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State Economic Development: Analyzing the Moderating Effects of Business Climate on Economic Growth

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State Economic Development: Analyzing the Moderating Effects of Business Climate on Economic Growth

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by

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DEDICATION

To my father—Captain Dean A. Brazier Sr., USN (Ret.), 1956-2019—who taught me discipline and my mother—Julia I. Brazier—who instilled in me a passion for learning. It was this passion for learning that led me to this doctoral program and the discipline that got me through it.

To my love, Taylor A. Croley, thank you for being you and loving me for me.

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ABTRACT

States across the country focus intensely on creating jobs, catalyzing capital investment, and stimulating economic output. They pursue different strategies, mixing and matching a variety of tactics in the pursuit of their economic objectives. While scholars have studied the relationship between economic development tactics and economic growth or business climate and economic growth, none to my knowledge have studied the impact of economic development efforts on economic outcomes while accounting for a state's business climate.

I found economic development spending to be negatively associated with employment growth (other measures, real gross state product and per capita income growth, were not statistically significant), and most steeply negative in states whose business climate was rated highly by the pro-business Tax Foundation. I tested three other conceptualizations of business climate and found mixed, somewhat nuanced results. I also found only supply-side spending, not demand-side, to have a statistically significant relationship with growth. Last, in line with previous research, I found states do not appear to pursue any distinct economic development strategy.

States focus on creating the conditions ripe for economic growth and development but seem to use the wrong (or at least, suboptimal) tools to achieve their desired outcomes. With nearly $5B spent on economic development operations and up to $80B in state and local incentives awarded each year, taxpayers deserve more effective practices and policies. I hope this dissertation can encourage deeper partnership between policymakers, practitioners, and scholars on improving the practice and decision-making processes inherent to state and local economic development.

CHAPTER ONE
INTRODUCTION

Education, health care, and the economy are priorities for every state in the country. In the 2019 "State of the State" addresses, these three topics were mentioned in virtually every governor's speech (Rakich & Mehta, 2019). While state governments have relatively clear roles and well-researched policy verticals in the education and health care fields, scholars lack consensus on the proper role of state governments in their economies and, more specifically, states' ability to influence economic outcomes.

This lack of clarity exists for several important reasons. First, the foundational premise that states can influence economic outcomes, especially employment growth, is questionable. Brace (1993) notes that states may have a measurable impact on per capita incomes but little influence over employment growth, which tend to be affected by national or international macroeconomic factors, concluding: "The moral from all of this [analysis] is that employment growth appears largely outside of state governmental control in each period" (p. 107). Second, even if states could influence economic growth and development, the end goals are unclear. Should states focus on economic growth (e.g., employment, income) or development (i.e., long-term productivity improvements, improved standards of living)? Furthermore, the strategies and timelines for these results vary dramatically based on the objectives. Third, even if a state had confidence that it could influence economic outcomes and identified a clear set of objectives, no consensus exists on which strategies and tools are most, or even marginally, effective. Should states direct public funds to private firms through grants, subsidies, or tax breaks? Should states invest directly in training private firms' workforces or indirectly through investments in the educational system? The combination of objectives, strategies, and tactics are myriad, and the research on their effectiveness is inconclusive.

Nonetheless, state and local leaders continue their efforts to influence the economy, expending significant time and public dollars to improve their state's business climate to spur growth in existing businesses and attract new ones to their state. However, these efforts lack a clear objective. As Warner describes, "Business climate is essentially a perception that defies precise definition" (1987, p. 385). To some individuals—whether practitioners, scholars, or policymakers—a strong business climate is synonymous with a low-cost (i.e., low tax and light regulatory policy regime) location in which to do business. To others, a strong business climate balances a focus on the costs of doing business with the productivity advantages that stem from investments in infrastructure and human capital. Though they disagree on methods, both sides aim to create an environment in which businesses can thrive, thus raising the quality of life of workers and residents.

This dissertation integrates various conceptualizations of business climate into analyses of the relationship between economic development spending and economic growth using a series of moderated regressions. A few scholars have studied the effect of state-level strategies and activity on economic growth (for a review of the literature on economic development strategies and growth, see Peters and Fisher, 2004), while others have empirically tested the relationship between business climate measures and economic growth (for examples, see Kolko, Neumark, & Meija, 2013 or Conroy, Deller, & Tsvetkova, 2017). I am not aware of any research that explores the interconnected relationship among all three concepts: state economic development spending, business climate, and economic growth. Since states do not make decisions in a vacuum, it is critical for scholars and practitioners to understand the broader context (i.e., business climate) in which economic development decisions (i.e., spending) are made.

This dissertation proceeds as follows. Chapter Two reviews the relevant literature, exploring if and how each concept—state economic development spending and business climate—influences economic growth. Chapter Three outlines the proposed research design, and Chapter Four reports the results for each of the five research questions. Chapter Five concludes this dissertation with a set of recommendations for economic development policymakers and practitioners.

CHAPTER TWO
LITERATURE REVIEW

The history of state-led economic development in the U.S. is as old as the country. Over nearly 250 years, states and localities have developed and deployed a vast range of strategies and tools to drive economic growth, primarily through direct partnerships with and/or public financial support of private firms. The following literature review explores theoretical arguments for state intervention in the economy; the historical evolution and current state of the practice of economic development (ED); contemporary ED tools and practices, and the effectiveness of these efforts; and the external environment (i.e., business climate) in which these economic development activities occur. I conclude the literature review by exploring perspectives on whether states pursue distinct strategies or scattered "any and all" approaches.

The Role of the Government in the Economy

To understand state economic development, we should first explore the responsibilities of the government, and why governments at all levels—national, state, and local— are so inclined to intervene in economic affairs. Adam Smith is perhaps the most prominent thinker on the role of the (primarily national) government in the economy within the classical economic liberalism school. In his view, government should focus on "peace, easy taxes, and a tolerable administration of justice" (quoted in Tatulescu, 2013, p. 79). This focus on national defense, the administration of justice (including contract enforcement), and even public investments funded by taxes was not new and can be traced as far back as Sir William Petty's 1662 *A Treatise of Taxes and Contributions*, which listed several functions of government that justify the levying of taxes to pay for public or common goods. In addition to the three functions mentioned by Smith, Petty included care for the "impoverished, the incapacitated, and the unemployed" (Baumol, 1965, p. 184). Neoliberals expanded the role of government beyond maintaining individual

freedom and market efficiency, adding responsibilities to correct market failures and, like Petty, reduce social disparities. These two schools of thought, classical and neoclassical economic theories, form the basis of the current Western capitalist system. Campbell, Hollingsworth, and Lindberg assert that "without the State, there can be no capitalist economy," focusing primarily on the role of government in enforcing property rights as foundational to capitalism (1991, p. 36). Other economic schools of thought advocate for an interventionist model of government, including social democratic (a mixed economic system that balances market and state intervention) and Marxist (a system that eliminates private property). State and locally-led economic development in the U.S. draws largely from the first set of economic philosophies, neoclassical and neoliberal, rather than the second, social democratic and Marxist doctrines.

Paul Peterson (1981) argued that we must distinguish the roles, responsibilities, and powers of national governments from those of subnational governments. Though his research focused on city governments, the same principles apply to states as well. Like national governments, subnational governments are responsible for the general well-being of their residents and thus support improvements in quality of life through numerous means. Peterson described how cities optimize between three objectives: economic, social (i.e., status), and political power. To a large extent, the economic objectives are foundational to the other two: A poor city rarely maintains high levels of social status or political influence. He posited three reasons why local governments care about economic interests: (1) Cities need fiscal revenues to deliver critical services; (2) good government (i.e., economic growth and improvements to the quality-of-life) is good politics, resulting in increased votes; and (3) leaders are genuinely concerned for their community and believe increasing the number of quality jobs in their community will act as a rising tide that lifts all boats. Last, Peterson analyzed the channels

through which cities can support growth through an economic lens. First, economic growth is largely driven by the success of its export industries, which capture dollars from consumers beyond its community. Second, growth of these (and all) industries are functions of critical factors of production such as land, labor, and capital. Land is somewhat of a given (although growth can occur through annexation and other maneuvers), so a city must make the most productive use of the land it has through prudent zoning and development strategies. Since labor and capital are mobile, cities must work to attract and retain these factors. Thus, states' and cities' policies are typically geared towards particular segments (e.g., highly mobile high-skilled labor rather than less mobile low- or unskilled labor) within each category.

Complementary to Peterson's seminal perspectives on why cities care about economic development, Eisinger (1988) identified two theoretical frameworks to explain how governments act to spur development. The first, the private benefit model, asserts that government inducements can catalyze private investment, which leads to more jobs. Increasing the number of well-paying jobs improves the standard of living both for those employed and the community in general. The second, the public benefit model, follows a similar logic but with a somewhat different outcome. In this model, government inducements catalyze private investment, which increases the taxable base and ultimately increases government revenues. Researchers and policymakers assume that higher government revenues are a net good for the community because funds can be invested in schools, infrastructure, parks, and other public goods. Both models explain government intervention via inducements as inherently altruistic. In practice, governments follow both models: They seek to catalyze investment to increase the number of well-paying jobs in their communities **and** to increase the taxable base to fund needed public services and investments. These models serve as the theoretical framework for this dissertation.

Before concluding this section, an important distinction needs to be made between economic growth and development, which both require government to play a critical role. Feldman, Hadjimichael, Kemeny, and Lanahan offer a simple description of the two concepts: "Economic development creates the conditions that enable long-run growth" (2015, p. 1). They continue, whereas growth is simply an increase in output, "Economic development is measured by a sustained increase in prosperity and quality of life through innovation, lowered transaction costs, and the utilization of capabilities towards the responsible production and diffusion of goods and services" (p. 12). Economists have long been interested in understanding the factors that drive economic growth. For example, neoclassical growth models assert that long-run growth is driven exogenously, whether by the savings rate or the rate of technical advancement (e.g., Harrod-Domar or Solow models, respectively). While neoclassical models analyze growth at given levels of technology, endogenous growth theories focus on the role of human capital, innovation, managerial know-how, and other factors play in supporting and spurring growth (Snowdon, 2006). Another major strand of growth theories focus on the role that institutions play in supporting economic growth (see works from Douglas North or Daron Acemoglu). These theories focus on determinants of growth at the country level but regardless of the unit of analysis—country, state, or local—the role of government is critical. As Feldman et al. describe, "The logic of economic development requires certain capacities [to be present, which] require collective action through government" (2015, p. 20). They elaborate on why this matters:

> "The ultimate result of economic development is greater prosperity and higher quality of life; however, these goals can only be realized through sustained innovation, activities that lower transaction costs through responsive regulation, better infrastructure and increased education and opportunities for more fruitful

exchange. Only by appreciating the role of government as a vehicle for collective action can we ensure our economic future" (p. 20).

In summary, Smith and other classical economic thinkers argued government should play a central role in ensuring a well-functioning capitalist economy, which includes raising taxes to pay for a limited set of public expenditures. Peterson asserted cities optimize around three objectives—economic, social, and political—but economic concerns take primacy over the other two. Eisinger identified two theoretical frameworks, public and private benefit models, through which we can understand how and why governments intervene in the economy to induce private investment to raise the standards of living in an economy. Scholars at all levels—national, state, and local—agree that governments are critical in building and maintaining the foundations like sound institutions or adequate physical infrastructure necessary for growth. Thus, subnational governments (i.e., states and cities) have theoretical and practical reasons for intervening in the economy, justifying a myriad of economic development tactics that are deployed across the country.

Evolution of State Economic Development

State economic development can be traced back to the formation of the country. For example, Coan (2017) quotes Supreme Court case *Wilmington Railroad v. Reid*, 80 U.S. 264, 1871, which referenced a tax exemption granted by North Carolina to the Dismal Swamp Canal Company in 1790. Similarly, Buss (2001) notes that that the state of New Jersey provided one of the earliest known economic development incentives to none other than Alexander Hamilton to encourage him to locate a factory there in 1791. Coan cites a passage from Gunn (1988) that summarizes America's embrace of state intervention in the economy: "From (sic) more than a generation, from the Revolution to the Panic of 1837, Americans had accepted state intervention

in the economy as a legitimate, indeed essential function of government … Invoking the public as justification, the states … consciously sought to stimulate economic growth through positive action" (quoted in Coan, p. 69, 2017).

Four historical concepts or developments from Coan's 700-page tome on the history of state and local economic development are worth noting: (1) Federalism, and more specifically, states as sovereign over localities as expressed through Dillon's Rule; (2) tax abatements and eminent domain as some of the earliest ED tools; (3) early restrictions on state intervention via constitutional reform; and (4) the evolution of economic development entities.

Dillon's Rule was established in 1868 in an Iowa state judicial ruling. According to Coan, "The decision is easily the most important single judicial decision affecting sub-state economic development" (2017, p. 82). The decision asserted that the U.S. Constitution only recognized two sovereigns: the federal and state governments. Thus, all sub-state entities (cities, counties, and towns) are creations of state governments, and, therefore, states must explicitly outline their powers. Coan notes that this ruling has become "the legal foundation for the state's dominance over the sub-state ED (economic development) policy systems" (p. 83). The law also affected the evolution of state and local economic development, which I will detail shortly.

The second historical development concerns two early economic development tools, tax abatements for businesses and eminent domain, which remain central in any modern economic developers' toolbox. Since the Supreme Court's earliest days, the Court has deferred to the states in determining the validity of tax abatements based on a straightforward rationale: "If a jurisdiction can tax, then the jurisdiction can exempt [an entity] from taxes" as long as the laws are applied 'uniformly' (Coan, 2017, p. 62). Unsurprisingly, this interpretation has provided

considerable latitude in how states use their power to tax and abate as an economic development tool.

Eminent domain, or the government's power to take private property for public purposes, is the second tool that has roots in the early Republic and continues today. Coan notes that eminent domain has primarily been a matter of state law. Throughout the country's history, state and local governments have delegated this power of eminent domain to private entities through charters (state-established private firms with the ability to leverage public resources) and franchises (forerunners of today's public-private partnerships in which a government grants long-term leases or arrangements to a private firm to provide a service like water or power). Today, state and local governments typically delegate this power of eminent domain to today's economic development authorities, which vary in organizational structure from public-private partnerships to fully public entities (Coan, 2017, pp. 63–65).

The Panic of 1837 dramatically reshaped how state and local governments approached economic development, specifically infrastructure investments. Prior to the Panic, states and localities liberally offered their balance sheets to private entities to raise the capital for large-scale investments like canals, roads, railroads, and, in the under-developed South, "state-chartered 'plantation' banks" (Coan, 2017, pp. 78–81). After eight states defaulted and four states repudiated some or most of their debt, state legislatures throughout the country passed gift and loan constitutional clauses slowly but consistently over the next fifty years. Three clauses—credit, stock, and current appropriations—emerged that limited states' support of private entities. Credit clauses prevented states from issuing bonds and directly donating the proceeds to private entities. Stock clauses prevented states from swapping said bond proceeds for corporate (e.g., railroad) stock. And the third, current appropriations clauses, prevented states from providing

"loans, gifts of land or grants financed directly from current appropriation" (Coan, p. 81). Although these gift and loan clauses curtailed states' abilities to engage the private sector, local government units were still free to use their balance sheets for infrastructure and other related economic development investments. These clauses remain in place today, leading to wide variation in states' aggressiveness in competing for projects.

Prior to the mid twentieth century, states channeled their economic development activities through a series of legal structures such as the corporate charter, franchises, and infrastructure commissions that resemble modern public-private partnerships. The first entity was the corporate charter, which precedes our Constitution's signing. These chartered public/private corporations were approved by state legislatures as "semi-private, usually tax-exempt, corporation[s] operated and controlled by private investors and management" (Coan, 2017, p. 68). States traditionally granted these charters for capital-intensive infrastructure like canals, docks, and highways but occasionally granted them to insurance companies and commercial banks. According to Coan, corporate charters met their demise in the aftermath of the Panic of 1837 and the subsequent constitutional restrictions. To replace these public-private arrangements, franchises emerged through which municipalities entered long-term contracts with private companies, receiving annual payments in exchange for granting the companies sole rights to operate a service like a streetcar or public utility-like infrastructure. Franchises enjoyed their heyday in the post-Civil War Gilded Age. Two other entities emerged during this time that would form the current structures of state economic development. As municipal governance rapidly evolved, city departments took the place of independent boards and commissions that had provided de facto governance in most large cities. The first and most prominent example of these departments was the New York City Department of Docks, which, according to Coan, "is the

oldest active governmental economic development organization found by [his] research" (p. 115). This organization controlled all of New York City's waterfront property and became responsible for its long-term planning and development. Over time, this agency merged with others and evolved into the New York City Economic Development Corporation (NYCEDC). The second major development was the rise of chambers of commerce and boards of trade, which emerged and proliferated in the post-Civil War era. The business elite, then as today, dominated these civic associations, taking responsibility for marketing their communities, investing in sound infrastructure, and, ultimately, wooing prospective companies to locate facilities in their communities. These chambers had tremendous influence on their community's economic development activities but, by definition, were not public actors and operated at a city, not state, level.

Formal state economic development efforts emerged in the 1920s and 1930s in states like Alabama, North Carolina, Florida, and Maine (Cobb, 1993; Eisinger, 1988; Pollard, 2015). These early industrial development agencies were limited in scope and were largely phased out by the 1950s, with the exception of a handful of Southern states (Saiz & Clarke, 1996). However, states soon resurrected these agencies in the 1970s and 1980s in the form of economic development agencies, as they responded to a potent combination of international and national economic challenges: increased global competition from West Germany, Japan, and others; the transition in America from being a net exporter to a net importer; and declining federal support for state and local development throughout the period (Eisinger, 1988; Hunter, 1999). These seismic macroeconomic shifts left state and local budgets with significant gaps while states competed for what seemed like declining numbers of new projects, especially manufacturing ones. (Eisinger, 1988; Fosler, 1988; Hunter, 1999). States had always competed to lure

"footloose" firms but the forces of increased international competition, the start of a steady decline in manufacturing employment, and decreased federal support changed the nature of the competition (Eisinger, 1988).

Today, every state has its own economic development agency with some variation in organizational structures. As Grady explains, "The economic development staffs are the foot soldiers in the war among the states for new capital investments. As part of their arsenal of weapons, the economic development professionals employ incentives to lure businesses" (1987, p. 90). According to the Urban Institute, most states' primary economic development arms are organized as agencies under the executive branch of the state, although at least 20% of states' economic development organizations are organized as either a quasi-public or public-private partnerships (Norton, 2016).

Contemporary State Economic Development

The practice of state economic development has evolved greatly over the last 250 years, expanding its toolkit beyond tried-and-true tactics like business tax abatements and incentives, though many of these historical tools remain in use today. Eisinger (1988) grouped contemporary tactics into two categories: supply-side, "least-cost" location and demand-side approaches that came in vogue in the 1980s. Supply-side policies developed during a time when manufacturing location decisions were driven largely by the costs of production and proximity to either heavy inputs (e.g., coal, lumber) or large consumer markets (Bingham & Meir, 1993; Coan, 2017). On the other hand, demand-side policies are characteristic of what Eisinger called the "entrepreneurial state," which is focused on creating and expanding demand and markets for existing firms and developing new firms within a state. These policies emerged in response to the trends in the 1970s and 1980s described in the previous section. Eisinger noted these demand-

side policies have three primary programmatic approaches: venture capital, high technology development, and foreign exports.

In 1995 Eisinger updated his perspective to acknowledge that industrial recruitment was not going away and would not be overshadowed by entrepreneurial policies, suggesting that third-wave strategies developed following the recession of the early 1990s. This third wave was essentially a hybrid of the supply- and demand-side strategies he described nearly ten years prior. Similarly, Bradshaw and Blakely (1999) described three waves of economic development strategies pursued by states: The first wave focused on supply-side tactics like Eisinger described; the second focused on investment and entrepreneurial approaches; and the third focused on establishing "supportive economic market development marketplaces rather than payments to firms" (p. 230). The authors elaborated, "The core of the new third wave is best thought of as state-level industrial policies that couple place and programs through the design of a soft structure of economic and social networks supporting firm growth and stability" (p. 231). In sum, scholars in the 1990s raised awareness of states' roles in the development and support of innovation, market development, and even demand generation in addition to traditional supply-side efforts.

The array of tools deployed by state and local economic developers number in the thousands. Through policy diffusion and innovation, these tactics have become so ubiquitous that states have ceased being differentiated by what they can offer companies (though they still compete on how much they can offer). Scholars have documented this explosion of tactics and policies over the decades. For example, Grant, Wallace, and Pitney (1995) analyzed Conway Data, Inc's *Industrial Development and Site Selection Handbook* data, identifying 79 specific types of economic development policies available in any state at some point from 1970–1992.

Leicht and Jenkins (1994) used the same handbook and some unclear math to find that "between 1980–1990, the total number of state economic development programs identified by the *Site Selection Handbook* grew from 1,722 to 2,222. Of the 3,400 possible combinations of states and programs, 52% had been adopted by 1980 and 65% by 1990" (p. 256). Saiz (2001b) found 2,756 programs listed in the *Directory of Incentives for Business Investment and Development in the United States* from 1983–1993 (presumably, the 2,756 figure represents the sum of unique instances of programs in each of the fifty states). At the municipal level, studies note a rise (and convergence) in the number of tools as well (see Osgood, Opp, & Bernotsky, 2012 or Strother, 2004; for a comparison of municipalities' use of incentives between U.S. and Canada, see Reese & Rosenfeld, 2003). In short, the ever-expanding list of programs has resulted in little differentiation among jurisdictions in competition with each other.

