92%
St. Joseph, MO	12.79%	1.56%
Eau Claire, WI	12.64%	-0.15%
Florence, AL	12.62%	-4.22%
Victoria, TX	12.61%	-3.39%
Lafayette, IN	12.53%	-2.42%
Buffalo, NY	12.47%	-0.60%
Milwaukee, WI	12.34%	-2.28%

Portland, OR	12.32%	0.30%
Santa Barbara, CA	12.25%	3.14%
Rocky Mount, NC	12.17%	-2.46%
Lexington, KY	12.17%	-0.58%
Spokane, WA	12.14%	2.21%
Punta Gorda, FL	12.09%	7.90%
Topeka, KS	11.86%	-3.02%
Reading, PA	11.85%	-2.21%
Pittsburgh, PA	11.84%	0.14%
Lansing, MI	11.72%	0.21%
Eugene, OR	11.71%	1.58%
Sherman, TX	11.61%	-1.10%
Boston, MA	11.59%	-2.01%
Springfield, IL	11.49%	-3.14%
Austin, TX	11.41%	2.40%
Syracuse, NY	11.34%	-0.54%
Johnstown, PA	11.23%	-1.04%
Janesville, WI	11.10%	-1.01%
Altoona, PA	10.79%	2.47%
Steubenville, OH	10.78%	-4.51%
New York, NY	10.76%	1.42%
Greenville, SC	10.52%	-3.22%
Mobile, AL	10.42%	-2.36%
Rochester, NY	10.42%	-1.74%
Owensboro, KY	10.42%	-2.33%
Lancaster, PA	10.36%	3.89%
Jackson, MI	10.32%	-2.20%
Greensboro, NC	10.22%	-2.47%

Lima, OH	10.19%	-4.19%
Benton Harbor, MI	10.17%	2.50%
York PA	10.15%	1.08%
Asheville, NC	10.08%	3.31%
Toledo, OH	9.98%	-2.56%
Sioux City, IA	9.88%	-5.67%
Scranton, PA	9.86%	6.04%
Chicago, IL	9.64%	-0.85%
Dayton, OH	9.53%	-3.50%
Utica, NY	9.51%	-0.66%
Erie, PA	9.12%	-2.44%
Muncie, IN	8.76%	-7.46%
Sharon, PA	8.47%	2.50%
Detroit, MI	8.40%	-4.26%
Decatur, IL	8.28%	-7.88%
Fort Wayne, IN	8.27%	-3.95%
Youngstown, OH	8.17%	-5.18%
Abilene, TX	7.93%	1.85%
Kokomo, IN	7.85%	-7.49%
Hickory, NC	7.65%	-6.49%
Cleveland, OH	7.62%	2.91%
Jamestown, NY	7.53%	2.50%
Rockford, IL	7.50%	-3.13%
Canton, OH	7.43%	-4.06%
Binghamton, NY	5.97%	-3.80%
Elmira, NY	3.32%	-5.81%
Saginaw, MI	2.86%	-5.06%
San Francisco, CA	2.18%	-4.59%

Appendix Two

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QUALIFICATION SUMMARY

An exceptionally organized, decisive, and trustworthy executive with substantial experience in leading and mentoring people. Broad expertise in developing and managing organizations, analyzing strategic policy, and applying innovation, science, and technology to a wide range of industries and disciplines. Founder of "EastwoodNet Research and Development, LLC." Former Adjunct Researcher for the RAND Corporation's Office of Science and Technology. Regular contributor to The American, national magazine from The American Enterprise Institute. Over nine years of Radio and Television news experience as a writer, producer, reporter, and anchor including time in broadcast engineering and production. Service-Connected Disabled Veteran (60% rating) and former U.S. Army officer with over five years of military experience (Distinguished Military Graduate). PhD, MS, MA, and current Adjunct Professor at George Mason University School of Public Policy. Extensive academic research and professional analysis in International Relations/Foreign Affairs, Defense Acquisition, Defense Spending, Unmanned Aerial Vehicles (UAVs), Political Economy, Economic Development, Urban Planning, Organizational Behavior, American Politics and Foreign Policy, American and Comparative Public Policy.