Although the individual counts of programs and tools number in the thousands, the types of economic development activity can be categorized into a smaller, more manageable set that can be compared across states. The Council for Community and Economic Research (C2ER) tracks each state's spending on economic development programs by sifting through budget documents and separating spending into 15 different categories. Using Eisinger's supply- vs. demand-side typology, Hanley and Douglass reduced C2ER's 15 budget categories into the two typologies (2014). The authors grouped six policies (Business Finance, Strategic Business Attraction, Domestic Recruitment, Workforce Preparation and Development, Community Assistance, and Tourism/Film) as supply-side programs focused on directly reducing business costs. The authors grouped five other policies (Business Assistance, International Trade, Technology Transfer, Entrepreneurial Development, and Special Industry Assistance) as demand-side programs focused on "[…] support for new and/or risky enterprises and ideas and

public private strategic collaboration" (p. 224). The remaining categories—Administrative, Minority Business Development, Other Program Areas, and Program Support—can be grouped into a miscellaneous/administrative bucket.

I next review the different types of economic development programs and provide tangible examples of these programs drawn primarily from Virginia, where I lead the Economic Competitiveness division for the Commonwealth's state economic development organization. This supply-side vs. demand-side grouping will become the basis for Research Question #5, which will be discussed in the next chapter.

Business Assistance

Business assistance programs primarily target small businesses with direct technical assistance and counseling to improve financial management and business strategy abilities. Examples include small business development centers, procurement support, business retention and expansion activities, and industry association support, among others. The U.S. Small Business Administration helps fund small business development centers ("SBDCs"), which are located throughout each state, often in partnership with a local university or chamber of commerce. They offer a variety of services like cash flow analysis, market feasibility and research, strategic business planning, and, in some cases, export assistance. Procurement programs assist businesses in securing federal, state, and/or local government contracts. Virginia's Department of Small Business and Supplier Diversity ("SBSD") provides many of these services, working with both government agencies and small businesses directly to strengthen small businesses throughout the Commonwealth. Other procurement programs are located throughout various agencies, including the Virginia Economic Development Partnership's Global Defense Program, which facilitates connections between the U.S. Defense

Department and Virginia defense companies, among many other activities. Business retention/expansion services support existing businesses and serve as a public policy advocate for favorable business climates. Industry association support covers direct financial and/or staff support to industry groups in a state. Virginia does not offer such a program, but states like Wisconsin do. Wisconsin's Targeted Industry Project Program, for example, provides direct financial assistance to "support catalytic initiatives in industry sectors with the greatest potential for significant job growth" (InWisconsin.com). C2ER captures all other miscellaneous business assistance activity in an "Other Business Assistance" category.

Entrepreneurial Development

State entrepreneurial development programs cover a wide range of programs and efforts, dating back to the 1980s when bodies like the Massachusetts state government began investing directly in startup ventures (Fosler, 1988). This category covers all forms of assistance targeting new firms, primarily in their first three years, with programming (e.g., accelerators) and financial support (i.e., investment) to help them survive and thrive. C2ER identifies four sub-categories: assistance to startups, incubator development/operations support, seed/venture capital, and other entrepreneurial support. Assistance to startups includes mentorship and consulting (free and fee-for-service). Incubator development/operations support includes not only providing space and counseling but also financial assistance (e.g., equity and debt financing) and talent search support. Seed/venture capital offers state-supported direct investment to firms in the pre-production stage (i.e., seed capital) and/or to firms that have promising products or services but are looking to scale up (i.e., venture capital). Virginia's primary state-level vehicles to support entrepreneurship are the non-profit Center for Innovative Technologies (CIT), the Innovation and Entrepreneurship Investment Authority (IEIA), and the Virginia Research Investment Committee

(VRIC). CIT manages the Growth Acceleration Program (GAP), which invests in high-potential, seed- to early-stage companies; the Commonwealth Research Commercialization Fund (CRCF), which helps bring promising research out of the labs and universities and into the commercial space; and the Virginia Research Investment Fund (VRIF), which specifically supports the commercialization of university intellectual property assets. CIT also runs the Mach37 cyber-accelerator program, which offers traditional incubation services like dedicated workspace, structured curriculum to build business skills, mentorship, seed capital, and, when needed, introductions to investors who can provide late-stage capital.

International Trade and Investment

State-level international trade and investment programs and services target companies active in trade and those yet to engage. Services include export promotion, foreign direct investment, overseas representation, and advertising, among others. Export promotion services cover a wide range of direct-to-company services, including market research (e.g., what is the market opportunity for X good in Y country?), information services (e.g., what are the regulations for X good in Y country?), international lead generation (e.g., what companies would be interested in X good from Z company?), and promotional marketing trips (e.g., State A brings 10–15 resident companies to Country B to raise awareness and/or facilitate connections). Foreign direct investment services identify and recruit foreign companies to a given state through the use of trade missions and trade shows, among other efforts. Overseas representation includes full-time staff representing a given state in a foreign country. Overseas representation can focus on either or both export promotion (i.e., promoting a state's companies and goods to the foreign market) and foreign direct investment (i.e., wooing that country's companies to locate operations in a state). International advertising services raise awareness of a state's goods and services to

overseas markets and improve the state's attractiveness to foreign investment. Virginia Economic Development Partnership's (VEDP) International Trade Division is Virginia's primary state-level international trade effort. The Division administers the federally-funded State Trade and Export Promotion (STEP) grant program, which helps small businesses increase exports; the Global Defense Program (GDP), which helps defense companies identify new customers and new markets; and the Virginia Leaders in Export Trade (VALET) program, which is a two-year business acceleration program that provides grants and direct assistance to help companies start or rapidly expand international trade activities. Ad-hoc services include the market research, information services, and international lead generation services mentioned earlier, as well as several other services. VEDP's International Trade Division does not have any full-time overseas representatives, but it does have an extensive network of consultants covering more than 80 countries. Virginia's foreign direct investment activities are housed within VEDP's Business Investment Division and include full-time foreign representation in three markets (Western Europe, Japan, and South Korea). States vary in their approach to structuring their foreign domestic investment and trade promotion activities. For example, Pennsylvania separates the two under one roof, like Virginia. Florida and Georgia report separate but highly collaborative functions while Wisconsin and Missouri largely combine the two efforts (personal interviews with agencies' staffs, summer 2018).

Special Industry Assistance

Special industry assistance is a broad category that captures state-level efforts to develop and promote targeted industries. These include traditional sectors like agriculture, energy, and manufacturing (e.g., aerospace, "advanced" manufacturing); more contemporary sectors like information technology and biosciences; and niche sectors like racing and gaming. Activities

span the gamut from direct capability-building efforts like those mentioned in the Business Assistance section; direct financing (grants and loans) programs like those mentioned in the entrepreneurial development sections; and international trade promotion efforts like those mentioned in the previous section. C2ER identified spending on special industry assistance in 47 of the 50 states in 2014. Virginia, specifically, delivers special industry assistance to the agriculture and forestry sectors through the Virginia Department of Agricultural and Consumer Services (VDACS) and to the racing and gaming sectors through the Virginia Racing Commission. VDACS is charged with promoting the growth and development of Virginia's agricultural sector. VDACS provides direct capability-building services, administers a variety of funding programs, and offers domestic and international marketing and promotion support, among many other activities. The Virginia Racing Commission is charged with the support, maintenance, and regulation of a thriving native horse racing industry primarily through regulation and licensing. Other industry-specific efforts certainly exist in Virginia and across the country but not every industry has dedicated state departments or formal programs.

Technology Transfer

The last demand-side program is technology transfer, which includes technology commercialization efforts; research and development (R&D); modernization/manufacturing extension; and company quality enhancement efforts, among others. Technology commercialization efforts include facilitating financing for technology-based firms and programs as well as establishing research parks to house similarly minded firms and centers together. These efforts can also provide support and assistance in patenting, licensing, and commercialization efforts. R&D investments typically target basic research while raising support for private investments in applied research. These R&D efforts are often housed within other

departments and programs rather than operating independently. Modernization/ manufacturing extension programs can take many forms but all focus on helping existing manufacturers become more efficient and competitive. Finally, company quality enhancement services work directly with businesses to support continuous improvement and quality control design and assurance efforts. Virginia's state-led technology commercialization and R&D investment efforts are delivered through the Center for Innovation Technology (CIT), profiled in the entrepreneurial development section; Virginia Innovation and Entrepreneurship Investment Authority, which oversees grant funds to technology firms; and Virginia Institute for Advanced Learning and Research, which leverages resources from various higher education partners to support economic growth in Southern Virginia. Virginia's Manufacturing Extension Program (MEP) is delivered by GENEDGE, a business consulting organization that is part of the national MEP network. Last, C2ER notes that company quality enhancement services are delivered by Virginia Innovation and Entrepreneurship Investment Authority's Technology Entrepreneurial Development Services but the program received no appropriations in FY2019.

Business Finance

The first supply-side subcategory I will review are business finance programs, which provide capital to businesses through loans and grants primarily to address capital access issues. C2ER classifies four subcategories: fund management, loans to businesses, grants to businesses, and other. Fund management activities are primarily expenses that cover administration of the loans and grants. C2ER did not identify any Virginia spending in this category. Loans to businesses typically constitute the majority of economic development spending within this category, offering direct loans, authorizations for loan guarantees, and other lending support to eligible businesses. States have numerous, primarily small-business-centered, lending programs

scattered throughout agencies and functions, including agencies covering small businesses (e.g., Virginia's Small Business Financing Authority [VSBFA]), minority-owned businesses (e.g., Virginia Department of Small Business and Supplier Diversity [SBSD]), and/or community development agencies (e.g., Virginia Department of Housing and Community Development [DHCD]). Like loan programs, grants to businesses address capital issues facing eligible businesses. C2ER distinguishes general grant programs from purpose-specific grants such as those associated with exports promotion. Miscellaneous programs are captured in the other business finance category.

Community Assistance

Community assistance (development) spans a range of activities, including infrastructure, community center revitalization efforts like Main Street programs, technical assistance/capacity building, grants to development organizations, funding for targeted geographic programs, and site preparation and development, among others. Virginia's Department of Housing and Community Development (DHCD) manages most of these programs. DHCD provides infrastructure funding for downtown improvements, broadband, and industrial site development. The department also manages geography-specific programs such as Virginia's Appalachian Regional Commission (ARC) funding pool and the Opportunity Zone (OZ) federal tax benefit program. Last, DHCD manages the Virginia Growth and Opportunity Board (GO Virginia), which is a regionally led program that oversees economic development programming and funding across Virginia. These regional bodies work closely with local and regional economic development bodies, supporting and/or co-funding various economic development initiatives.

Domestic Recruitment/Out-of-State

Domestic recruitment, possibly the best-known function of state economic development, encourages out-of-state companies to relocate existing operations or to set up new ones in a particular state or community. C2ER categorizes these efforts into advertising, marketing/prospect development, prospect site location assistance, and a miscellaneous "other" category. The Virginia Economic Development Partnership (VEDP) is responsible for leading the Commonwealth's recruitment efforts. Advertising efforts include traditional promotional activities and materials like brochures, trade show presentations, and online advertisements as well as public relations efforts to raise awareness of a given state's competitive advantages. An example of public relations activities includes the *Virginia Economic Review*, a quarterly magazine published by VEDP, designed to raise awareness of Virginia as a top state to do business. Marketing/prospect development is the bread and butter of traditional economic development. Activities include targeted outreach to companies to influence location decisions and, when companies are interested, serving as project managers to shepherd prospects through the complex process of coordinating with stakeholders across levels (state, regional, local), sectors (public and private), and programs (e.g., incentives). In Virginia, VEDP's Business Investment team leads these efforts for both domestic and international prospects. Managers are responsible for prospect identification and outreach, relationship building, and project management when a lead becomes active. Last, prospect site location assistance is a core function of most economic development agencies, who provide on-demand information via a website and at request to prospect companies looking for greenfield (i.e., undeveloped) or brownfield (i.e., previously developed and possibly requiring environmental cleanup) industrial sites. Some states, like Virginia, also track and share the state's inventory of industrial buildings.

VEDP's Research Division manages Virginia's sites and buildings database and information sharing.

Strategic Business Attraction Fund

Strategic business attraction funds are "deal closing" funds, often available at the discretion of a governor to use to attract eligible companies. Many states have some form of a deal closing incentive fund (e.g., Virginia's Commonwealth Opportunity Fund; Arkansas's Quick Action Closing Fund; Florida's Quick Action Closing Fund; North Carolina's One North Carolina Fund; Texas's Texas Enterprise Fund) (Rendziperis, 2018). C2ER notes these funds can be deployed as grants or loans and are typically pre-approved at the start of each year to provide flexibility to economic development agencies to respond as opportunities arise. These funds often receive intense scrutiny given the magnitude and high-profile nature of these deals and, importantly, the lack of transparency typically associated with prospect negotiations. A small sample of deal closing fund audits is probably typical of the general (in)effectiveness of these funds. In Texas, a legislative report noted that $61M in incentives was awarded to create 16,600 jobs from 2017–2018, but $36M has been returned through clawback provisions because companies fell short of their commitments (Sechler, 2019; Texas Enterprise Fund 2019 Legislative Report, 2019). Bundrick and Snyder (2018) found little evidence of a relationship between the $100M+ in incentives awarded through Arkansas' Quick Action Closing Fund from 2007–2015 and employment growth. Enacted in 1999, Florida's Quick Action Closing Fund has awarded $225M in incentives over its life, paying out at least $60M to companies while receiving $46M back from companies that failed to meet their commitments (Dixon, 2017). A 2013 investigative report by the *Atlanta Journal-Constitution* revealed Georgia's deal closing fund had distributed more than $160M in state grants to create more than 22,000 jobs at an

average cost of $7K per job over nearly 10 years (Trubey, McCaffrey, & Kanell, 2013). With a nearly 90% overall "fulfillment" ratio (i.e., actual jobs created versus promised), the program seemed like a success. A deeper analysis revealed disturbing trends: A few successful companies skewed the results, with successful companies exceeding their goals by a third while unsuccessful companies (accounting for $106M in grants) fell short of their goals by 42%.

Tourism/Film

Tourism promotion has long been an important way for many states and communities to create new wealth by attracting external dollars. In recent decades, film has become a new battleground in which states compete through incentives to host high-profile films and TV shows, which show off their state. According to the National Conference of State Legislatures, Louisiana was the first state to offer these incentives in 1992. By 2009, 44 states and Washington D.C. offered incentives. By 2018, in response to the generally poor economic returns of film incentives, only 31 states and D.C. offered film incentives (State Film Production Incentives and Programs, 2018).

C2ER subcategorizes tourism/film into tourism advertising, tourism promotion (excluding advertising), tourism development, film promotion, major events/festivals, and a miscellaneous category. Virginia's tourism and film activities are all housed within the Virginia Tourism Corporation (VTC), an authority with an independent board of appointees of the governor. VTC's tourism promotion efforts include traditional advertising and marketing activities to raise awareness of Virginia as a welcoming destination for tourists. The iconic slogan "Virginia is for Lovers" provides perhaps the most well-known and longest running tourism slogan in the country (Clabaugh, 2018). VTC's tourism development efforts support localities with investments to make their communities more attractive destinations. For example,

VTC offers a tourism development financing program that offers gap financing to localities seeking to partner with private developers on transformational projects in their communities. VTC also is home to the Virginia Film Office, which manages the Commonwealth's efforts to increase film production in the Commonwealth. Virginia offers two incentives: the Motion Picture Opportunity Fund, which provides grants, and the Virginia Motion Picture Tax Credit Fund, which provides refundable tax credits to attract film production. In addition to these two programs, Virginia exempts operations from paying sales and use taxes on qualified equipment while filming (Virginia is for film lovers). C2ER also includes spending to develop and support large events like state fairs and major sporting events in the tourism/film category.

Workforce Preparation and Development

Workforce preparation and development encompass a broad range of activities designed to build skills and place residents into jobs. Activities are spread across many agencies and include customized training, incumbent worker training, apprenticeships, and sector-specific training, among other activities. Bartik (2018) advocates for customized training as an effective economic development tool with a nearly 8:1 return on spending (local earnings boosts relative to policy costs). Customized training programs pair local businesses (typically those promising to create new jobs) with the community college system to develop custom programs to recruit and train workers. Virginia recently launched its Virginia Talent Accelerator Program within the Virginia Economic Development Partnership. This program works with the Virginia Community College System and is offered to qualified businesses meeting specific job creation and/or capital investment promises. Other states like Georgia (Quick Start) and Louisiana (FastStart) have had similar programs for years.

The availability of funding for incumbent training varies across states. C2ER does not yet note any spending in Virginia but Tennessee's Job Skills Program offers an example of such a program. The $1.5M program (for FY20) is an incentive program to support eligible employers in building their employees' skills through the use of training grants (*The Budget, Fiscal Year 2019–2020*, 2019). Virginia's 2018–2020 biennium budget provided funds to start two new apprenticeship programs, one within the Department of Forestry and the other to create an online apprenticeship program within the Virginia Community College System. Apprenticeship programs partner with businesses to provide classroom instruction in addition to the on-the-job training the apprentices receive. These programs can also provide resources to businesses to hire staff to manage and administer their on-the-job training activities. Sector-specific training programs is a catch-all categorization for C2ER for activities typically designed to support training programs for a group or consortia of firms rather than any one individual firm. C2ER notes that community colleges, universities, and private training providers are typically the beneficiaries and use the funds to develop industry-specific curricula and programming.

Miscellaneous C2ER Categories

The last four categories are minority business development, miscellaneous activities, program support, and other program areas. Many states have dedicated minority business development efforts across multiple agencies. C2ER describes three subcategories: bonding and contracting, lending, and grant assistance; business development assistance; and other minority business development. Virginia's SBSD, for example, is the most prominent program in Virginia, certifying nearly 13K women and/or minority-owned business to do business and receive preferential consideration during state agency procurement processes.

Administration spending includes information systems, accounting, and other administrative functions. Program support covers a vast array of activities, including policy and planning, economic research, data dissemination/website, and several other subcategories. Last, the other program areas category serves as a miscellaneous, catch-all category.

State Economic Development Effectiveness

Many economic development scholars assert that economic development (and associated policies) should focus on improving the quality of life and standard of living for a community's residents. Robinson (2014) states that economic development is about wealth creation, though he does not explicitly define any indicators to track progress. Bartik (2009) agrees, highlighting per capita income as his preferred indicator to measure development. Feldman and Lowe (2017) argue, "Economic development is not just producing more of the same thing, such as more jobs, more patents, more entrepreneurial firms. Rather, economic development results in improved quality of life" (p. 36). They continue, emphasizing the role public actors play in building strong foundations for the future as well, "Economic development is also a collection of interventions that help increase the capacity of a regional economy to support qualitative, transformative, and inclusionary improvement" (p. 36). Unfortunately, these lofty ambitions to improve prosperity and quality of life are difficult to measure.

Reese and Fasenfest (1997) outline four linear categories of economic development measurements. The first category, inputs, includes the resources and efforts directed at accomplishing a goal. Indicators such as budget and staffing levels are rather straightforward. Outputs, the second category, are the specific activities that directly result from inputs. Indicators are typically process measures like calls on a business or the passage of a particular policy (e.g., tax incentives). Outcomes, the third category, are described as the "direct results of a program in

the short term" (p. 198). These indicators measure the resulting change in conditions like the number of new firms attracted to a location or the number of jobs created (p. 198). The last category, impact, is the most difficult to measure and concerns the longer range, broader societal consequences that are tied to and defined by the values implicit in them. Related indicators attempt to measure concepts such as improved quality of life, improved prosperity, or increased economic inclusion.

The appropriate measure for economic development efforts depends on one's vantage point, whether a scholar, politician, or practitioner. As mentioned previously, scholars like Bartik (2009) and Courant (1994) argue for aspirational impact measures like increased and/or more equitable prosperity (e.g., median household income) to be used to assess the effectiveness of state-led economic development policy. These measures are difficult to quantify and even harder to attribute to the efforts of any one policy, politician, or organization. Politicians prefer the more visible and easily quantifiable outcomes measures like jobs and capital investments (Courant, 1994; Niemi, Stanley, & Vogel, 1995; Reese & Fasenfest, 1997). Spindler and Forrester (1993) assert that "economic measures of success, including the provision of jobs, new strategies, reduction in unemployment, and increase in the median income, have become the de facto objective for many [state] economic development plans" (quoted in Reese & Fasenfest, 1997). Courant lays the differences between scholars and politicians bare: "To the extent that politicians refuse to listen to us, preferring words of one syllable ("jobs, jobs, jobs"), it is our duty as economists to attempt, at least at the edges, to help them understand that jobs are not coterminous with benefits, and that both jobs and benefits generally entail costs" (1994, p. 864).

Last, economic development practitioners eschew impact measures, preferring output and outcome measures like number of firms supported or jobs created (more accurately, promises of

job creation) that highlight their efforts to support or drive economic development rather than their impact (Rubin, 1988). Economic developers operate in complex environments with stakeholders of all types (e.g., public agencies, private businesses), at all levels (e.g., state, regional, local), and with tools of questionable impact (e.g., tax incentives, grants, workforce programs). As such, their preference for the more measurable and manageable input and output factors seems rational.

State Economic Development Spending and Growth

Most of the research on the relationship between overall economic development spending and growth has focused on the impact of specific tools, like tax incentives and enterprise zones, on economic growth (for a detailed overview of the literature on various economic development incentives and economic growth, see Peters and Fisher, 2004; for a review of the taxation and economic growth literature, see Wasylenko, et al., 1997; for examples of enterprise zone studies see Greenbaum & Landers, 2009; Fisher, Peters, Netzer, & Papke, 1997; Turner & Cassell, 2007). However, states mix and match tactics, so we must examine states' overall spending to build a complete picture of how states support growth and the effectiveness of their spending. To this point, several dated articles exist that directly address the question. Two studies by Goss and Phillips in the mid-1990s explored the link between economic development agency spending and outcomes (Goss & Phillips, 1994, 1997). They found state economic development spending to have a modest but positive effect on state employment and income growth, even when considering the additional tax collections required to support economic development activity. Specifically, they found that doubling state economic development agency spending funded by an increase in taxes would raise yearly average employment growth rates by 0.16% and yearly

average per capita income growth rates by 0.22%. The authors, however, offered a stark warning:

> Finally, this analysis assumes that ED (economic development) spending is not proxying some other unobserved factor affecting economic growth. For example, states that are more receptive to business development and growth may appropriate greater funds for ED activities; thus, this variable may be capturing the state's *business climate* or the state legislature's business development stance (italics added, pp. 94-95)

This dissertation updates their analyses and delves more deeply into the state business climate question they raised over 20 years ago. A major difference is that this research will use state economic development spending (which spans multiple agencies) rather than just economic development agency budgets as the dependent variable. Though every state has an agency or body that leads state development efforts, not all economic development spending is controlled by the agency.

Other studies have similarly explored relationships between state economic development budgets and economic growth, though with a narrower focus. In aggregate, state-level studies have found mixed results between economic development activity and employment growth. For example, de Bartolome and Spiegel (1997) found a positive association between state economic development spending per worker in 1990 and manufacturing employment change from 1990 to 1993. Gabe and Kraybill (2002) found Ohio state incentives from 1993–1995 to have little, possibly negative, effect on employment growth in the state. Other scholars have examined firm-level impact of economic development incentives on growth outcomes, finding some evidence of improved employment growth in the near term (Greenstone & Moretti, 2004; Patrick, 2012; Slattery, 2018; Slattery & Zidar, 2020). Langer (2001), Wang, Ellis, and Rogers (2018), and

Jansa (2020) have all found evidence that state economic development activities impact state income levels, though their findings suggest these efforts may also exacerbate income inequality within a state. Several studies have also looked at gross state product and found mixed relationships between economic development spending and growth (see Bingham & Bowen, 1994, who found economic development spending to have no association with gross state product growth; Saiz, 2001b, who found the types of economic development strategy pursued by states to have no statistically significant association with gross state product).

This literature informs my first research question: To what extent is state economic development spending associated with economic growth (i.e., employment, real gross state product, per capita income)? In line with Goss and Phillips (1994, 1997), I hypothesize a positive relationship between ED spending and both employment and per capita income growth. However, like Bingham and Bowen (1994) and Saiz (2001b), I do not expect a statistically significant relationship to real gross state product.

Although I do not study the hidden costs of economic development spending and strategies, it is important to note that even if economic development efforts lead to growth, the gains may not necessarily be net-positive. For instance, Wang (2016) found that economic development incentives (EDI) crowd out public expenditures in other categories in subsequent years: “Increases in EDI spending (as a fraction of total public expenditures) are associated with decreases in expenditure on some categories of productive public goods (corrections, elementary education, higher education, highways, police and fire protection, and sanitation) a year later” (p. 515). In a similar vein, McDonald, Decker, Johnson, and Allen (2019) and Chava, Malakar, and Singh (2019) separately found incentives to negatively impact a state’s fiscal health, defined as a state’s ability to provide services to its citizens now and in the future.

In summary, scholars who have studied state economic development spending, whether overall activity or just incentives, have found evidence that states' efforts can indeed have an impact on economic outcomes. Whether this impact is positive or negative is inconclusive.

Business climate and economic growth

The popular press has created and shaped conversations on business climate since the topic was first conceptualized through a ranking of the 50 states in the 1970s. The Fantus Corporation, the forefather of the site selection consulting field, published the first widely read national ranking assessing the states on their economic policies, chiefly their approaches to taxes and regulation, in 1975. The original publication ranked states across three categories: population characteristics (eight factors), quality of life (one factor), and business legislative climate (15 factors) ("Misrepresenting Fantus on Right to Work," n.d.). Since this original publication, the number of rankings, factors, and ultimately definitions of business climate have exploded.

Oddly, despite the term's proliferation and its impact on decision making, no consensus definition exists. In fact, the proposed definitions have done little to turn the concept of business climate into something more than a set of characteristics curated to fit one's incoming political philosophies or, worst, self-interested economic objectives. For example, shortly after Fantus Corporation's 1975 ranking, Plaut and Pluta (1983) analyzed the existing business climate rankings that had since emerged but declined to define business climate. Instead, they could only offer that business climate is "usually associated with low state and local taxes, right-to-work laws, little union activity, and cooperative business structure (1983, p. 99). Warner (1987) and Erickson (1987) offered only marginal improvements. Warner asserted that "business climate is generally regarded as reflecting the price and quality of productive resources, state and local government policies, and the state or area's quality of life" (1987, p. 384). Similarly vague,

Erickson described business climate as being "characterized as the sum total of a place's human and capital resources including infrastructure, public policies, and attitudes that affect the formation and operation of business enterprises" (1987, p. 64). In lieu of a definition, Wasylenko and McGuire (1985) constructed their own cost- and regulatory-focused index, which included a broad swath of policies such as business tax exemptions, state right-to-work laws, minimum wage laws, fair employment practice codes, and industrial noise abatements. Contemporary scholars have acknowledged the reality that, despite a lack of concreteness, the concept continues to have real-world impact: "Business climate lacks concrete definition, has perhaps more rhetorical than tangible meaning, but is nonetheless being institutionalized into the legislative process of state and local government" (Eathington, Todd, & Swenson, 2005, p. 2).

Today, national publications, think tanks, and industry insiders publish a deluge of national, state, and local rankings professing to measure virtually every possible dimension of a state's business climate. These rankings vary dramatically in their methodologies, from the purely quantitative to entirely qualitative or perception-based. Two of the most prominent national business magazines—*Forbes* and *CNBC*—publish rankings with each containing 30+ different variables in their calculations *("*Best States for Business*"* and "Top States for Business", respectively). Think tanks like the Tax Foundation (*2020 State Business Tax Climate Index*; *Location Matters: The State Tax Costs of Doing Business*), Cato Institute (*Freedom in the 50 States*), and Beacon Hill Institute (*16th Annual State Competitiveness Index*) conceptualize and measure business climate differently than the national magazines, focusing instead on a mix of tax policies, regulations, and even state spending and outcome measures. A third set of business climate index publishers are industry-insider magazines like *Site Selection* (Top Business Climates in article, "An Oasis of Opportunity," 2018), *Area Development* ("2019 Top

States for Doing Business," 2019), and *Chief Executive* ("2019 Best & Worst States For Business: An Overview," 2019). All three of these approaches heavily weight, or are exclusively based on, surveys of business executives and/or site selection industry insiders. In summary, the nine rankings highlighted in this passage by no means represent a comprehensive listing of business climate rankings but offer a snapshot of the various approaches of publishers to define, measure, and analyze business climate.

Like the survey-based rankings of business climate, two sets of researchers—Jolley, Lancaster, and Gao (2015) and Motoyoma and Hui (2015)—have studied business owners' and executives' perceptions of state business climates. Jolley, Lancaster, and Gao (2015) asked executives in North Carolina to rank a set of 19 variables chosen as potential characteristics of a business climate. The top items associated with a sound business climate included the availability of skilled labor, state regulatory environment, state corporate and individual tax rates, local property tax rates, and availability of community colleges. Interestingly, economic development incentives on state and local levels—the tools scholars like Wolkoff (1992) and Jenn and Nourzad (1996) note can be important signals of business friendliness—are near the bottom of the list, ranking in the bottom five. Motoyoma and Hui (2015) explored the perceptions of business climate by small business owners specifically. The authors asked three questions about perceptions of the state's support of small business owners and the ease of starting a business. They uncovered three noteworthy findings that relate to the role perceptions play in defining business climate. First, business climate perceptions are grounded in one's economic context. In other words, statewide changes in employment and the number of businesses established during the previous two years do not affect business climate perceptions in a statistically significant manner. However, changes in the revenue or financial situation of

their companies affect owners' perceptions (p. 14). Second, and contrary to more conservative-leaning publishers like Cato Institute and Tax Foundation, the authors note that "whatever freedoms may be violated, business owners perceive a better business climate with higher social welfare spending" (p. 15). Last, local property taxes—and not corporate, income, and sales taxes—feature prominently in small business owners' minds as an important element of a state business climate. One relevant implication is that although taxes may matter to business climate perceptions, not all taxes are considered equally when evaluating business climate.

Many of these rankings share the same conceptual and methodological flaws. Eathington et al. and Artz, Duncan, Hall, and Orazem (2016) both highlighted a conceptual shortcoming of many rankings: These rankings simultaneously define business climate as both an input and an outcome. For example, the first set of authors identify three different uses of business climate: (1) as an overall measure of growth; (2) as a set of factors believed to contribute to regional economic growth; and (3) as an intangible asset in the form of regional reputation for business friendliness. These rankings also contain myriad methodological shortcomings. Warner (1987) noted three major shortcomings. First, most studies focus almost exclusively on tax variables, ignoring how those revenues are spent by governments. Second, the state is not always the appropriate geographic unit of analysis since many tax and spend policies are made at the local level (e.g., property taxes, education spending). Last, nonpolicy variables (e.g., labor costs, energy costs, market measures) are the most prominent factors in economic growth but are often ignored in these rankings (Goss & Phillips, 1994, 1997; Warner, 1987). Other scholars note the failure of many rankings to separate the true drivers of growth (Erickson, 1987); to account for the tradeoffs between quality and costs that businesses must make (Erickson, 1987); to consider the role of history in shaping business climates (Cortright & Mayer, 2004); or to consider the

impact of industrial mix in determining each state's economic context (Doeringer, 1987). In addition to these conceptual and methodological challenges, Fisher (2013) has argued that most of the current crop of rankings are ideologically driven, rife with bias, and short on scholarship.

Despite these conceptual and methodological shortcomings, some of these rankings, especially those focused on lower taxes and regulation, have been shown to have statistically significant relationships with economic outcomes. I review these studies next.

What Is the Relationship between Business Climate Indices and/or Economic Growth?

Several academic studies have tested the relationship between popular business climate measures and economic growth, returning mixed, highly nuanced results. The analytical rigor of these studies varies from simple correlations between popular rankings and economic outcomes (Fisher, 2013), to cluster analyses that group states based on their policies and then regress economic growth against these clusters (Eathington et al, 2005; Elkins, Bingham, & Bowen, 1996), to complex econometric models measuring the relationship between specific policy levers like taxes and economic outcomes (Bartik, 1992; Prillaman & Meier, 2014; Wasylenko, 1997). Some, like Fisher (2013), found no relationship between the business climate reports and economic growth, noting that "none of them [business climate indexes] actually do a very good job of measuring what it is they claim to measure, and they do not, for the most part, set out to measure the right things to begin with" (p. 742). Others found nuanced relationships between the types of "business climate" policies pursued and economic growth (Eathington et al., 2005).

Two studies look at the effect of business climate on activity at or across state borders, which creates conditions akin to natural experiments. Artz, et al. (2016) found business climate to be a poor predictor of growth: "The indexes that purport to measure local economic innovation, infrastructure, labor market skill, or other indicators of the 'new economy' have no

explanatory power and, in fact, explain the past more than the future" (p. 19). Instead of looking at a set of aggregate business climate rankings, Conroy, Deller, and Tsvetkova (2017) model tax and spending (differentiated between productive vs. nonproductive spending) effects on interstate relocation patterns of manufacturers from 2000–2011 in the 48 contiguous U.S. states. They found the tax effect has a small but statistically significant positive effect on across-state relocation decisions (said plainly, lower tax and/or lighter regulatory climates are associated with higher likelihoods of winning firm relocations). Furthermore, they found certain spending effects (specifically K–12 spending) have statistically significant but negative effects on business growth and migration patterns (i.e., increases in K–12 spending reduces both the likelihood of gaining net new manufacturing establishments as a result of business migration and the size of net business in-migration). In one of the most rigorous studies to date, Kolko, Neumark, and Mejia (2013) analyzed 11 well-known business climate indexes and their associations with economic outcomes. They found evidence that tax-focused indexes can predict growth in employment, wages, and output, while productivity measures predict establishment births but not necessarily employment growth.

More narrowly, other authors have focused on just one element of business climate, most commonly taxes, and its relationship with economic outcomes. Erickson lamented the obsessive focus on taxes as a tool to improve business climates: "Comparative state and local taxation represented a substantial section of these [business climate] studies. Although taxes were generally deemed to be relatively less important than other inputs in firms' cost structures, their effects were often regarded as potentially significant at the margin and *one of the few input variables that were amendable to change by public action*" (emphasis added, 1987, p. 67).

The body of literature on business climate and taxes is too extensive to cover in detail, but a few studies are worth highlighting. Prillaman and Meier (2014) offer an example of a study that analyzed the effects of tax policies on economic outcomes. They found that results varied based on the type of tax (e.g., corporate vs. personal income tax) and the economic outcome (e.g., employment vs. establishment growth) selected. Several studies have focused on the concept of elasticity, which estimates the effect of, for example, a 10% cut in the tax rate on economic activity, whether measured as increased jobs or capital investment. Bartik's (1992) review of tax studies found a mean long-run elasticity with respect to state and local taxes to be -0.25. Practically, this figure translates to a 2.5% increase in economic activity for every 10% reduction in state and local taxes. Wasylenko, et al. (1997) built on Bartik's findings, noting that elasticities differ greatly when looking at overall tax elasticity versus business tax elasticity. Furthermore, Wasylenko, et al. argued that tax policy is a poor stimulus for growth despite politicians' obsession with it, noting "states appear to overestimate the degree to which taxes affect economic outcomes and hence are not very receptive to the finding that taxes have little effect" (1997, p.48). Many (likely most) business climate indexes disproportionately preference lower taxes and lighter regulations in their rankings, influencing local and state governments to employ these tactics to improve their business climate without clear evidence of their ultimate effectiveness.

More recently, scholars like Slattery and Zidar (2020) and Jansa (2020) have included corporate income tax rates as control variables in their analyses of the relationship between economic development incentives and economic outcomes. Slattery and Zidar note that tax incentives and corporate tax rates are positively correlated with employment growth but do not explore the relationship any further. In practical terms, the tax burden on a firm includes far more

than corporate income tax rate; in fact, many firms pay little if anything in corporate income taxes, despite the state's corporate income tax "sticker price." Slattery and Zidar acknowledge this point: "Indeed Suarez, Serrato, and Zidar (2018) show that state tax base and credit rules explain more of the variation in state tax revenues than state corporate rates do" (p. 4). Thus, the many elements that comprise the broad nature of business climate should be studied rather than the narrow element of corporate income taxes. This point is important to my later analyses where I test both approaches: I use a measure of tax climate that combines tax types, rates, and structure into one index (*State Business Tax Climate Index*) and then later use a simple measure of tax rates (EY's total effective business tax rate, "TEBTR").

After reviewing the various conceptualizations of business climate, it is tempting to add my own definition into a crowded marketplace. But I do not believe that would add value. Business climate is a social construct shaped by individual perceptions, public discussions, and firm-level economics (i.e., what factors most affect a business's profitability). The sources reviewed capture an exhaustive list of variables; the important question becomes, "Which combination of those variables is most conducive for growth?". I discuss in a later section four approaches that capture the tax and regulatory burden (Cato Institute's Economic Freedom index), the tax burden specifically (Tax Foundation's State Business Tax Climate Index), each state's spending and investment decisions (Jacoby and Schneider's index), and a more comprehensive approach that combines a variety of metrics into one summary index (Beacon Hill Institute's State Competitiveness Index).

My second research question builds explicitly on these various conceptions of busines climate, asking to what extent, if any, a state's business climate is associated with economic growth. In line with Kolko et al. (2013), I hypothesize pro-business climates, when viewed

primarily through the tax climate lens, will be positively associated with economic growth. Like many of the authors reviewed previously, I do not expect other conceptualizations of business climate to have statistically significant relationships with economic growth.

My third research question integrates all three major concepts reviewed, asking to what extent business climate attenuates the relationship between state economic development spending and economic growth. I hypothesize that state economic development spending is more positively associated with economic growth within pro-business climates than in states with less business-friendly business climates (i.e., state economic development spending is incapable of overcoming unfriendly business climates). I also maintain the nuances in the hypotheses from the previous sections: I expect state economic development spending to have no statistically significant relationship with gross state product and non-tax-centric business climate measures to have no material impact as a moderating variable.

How Do States Attempt to Influence Their Business Climate?

Before concluding the discussion on business climate, it is worth exploring the ways states seek to influence their growth. Theoretically, state economic development efforts are designed to overcome specific weaknesses in their existing climate; thus, state economic development efforts react to the business climate. This is the perspective I test in this dissertation: How does an existing business climate affect the relationship between economic development efforts and growth? However, states also proactively seek to enhance their climate to catalyze growth; thus, state economic development efforts also shape the business climate. I do not test the mutually reinforcing (or destructive, depending on one's perspective) relationship between state economic development efforts and the business climate directly in this dissertation primarily because I intentionally control for this endogeneity by lagging the economic growth

measures. Furthermore, business climates do not change quickly, so it is safe to assume they stayed consistent through the 2012–2018 period under review. Nonetheless, I share a brief yet informative review of the relevant literature on how policymakers seek to change their business climate to catalyze growth.

Scholars seem to agree that the most impactful factors in spurring economic growth are not ones easily influenced by public policy. Courant simply asserts that the "best development policy is good government" (p. 17). Nonpolicy variables such as labor and energy costs and market growth factors (e.g., population and income growth) are well beyond the scope of traditional state economic policies (Erickson, 1987; Warner, 1987). Furthermore, international and national macroeconomic trends often have the most impact on state-level economic conditions (Brace, 1993; Hendrick & Garand, 1991). In the face of these facts, some policy areas have been shown to have some, albeit small, effect in influencing state economic growth.

Nonetheless, the academic literature and popular press offer neither comprehensive nor practical guidance on how policymakers can improve business climate. Typical recommendations in the popular press encourage lowering the costs of doing business via subsidies, tax cuts, and regulation rollbacks. Others argue that discussions of tax burdens ignore the other side of the equation: how the funds are spent. These authors measure the impact of not just taxes but also spending decisions in spurring economic growth. Last, some scholars argue that community and economic leaders use economic development incentives to signal to prospective businesses that the community is business friendly.

On the cost side of the equation, Hanson and Berkman (1991) identified four different approaches that policymakers pursue to improve their business climate. The first two deploy subsidies, whether for operational or capital expenses, to spur growth and the second two

leverage tax policy as a tool to affect the rate of return on either operational expenses or capital expenses. All four approaches are focused on lowering the costs of production for business, with manufacturers benefitting especially from these types of approaches given their high capital and operational costs (as opposed to professional services firms, whose primary operational costs are salary and overhead). On the spending side, Fisher (2013), Goss and Phillips (1994, 1997), and others have noted that spending decisions affect the business climate and should therefore be taken into account in any business climate analysis. These authors include spending categories like education, infrastructure, and, in some cases, economic development spending in their analyses.

Wolkoff (1992) has argued that states can improve their business climate simply by improving perceptions. He asserts that economic development decision-making, specifically the awarding of incentives to companies to locate operations within a jurisdiction, is rational and likely effective through a game theory lens. In short, even if incentives are not rational economically, they make sense politically and symbolically, signaling to stakeholders and prospects alike that the jurisdiction has a strong business climate and is business friendly. Since business climate is arguably a social construction, perception is what matters and thus, signaling by itself can improve business climate perceptions.

In summary, policymakers have a range of tools available believed by practitioner and popular press to influence the most common definitions of business climate. Whether offering direct subsidies to lower operational and/or capital expenses, minimizing the tax burden, or limiting regulations across a variety of categories, policymakers overwhelmingly focus on reducing the costs of doing business in their jurisdiction. Other approaches focus on spending, arguing that smart investments in the current and future productivity of a jurisdiction make

businesses more competitive and thus a jurisdiction more competitive (i.e., improves the business climate). Still others argue that policymakers can pursue a more conceptual approach, signaling their commitment to partnership with the business community via the awarding of incentives (even if companies do not accept the incentives).This strand builds on the premise that the business climate is a social construction and is therefore ruled by perception. These three approaches—cost reduction, productivity enhancement, and perception boosting—are not mutually exclusive, though cost reduction measures are more visible, more widely discussed, and more politically distinctive (for example, Boeckelman, 1996, noted that Republicans tend to prefer locational or supply-side policies while Democrats prefer entrepreneurial policies) and thus more frequently used.

State Economic Development Strategies

With possibly thousands of different variations of economic development tools, one may wonder how a state chooses the most appropriate strategies to pursue within its existing business climate. Scholars offer a variety of perspectives on this fundamental question, including cynical "any and all" retorts, explanations focused on peer pressure or copycat behaviors, historical arguments citing the role of political culture in determining strategies, and, arguments highlighting a somewhat rational decision-making process.

Any and All Approach

Rubin (1988) highlighted an "any and all" approach that economic developers pursue in his aptly titled article, "Shoot Anything that Flies, Claim Anything that Falls." Rubin's article highlights economic developers' aims to "just do anything" because doing something is better than doing nothing. This perspective can be applied to both practitioners and policymakers alike who seek to claim credit for something (economic growth) that is too nebulous and complex to

be influenced by just a few targeted strategies. Similarly, Donahue and McDearman argue in a recent Brookings Institution article, "Making Economic Development Strategies More Strategic," that state and local actions lack coordination and focus such that "beneath this frenzy of activity lies a problem: most strategies that EDOs create are not strategies at all" (Donahue & McDearman, 2018). Hunter, writing on interest groups and economic development in the states, agrees: "A cursory examination of the policies in many states reveal that their policies are often haphazard, reactionary, and frequently lacking a theme or vision for the state" (Hunter, 1999, p. 32). This lack of strategy is linked to an inability to define actionable goals: "Unfortunately, many of the states are unrealistic in both their policies and their goals. Officials routinely 'shoot for the moon,' and waste considerable time and money on schemes with little or no chance of bearing fruit" (Hunter, 1999, p. 33). Last, Hanley and Douglass sought to test empirically the extent to which states pursue distinct economic development strategies. They performed confirmatory factor analyses on 15 different spending categories (e.g., business finance, business assistance, domestic recruitment) and found little evidence of differentiated strategies across the states, supporting the notion of this "any and all" approach.