AREAS OF EXPERTISE:

General Management	Political Leadership, Teambuilding, and Recruiting	International Security/Foreign Policy
Defense Acquisition	Terrorism and Counterterrorism	Political Strategy Development
Strategic and Business Intelligence	Government Relations/Public Affairs	Science, Technology, and Public Policy

Active SECRET Federal Government Clearance

ACCOMPLISHMENTS

International Security

- Selected to represent the U.S. at the 2006 NATO Summit: Young Leaders' Forum in Riga, Latvia November 27-29th, 2006.
    - Young leaders from NATO countries and partner countries were organized into working groups to formulate policy which addresses real world NATO issues.
    - Each participant drafted a strategic white paper on NATO topics such as Afghanistan nation building and security, NATO enlargement, energy security, and Western policy towards Russia.
    - The proposals were presented to NATO Secretary General Jaap de Hoop Scheffer.

Public Affairs/ Political Organizing

- **Field Organizer**; Young Republican Leadership Fund
    - Recruited over 150 college students in Kentucky and Florida for movement to support the GOP and promote ethics reform in Congress
    - Helped coordinate volunteers in five U.S. House races for Republican candidates in Kentucky and Florida in 2006

- **Defense and Homeland Security Analyst;** Turner Government and Public Affairs, Washington, DC.
    - Lobbies Members of Congress, Federal Agency personnel, and staff members
    - Submits weekly report on political and economic dimensions of defense acquisition and foreign arms sales.
    - Monitors legislative activity in Senate and House Armed Services and Homeland Security Committees.
    - Makes recommendations on legislative outcomes and how this activity affects current and future clients.

- **Co-Writer of H.R. 4781;** "The Rural Information Technology Investment Act" sponsored by US Rep. Shelley Moore Capito (R-WV). The bill is currently in the House Committee of Education and Labor and Subcommittee on 21st Century Competitiveness.

Management

- **Founder**, EastwoodNet Research and Development LLC, firm specializing in technology development and intellectual property.

- Winning Contract Vehicle: Veterans Technology for Services Government – wide Acquisition Contract (VETS GWAC)
  - 10 years; potential $5-billion
  - Contract Number: GS-06F-07-MJ29
- Manages and develops firm's intellectual property in scientific visualization and nanoscience.
- Conducts science and technology policy analysis and consulting for clients such as Mitsubishi Chemical America, Inc.

Systems Development, Policy Analysis, and Research

- **Former Adjunct Researcher-Science and Technology: RAND Corporation,** National Defense Research Institute; Pittsburgh, PA. Conducted strategic policy and technical research for Office of the Secretary of Defense, Acquisition, Technology, and Logistics (AT&L). See co-authored defense acquisition study.
- Wrote publication chapter on statutory and legislative histories of DoD acquisition statutes and regulations for National Defense Research Institute
  - Redesigned research methodology to better analyze the qualitative and quantitative data for the study and briefed these research methods to senior RAND researchers.
  - Performed site visits at DoD military installations and interacted with senior military officers and senior civilian defense officials.
- **Project Manager** for streaming video news report on the West Virginia University homepage from acquisition to utilization**.** System developer for lifecycle including support, training, and maintenance of the system. Led a production team that developed and executed a major research university's integrated marketing communication efforts. Responsible for all facets of video and streaming media production from initial proposal to optimization and project evaluation. This project later won a 2004 "Marconi Award" for creative multimedia design.
- **Conceptual Designer** of an "Improved Video Reconnaissance Dissemination system for Unmanned Aerial Vehicles (UAVs)." Components of which were later emulated and are currently in place at the Joint Intelligence Virtual Architecture (JIVA) at Wright-Patterson AFB.
- **Conceptual Designer** of urban warfare airborne reconnaissance, observation, and surveillance system for the OV-1 Mohawk reconnaissance aircraft.
- **PhD from** West Virginia University: Political Science/International Studies/Public Policy.
- **Awarded "Best Paper"** of the session for research on **innovation** at a leading academic conference on International Politics, Science, and Technology Association (PISTA'03).
- **"Intelligence and National Security"** area of emphasis coursework at West Virginia University Department of International Studies. Region of emphasis: **Northeast Asia**.
- Intermediate language proficiency in **German.**

Teaching

- **Adjunct Professor**: George Mason University School of Public Policy. Teaching "US National Policy Systems and Theory"—masters-level public policy course.
- **Instructor**: Military Science and International Relations at West Virginia University (ranked 80th percentile of all university professors for overall teaching effectiveness).