I focus my fourth set of empirical analyses on this notion that states do not pursue distinct strategies. Table 1 illustrates how a principal components analysis could reveal a distinct set of strategies. Building on Hanley and Douglass's 2014 findings, I ask whether states pursue distinct economic development strategies and hypothesize the answer is no.

Table 1

Hypothesized PCA findings that would suggest states follow ED discrete strategies

	Component		
	1[a]	2[b]	3[c]
Business Finance (log)	#		
Business Assistance (log)	#		
Community assistance (log)	#		
Tourism/Film (log)	#		
Workforce Preparation & Dev. (log)		#	
Strategic Business Attraction Fund (log)		#	
Domestic Recruitment/Out-of-State (log)		#	
International Trade and Investment (log)			#
Technology Transfer (log)			#
Entrepreneurial Development (log)			#
Special Industry Assistance (log)			#

[a] Example strategy: support growth from within by targeting existing businesses and communities

[b] Example strategy: attract out-of-state firms through investments in workers and direct incentives

[c] Example strategy: catalyze growth of existing and new businesses by growing markets and/or capabilities

Peer Pressure/Arms Race

Other scholars have leveraged studies on the role of policy diffusion and prisoners' dilemmas to explain how states adopt (or replicate) economic development strategies. This line of reasoning links the spread of economic development incentives to an uncontrollable competition in which peer states try to one-up each other with increasingly lucrative (for the business) incentives (i.e., an “arms race”). Grady (1987) found general support for the arms race hypothesis when testing correlations between peer states and the adoption of various incentives. He analyzed peer influence on a weighted set of the top 20 “most important industrial incentives” and found that a state’s ranking for intensity of use of these incentives from year to year was influenced by what their neighbors did. In other words, a state tended to increase its use

of these incentives from one year to the next to keep up with their neighbors (see also Jenn & Norzad, 1996, who follow a comparable policy weighting approach and also found support for the arms race hypothesis). Wang (2018) likewise found evidence of an arms race in her analysis of the effect of "strategic interaction" between states on overall economic development spending. She found states increase their spending levels when their neighbors do so (see also Tasto, 2007). However, neither Grady nor Wang provided insight on what types of incentives or strategies states pursue in response to peer pressure. Saiz (2001a), on the other hand, did. He separated state economic development strategies into industrial recruitment and entrepreneurial strategies (like Eisinger's supply-side vs. demand-side typology referenced earlier in the paper). He found that "the approach to economic development a government chooses to pursue is largely determined by the degree to which its neighbors pursue industrial recruitment approaches" (p. 209). An interesting nuance is that a state's neighbors' intensity of industrial recruitment efforts seems to negatively impact entrepreneurial strategies in that specific state. Said differently, states are less likely to pursue entrepreneurial strategies if their neighbors are pursuing industrial recruitment strategies.

Political Culture or Historical Views

A third explanation for how states choose their economic development strategies focuses on political culture and history. Coan's history of state and local economic development traced contemporary economic development strategies and tools back to colonial times, identifying a cultural divide between Progressivism (focused on community and people development; Coan used colonial Massachusetts as an example) and Privatism (focused on business development; Coan used colonial Pennsylvania as an example). He also detailed how today's low-wage, low-tax, and low-public service business climate in the South, mixed with a heavy emphasis on

promotion and attraction efforts, is intimately connected to its origins as an agricultural, slave-based economy. Other scholars have supported this line of argument, though they have pursued less historically sweeping research. For example, Elkins, Bingham, and Bowen (1996) analyzed state economic development policy climates based on a popular but now defunct *Development Report Card for the States* from the Corporation for Enterprise Development (CfED). The authors identified six clusters of strategies based on the presence of various policies: programmatically rich, programmatically lean, people-not-finance, local focus, local myopia, and tax and regulatory myopia. The authors found midwestern and northeastern states tended to be programmatically rich, which aligns with the long histories of industrialization that Coen notes. Conversely, southern and western states dominated the programmatically lean category, which aligns with Coen's arguments emphasizing these states' intense preferences for individual freedom and limited government interference. Witko and Newmark (2005) tested the direct influence of political culture on a state's business policy climate, operationalized as an index consisting of nine variables including corporate tax rates, prevailing and minimum wage levels, and environmental regulations. Their measure of political culture draws from Koven and Mausolff (2002), who built on Elazar's classic 1996 study. Elazar's original scale categorized states as moralist (high faith in government to manage society), individualist (low faith in government, high faith in markets), or traditionalist (low faith in both government and markets; focus on preserving class and hierarchy). Southeastern states, for example, tend to be classified as having traditionalist cultures. In short, Witko and Newmark found political culture to be an important influence on business policy climate, with potentially more influence than business campaign contributions and even union membership, two items routinely tested within the literature.

Strategic Decision-Making

Feldman and Lowe compared economic development portfolios to investment portfolios, in which "the emphasis is on managing uncertainty and mitigating economic risk, recognizing that economic developers often need multiple strategies and projects to better respond to emergent economic opportunities or threats" (2017, p. 2). Acknowledging the messiness and changing nature of economics and politics, a policy or "strategy mix" can help policymakers and economic developers balance multiple, often competing, objectives. Using this strategy mix framework, Goetz, Partridge, Rickman, and Majumdar (2011) analyzed the impact of two distinct policy mixes, what they called Race-to-the-Top and Race-to-the-Bottom strategies, on economic growth and income distribution from 2000–2007. They characterized Race-to-the-Top policies as investment-focused efforts supporting productivity, innovation, and entrepreneurship whereas Race-to-the-Bottom policies are primarily focused on lowering the cost of doing business. They identified four dependent variables: changes in a state's Gini coefficient, poverty rates, employment, and per capita income. They found evidence that Race-to-the-Bottom policies like tax incentives and financial assistance programs are negatively associated with employment growth and indirectly associated with increasing levels of income inequality. They also found some evidence that Race-to-the-Top policies, specifically entrepreneurialism, are positively associated with employment growth and, indirectly, reduced income inequality. Langer (2001) similarly tested the effects of policy mixes, in this case demand-side versus supply-side policies, on income distribution. Although states have little direct effect on income distribution, Langer did find some evidence that states that rely more heavily on demand-side than supply-side policies are associated with less income inequality. Looking at specific programs, Reese (2014) examined growth in cities grouped by their combination of five specific types of programs:

Industrial Facilities Tax Abatements, Renaissance Zones (RZs), Tax Increment Financing Authorities, Cool Cities Grant and Planning Programs, and Michigan Economic Growth Authority (MEGA) grants. Several variations of strategy mixes were positively associated with income growth, providing counterevidence to Langer's assertion that states have few policy options to influence income levels. Two separate strategies offered hope that state policy might be associated with employment growth: (1) doing nothing or (2) executing a combination of MEGA grants, tax increment financing, and abatements. Reese noted that tax increment financing and abatements alone did not have a statistically significant relationship with employment growth. She posits that the addition of MEGA grants, which are solely tied to job creation targets and performance guarantees, created a positive impact on employment growth given that the other two programs focus on spurring capital investment rather than jobs.

Like Langer, I am interested in whether one type of spending, supply-side or demand-side, accounts for most or all of the association with economic growth. Unlike Langer, I am interested in a different set of dependent variables—specifically growth in employment, real gross state product, and per capita income, as opposed to income inequality. Thus, my last research question is, to what extent is each type of spending (demand-side vs. supply-side) associated with economic growth (i.e., employment, real gross state product, and per capita income)? I am not aware of any existing studies testing the association between the type of spending, demand-side and supply-side, and economic growth (numerous studies have explored which types of programs are most common, but none have analyzed these programs in relation to economic growth). In the absence of guidance from the existing literature, I hypothesize that neither strategy, supply-side nor demand-side spending, on its own displays a statistically

significant association with economic growth. I also test how business climate affects these relationships.

To conclude the literature review, policymakers across the country continue to grasp for strategies and policies that best position their state to compete for jobs and investment from the private sector. Unlike education and health care, where cause-and-effect relationships between policies and desired outcomes are well-researched and relatively clear, economic growth continues to confound policymakers, practitioners, and scholars who search for effective (and efficient) methods to reach sustained and predictable growth. The concept of business climate has come to be an end to itself for many of these actors but suffers from serious shortcomings at every turn, from definition to measurement even to impact analysis. Depending on who you ask, business climate is an input, output, an intangible asset like goodwill, and even a signal of a community's commitment to the business community all at once. The seemingly infinite characteristics used to measure a state's business climate conflate state and local policies, confuse input (e.g., education spending) and outcomes (e.g., educational attainment), and are often ideologically biased or published by self-interested parties. The proliferation of business climate rankings and the embrace of the flawed recommendations implicit in these publications have real-world, often detrimental, impacts on communities across the country as policymakers chase any policy lever to drive economic growth. The most common and easiest levers to pull are tax and regulatory policies, which, when pursued aggressively, can create a race to the bottom among governments attempting to attract companies to their communities. As a result, a perverse circular logic has taken over policymaking, persuading leaders to cut taxes and regulations in the attempt to attract the very companies that depend on sound infrastructure and skilled labor forces, which are community assets paid for and protected by taxes and regulation.

This circular logic arises from a poorly structured national debate about what constitutes a business climate. This debate over how to define and measure business climate is far too important to leave to the popular press. The next chapter outlines how I measure the interaction among the three core concepts reviewed in this chapter: state economic development spending, business climate, and economic growth.

CHAPTER THREE
PRESENT STUDY

As discussed previously, studies that explore the relationship between state economic development activity and economic growth are limited and outdated. Also, only a very limited set of studies have analyzed the relationship between the many conceptions of state business climate and economic growth. I am not aware of a study that has analyzed the relationship of state economic development spending and economic growth while accounting for the context (i.e., business climate) in which policymakers must make decisions. This dissertation seeks to fill this void.

Over 20 years ago, Goss and Phillips (1994, 1997) found a statistically significant link between economic development spending and economic outcomes, such as state employment and income growth. Much has changed in the national and state economies in the 20 years since, so revisiting their approach may reveal new perspectives on how state economic actions impact outcomes. In this dissertation, I update their analyses with information from 2012–2018 through a series of moderated regression analyses to uncover the role of a state's business climate in attenuating the relationship between economic development spending and economic growth. My research questions and hypotheses are as follows:

- **Research question #1**: To what extent is state economic development spending associated with economic growth (i.e., employment, real gross state product, per capita income)? **Hypothesis #1**: State economic development spending is positively associated with employment and income growth but has no relationship to gross state product.
- **Research question #2**: To what extent is a state's business climate associated with economic growth? **Hypothesis #2**: Tax-centric measures of business climate will reveal a positive association between state's pro-business climate (to be defined in a subsequent

section) and economic growth. Business climate measures that are more conceptual and expansive are expected to have no meaningful relationship with growth.

- **Research question #3**: To what extent, if any, does a state's business climate attenuate the relationship between state economic development spending and economic growth? **Hypothesis #3**: State economic development spending is more positively associated with economic growth in states with pro-business climates (for the tax-centric measures) than in states with less business-friendly business climates (i.e., state economic development spending is incapable of overcoming unfriendly business climates). Conceptual business climate measures are expected to have no meaningful moderating effects.
- **Research question #4**: Do states pursue distinct economic development strategies? **Hypothesis #4**: States do not pursue distinct economic development strategies.
- **Research question #5**: To what extent is each type of spending (demand-side vs. supply-side) associated with economic growth (i.e., employment, real gross state product, and per capita income)? **Hypothesis #5**: Neither supply-side nor demand-side spending on its own will display a statistically significant association with economic growth.

Methodology

I start with two separate multivariate regression analyses to measure the relationships between state economic development spending and economic growth (research question #1) and then business climate and economic growth (research question #2). I use three operationalizations of economic growth (net employment, real gross state product, and per capita income) and four business climate measures from the Tax Foundation, Cato Institute, scholars Jacoby and Schneider, and Beacon Hill Institute. I then perform a moderated regression analysis

to explore the relationship between economic development spending and economic growth in the presence of varying measures of business climate (research question #3).

The final moderated regression equation for research question #3 will be as follows:

$$\text{EconGrowth}_{t_0\text{-}t_2} = b_0 + b_1\text{StateEDSpend}_{t_0} + b_2\text{BusClimate}_{t_0} +$$

$$b_3\text{StateEDSpend}_{t_0} * \text{BusClimate}_{t_0} + b_4\text{Controls}_{t0} + u_t + u_{region} + \varepsilon_i$$

The dependent variable, economic growth ($\text{EconGrowth}_{t_0\text{-}t_2}$), will be measured as growth in employment, per capita income, or real gross state product. State economic development spending ($\text{StateEDSpend}_{t_0}$) will be the primary independent variable of interest. Several conceptualizations of business climate (BusClimate_{t_0}) will be tested. Details on these variables are described in the next section. Control variables (Controls_{t_0}) include taxes, highway spending, deficit spending, high school attainment rates, and average weekly manufacturing wages. The regressions include fixed time (u_t) and region (u_{region}) effects. The next section details the data sources and hypothesized relationships with economic growth for each variable. Table 2 presents the full list of variables.

To answer research question #4, I tweak Hanley and Douglass's ("H&D"; 2014) study by using a principal components analysis to understand whether specific economic development categories (e.g., out-of-state recruitment, tourism/film, business assistance) tend to be deployed together. I excluded four miscellaneous categories from their list of 15 categories: minority business development (included in the authors' calculations), program administration, other program areas, and program support. I then split the remaining 11 categories into supply-side (business finance, community assistance, domestic recruitment, strategic business attraction, tourism/film, workforce preparation and development) and demand-side (business assistance, entrepreneurial development, international trade and investment, special industry assistance, and

technology transfer) buckets in line with their original approach. I differed slightly from H&D in that I performed a principal components analysis in SPSS. H&D's confirmatory factor analysis sought to identify a set of hidden factors behind the spending whereas my principal components analysis (PCA) aims to reduce the 11 variables into a smaller set of potentially differentiated categories, which may indicate a defined strategy. If states pursued defined strategies, we would expect certain program categories to move together. For example, if a state pursued a strategy to support existing businesses with growth, we might see international trade, entrepreneurship, special industry assistance, and/or technology transfer spending moving together. Conversely, if a state were pursuing an attraction strategy, we could expect to see domestic recruitment and strategic business attraction funding move together.

For research question #5, I distinguish between demand-side and supply-side spending in the moderated regression analyses that integrate the influence of a state's business tax climate. The final moderated regression equation for question #5 will be as follows:

$$\text{EconGrowth}_{t_0\text{-}t_2} = b_0 + b_1\text{EDtypology}_{t_0} + b_2\text{BusClimate}_{t_0} + b_3\text{EDtypology}_{t_0} * \text{BusClimate}_{t_0} +$$

$$b_4\text{Controls}_{t_0} + u_t + u_{region} + \varepsilon_i$$

The dependent variable, economic growth ($\text{EconGrowth}_{t_0\text{-}t_2}$), will be measured as growth in employment, per capita income, or real gross state product. State economic development spending typologies (EDtypology_{t_0}) follow Hanley and Douglass's three-part spending typology: supply-side, demand-side, and miscellaneous/administrative. I only use supply- and demand-side figures. Building on the findings from RQ1-RQ3, I use the Tax Foundation's annual *State Business Tax Climate Index* (SBTCI) as the measure of a state's business climate (BusClimate_t). Control variables (Controls_{t_0}) include taxes, highway spending, deficit spending, high school

attainment rates, and average weekly manufacturing wages. Last, the regressions include fixed time (u_t) and region (u_{region}) effects.

Dependent Variables

I test three measures of economic growth—net employment, real gross state product, and per capita income—as separate dependent variables across three time periods (2012–2014, 2014–2016, and 2016–2018). I lag the years for the dependent variables to minimize any endogeneity with the independent variables. Net employment growth rates are sourced from Moody's Analytics, the economic data and forecasting firm. Moody's captures total nonagricultural employment and includes both the public and private sectors. Moody's sources its data from the Bureau of Labor Statistics, specifically the Current Employment Statistics and Quarterly Census of Employment and Wages. Real gross state output for the same periods are drawn from Moody's Analytics, which sources these figures from the Bureau of Economic Analysis and reports them in millions of chained 2012 dollars. Per capita income growth rates for the same periods are calculated based on income data from the Bureau of Labor Statistics divided by population figures from the U.S. Census.

Independent, Control, and Moderator Variables

The independent variable of interest is overall state economic development spending. This data is sourced from the Council for Community and Economic Research (C2ER) State Economic Development Expenditures (SEDE) Database, which tracks each state's spending on economic development programs. C2ER groups budget data into 15 categories: business finance, strategic business attraction, business assistance, international trade and investment, domestic/out-of-state recruitment, workforce preparation and development, technology transfer, entrepreneurial development, minority business development, community assistance,

tourism/film, special industry assistance, program support, administration, and other program areas. C2ER sources its data primarily from state budget records with standardization and categorizations performed by C2ER professionals. One limitation of the database is that it does not capture tax incentives offered to attract or retain businesses. A second limitation stems from the reliance on the judgment of C2ER's experts to identify economic development spending within dense state annual budget documents and then to catalog each line item into one of the 15 categories. As an example of the subjectivity and discretion inherent in this budget classification, the entire budget of Virginia's state economic development organization, Virginia Economic Development Partnership (VEDP), is listed under Business Assistance even though VEDP spends nearly $6M each year on international trade promotion services, which is a separate C2ER category. Despite these drawbacks, the database has been used in several academic studies (Hanley & Douglass, 2014; Jansa & Gray, 2014; Wang, Ellis, & Rogers, 2018) and offers a wealth of information that can be reasonably assumed to follow consistent coding patterns (i.e., C2ER applies the same logic used for Virginia to all other states).

I test several variations of the dependent variable, including overall ED spending, spending per capita, per $1M in real gross state product ("RGSP"), and per $1M in personal income in the model. Both Goss and Phillips studies (1994, 1997) used spending per $1M in GSP, though overall spending and spending per capita are more common variables of interest used by both economic development practitioners and scholars (Gabe & Kraybill, 2002; Jansa, 2020; Slattery & Zidar, 2020; Wang, 2018; Wang, Ellis, & Rogers, 2018). Population figures are sourced from the U.S. Census. Employment and real gross state product figures are sourced from Moody's Analytics.

The primary analyses include five control variables commonly tested in the public policy literature on state and local economic development: business climate (taxes), annual investments in physical capital (highway spending), a measure of how these public investments are financed (deficit spending), the stock of human capital (high school attainment), and the cost of specific forms of human capital (average manufacturing wages). Goss and Phillips (1994; 1997) used these same five variables as well. Taxes as a percent of personal income is sourced from the Urban Institute's State and Local Finance Data Query System. General Revenue—Own Sources as a share of nominal personal incomes will be used. Conventional wisdom suggests that taxes are a drag on economic growth, so a negative relationship with economic growth is expected. Highway spending as a percent of personal income is sourced from the Urban Institute's State and Local Finance Data Query System. Total highway-direct expenditures as a share of nominal personal incomes will be used. This figure includes both current operational and capital expenditures in a state while excluding any federal expenditure. The infrastructure stock (as opposed to the flow represented by current spending) was not included in Goss and Phillips' initial studies and will also be excluded from this analysis. Similarly, Bartik (2019) opted to exclude infrastructure stock, identifying several challenges in incorporating infrastructure stock data into economic development studies. A positive association between highway spending and economic growth is expected. Deficit spending is sourced from The Pew Charitable Trusts' *Fiscal 50: State Trends and Analysis*. The data tracks each state's percentage of annual expenses covered by revenue since FY2003. Presumably, states with higher deficit spending levels present risks to businesses as the likelihood of higher taxes and/or lower public service funding levels increases. High school graduate attainment rates, a common measure of a community's human capital stock, are sourced from the American Community Survey using one-year estimates. I

replace these rates with bachelor's attainment rates in a later robustness test. Average weekly manufacturing wages, another standard measure of the wages for skilled and semi-skilled labor across communities, are sourced from the Bureau of Labor Statistics' Quarterly Census of Employment and Wages from 2009 to 2019. Regional variables are sourced from the Census Bureau's categorization of Northeast, South, West, and Midwest United States.

I test four different measures to capture the breadth of business climate conceptualizations for the moderated regressions. The first measures business climate as a low-tax concept. The Tax Foundation publishes a *State Business Tax Climate Index* (SBTCI) each year. The index reports an overall score for each state based on over 110 measures of corporate taxes, individual income taxes, sales taxes, unemployment insurance taxes, and property taxes. Pro-business states tend to have fewer specific taxes, lower rates for these taxes, and/or more streamlined or simplified tax codes. The second approach measures business climate as a low-tax, low-regulation concept. I use Economic Freedom scores, which combine Fiscal and Regulatory scores, from Cato Institute's annual *Freedom in the 50 States* report. Fiscal policy includes measures of taxes, government employment, spending, debt, and fiscal decentralization. Regulatory policy includes measures of the liability system, property rights, health insurance, and the labor market. Pro-business states in this index tend to have lower tax and lighter regulatory regimes. As a result, a positive association with growth would mean lower tax and regulatory strategies are associated with economic growth. Third, I test business climate as a balance between spending priorities based on the hypothesis that "productive" spending is associated with more growth (for a review of the literature on government spending and growth, see Fisher, 1997). Jacoby and Schneider (2009, 2014) apply a spatial proximity model to measure each state's spending policy decisions across 15 categories: corrections; education;

employment security; government administration; health; highways; hospitals; housing and community development; inspections; natural resources; parks and recreation; police and law enforcement; transportation; veterans benefits; and welfare. The authors construct a score to place each state's spending decisions on a continuum between 100% spending on collective goods vs. 100% spending on categories delivering "particularized benefits." The first grouping includes police protection, housing/community development, inspections, and parks/recreation. The second grouping includes policies that benefit particular populations like employment security, public transportation, health care, and hospital. Education and welfare are two categories that fall in the middle. The output is scaled against the average state's share of collective spending of total spending. A positive figure indicates a state spends more on collective goods than the average state; a negative figure indicates a state spends less on collective goods and more on goods that have particularized benefits. My last approach treats business climate as a comprehensive measure. I use Beacon Hill Institute's *State Competitiveness Index,* which has been used and categorized as a productivity measure in several previous business climate studies (see Fisher, 2013 or Kolko, Neumark, & Mejia, 2013). Their model scores states by overall business climate and based on eight categories: fiscal policy, security, infrastructure, human resources, technology, business incubation, openness, and environment. I will use the overall scores on a 0–10 scale. A positive result would thus imply that stronger business climates as characterized by more comprehensive or robust approaches are associated with economic growth.

In summary, higher scores in each of the first three approaches—*State Business Tax Climate Index, Freedom in the 50 States,* and *State Competitiveness Index*—are expected to have positive associations with economic growth. Jacoby and Schneider's scale is a horizontal

continuum between spending on collective vs. particularized categories, so a higher result indicates higher shares of collective spending are associated with higher employment growth. Table 2 describes the full set of variables and the relevant sources. I discuss the additional variables for the robustness tests in a later section. The next chapter reports the results of these analyses.

Table 2

List of variables

Category	Variable	Source
Dependent variables	Net employment growth	Moody's Analytics
	Per capita income growth	Federal Reserve Bank of St. Louis FRED data
	Real gross state product growth	Moody's Analytics
Independent variables	ED spending, overall	Council for Community and Economic Research (C2ER)
	ED spending per capita	C2ER; U.S. Census Bureau
	ED spending per $1M in RGSP	C2ER; Moody's Analytics
	ED spending per $1M in personal income	C2ER; Bureau of Economic Analysis
Control variables	Taxes	Urban Institute's State and Local Finance Data Query System
	Highway spending	Urban Institute's State and Local Finance Data Query System
	Deficit spending	The Pew Charitable Trusts' Fiscal 50: State Trends and Analysis
	High school graduate attainment	American Community Survey, one-year estimates
	Average weekly manufacturing wages	Bureau of Labor Statistics' Quarterly Census of Employment and Wages
	Region: Northeast	U.S. Census Bureau
	Region: West	U.S. Census Bureau
	Region: Midwest	U.S. Census Bureau
Moderating variables	State Business Tax Climate Index	Tax Foundation State Business Tax Climate Index
	Economic Freedom	Cato Institute's *Freedom in the 50 States*
	Jacoby and Schneider spending prioritization scores	Replication data for: A New Measure of Policy Spending Priorities in the American States
	State Competitiveness Index	Beacon Hill Institute's State Competitiveness Index
Independent variables for robustness tests	Unemployment rates	Local Area Unemployment Statistics compiled by the Bureau of Labor Statistics
	Poverty rates	U.S. Census Bureau
	Bachelor's attainment rates	American Community Survey, one-year estimates
	Manufacturing jobs share of total jobs	Moody's Analytics
	Hachman Index of industrial diversity	Shaleen (n.d.) analysis of U.S. Bureau of Labor Statistics' Quarterly Census of Employment and Wages data
	Political culture score	Koven and Mausolff (2002)

CHAPTER FOUR
RESULTS

I divide the reporting of the results into two sections. I start by reporting the descriptive statistics, assumptions tests, and results of the first three research questions testing the relationships between ED spending, business climate, and economic growth (employment, real gross state product, and per capita income). I follow the results with a description of the findings, limitations, and a short conclusion for the section. I then discuss research questions #4 and #5, which test whether states pursue distinct economic development strategies and explore the relationship between growth and the types of spending (supply-side vs. demand-side), respectively.

Results: RQ1–RQ3

Descriptive Results

The analyses focused on the 48 contiguous states in the U.S. from 2012–2018, using two-year lagged growth rates (2012–2014, 2014–2016, and 2016–2018) for the dependent variables and data for the explanatory variables primarily from 2012, 2014, or 2016. Over the full period, state economic development spending varied greatly, with absolute budgets ranging from a low of $11M in New Hampshire (2012) to a high of $462M in Pennsylvania (2016) (see Table 3). After adjusting for population, one of the least populous states in the union, Wyoming, spent the heaviest, spending nearly $152 per resident on economic development or $87M overall in 2012. Massachusetts was the most spendthrift state, spending just $2 per resident or $14M overall in 2012.

Table 3

Descriptive statistics by primary variables and year

Independent variables									
	2012			**2014**			**2016**		
ED spending, overall	NH ($11M)	$124M	OH ($349M)	DE ($12M)	$128M	PA ($435M)	NH ($14M)	$134M	PA ($462M)
ED spending per capita	MA ($2)	$29	WY ($152)	CA ($5)	$29	RI ($126)	IL ($4)	$33	RI ($132)

Dependent variables[a]									
	2012			**2014**			**2016**		
	Min	**Mean**	**Max**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Max**
Net employment growth rate	WV (-0.3%)	1.60%	ND (3.7%)	ND (-2.9%)	1.47%	UT (3.7%)	ND (-0.1%)	1.22%	NV (3.3%)
GSP growth rate	CT (-1.3%)	1.50%	ND (4.2%)	ND (-5.1%)	1.54%	OR (4.9%)	DE (0.1%)	1.84%	WA (5.0%)
Per capita income growth	ND (0.8%)	2.49%	CO (5.4%)	OK (-4.1%)	2.47%	CA (5.0%)	ND (2.8%)	4.21%	NY (5.9%)

[a] Dependent variables use two-year growth rates (2012-2014, 2014-2016, 2016-2018)

Outcomes, in contrast to economic development spending, tend to cluster more tightly together with mean employment annual growth rates of ~1.4% per year (average for the 144 cases across the 48 states over the three time periods), real gross state product (RGSP) annual growth rates of 1.6%, and mean per capita income (PCI) annual growth rates of 3.1% across the pooled time periods (Table 4). Utah, Nevada, and Florida had the fastest average employment growth rates over this period with each averaging more than 2.9% per year (see Tables 5-7).

Table 4

Descriptive statistics for variables across time periods

Category	Variable	N	Min	Max	Mean	Std. Dev
Dependent variables	Employment growth (2012-14, 2014-2016, 2016-2018)	144	-2.95%	3.71%	1.43%	1.03%
	Real gross state product growth (2012-14, 2014-2016, 2016-2018)	144	-5.06%	4.94%	1.63%	1.36%
	Per capita income growth (2012-14, 2014-2016, 2016-2018)	144	-4.11%	5.90%	3.06%	1.51%
Independent variables	Econ. dev. (ED) overall spending (2012, 2014, 2016), $M	144	$11,163,991	$462,183,000	$128,957,175	$101,117,447
	ED spending per capita (2012, 2014, 2016)	144	$2.13	$151.54	$30.17	$28.03
	ED spending per $1M in RGSP (2012, 2014, 2016)	144	$31.99	$2,997.10	$619.16	$553.51
	ED spending per $1M in personal income (PI) (2012, 2014, 2016)	144	$39.58	$2,708.17	$649.49	$569.22
	ED spending overall, log (2012, 2014, 2016)	144	7.05	8.66	7.95	0.40
	ED spending per capita, log (2012, 2014, 2016)	144	0.33	2.18	1.34	0.35
	ED spending $1M in RGSP, log (2012, 2014, 2016)	144	1.50	3.48	2.64	0.37
	ED spending per $1M in PI, log (2012, 2014, 2016)	144	1.60	3.43	2.67	0.35
Control variables	Taxes as share of personal income (2012, 2014, 2016)	144	5.55%	17.68%	8.57%	1.94%
	Highway spending as share of personal income (2012, 2014, 2016)	144	0.29%	2.58%	0.86%	0.43%
	Deficit spending (2012, 2014, 2016)	144	88.23%	148.34%	103.50%	7.66%
	High school (HS) attainment rates (2012, 2014, 2016)	144	81.40%	93.20%	88.37%	3.02%
	Manufacturing average weekly wages (2012, 2014, 2016)	144	803.00	1,676.00	1,135.57	187.30
	Region, Northeast	144	0.00	1.00	0.19	0.39
	Region, West	144	0.00	1.00	0.23	0.42
	Region, Midwest	144	0.00	1.00	0.25	0.44
Independent variables for robustness tests	CATO Overall Freedom scores (2012, 2014, 2016)	144	-0.81	0.48	0.00	0.22
	SBTCI scores (2012, 2014, 2016)	144	3.42	7.74	5.18	0.90
	Jacoby and Schneider scores (2011)	144	-0.17	0.09	-0.05	0.06
	Beacon Hill Institute Competitiveness scores (2012, 2014, 2016)	144	1.90	8.10	5.02	1.00
Independent variables for robustness tests	Unemployment rates (2012, 2014, 2016)	144	2.60%	10.50%	5.64%	1.69%
	Poverty rates (2012, 2014, 2016)	144	6.40%	23.10%	13.61%	3.58%
	Bachelor's attainment rates (2012, 2014, 2016)	144	18.60%	42.70%	29.38%	5.09%
	Manufacturing jobs share of total jobs (2012, 2014, 2016)	144	3.20%	17.01%	8.98%	3.31%
	Hachman Index of industrial diversity (2010)	144	0.37	0.98	0.92	0.10
	Political culture score (2010)	144	1.00	9.00	4.97	2.58

Table 5

Descriptive statistics for primary variables for each state (averages across time periods)

	Dependent variables			Independent variables			
State	Net employment growth rate	GSP growth rate	Per capita income growth rate	ED spending, overall, $M	ED spending per capita	ED spending per $1M in RGSP	ED spending per $1M in personal income
Alabama	1.16%	0.93%	2.76%	$82.24	$16.98	$438.50	$403.00
Arkansas	1.17%	1.07%	2.99%	$161.22	$54.07	$1,428.09	$1,235.80
Arizona	2.51%	2.39%	3.47%	$68.09	$10.07	$245.23	$257.64
California	2.56%	3.77%	4.50%	$151.43	$3.91	$64.48	$85.09
Colorado	2.78%	3.51%	4.22%	$160.94	$29.92	$543.25	$626.80
Connecticut	0.48%	-0.11%	2.77%	$27.40	$7.63	$113.77	$126.53
Delaware	1.60%	0.50%	2.96%	$12.48	$13.38	$197.63	$298.17
Florida	2.90%	2.97%	3.37%	$330.49	$16.53	$405.13	$387.06
Georgia	2.34%	2.74%	3.76%	$207.31	$20.56	$444.58	$486.61
Iowa	0.82%	1.38%	2.63%	$211.72	$68.15	$1,293.59	$1,402.04
Idaho	2.88%	3.23%	3.76%	$18.80	$11.46	$303.95	$287.04
Illinois	1.04%	0.98%	3.57%	$82.89	$6.44	$113.29	$133.91
Indiana	1.35%	1.55%	3.07%	$54.54	$8.28	$176.35	$185.17
Kansas	0.71%	1.35%	2.23%	$90.70	$31.27	$629.14	$621.03
Kentucky	1.09%	0.91%	2.91%	$232.54	$52.73	$1,299.97	$1,269.19
Louisiana	0.45%	-0.17%	2.22%	$175.41	$37.96	$754.40	$845.34
Massachusetts	1.61%	2.03%	3.80%	$39.70	$5.85	$85.53	$104.04
Maryland	1.06%	1.59%	2.85%	$147.28	$24.71	$428.31	$496.75
Maine	0.82%	1.17%	3.29%	$45.35	$34.09	$843.63	$807.49
Michigan	1.53%	1.88%	3.65%	$223.27	$22.49	$515.03	$514.84
Minnesota	1.36%	2.00%	3.11%	$118.68	$21.62	$379.75	$418.85
Missouri	1.17%	0.82%	2.94%	$84.15	$13.89	$309.80	$300.19
Mississippi	0.78%	0.33%	2.15%	$62.95	$21.08	$631.49	$542.22
Montana	1.37%	1.08%	2.79%	$22.05	$21.48	$508.38	$488.67
North Carolina	2.00%	2.04%	2.85%	$177.03	$17.87	$391.83	$413.25
North Dakota	0.22%	0.02%	0.04%	$35.73	$48.32	$673.65	$831.79
Nebraska	0.92%	1.55%	2.27%	$31.14	$16.52	$290.05	$313.77
New Hampshire	1.21%	1.86%	3.12%	$12.61	$9.46	$180.21	$191.29
New Jersey	1.16%	1.09%	3.48%	$200.90	$22.68	$383.14	$454.40
New Mexico	0.76%	0.93%	2.58%	$45.54	$21.79	$510.25	$563.51
Nevada	3.25%	2.24%	3.66%	$56.34	$19.92	$427.05	$474.07
New York	1.56%	1.39%	4.10%	$245.46	$12.51	$181.88	$259.10
Ohio	1.13%	1.79%	3.08%	$297.22	$25.64	$529.37	$548.60
Oklahoma	0.74%	1.81%	1.92%	$102.41	$26.56	$567.13	$563.95
Oregon	2.58%	3.44%	4.25%	$204.60	$51.57	$1,118.73	$1,232.27
Pennsylvania	0.80%	1.76%	3.40%	$402.10	$31.46	$603.53	$646.77
Rhode Island	1.07%	0.67%	2.88%	$115.72	$109.57	$2,208.66	$2,299.09
South Carolina	2.37%	2.45%	3.49%	$136.71	$28.16	$735.10	$681.85
South Dakota	0.99%	0.91%	2.44%	$76.12	$89.60	$1,714.34	$1,718.89
Tennessee	2.03%	2.18%	2.99%	$225.43	$34.34	$761.47	$761.59
Texas	2.29%	2.91%	2.54%	$304.06	$11.30	$203.09	$246.30
Utah	3.28%	3.39%	4.23%	$142.15	$47.83	$1,017.77	$1,195.48
Virginia	1.15%	1.15%	2.59%	$204.35	$24.62	$455.51	$503.05
Vermont	0.59%	0.64%	3.01%	$21.99	$35.20	$761.27	$760.82
Washington	2.60%	3.99%	4.45%	$90.05	$12.68	$209.04	$261.63
Wisconsin	1.11%	1.49%	3.07%	$78.07	$13.57	$276.62	$284.52
West Virginia	-0.18%	0.46%	2.58%	$97.04	$52.43	$1,397.32	$1,313.97
Wyoming	-0.39%	-0.03%	2.06%	$75.52	$130.05	$1,969.21	$2,332.13

Table 6

Descriptive statistics for secondary variables for each state (averages across time periods)

	Control variables					Business climate measures			
State	Taxes	Highway spending	Deficit spending	High school graduate attainment	Average manufactur-ing weekly wages	Cato score	SBTCI score	JandSscore	BHIscore
Alabama	8.20%	0.84%	102.89%	84.60%	$1,009.67	-0.04	4.99	-0.02	3.96
Arkansas	10.67%	0.98%	99.62%	85.37%	$840.67	-0.05	4.74	-0.01	4.05
Arizona	7.31%	0.51%	105.61%	86.17%	$1,359.00	0.17	5.15	-0.12	4.81
California	8.09%	0.40%	101.67%	82.00%	$1,576.33	-0.44	3.76	-0.13	5.11
Colorado	6.50%	0.45%	103.34%	90.83%	$1,242.00	0.30	5.32	-0.04	6.14
Connecticut	7.90%	0.48%	94.76%	90.17%	$1,537.33	-0.07	4.44	-0.13	4.32
Delaware	12.94%	1.30%	96.35%	88.93%	$1,132.67	-0.19	5.61	-0.02	5.21
Florida	5.92%	0.68%	108.63%	87.03%	$1,068.33	0.35	6.88	-0.08	5.06
Georgia	6.16%	0.53%	103.76%	85.67%	$1,056.33	0.12	4.77	-0.02	5.08
Iowa	9.45%	1.00%	103.89%	91.83%	$1,042.33	0.07	4.53	-0.05	6.02
Idaho	8.05%	0.91%	106.33%	90.10%	$1,052.00	0.11	5.26	-0.01	5.62
Illinois	7.59%	0.76%	96.08%	88.20%	$1,264.33	-0.16	5.04	-0.12	4.12
Indiana	8.28%	0.70%	103.12%	88.13%	$1,110.00	0.30	5.90	0.02	4.54
Kansas	8.68%	0.80%	99.60%	90.33%	$1,035.67	0.15	5.18	-0.03	5.65
Kentucky	9.38%	1.32%	97.61%	84.67%	$1,056.33	-0.11	5.07	-0.05	4.33
Louisiana	7.38%	0.83%	97.86%	83.67%	$1,296.33	-0.02	4.84	-0.05	3.96
Massachusetts	8.52%	0.53%	96.22%	89.93%	$1,598.00	0.07	5.15	-0.13	7.74
Maryland	7.51%	0.86%	99.07%	89.60%	$1,366.00	-0.28	4.43	-0.07	4.77
Maine	9.30%	1.10%	101.70%	91.87%	$1,006.67	-0.07	4.90	-0.14	4.73
Michigan	9.05%	0.31%	104.12%	89.83%	$1,234.33	0.10	5.47	-0.05	4.76
Minnesota	10.02%	0.64%	104.67%	92.67%	$1,177.00	-0.08	4.18	-0.04	6.42
Missouri	6.57%	0.57%	102.03%	88.83%	$1,049.33	0.17	5.45	-0.11	4.59
Mississippi	9.70%	0.96%	104.18%	83.07%	$871.67	-0.15	5.27	-0.11	3.35
Montana	8.27%	1.71%	106.76%	92.73%	$878.00	0.05	6.28	0.02	4.62
North Carolina	8.02%	0.87%	109.35%	86.30%	$1,056.67	0.09	4.75	-0.01	5.43
North Dakota	14.65%	2.44%	125.58%	92.10%	$945.33	0.14	5.02	0.09	7.05
Nebraska	7.20%	0.85%	103.50%	90.57%	$877.00	-0.01	4.96	-0.03	6.04
New Hampshire	5.76%	0.65%	103.89%	92.27%	$1,269.33	0.39	6.15	-0.05	6.01
New Jersey	7.68%	0.60%	90.58%	88.90%	$1,503.67	-0.37	3.43	-0.09	2.96
New Mexico	12.15%	0.87%	100.11%	84.67%	$1,079.67	-0.15	4.79	-0.08	3.69
Nevada	7.21%	0.55%	108.49%	85.33%	$1,041.67	0.23	7.11	0.03	4.55
New York	8.75%	0.40%	100.30%	85.77%	$1,202.00	-0.80	3.52	-0.17	4.78
Ohio	8.11%	0.64%	103.54%	89.40%	$1,101.00	-0.04	4.34	-0.10	4.54
Oklahoma	8.18%	0.96%	103.62%	87.27%	$1,010.67	0.10	4.90	-0.02	3.76
Oregon	9.27%	0.59%	102.54%	89.97%	$1,241.67	-0.17	5.78	-0.09	5.24
Pennsylvania	7.95%	1.12%	99.93%	89.47%	$1,120.00	0.08	5.03	-0.10	4.28
Rhode Island	9.15%	0.62%	103.71%	86.80%	$1,042.00	-0.13	4.25	-0.15	4.86
South Carolina	8.40%	0.68%	107.13%	85.87%	$1,059.67	-0.02	4.77	-0.10	4.56
South Dakota	6.45%	1.56%	106.16%	91.13%	$850.33	0.25	7.49	0.02	6.11
Tennessee	6.02%	0.57%	104.49%	85.97%	$1,084.67	0.20	5.50	-0.14	4.59
Texas	6.27%	0.65%	108.16%	82.17%	$1,364.00	0.05	5.81	-0.04	6.14
Utah	9.47%	0.87%	109.94%	91.37%	$1,020.67	0.04	5.99	0.05	6.07
Virginia	7.55%	0.81%	103.38%	88.57%	$1,069.00	0.16	5.04	-0.05	5.89
Vermont	12.68%	1.36%	103.12%	91.93%	$1,060.00	-0.22	4.16	0.01	5.44
Washington	7.40%	0.64%	103.66%	90.53%	$1,399.00	-0.04	5.73	-0.03	5.90
Wisconsin	9.11%	0.61%	105.57%	91.33%	$1,039.33	-0.02	4.50	-0.06	5.13
West Virginia	11.95%	1.74%	99.31%	85.23%	$1,052.67	-0.12	5.24	-0.02	3.81
Wyoming	10.36%	1.60%	121.91%	92.50%	$1,157.00	-0.06	7.65	0.09	5.13

Table 7

Descriptive statistics for robustness variables for each state (averages across time periods)