Communications and Marketing

- **Public Affairs Specialist** for the West Virginia Army National Guard. Led public relations and media affairs support for military operations and state disaster relief.
- **Assistant Recruiting Officer** for WVU Army ROTC. Helped increase the size of the cadet corps by 500% through active marketing strategies of scholarship allocations.
- **Management and Strategic Consultant** to president of defense-related public relations firm on media strategies and operational planning and to president of biometrics firm on strategic planning.

Media

- **Television News Producer and Reporter** in the nation's 30th and 57th largest market.
- Stories have aired on **CNN *Headline News*** and **Fox TV's *America's Most Wanted*.**
- Participated in **"Quickest Capture of All Time" for *America's Most Wanted***
- Skills include videography, still photography, commercial production, non-linear editing, lighting, streaming video and web design.

Military

- **Assistant Recruiting Officer** for West Virginia University Army ROTC. US Army officer responsible for member recruitment, retention, tactical instruction, mentorship, and media affairs.
- **Cadet Battalion Commander** for WVU Army ROTC. Performed supervisory, team evaluation and performance counseling for over 50-contracted cadets.
- **Cadet Infantry Platoon Leader** in the Republic of Korea near the Demilitarized Zone. Helped lead, train, and develop 40-light infantry soldiers.
- **Cadet Field Artillery Platoon Leader** for the West Virginia Army National Guard. Assisted battery commander in the training and development of 40-soldiers. Insured platoon effectively operated and maintained three 155mm Paladin howitzers and three support vehicles.
- **Distinguished Military Graduate**: national distinction from the **Department of the Army** which is awarded to officers in the top 20% of their year group. Awardees are chosen from over 3000 officers on a national order of merit list based on leadership, academics, and physical fitness.
- **George C. Marshall Award**: national distinction awarded to top cadets based on leadership, scholarship, and physical fitness.

WORK HISTORY

April 2006-Present **Consultant/Defense Analyst; Turner Gov't and Public Affairs**

- Submits weekly report on domestic political, economic, and foreign policy dimensions of defense acquisition and foreign arms sales.
- Monitors legislative activity in Senate and House Armed Services and Homeland Security Committees.
- Makes recommendations on legislative outcomes and how this activity affects current and future clients.

Sept 2004-Present **Founder; EastwoodNet R&D, LLC**

- Manages and develops firm's intellectual property in scientific visualization and nanoscience.
- Conducts science and technology policy analysis and consulting for clients such as Mitsubishi Chemical America, Inc.

May 2004-Aug 2005 **Adjunct Researcher** **RAND Corporation**

- Conducted strategic policy and technical research for Office of the Secretary of Defense, Acquisitions, Technology, and Logistics (AT&L)
- Wrote publication chapter on statutory and legislative histories of DoD acquisition statutes and regulations for National Defense Research Institute
- Redesigned research methodology to better analyze the qualitative and quantitative data for the study and briefed these research methods to senior RAND researchers.
- Performed site visits at DoD military installations and interacted with senior military officers and senior civilian defense officials.

Jan. 2004-May 2005	Int'l Relations Instructor	WVU Political Science
May 2002-Feb. 2004	US Army Recruiting Officer	WVU Army ROTC
2000-2002	Production Specialist	WVU Television Productions
1997-2000	TV News Reporter	WOWK-TV, Charleston, WV
1995-1997	TV News Associate Producer	WNCN-TV, Raleigh, NC
1994-1995	Radio Program Director	WCHL-AM, Chapel Hill, NC
1993-1994	Radio Programmer	KTMO-FM, Kennett, MO
1992	Production Runner	ABC Sports, New York, NY

EDUCATION

PhD, Political Science and Public Policy, West Virginia University, Feb. '07

Master of Arts, Political Science/ International Studies, West Virginia University, 2006.

Master of Science, Journalism, West Virginia University, 2002.

Bachelor of Arts, English, Oberlin College, 1993

Basic Combat Training, Ft. Knox, KY, 1999

National Advanced Leadership Course, Ft. Lewis, WA, 2001

Cadet Troop Leading Training, Camp Casey, Republic of Korea, 2001

US Army Reserve Officer Training Corps, 2002

Publications and Presentations

"Explaining U.S. Urban Economic Growth 2000-2004: The Role of the Creative Class, Social Capital, Economic Freedom, Distributive Politics, and Defense Spending." PhD Dissertation, West Virginia University Department of Political Science. Successfully defended, Feb. 9, 2007.

Regular contributor to The American, national magazine from The American Enterprise Institute.

"Running for Public Office on Energy Conservation Issues." Presented to the *Oil, Climate Change, and Security* conference sponsored by *Americans for Informed Democracy*. Virginia Commonwealth University, Richmond, Virginia. Nov. 18, 2006.