	Additional control variables for robustness tests					
State	**Unemployment rate**	**Poverty rate**	**Bachelor's attainment rate**	**Manuf. share of total jobs**	**Industrial diversity**	**Political culture**
Alabama	6.47%	16.73%	23.83%	12.95%	0.96	8.57
Arkansas	5.60%	18.17%	21.60%	12.94%	0.93	9.00
Arizona	6.53%	18.77%	27.93%	6.10%	0.97	5.66
California	7.30%	15.20%	31.83%	8.25%	0.94	3.55
Colorado	4.87%	10.90%	38.57%	5.56%	0.96	1.80
Connecticut	6.40%	9.57%	37.90%	9.56%	0.94	3.00
Delaware	5.67%	12.03%	30.37%	5.85%	0.91	7.00
Florida	6.20%	15.00%	27.57%	4.26%	0.95	7.80
Georgia	6.83%	16.77%	29.27%	8.92%	0.98	8.80
Iowa	4.13%	10.13%	27.47%	13.87%	0.94	2.00
Idaho	4.87%	12.63%	26.03%	9.23%	0.91	2.50
Illinois	6.87%	12.80%	32.80%	9.85%	0.98	4.72
Indiana	5.97%	13.87%	24.57%	16.85%	0.92	6.33
Kansas	4.63%	12.43%	31.57%	11.64%	0.97	3.66
Kentucky	6.27%	17.70%	22.47%	12.65%	0.96	7.40
Louisiana	6.57%	21.47%	22.77%	7.23%	0.89	8.00
Massachusetts	5.27%	11.50%	41.07%	7.25%	0.96	3.66
Maryland	5.60%	8.93%	38.13%	4.09%	0.92	7.00
Maine	5.30%	13.37%	29.17%	8.34%	0.96	2.33
Michigan	6.77%	13.20%	27.23%	13.62%	0.97	2.00
Minnesota	4.37%	9.00%	34.10%	11.11%	0.96	1.00
Missouri	5.60%	12.87%	27.47%	9.34%	0.98	7.66
Mississippi	7.07%	21.73%	21.20%	12.46%	0.95	9.00
Montana	4.63%	12.37%	29.90%	4.11%	0.90	3.00
North Carolina	6.60%	15.97%	28.83%	10.87%	0.98	8.50
North Dakota	2.87%	10.73%	28.30%	5.73%	0.85	2.00
Nebraska	3.37%	11.20%	29.97%	9.72%	0.97	3.66
New Hampshire	4.07%	7.23%	35.40%	10.30%	0.96	2.33
New Jersey	6.80%	10.00%	37.40%	6.05%	0.97	4.00
New Mexico	6.63%	19.40%	26.57%	3.45%	0.87	7.00
Nevada	7.70%	14.30%	23.00%	3.40%	0.70	5.00
New York	6.27%	14.37%	34.53%	5.00%	0.95	3.62
Ohio	5.97%	14.90%	26.43%	12.58%	0.96	5.16
Oklahoma	4.73%	16.63%	24.40%	8.21%	0.88	8.25
Oregon	6.33%	13.23%	31.13%	10.39%	0.94	2.00
Pennsylvania	6.20%	12.50%	29.20%	9.74%	0.98	4.28
Rhode Island	7.00%	12.10%	31.97%	8.44%	0.96	3.00
South Carolina	6.53%	15.77%	26.20%	11.64%	0.96	8.75
South Dakota	3.47%	13.37%	27.67%	9.90%	0.95	3.00
Tennessee	6.23%	16.93%	25.23%	11.55%	0.97	8.50
Texas	5.30%	15.73%	27.80%	7.56%	0.94	7.11
Utah	3.97%	9.93%	31.47%	9.09%	0.98	2.00
Virginia	4.93%	10.73%	36.77%	6.09%	0.93	7.86
Vermont	3.83%	10.03%	35.70%	10.03%	0.93	2.33
Washington	6.03%	11.53%	33.30%	9.33%	0.92	1.66
Wisconsin	5.17%	11.00%	28.33%	16.18%	0.92	2.00
West Virginia	6.47%	18.43%	19.53%	6.33%	0.75	7.33
Wyoming	4.60%	10.07%	26.13%	3.25%	0.37	4.00

Business climate scores are relative to other states (Table 6) and each methodology has its shortcomings, as documented in the literature review. The top states over the time period according to the Tax Foundation's *State Business Tax Climate Index* (SBTCI score in Table 6) scores were Wyoming, South Dakota, and Nevada, which all averaged a score of seven or higher

out of 10 over the three time periods; the worst states were New Jersey, New York, and California, which all averaged scores of four or lower. The same three worst-performing states for SBTCI were also the three lowest states for Economic Freedom, as rated by the Cato Institute (Cato score in Table 6). New Hampshire, Florida, and Indiana averaged the three highest scores by Cato over the period. According to Jacoby and Schneider's proximity model (JandSscore in Table 6), higher scores represent more spending on collective goods and lower scores represent more spending on particularized goods in 2011. New York, Rhode Island, and Maine spent the most on particularized goods like healthcare and transportation while North Dakota, Wyoming, and Utah spent the most on collective goods like police and community/economic development. Last, Beacon Hill Institute's *State Competitiveness Index* (BHIscore in Table 6) highlights a different set of states for being the most competitive across a wide variety of measures listed in previous sections. The top states were Massachusetts (where BHI is based), North Dakota, and Minnesota, while the worst-ranked states were New Mexico, Mississippi, and New Jersey over the pooled sample.

RQ1 Assumptions Testing: State ED Spending → Economic Growth

Several assumptions were tested for each model and variable specification before executing the regression analyses (Table 8). Across the models, observations were found to be independent according to Durbin-Watson tests (all approximately 2) for net employment and real gross state product growth rates. The Durbin-Watson test was less than 1 for per capita income growth rate models in Models 1, 3, and 4, which suggests the residuals may be autocorrelated. This may be due to the weak linear relationship between ED spending and per capita income growth. The primary model (#2) that will be used throughout the analyses, economic development spending per capita (log), had a figure of ~2, raising no flags. Linearity

assumptions were checked two separate ways. First, visual inspection of the scatterplot of the studentized residuals and (unstandardized) predicted values indicated the data meets linearity assumptions. Second, visual inspection of the partial regression plots indicated the data met the assumption of linearity between the dependent variable and each of the independent variables. Homoskedasticity of the residuals was checked and confirmed by visual inspection of the studentized residuals and (unstandardized) predicted values scatter plot. Multicollinearity was not an issue for any of the models, with variance inflation factors (VIF) all below 10 and most variables less than five. Furthermore, all correlations between pairs of variables were below 0.7, though highway spending and taxes were moderately correlated (r=0.58). This relationship is not surprising since one (deficit spending or taxes) funds the other (highway spending). Last, normality of residuals was checked for each model by visually inspecting the residuals histogram and Q-Q plots. I proceeded with all models.

There were several unusual points in each model. Wyoming, North Dakota, and Oklahoma consistently stood out across the models as being outliers and/or having undue influence on the model. For example, using economic development spending per capita (log) as the independent variable, North Dakota (2012) and Wyoming (2014) both had studentized deleted residuals (SDRs) outside of three standard deviations for the employment and real gross state product growth models, meaning actual outcomes differed greatly from the regressions' predicted outcomes. Oklahoma (2014) returned an outlier SDR figure for the per capita income growth rate model. The finding that North Dakota, Wyoming, and Oklahoma had unusual residuals is not surprising given these states' dependence on oil, which suffered a 54% drop in prices (crude oil, West Texas Intermediate) from 2014 to 2016 ("Crude Oil Prices", n.d.; Wilkerson, 2016). According to the Federal Reserve Bank of Kansas City, seven states had

significant exposure to the oil and gas industry from 2013–2014 with greater than 8% of GDP, 5% of personal income, and 3% of payroll employment tied to the oil and gas industry. North Dakota, Oklahoma, and Wyoming were three of the seven states (the others were Alaska, Louisiana, New Mexico, and Texas). Texas was the only one of the five states analyzed in my sample (my sample excludes Alaska and Hawaii) to experience average job growth of at least 1% per year in the sample period. The Kansas City Fed did note that Texas's diverse economy, with strengths in financial services and transportation, among others, helped to sustain growth despite the negative effects from oil prices. I exclude these three outlier states—North Dakota, Oklahoma, and Wyoming—in a robustness test later in the chapter.

RQ1 Results: State ED Spending → Economic Growth

I tested four different operationalizations of economic development spending tracked by the C2ER: overall economic development spending (Model #1 in Table 8), economic development spending per capita (Model #2), economic development spending per $1M in real gross state product (Model #3), and economic development spending per $1M in state personal income (Model #4). Each of these variables was log transformed and the control variables referenced in earlier sections were included. Table 8 reports economic development spending had a statistically significant relationship with only employment growth. This finding runs counter to my Hypothesis #1 in that ED spending is negatively, not positively as expected, associated with employment growth; fails to support the hypothesis of a positive relationship with PCI growth; but is in line with the expectation of no statistically significant relationship with RGSP growth.

I discuss control variables relationships in more detail in the moderated regression section. It suffices to say that statistical significance varied by both control variable and

dependent variable operationalization, with the following variables statistically significant at the p<.05 level for ED spending per capita[1]: taxes (the models with employment and RGSP as dependent variables), highway spending (employment, RGSP, PCI), deficit spending (only PCI), and manufacturing wages (only employment).

Table 8

Regressions for state ED spending and economic growth rates

		Dependent variables (beta coefficients)		
Model #	**Independent variable**	**Net employment growth rate**	**RGSP growth rate**	**Per capita income growth rate**
1	ED spending, overall (log)	0.000	0.003	0.003
2	ED spending per capita (log)	-0.005*	-0.004	-0.002
3	ED spending per $1M in RGSP (log)	-0.005*	-0.004	-0.001
4	ED spending per $1M in personal income (log)	-0.005*	-0.004	-0.001

*p<0.05; **p<0.01; ***p<0.001

Note. All models include control variables: taxes, highway spending, deficit spending, high school attainment rates, and average manufacturing weekly wages. Fixed effects for year (baseline: 2012) and geographic region (baseline:

RQ2 Assumptions Testing: Business Climate Rankings → Economic Growth

I next tested the relationship between business climate rankings and economic growth. These regressions met assumptions of linearity; met multicollinearity assumptions with all VIFs below 10; and had normally distributed residuals. Like the previous tests, Durbin-Watson tests for autocorrelations were approximately 2 for employment and real gross state product growth but well below 0.5 for per capita income growth.

[1] Full regression models were conducted for each combination of dependent and independent variables. I limit the reporting of the results for brevity.

RQ2 Results: State Business Climate → Economic Growth

The only business climate measure to exhibit a statistically significant relationship with economic growth was Beacon Hill Institute's *State Competitiveness Index,* with small but positive relationships with employment and RGSP growth rates. This finding is not surprising, however, given the index's inclusion of both input and output variables, which weakens the credibility and importance of this measure in this analysis. For example, Fisher notes the following:

> Yet a number of BHI's variables are in fact measures of the outcomes or components of economic growth, not the causes of it, such as the share of adults in the labor force, budget surpluses, initial public offerings, exports, and firm births. Economic growth creates more job opportunities and higher labor force participation rates; the latter is a result of, not a cause of, growth (2013, p. 43).

The findings in Table 9 do not support my Hypothesis #2, which I hypothesized pro-business climates as measured by taxes (i.e., SBTCI) would be positively associated with economic growth. I found no statistically significant relationships for the SBTCI, Cato, and Jacoby and Schneider models. I did find a statistically significant relationships between BHI and both employment and RGSP growth.

I discuss control variables relationships in detail in a later section. It suffices to say that statistical significance varied by control variable and by dependent variable, with the following variables statistically significant at a $p<.05$ level for SBTCI[2]: taxes (only the RGSP model), highway spending (employment, RGSP, PCI), and deficit spending (only PCI). Unlike in the

[2] Full regression models were conducted for each combination of dependent and independent variable. I limit the reporting to just SBTCI for brevity.

previous section, manufacturing wages and high school attainment had no statistically significant results for any of the models.

Table 9

Regressions for state business climates and economic growth rates

		Dependent variables (beta coefficients)		
Model #	**Independent variable**	**Net employment growth rate**	**RGSP growth rate**	**Per capita income growth rate**
1	Cato Economic Freedom	0.004	-0.002	-0.006
2	SBTCI	0.000	0.001	-0.001
3	Jacoby and Schneider	0.017	0.010	0.004
4	Beacon Hill Institute	0.004***	0.004***	0.001

*p<0.05; **p<0.01; ***p<0.001

Note. All models include control variables: taxes, highway spending, deficit spending, high school attainment rates, and average manufacturing weekly wages. Fixed effects for year (baseline: 2012) and geographic region (baseline: South) were also included.

RQ3 Assumptions Testing: State ED Spending | Business Climate | Economic Growth

I tested assumptions for the ED spending, business climate, and economic growth moderated regressions to confirm that the same patterns from the previous regressions held. They did. I will use the moderated regression analysis with economic development spending per capita (log), SBTCI, and employment growth as an example of the assumptions testing. In this scenario, variables were linearly related; the Durbin-Watson score was 1.8; VIFs were below 10; and homoskedasticity of the residuals was observed. Last, the same outlier states emerged: North Dakota (growth rates from 2012–2014 and 2014–2016) and Wyoming (2014–2016) had outlier studentized deleted residuals ± 3. North Dakota (2012–2014) and Wyoming (2014–2016) had high influence figures as measured by Cook's distance ($>\pm 0.7$), meaning these states' figures may unduly influence the fitted values in the model. Nonetheless, I included all 48 contiguous states in the main analyses, but I later run a robustness test without these outlier states.

RQ3 Results: State ED Spending | Business Climate | Economic Growth

Hypothesis #3 expects the degree of a state's pro-business climate to moderate the relationship between ED spending and economic activity, with a stronger relationship between ED spending and economic activity in states with pro-business climates than in states with less supportive business climates. Business climate measures, even after controlling for a series of socioeconomic factors, were indeed found to be important influences on economic growth on their own and, in some cases, on the relationship between economic development spending and economic growth (see Table 10):

> **For employment growth**, economic development spending per capita (log) was found to have a negative but statistically significant relationship across all conceptualizations of business climate. The interactions with SBTCI and Jacoby and Schneider were found to be statistically significant and negative with employment growth. On its own, Beacon Hill Institute's measure was positively related with employment growth.
>
> **For RGSP growth**, Jacoby and Schneider's measure interacted with economic development spending to have a statistically significant influence on RGSP growth rates. Beacon Hill Institute's variable had a positive, statistically significant influence on RGSP growth rates by itself.
>
> **For PCI growth,** no business climate measure was found to have a statistically significant association with economic growth on its own or as an interaction variable with ED spending.

I discuss control variables relationships in detail for the SBTCI model specifically in the next section. It suffices to say that statistical significance varied by control variable and by

dependent variable, with the following variables statistically significant at a $p<.05$ level in the employment growth models[3]: taxes (significant in SBTCI, Jacoby and Schneider, and Beacon Hill Institute models), highway spending (significant in all four models), and manufacturing wages (significant in Cato and Beacon Hill Institute models).

In summary, these findings contrast with Goss and Phillips' (1994, 1997) results, which found positive associations between economic development agency spending and economic growth (employment and per capita income). My models, however, used overall economic development spending instead of economic development agency spending and included business climate as a moderator variable. I find state economic development spending to be negatively associated with employment growth and to have no statistically significant relationship with RGSP and PCI growth.

[3] Full regression models were conducted for each combination of dependent and independent variable. I limit the reporting to just employment growth for brevity.

Table 10

Regressions for state ED spending, business climates, and economic growth rates

Model #	Independent variable	Dependent variables (beta coefficients) Net employment growth rate	RGSP growth rate	Per capita income growth rate
1	**Cato Overall Freedom**			
	ED spending per capita (log)	-0.002*	-0.001	-0.001
	Moderator (Cato)	0.002	0.001	-0.001
	Interaction (ED spend * Cato)	0.001	0.002	0.000
2	**SBTCI**			
	ED spending per capita (log)	-0.002*	-0.001	-0.001
	Moderator (SBTCI)	0.000	-0.001	0.001
	Interaction (ED spend * SBTCI)	-0.001*	-0.001	0.001
3	**Jacoby and Schneider**			
	ED spending per capita (log)	-0.002*	-0.002	-0.001
	Moderator (J&S)	0.001	0.001	0.000
	Interaction (ED spend * J&S)	-0.002*	-0.002**	0.000
4	**Beacon Hill Institute**			
	ED spending per capita (log)	-0.002*	-0.001	-0.001
	Moderator (BHI)	0.004***	0.003**	0.001
	Interaction (ED spend * BHI)	0.001	-0.001	0.000

*p<0.05; **p<0.01; ***p<0.001

Note. All models include control variables: taxes, highway spending, deficit spending, high school attainment rates, and average manufacturing weekly wages. Fixed effects for year (baseline: 2012) and geographic region (baseline: South) were also included.

SBTCI

This section presents a deeper look into the findings from the moderated regression analyses using the Tax Foundation's SBTCI scores over the 2012–2018 timeframe. I chose to focus on SBTCI as the primary business climate measure based on my hypothesis that the tax-centric measure would have a statistically significant relationship with growth. Table 11 reports the correlations; Table 12 reports the regression findings for employment growth rates; and Table 13 graphs the results. The model explained a decent portion of variance in employment growth (*Adj.* R^2 = .45, $F(13, 130) = 9.965$, $p < .001$). Economic development spending per capita had a negative, statistically significant relationship with employment growth, and the interaction between economic development spending and SBTCI also had a negative, statistically significant

relationship with growth. Taxes and highway spending had a statistically significant but negative relationship with employment growth. The negative sign for taxes is not surprising given other scholars' findings that taxes can serve as a drag on growth (for reviews of the literature on taxation and growth, see Bartik, 1992 or Wasylenko, 1997). Highway spending's negative sign was somewhat surprising given the importance of infrastructure as a foundation for growth (for a review of the literature on highway spending and growth, see Fisher, 1997). However, the highway spending variable does not represent the infrastructure stock, only the annual spending level, so two conditions might explain the findings: (1) the stock of infrastructure not the flow of spending is likely the more relevant variable to near-term economic growth and (2) spending in a given year may be associated with growth in the medium-to-long term rather than in the near term. I do not explore these potential explanations further.

The graph in Figure 1 illustrates the practical implication of this interaction: Economic development spending in low-scoring SBTCI states like California, New York, and New Jersey had mildly negative relationships with employment growth, while the same spending in high-scoring SBTCI states like Wyoming, South Dakota, and Nevada had steeply negative relationships.

Table 11

Correlations for RQ3 analyses

	Employ. growth	ED spending per capita, log	SBTCI	Interaction (ED* SBTCI)	Taxes	Highway spending	Deficit spending	High school attainment	Manuf. Wages
Employment growth	1	-0.288***	0.141*	-0.105	-0.406***	-0.442***	-0.002	-0.176*	0.123
ED spending per capita, log	-0.288***	1	0.201**	0.052	0.285***	0.432***	0.228**	0.191*	-0.462***
SBTCI	0.141*	0.201**	1	0.22**	-0.188*	0.257**	0.345***	0.173*	-0.258**
Interaction (ED*SBTCI)	-0.105	0.052	0.22**	1	-0.004	0.136	0.145*	0.073	0.132
Taxes	-0.406***	0.285***	-0.188*	-0.004	1	0.58***	0.207**	0.14*	-0.235**
Highway spending	-0.442***	0.432***	0.257**	0.136	0.58***	1	0.291***	0.246**	-0.482***
Deficit spending	-0.002	0.228**	0.345***	0.145*	0.207**	0.291***	1	0.159*	-0.296***
HS attainment	-0.176*	0.191*	0.173*	0.073	0.14*	0.246**	0.159*	1	-0.06
Manuf. Wages	0.123	-0.462***	-0.258**	0.132	-0.235**	-0.482***	-0.296***	-0.06	1

*p<0.05; **p<0.01; ***p<0.001

Table 12

Moderated regression analysis with ED spending per capita, SBTCI, and employment growth

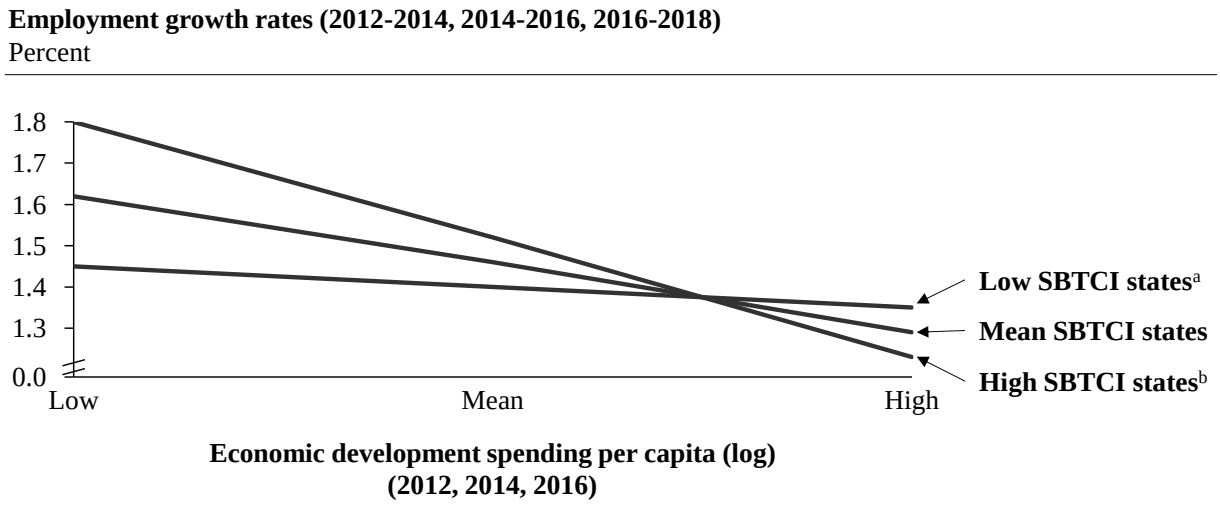
Variables	Coefficient	Standard error	Confidence interval
Constant	0.016***	0.001	[0.014,0.018]
ED spending per capita, log	-0.002*	0.001	[-0.004,0]
SBTCI	0	0.001	[-0.001,0.002]
Interaction (ED spend * SBTCI)	-0.001*	0.001	[-0.003,0]
Taxes as share of personal income	-0.003*	0.001	[-0.005,0]
Highway spending as share of personal income	-0.004***	0.001	[-0.007,-0.002]
Deficit spending	0	0.001	[-0.002,0.002]
High school attainment rates	0.001	0.001	[-0.001,0.003]
Manuf. average weekly wages	-0.001	0.001	[-0.003,0]
Region, Northeast	-0.002	0.001	[-0.004,0]
Region, West	0.003***	0.001	[0.002,0.005]
Region, Midwest	-0.002*	0.001	[-0.004,0]
Year: 2014	-0.002	0.002	[-0.005,0.002]
Year: 2016	-0.004*	0.002	[-0.007,-0.001]

*p<0.05; **p<0.01; ***p<0.001

DV: Employment growth

Figure 1

Moderated regression analysis with ED spending per capita, SBTCI, and employment growth



Note. I used the SBTCI scores for each state-year entry such that each state had three entries (2012, 2014, 2016) in the sample. It is possible for a state to have a low SBTCI score in one year and a mean or high score the next year. The categorization of low vs. high SBTCI states averages each state's three SBTCI scores then standardizes the averages to get an approximation distribution of the states.
[a] **Low SBTCI states (<-1 Std. Dev.):** CA, MN, NJ, NY, RI, VT
[b] **High SBTCI states (>+1 Std. Dev.):** FL, MT, NH, NV, SD, WY

I executed the same moderated regression analyses between ED spending, SBTCI, and economic growth, using RGSP (Table 13) and PCI (Table 14) separately. Both models explained a decent portion of variance in RGSP (*Adj.* $R^2 = .35$, $F(13,130) = 6.834$, $p < .001$) and PCI (*Adj.* $R^2 = .49$, $F(13, 130) = 11.464$, $p < .001$). I hypothesized that ED spending in pro-business climates (as measured by tax-centric measures like SBTCI) would have a positive association with both RGSP and PCI growth. However, none of the variables of primary interest (ED spending per capita, SBTCI, or the interaction between the two variables) had statistically significant relationships with RGSP or PCI growth.

Table 13

Moderated regression analysis with ED spending per capita, SBTCI, and RGSP growth

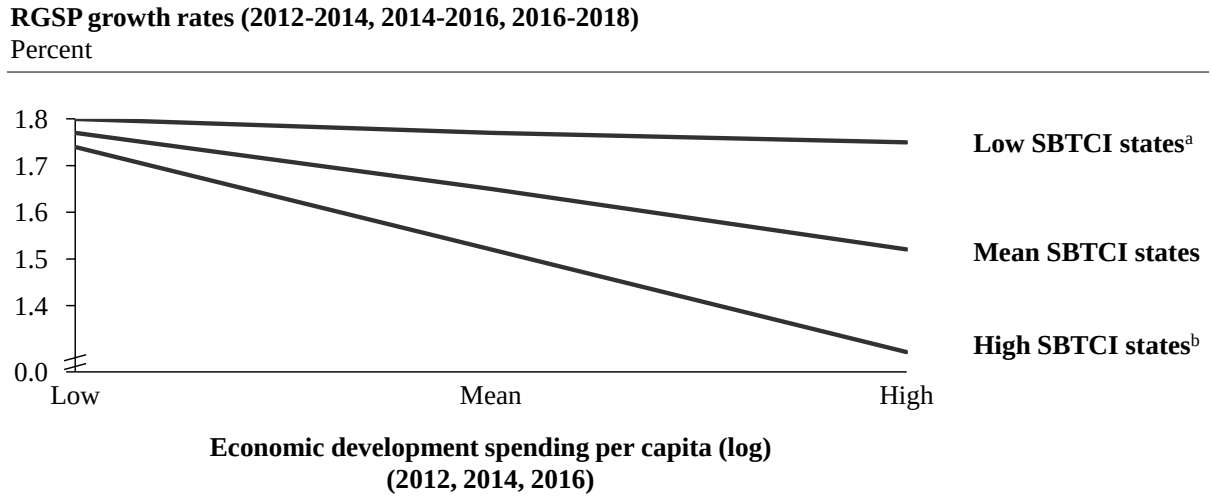
Variables	Coefficient	Standard error	Confidence interval
Constant	0.015***	0.002	[0.012,0.019]
ED spending per capita, log	-0.001	0.001	[-0.004,0.001]
SBTCI	-0.001	0.001	[-0.004,0.001]
Interaction (ED spend * SBTCI)	-0.001	0.001	[-0.003,0.001]
Taxes as share of personal income	-0.005*	0.002	[-0.009,-0.001]
Highway spending as share of personal income	-0.005**	0.002	[-0.009,-0.001]
Deficit spending	0.002	0.001	[-0.001,0.005]
High school attainment rates	0.003	0.001	[0,0.005]
Manuf. average weekly wages	0	0.001	[-0.003,0.002]
Region, Northeast	-0.003*	0.001	[-0.006,0]
Region, West	0.004**	0.001	[0.001,0.007]
Region, Midwest	-0.002	0.001	[-0.005,0.001]
Year: 2014	-0.001	0.002	[-0.005,0.004]
Year: 2016	0.002	0.002	[-0.003,0.007]

*p<0.05; **p<0.01; ***p<0.001

DV: RGSP growth

Figure 2

Moderated regression analysis with ED spending per capita, SBTCI, and RGSP growth



Note. I used the SBTCI scores for each state-year entry such that each state had three entries (2012, 2014, 2016) in the sample. It is possible for a state to have a low SBTCI score in one year and a mean or high score the next year. The categorization of low vs. high SBTCI states averages each state's three SBTCI scores then standardizes the averages to get an approximation distribution of the states.
[a] **Low SBTCI states (<-1 Std. Dev.):** CA, MN, NJ, NY, RI, VT
[b] **High SBTCI states (>+1 Std. Dev.):** FL, MT, NH, NV, SD, WY

Table 14

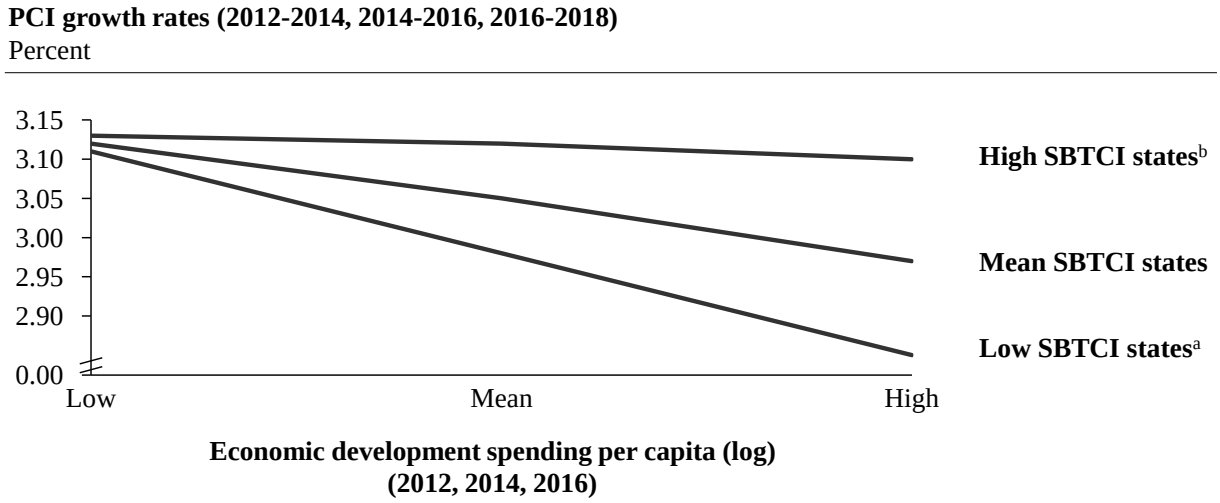
Moderated regression analysis with ED spending per capita, SBTCI, and PCI growth

Variables	Coefficient	Standard error	Confidence
Constant	0.025***	0.002	[0.022,0.029]
ED spending per capita, log	-0.001	0.001	[-0.003,0.002]
SBTCI	0.001	0.001	[-0.002,0.003]
Interaction (ED spend * SBTCI)	0.001	0.001	[-0.001,0.002]
Taxes as share of personal income	0.000	0.002	[-0.004,0.004]
Highway spending as share of personal income	-0.006**	0.002	[-0.009,-0.002]
Deficit spending	-0.006***	0.001	[-0.009,-0.003]
High school attainment rates	0.002	0.001	[-0.001,0.004]
Manuf. average weekly wages	-0.001	0.001	[-0.004,0.001]
Region, Northeast	0.000	0.001	[-0.002,0.003]
Region, West	0.003*	0.001	[0.001,0.006]
Region, Midwest	-0.001	0.001	[-0.004,0.001]
Year: 2014	0.000	0.002	[-0.005,0.005]
Year: 2016	0.015***	0.002	[0.011,0.02]

*p<0.05; **p<0.01; ***p<0.001
DV: PCI growth

Figure 3

Moderated regression analysis with ED spending per capita, SBTCI, and PCI growth



Note. I used the SBTCI scores for each state-year entry such that each state had three entries (2012, 2014, 2016) in the sample. It is possible for a state to have a low SBTCI score in one year and a mean or high score the next year. The categorization of low vs. high SBTCI states averages each state's three SBTCI scores then standardizes the averages to get an approximation distribution of the states.
[a] **Low SBTCI states (<-1 Std. Dev.):** CA, MN, NJ, NY, RI, VT
[b] **High SBTCI states (>+1 Std. Dev.):** FL, MT, NH, NV, SD, WY

Discussion of Findings (RQ1–RQ3)

The findings presented in the previous section update and align with Goss and Phillips' analyses from over 20 years ago (1994, 1997). These authors found state economic development agency spending had positive and statistically significant associations with both employment and income growth. I found similar statistically significant relationships between overall economic development spending (**not** economic development agency spending) and economic growth (only employment growth), though I found the relationship to be negative. Like Goss and Phillips, the practical effects of this relationship, however, are small. For example, in my SBTCI moderation regression, a 10% increase in ED spending per capita is associated with a decline of 0.02 (for employment growth rate) or 0.01 (for RGSP and PCI) percentage points.

In my models, I expanded the authors' original analyses and included measures of state business tax climate, a critical factor shaping how states act to spur growth and the effectiveness of these actions. The findings were surprising in that economic development spending was negatively associated with employment growth. States expect their actions, whether supply-side efforts seeking to lower the costs of production for both prospective and existing companies or demand-side programs partnering with existing firms to grow, to have a positive effect on growth. This does not appear to be the case. Though surprising, the results suggest a somewhat obvious fact that economic growth, especially employment growth, is influenced by a host of macroeconomic forces beyond the influence of a state. Thus, economic development spending has little, and in this case, negative, influence on outcomes.

Another surprising finding from the analysis was how this interaction materialized into such a steeply negative slope for all states, especially the high SBTCI ones, in the employment growth model. In states with few taxes and/or low tax rates, economic development spending seemed to be value-destroying in that more economic development spending was associated with sharp declines in employment growth rates. Whereas ED spending in low SBTCI states also appeared to have a negative impact on growth (in contrast, a flat line suggests states may just be wasting money), the sharply negative line for high SBTCI states suggests that those who devote their limited fiscal resources to economic development spending may actually be hurting the economy. This could be because ED spending crowds out more productive spending on K–12 education or infrastructure, as several scholars have shown (see Wang, 2015; Chava, Malakar, & Singh, 2019).

Collectively, these findings provide a more nuanced understanding of the factors that impact the effectiveness of economic development spending. Economic development spending

does not occur in a vacuum: Policymakers need to account for their state's tax climate when establishing economic development strategies and appropriating funds. My findings show that across all three dependent variables and conceptualizations of business climate, the relationship between ED spending and growth was negative. The question of (in)effectiveness, as shown by the SBTCI deep dive, concerns the steepness of the negative slope, which depends on the business climate.

Additional Tests for Robustness/Future (RQ1–RQ3)

I conducted several robustness checks on the relationship between economic development spending. First, the moderation analyses were replicated without the three states (North Dakota, Wyoming, and Oklahoma) whose residuals were outliers in the original analyses. I discussed potential explanations for these outliers in a previous section. In contrast to the original analyses with the lower 48 states, neither economic development spending per capita nor the interaction between ED spending per capita and SBTCI were statistically significant. However, SBTCI was found to be statistically significant in this scenario, which was not the case in the original analyses (see Table 15). The model explained a significant portion of variance in employment growth (*Adj.* $R^2 = .63$, $F(13, 121) = 18.677$, $p < .001$).

Table 15

Robustness regressions with original Goss and Phillips variables but excluding outlier states

Variables	Coefficient	Standard error	Confidence interval
Constant	0.016***	0.001	[0.015,0.018]
ED spending per capita, log	-0.001	0.001	[-0.002,0.001]
SBTCI	0.002*	0.001	[0,0.003]
Interaction (ED spend * SBTCI)	0.001	0.001	[-0.001,0.002]
Taxes as share of personal income (PI)	-0.001	0.001	[-0.003,0.001]
Highway spending as share of PI	-0.006***	0.001	[-0.008,-0.004]
Deficit spending	0.004**	0.001	[0.001,0.007]
High school attainment rates	0.001*	0.001	[0,0.003]
Manuf. average weekly wages	0.000	0.001	[-0.002,0.001]
Region, Northeast	-0.002**	0.001	[-0.003,-0.001]
Region, West	0.002**	0.001	[0.001,0.004]
Region, Midwest	-0.003***	0.001	[-0.005,-0.002]
Year: 2014	0.000	0.001	[-0.003,0.002]
Year: 2016	-0.004***	0.001	[-0.007,-0.002]

*p<0.05; **p<0.01; ***p<0.001

Note. The dependent variable is employment growth. The model excludes three states with outlier residuals from the original 48-state analysis.

Second, I replaced high school attainment rates from the original Goss and Phillips studies (1994, 1997) with bachelor's degree attainment rates. The link between human capital, often measured by capital attainment, and growth has been well established (see Gabe, 2017 pp. 94–96 for a short review of the most prominent literature on human capital and growth). As the economy has become more knowledge intensive, the need for skilled workers has increased as evidenced by rising earnings premiums for college graduates over those with only a high school education (for an overview, see James, 2012). Thus, bachelor's attainment rates may be a more appropriate measure of a state's human capital stock than high school attainment. A positive association between college attainment rates and economic growth is expected.

I also included several additional economic and political variables: unemployment rates, poverty rates, manufacturing share of jobs, industrial diversification, and political culture. A common justification for state and local economic development efforts is that incentives and

other tactics can attract firms to high-need areas, as measured by unemployment and/or poverty rates (see Bartik, 1991 for a review of the benefits of state and local economic development). Unemployment rates were sourced from the Local Area Unemployment Statistics compiled by the Bureau of Labor Statistics using year-end (December) statistics for the relevant year. Poverty rates were sourced from the U.S. Census Bureau. Because high unemployment and poverty rates may discourage firms from staying and/or locating to high-need areas, a negative association with economic growth is expected.

Manufacturing jobs remain critical to many economies across the country and offer meaningful wage premiums for all education levels (Mishel, 2018). However, Gabe (2017) noted that "for the most part, having a specialization in manufacturing is associated with lower levels of economic development [which includes more than just growth]" (p. 72). I calculated manufacturing share of jobs from Moody's Analytics data on manufacturing jobs and total nonagricultural jobs for each state. Gabe also explores associations between other sectors like computers and data processing and development. Building on his exploration of an economy's industrial mix and economic outcomes, I used the Hachman Index of State Employment Diversity to measure industrial diversification in 2010. The index measures the employment concentration of the 20 industries at the two-digit North American Industry Classification System (NAICS) level for each state relative to the U.S. average. Data for this index was sourced from a New Mexico Department of Workforce Solutions report (Shaleen, n.d.).

Last, I used a measure of political culture from Koven and Mausolff (2002). This scale categorizes states as being moralist (high faith in government to manage society), individualist (low faith in government, high faith in markets), or traditionalist (low faith in both government and markets; focus on preserving class and hierarchy). Southeastern states tend to be classified as

traditionalist. This variable is not often included in business climate studies, but Witko and Newmark (2005) found political culture to have a statistically significant influence on state business policy climate whereas a common measure of business lobbying, the number of registrants, that is often used in business climate studies had no statistically significant effect.

The explanatory power (adjusted R^2) of these robustness checks improved significantly over the original model with the addition of these variables, increasing from 0.449 (with high school attainment rates and the lower 48 states) to 0.592 (same model with high school attainment but excluding the three outlier states) to 0.664 (replaced high school attainment with bachelor's attainment rates and added the additional socioeconomic and political variables). In the last model (see Table 16), economic development spending per capita was no longer statistically significant, nor was the interaction with SBTCI. SBTCI, however, remained statistically significant. Other statistically significant ($p<.05$) variables included highway and deficit spending, poverty rates, and industrial diversification (i.e., more industrially diverse states tended to grow faster). Overall, the model explains significant variance in employment growth ($Adj.\ R^2 = .66$, $F(18,116) = 15.735$, $p < .001$).

Table 16

Robustness regressions with expanded set of variables but excluding outlier states

Variables	Coefficient	Standard error	Confidence interval
Constant	0.015***	0.001	[0.012,0.017]
ED spending per capita, log	-0.001	0.001	[-0.002,0]
SBTCI	0.002**	0.001	[0.001,0.003]
Interaction (ED spend * SBTCI)	0.001	0.001	[-0.001,0.002]
Taxes as share of personal income (PI)	0.000	0.001	[-0.002,0.002]
Highway spending as share of PI	-0.005***	0.001	[-0.007,-0.003]
Deficit spending	0.003*	0.001	[0.001,0.006]
Manuf. average weekly wages	0.000	0.001	[-0.002,0.001]
Unemployment rates	0.001	0.001	[-0.001,0.003]
Poverty rates	-0.003**	0.001	[-0.005,-0.001]
Bachelor's attainment rates	-0.002	0.001	[-0.004,0]
Manufacturing share of total jobs	-0.001	0.001	[-0.002,0.001]
Industrial diversification, 2010	0.004**	0.001	[0.001,0.007]
Political culture, 2010	-0.001	0.001	[-0.004,0.001]
Region, Northeast	-0.003***	0.001	[-0.005,-0.001]
Region, West	0.002	0.001	[0,0.004]
Region, Midwest	-0.004***	0.001	[-0.006,-0.002]
Year: 2014	0.001	0.002	[-0.002,0.004]
Year: 2016	-0.003	0.002	[-0.006,0.001]

*p<0.05; **p<0.01; ***p<0.001

Note. The dependent variable is employment growth. The model excludes three states with outlier residuals from the original 48-state analysis.

Third, I tested a different, simpler conceptualization of state business climate using a total effective business tax rate (TEBTR) figure. Ernst & Young, in conjunction with the Council on State Taxation (COST), publishes an annual report on total state and local business taxes by state in the U.S. Among other measures, the report publishes the TEBTR, which is the ratio of state and local business taxes to private-sector gross state product (see Table 17 for state details). The model explained a significant portion of variance in employment growth (*Adj*. R^2 = .50, F(13, 130) = 12.199, p < .001). This model included all 48 lower states to compare to previous moderation analyses. In this model, economic development (ED spending per capita) and the interaction between spending and the tax rates were statistically significant. Contrary to the previous moderation analyses, where the slope of ED spending and employment growth was

negative for all ranges of scores, ED spending was positively associated with employment growth for states with low tax rates but experienced negative associations for states with average or above average tax rates (see Table 18 for regression output and Figure 4 for a graph of the results). The major implication from this analysis is that tax rates matter, as shown by the use of EY's TEBTR variable, but so do the other factors like the presence of certain taxes and how each tax is applied (i.e., broadly or narrowly), as scored by SBTCI.