"Expanding Privacy to Expand the Biometrics Market." November 2006. Co-authored with Robert Schechter and Andrew J. Polcha. *Biometric Watch*. Volume 4: Issue Nine. (Non-peer reviewed).

"Defense Spending and Economic Development: Social Capital, the Creative Class, and Distributive Politics ," paper presented to the Midwest Political Science Association Conference, Chicago, Illinois, April 22, 2006.

Measuring the Statutory and Regulatory Constraints on Department of Defense Acquisition. 2006. Co-authored with Jeff Drezner, Irv Blickstein, Raj Raman, Monica Hertzman, and Dikla Gavrieli. Santa Monica: RAND Corporation; National Defense Research Institute.

"The Promise after the Promise." Discussant, West Virginia Local Government Leadership Academy, *New Leaders Program*. West Virginia Institute for Public Affairs. Morgantown, WV. April 9, 2005.

"The Politics of Defense Acquisition: Resource Allocation, Issue Attention and Congressional Agenda Setting," presented to the Midwest Political Science Association Conference, Chicago, Illinois, April 7, 2005.

"A Critique of RAND Corporation's 'New Organization of Terrorism,'" presented to the Senator Rush D. Holt History Conference; *Defining Security in an Insecure World* for the panel—"Anti-Terrorism: A Strategic and Tactical Analysis" March 4-7, 2005 in Morgantown, West Virginia.

"Color of Money: Defense Resource Allocation and Social Spending Tradeoffs in NATO Countries from 1980-2003," presented to the West Virginia Political Science Association annual meeting October 15, 2004, in Buckhannon, West Virginia.

"A Comparative Analysis of Television Newscasts in Nine Countries during Operation Iraqi Freedom." presented to the West Virginia University's 28th Colloquium on Literature and Film, "The Evolution of War and Its Representations in Literature and Film." Morgantown, West Virginia, September 18-20, 2003.

"The Soldier's Craft from World War I to the Gulf War," Panel Moderator. West Virginia University's 28th Colloquium on Literature and Film. September 19, 2003.

"A Case Study Exploring Streaming Video in a University Setting," is my master's thesis for the P.I. Reed School of Journalism at West Virginia University, December, 2002. The paper was presented and published as part of the proceedings at the International Conference on Politics and Information Systems: Technologies and Applications (PISTA '03) and the International Conference on Computer, Communication, and Control Technologies (CCCT '03). These conferences were held in Orlando, Florida, July 31 to August 2, 2003.

Awarded 'Best Paper' of Panel for "A Case Study Exploring Streaming Video in a University Setting," International conference on Politics and Information Systems: Technologies and Applications (PISTA '03), in Orlando, Fl., July 31 to Aug. 2, 2003.

"Improving Video Reconnaissance in Unmanned Aerial Vehicles (UAVs): The Key to the Interim Brigade Combat Team (IBCT)," was an article submitted to the *Military Intelligence Professional Bulletin* in January 2002. I submitted this article as a cadet at West Virginia University Army ROTC.

Awards and Designations

- Best Paper of Panel. International Conference on Politics and Information Systems: Technologies and Applications (PISTA)-'03
- US Army Distinguished Military Graduate, WVU Army ROTC-'02.
- US Army George C. Marshall Scholar, WVU Army ROTC-'02.
- US Army "Officer's Saber" Awardee, WVU Army ROTC-'02
- US Army Military Occupational Specialty: Public Affairs, Military Journalist.
- Veterans of Foreign Wars: Outstanding Army Cadet- '01.
- Disabled American Veterans Outstanding Cadet- '01.
- American Legion Scholastic Honors Student-'01.
- Association of the Army Award for Scholastic Excellence-'01.

- WVU Army Cadet of the Semester-'01 and '02.

Professional Activities, Affiliations, and Volunteer Work

- Alexandria, VA Young Republicans
- Monongalia County Republican Executive Steering Committee
- Candidate for Morgantown, WV, City Council '05
- General George C. Marshall Foundation, Lexington, Virginia.
- Oberlin College Shansi Foundation
- Oberlin College Alumni Recruiter.
- "WVU Days" Campus speaker to disadvantaged, rural youth
- West Virginia Adult Literacy Tutor.
- Public Speaker for West Virginia University New Student Orientation.
- Member of American Legion
- Member of Disabled American Veterans