Table 17

Ernst & Young and Council of State Taxation (COST) annual report

	2012		2014		2016	
State	State and local taxes	TEBTR[a]	State and local taxes	TEBTR[a]	State and local taxes	TEBTR[a]
Alabama	$15.0	4.9%	$15.1	4.4%	$15.8	4.2%
Arizona	$23.5	5.2%	$23.3	4.9%	$25.0	4.8%
Arkansas	$10.6	4.5%	$11.3	4.3%	$11.9	4.6%
California	$187.4	4.5%	$217.4	4.4%	$244.2	4.2%
Colorado	$23.8	5.0%	$24.2	4.3%	$26.2	4.3%
Connecticut	$25.3	3.6%	$26.5	3.4%	$26.9	3.5%
Delaware	$4.3	3.6%	$4.1	4.4%	$4.7	4.4%
Florida	$68.8	5.6%	$70.6	5.2%	$73.1	4.7%
Georgia	$32.9	3.8%	$35.2	3.8%	$39.3	3.8%
Idaho	$5.1	4.5%	$5.5	4.5%	$6.1	4.3%
Illinois	$67.9	5.0%	$73.2	5.0%	$75.1	4.8%
Indiana	$26.8	4.2%	$26.0	3.7%	$26.9	3.7%
Iowa	$13.8	4.7%	$14.6	4.5%	$15.7	4.4%
Kansas	$13.0	5.3%	$13.0	4.7%	$14.3	5.0%
Kentucky	$15.7	5.0%	$16.2	4.7%	$17.5	4.7%
Louisiana	$17.3	4.6%	$18.0	4.0%	$18.1	4.1%
Maine	$6.2	6.6%	$6.4	6.4%	$7.1	6.7%
Maryland	$32.2	4.0%	$32.9	3.8%	$37.9	4.1%
Massachusetts	$38.0	4.1%	$41.9	4.1%	$46.2	4.1%
Michigan	$39.3	4.0%	$39.6	3.7%	$42.7	3.5%
Minnesota	$29.1	4.6%	$32.4	4.6%	$34.2	4.5%
Mississippi	$9.9	6.2%	$10.7	6.5%	$10.8	6.3%
Missouri	$20.5	3.9%	$21.4	3.5%	$23.0	3.5%
Montana	$3.7	5.9%	$4.0	5.4%	$4.1	5.1%
Nebraska	$8.4	4.8%	$9.1	4.3%	$9.8	4.8%
Nevada	$11.7	5.1%	$11.7	5.4%	$12.9	5.3%
New Hampshire	$5.3	4.2%	$5.6	4.1%	$6.6	4.6%
New Jersey	$54.1	4.8%	$60.2	5.1%	$64.5	5.3%
New Mexico	$7.7	6.5%	$8.5	7.0%	$8.4	6.4%
New York	$152.3	6.2%	$164.9	5.7%	$182.4	5.8%
North Carolina	$34.8	3.3%	$37.1	3.5%	$41.9	3.6%
North Dakota	$6.8	13.3%	$7.5	11.5%	$4.9	7.0%
Ohio	$49.5	4.4%	$49.8	4.1%	$54.5	4.0%
Oklahoma	$14.1	5.6%	$14.4	4.7%	$13.5	4.2%
Oregon	$15.9	3.6%	$16.8	3.4%	$19.4	3.7%
Pennsylvania	$60.4	4.7%	$61.8	4.5%	$69.9	4.6%
Rhode Island	$5.2	5.2%	$5.7	5.3%	$6.2	5.2%
South Carolina	$14.6	5.0%	$15.9	4.9%	$17.4	4.7%
South Dakota	$2.9	4.6%	$3.1	4.6%	$3.4	4.7%
Tennessee	$20.9	4.4%	$20.8	4.2%	$23.2	4.4%
Texas	$102.6	5.2%	$112.9	4.9%	$111.5	4.7%
Utah	$9.5	3.6%	$10.6	3.8%	$11.8	3.7%
Vermont	$3.3	7.3%	$3.6	7.5%	$3.8	7.5%
Virginia	$33.6	3.8%	$34.9	3.8%	$39.3	4.0%
Washington	$30.4	5.3%	$33.6	5.4%	$38.0	4.9%
West Virginia	$7.5	6.4%	$7.3	6.2%	$7.3	5.9%
Wisconsin	$25.9	4.5%	$28.6	4.5%	$29.6	4.4%
Wyoming	$4.1	9.1%	$3.6	7.3%	$2.0	4.5%
United States	**$1,434.2**	**4.8%**	**$1,531.4**	**4.6%**	**$1,648.9**	**4.5%**

[a] Average of calendar-year (T-1) and calendar-year (T) private-industry GSP. This is the TEBTR on economic activity

Note . Amounts may not sum because of rounding. TEBTR equals taxes as a percent of private-sector gross state product.
Source : Ernst & Young LLP estimates based on data from the U.S. Census Bureau Annual Survey of State and Local Government Finances

Table 18

Moderated regression analysis with ED spending per capita, EY tax rates, and employment growth

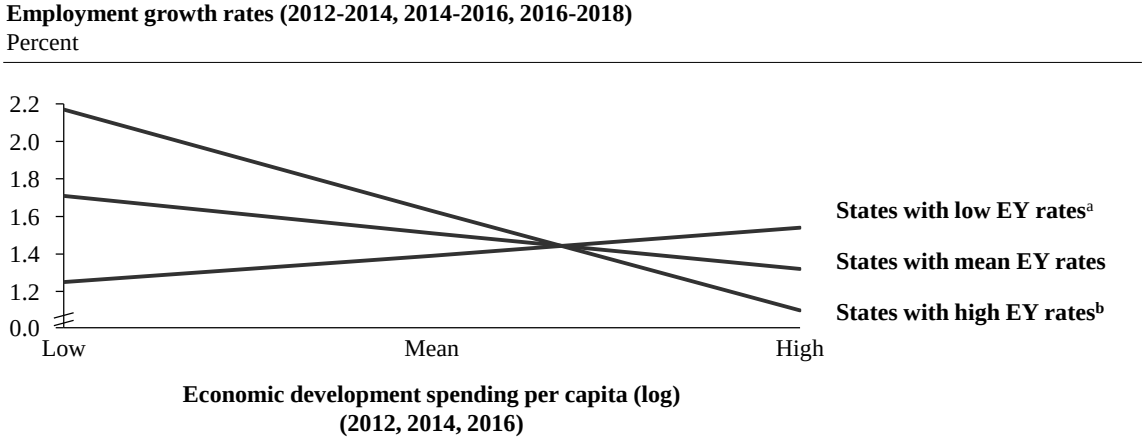
Variables	Coefficient	Standard error	Confidence
Constant	0.017***	0.001	[0.015,0.019]
ED spending per capita, log	-0.003**	0.001	[-0.004,-0.001]
EY TEBTR rates	0.001	0.001	[-0.002,0.004]
Interaction (ED spend * EY TEBTR)	-0.005***	0.001	[-0.007,-0.003]
Taxes as share of personal income	-0.002	0.001	[-0.005,0]
Highway spending as share of personal income	-0.004**	0.001	[-0.006,-0.001]
Deficit spending	0.002	0.001	[-0.001,0.004]
High school attainment rates	0.001	0.001	[-0.001,0.003]
Manuf. average weekly wages	-0.001	0.001	[-0.003,0.001]
Region, Northeast	-0.002	0.001	[-0.004,0]
Region, West	0.002**	0.001	[0.001,0.004]
Region, Midwest	-0.002*	0.001	[-0.004,-0.001]
Year: 2014	-0.002	0.002	[-0.005,0.002]
Year: 2016	-0.004**	0.002	[-0.007,-0.001]

*p<0.05; **p<0.01; ***p<0.001

Note. Moderated regression analysis with employment growth as the dependent variable and EY COST tax rates

Figure 4

Moderated regression analysis with ED spending per capita, EY tax rates, and employment growth



Note. I used the SBTCI scores for each state-year entry such that each state had three entries (2012, 2014, 2016) in the sample. It is possible for a state to have a low SBTCI score in one year and a mean or high score the next year. The categorization of low vs. high SBTCI states averages each state's three SBTCI scores then standardizes the averages to get an approximation distribution of the states.
[a] **Low EY TEBTR states (<-0.5 Std. Dev.):** CT, DE, GA, IN, LA, MD, MA, MN, MO, NC, OH, OR, UT, VA
[b] **High EY TEBTR states (>+0.5 Std. Dev.):** ME, MS, NM, NY, ND, VT, WV, WY

Fourth, I analyzed descriptive statistics by SBTCI "bands" to check if states were materially different across ED spending levels. I noted low SBTCI states whose average SBTCI scores (simple average of 2012, 2014, and 2016 scores) were <-0.5 standard deviations below the mean and high SBTCI states whose scores were >+0.5 standard deviations above the mean. A few interesting findings emerged (see Table 19). First, low SBTCI states tended to spend more on economic development overall than other categories (average spending of $147M) but these states spent less on a per-capita basis than high SBTCI states (>0.5 SDs). The outcomes were similarly differentiated, with low SBTCI states experiencing 40% lower employment growth rates than higher-scoring states (1.2% vs. 2.0% growth per year). This same pattern held for real gross state product (1.4% vs. 2.2% per year) but not per capita income. In terms of socioeconomic conditions, tax rates were unsurprisingly higher in low SBTCI states (average

rates of 9.0% of personal income vs. 7.7% for higher-scoring states). Also, highway spending was higher in low SBTCI states (0.9% of personal income vs. 0.7% in lower-scoring states). Surprisingly, states with high SBTCI scores had higher deficit spending rates, with these states spending nearly 108% of their revenues whereas low SBTCI states more closely aligned spending with revenues (101% of spending).

Table 19

Descriptive statistics by state SBTCI scores

		Overall		Below 0.5 SDs		Within ±0.5 SDs		Above 0.5 SDs	
		48		*11*		*26*		*11*	
Category	**Variable**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Dependent variables	Employment growth (2012-2014, 2014-2016, 2016-2018)	1.43%	0.87%	1.17%	0.56%	1.33%	0.79%	1.95%	1.14%
	Real gross state product growth (2012-2014, 2014-2016, 2016-2018)	1.63%	1.06%	1.43%	0.98%	1.46%	0.94%	2.21%	1.25%
	Per capita income growth (2012-2014, 2014-2016, 2016-2018)	3.06%	0.78%	3.23%	0.58%	2.90%	0.84%	3.27%	0.80%
Independent variables	Econ. dev. (ED) overall spending (2012, 2014, 2016), $M	$129	$93	$147	$87	$123	$90	$124	$109
	ED spending per capita (2012, 2014, 2016)	$30.17	$25.79	$31.38	$31.18	$26.32	$14.05	$38.06	$39.41
	ED spending per $1M in RGSP (2012, 2014, 2016)	$619.16	$493.57	$601.89	$634.62	$583.44	$353.86	$720.85	$643.57
	ED spending per $1M in personal income (PI) (2012, 2014, 2016)	$649.49	$515.20	$648.71	$655.92	$589.49	$322.65	$792.09	$724.77
Control variables	Taxes as share of PI (2012, 2014, 2016)	8.57%	1.91%	8.95%	1.47%	8.77%	2.15%	7.70%	1.55%
	Highway spending as share of PI (2012, 2014, 2016)	0.86%	0.42%	0.69%	0.29%	0.91%	0.44%	0.93%	0.46%
	Deficit spending (2012, 2014, 2016)	103.50%	5.85%	100.99%	4.62%	102.84%	5.80%	107.57%	5.39%
	High school (HS) attainment rates (2012, 2014, 2016)	88.37%	3.00%	89.13%	3.19%	87.62%	2.65%	89.38%	3.37%
	Manufacturing average weekly wages (2012, 2014, 2016)	1,135.57	185.16	1,240.64	215.08	1,094.63	162.19	1,127.27	180.37
Moderating variables	CATO Overall Freedom scores (2012, 2014, 2016)	0.00	0.21	-0.22	0.25	0.03	0.13	0.13	0.19
	SBTCI scores (2012, 2014, 2016)	5.18	0.90	4.14	0.39	5.09	0.25	6.43	0.72
	Jacoby and Schneider scores, 2011	-0.05	0.06	-0.09	0.05	-0.06	0.05	0.00	0.06
	Beacon Hill Institute Competitiveness scores (2012, 2014, 2016)	5.02	0.96	4.94	0.91	4.89	1.07	5.40	0.66
Independent variables for robustness tests	Unemployment rates (2012, 2014, 2016)	5.64%	1.14%	5.71%	1.20%	5.76%	1.08%	5.30%	1.27%
	Poverty rates (2012, 2014, 2016)	13.61%	3.36%	11.38%	2.38%	15.05%	3.38%	12.42%	2.53%
	Bachelor's attainment rates (2012, 2014, 2016)	29.38%	5.04%	33.07%	4.22%	28.01%	5.19%	28.90%	3.74%
	Manufacturing jobs share of total jobs (2012, 2014, 2016)	8.98%	3.33%	9.56%	3.74%	9.12%	2.81%	8.04%	4.11%
	Hachman Index of industrial diversity, 2010	0.92	0.10	0.95	0.02	0.94	0.05	0.87	0.18
	Political culture score, 2010	4.97	2.60	3.33	1.66	6.07	2.61	4.02	2.21

Slight differences in the types of spending emerged across the SBTCI bands. For example, Tables 20 and 21 report overall supply-side spending ($78M) accounted for 60% of total spending; demand-side spending ($42M) was 33% of the total; and miscellaneous and administrative spending ($9M) was 7% of the total. Middle SBTCI states tended to spend slightly more on supply-side efforts than low SBTCI and high SBTCI states. Low and High SBTCI states spending patterns did not differ materially.

Table 20

C2ER average spending by category by SBTCI band, $M

C2ER average spending by category by SBTCI band ($M)

SBTCI band	**Low SBTCI**[a]	**Middle SBTCI**[b]	**High SBTCI**[c]	**Overall**
N	*11*	*26*	*11*	*48*
Supply-side	$75.0	$81.4	$71.2	$77.6
Demand-side	$63.9	$32.8	$41.9	$42.0
Misc./Admin.	$8.0	$9.1	$11.3	$9.3
Grand Total	**$146.9**	**$123.3**	**$124.4**	**$129.0**

[a] Low SBTCI (<-0.5 SD) states: CA, CT, IA, MD, MO, NJ, NY, OH, RI, VT, WI

[b] Middle SBTCI (-0.5 to +0.5 SD) states: AL, AZ, CO, DE, GA, ID, IL, KA, KY, LA, ME, MA, MI, MS, MO, NE, NM, NC, ND, OK, PA, SC, TN, VA, WV

[c] High SBTCI (>0.5 SD) states: FL, IN, MT, NH, NV, OR, SD, TX, UT, WA, WY

Table 21

C2ER average spending by category by SBTCI band, percentages

C2ER average spending by category by SBTCI band, percentages

SBTCI band	**Low SBTCI**[a]	**Middle SBTCI**[b]	**High SBTCI**[c]	**Overall**
N	*11*	*26*	*11*	*48*
Supply-side	51%	66%	57%	60%
Demand-side	43%	27%	34%	33%
Misc./Admin.	5%	7%	9%	7%
Grand Total	**100%**	**100%**	**100%**	**100%**

[a] Low SBTCI (<-0.5 SD) states: CA, CT, IA, MD, MO, NJ, NY, OH, RI, VT, WI

[b] Middle SBTCI (-0.5 to +0.5 SD) states: AL, AZ, CO, DE, GA, ID, IL, KA, KY, LA, ME, MA, MI, MS, MO, NE, NM, NC, ND, OK, PA, SC, TN, VA, WV

[c] High SBTCI (>0.5 SD) states: FL, IN, MT, NH, NV, OR, SD, TX, UT, WA, WY

As shown in the previous section, when state spending patterns were disaggregated by state SBTCI scores, little differentiation in how the states allocated their economic development spending across broad typologies emerged. A deeper look within each category (supply-side and demand-side) offers a more nuanced picture (Table 22). For example, high SBTCI (low tax rates and/or few taxes) states spent more than low SBTCI states on most supply-side categories like community assistance, strategic business attraction fund, and tourism/film though low SBTCI states spent more on business finance and workforce preparation and development.

Table 22

Overall spending descriptive statistics (averaged across time periods)

C2ER spending category	Spending type	Overall	Low SBTCI[a]	Middle SBTCI[b]	High SBTCI[c]
Business Finance	Supply-side	11%	12%	14%	5%
Community assistance	Supply-side	19%	14%	22%	18%
Domestic Recruitment/Out-of-State	Supply-side	1%	2%	1%	2%
Strategic Business Attraction Fund	Supply-side	3%	1%	3%	7%
Tourism/Film	Supply-side	15%	10%	16%	19%
Workforce Preparation & Dev.	Supply-side	10%	12%	10%	7%
Administration	Miscellaneous/administration	3%	3%	3%	4%
Minority Business Development	Miscellaneous/administration	1%	1%	0%	1%
Other Program Areas	Miscellaneous/administration	1%	0%	0%	3%
Program Support	Miscellaneous/administration	3%	2%	4%	1%
Business Assistance	Demand-side	10%	9%	10%	9%
Entrepreneurial Development	Demand-side	1%	1%	1%	0%
International Trade and Investment	Demand-side	1%	0%	1%	1%
Special Industry Assistance	Demand-side	12%	19%	7%	15%
Technology Transfer	Demand-side	10%	14%	8%	9%

[a] Low SBTCI (<-0.5 SD) states: CA, CT, IA, MD, MO, NJ, NY, OH, RI, VT, WI

[b] Middle SBTCI (-0.5 to +0.5 SD) states: AL, AZ, CO, DE, GA, ID, IL, KA, KY, LA, ME, MA, MI, MS, MO, NE, NM, NC, ND, OK, PA, SC, TN, VA, WV

[c] High SBTCI (>0.5 SD) states: FL, IN, MT, NH, NV, OR, SD, TX, UT, WA, WY

Limitations and Threats to Validity: RQ1–RQ3

This study is merely an entry point into a research area—the effectiveness of state economic development strategies and spending—that deserves much more attention. The

proposed research design undoubtedly has limitations, four of which are important to note. First, the C2ER data on economic development spending is imperfect: the data is sourced primarily from state budget records with standardization and categorizations performed by C2ER professionals. The second limitation of this study is that the major variables of interest—economic development budgets, business climate, and economic outcomes—are not entirely independent. As mentioned in the previous section, state economic development budgets and policies that impact a state's business climate are often influenced by the actions taken by peer states and made in response to existing economic and business conditions. I lagged the dependent variables to account for endogeneity among the variables, though these solutions only mitigate the issues and do not completely solve them. A third limitation is the short timeframe (2012–2018), which was squarely within the longest expansionary period on record (Center on Budget and Policy Priorities, 2020). Since this period does not contain the full business cycle, the generalizability of the findings is potentially limited. Last, implementation quality is not measured. Education and healthcare provide notable examples of the fact that increased spending does not necessarily lead to improved outcomes.

This study was interested in the effectiveness of economic development spending in achieving desired outcomes (i.e., economic growth). Further research should build on the findings from this study to better understand the characteristics of states that seem to achieve more growth per dollar than others. For example, a million dollars spent on domestic recruitment in one state who has better information and/or better, more efficient strategies may net the same benefit as two million dollars spent in another state. Additional, likely program- or activity-specific, data would be needed to explore this quality dimension of economic development.

Notable threats to validity exist as well, but I made best efforts to mitigate these threats. Perhaps the most significant threat is construct validity given the nebulous nature of the term "business climate." To mitigate construct validity concerns for business climate, I tested four different operationalizations of the term. Concerns about what is captured in overall economic development spending exist but are rather minor. More concern, however, exists about how the spending is categorized within each state (e.g., business assistance vs. business finance). Since I used overall spending, these concerns should not be material. Statistical conclusion validity remains a concern given the undue influence that outlier states and economic shocks may have on the regression analyses. The robustness checks showed the model's explanatory power increased when the three outlier states were excluded from the main analyses. Internal validity concerns should be limited given the relatively high explanatory power of the models expected. Earlier analyses found adjusted R^2 values in the 0.4–0.7 range. Last, given the inclusion of 48 of the 50 states in the analysis, external validity or generalizability concerns should be low.

Results: RQ4–RQ5

The next set of results explore the different types of ED spending (supply-side vs. demand-side) and whether states pursue distinct ED strategies. Hypothesis #4 asserts states do not pursue distinct ED strategies. Hypothesis #5 asserts that neither supply-side nor demand-side spending on its own will display a statistically significant association with economic growth.

Descriptive Results

The top three average spending categories overall were community assistance, tourism/film, and special industry assistance (Table 23), which also constitute the top three categories on a per-capita basis (Table 24), though in a different order. These spending categories will be used to answer Research Question #4 about state ED strategies. Table 25

provides a state-by-state view of spending types, which informs the analysis for Research Question #5.

Table 23

Overall spending descriptive statistics (averaged across time periods, $M)

C2ER spending category	Spending type	N	Min	Median	Mean	Max	Standard Deviation
Business Finance	Supply-side	48	$0.00	$1.00	$14.14	$211.92	$33.64
Community assistance	Supply-side	48	$0.00	$5.59	$24.23	$272.00	$40.97
Domestic Recruitment/Out-of-St	Supply-side	48	$0.00	$0.00	$1.52	$18.28	$3.57
Strategic Business Attraction Fu	Supply-side	48	$0.00	$0.00	$4.19	$250.00	$24.00
Tourism/Film	Supply-side	48	$0.00	$13.55	$21.26	$141.27	$24.96
Workforce Preparation & Dev.	Supply-side	48	$0.00	$3.37	$12.42	$107.95	$20.57
Administration	Miscellaneous/ administration	48	$0.00	$0.83	$4.26	$112.30	$10.48
Minority Business Developmen	Miscellaneous/ administration	48	$0.00	$0.00	$0.69	$24.45	$2.61
Other Program Areas	Miscellaneous/ administration	48	$0.00	$0.00	$0.79	$89.89	$7.68
Program Support	Miscellaneous/ administration	48	$0.00	$0.63	$3.69	$53.99	$8.11
Business Assistance	Demand-side	48	$0.00	$3.15	$12.03	$145.58	$21.02
Entrepreneurial Development	Demand-side	48	$0.00	$0.00	$0.94	$25.58	$2.79
International Trade and Investme	Demand-side	48	$0.00	$0.10	$1.45	$15.93	$2.95
Special Industry Assistance	Demand-side	48	$0.00	$7.51	$17.91	$205.18	$31.02
Technology Transfer	Demand-side	48	$0.00	$1.35	$12.07	$167.17	$26.83
Grand Total		**48**	**$11.16**	**$95.12**	**$131.60**	**$462.18**	**$101.43**

Table 24

Overall spending descriptive statistics (averaged across time periods, per capita)

C2ER spending category	Spending type	N	Min	Median	Mean	Max	Standard Deviation
Business Finance	Supply-side	48	$0	$0.13	$2.36	$57.83	$6.43
Community assistance	Supply-side	48	$0	$1.51	$6.78	$84.75	$14.30
Domestic Recruitment/Out-of-St	Supply-side	48	$0	$0.00	$0.22	$3.04	$0.48
Strategic Business Attraction Fu	Supply-side	48	$0	$0.00	$0.88	$83.60	$7.01
Tourism/Film	Supply-side	48	$0	$3.14	$5.98	$53.00	$9.33
Workforce Preparation & Dev.	Supply-side	48	$0	$0.78	$2.70	$25.70	$4.38
Administration	Miscellaneous/ administration	48	$0	$0.13	$1.57	$36.91	$4.78
Minority Business Developmen	Miscellaneous/ administration	48	$0	$0.00	$0.09	$3.35	$0.36
Other Program Areas	Miscellaneous/ administration	48	$0	$0.00	$0.21	$22.68	$1.98
Program Support	Miscellaneous/ administration	48	$0	$0.18	$0.71	$10.89	$1.60
Business Assistance	Demand-side	48	$0	$0.78	$2.70	$24.69	$4.17
Entrepreneurial Development	Demand-side	48	$0	$0.00	$0.17	$4.34	$0.50
International Trade and Investme	Demand-side	48	$0	$0.00	$0.18	$2.38	$0.32
Special Industry Assistance	Demand-side	48	$0	$1.76	$3.44	$36.44	$5.97
Technology Transfer	Demand-side	48	$0	$0.33	$2.20	$26.97	$4.36
Grand Total		**48**	**$2**	**$21.07**	**$30.19**	**$149.91**	**$28.03**

Table 25

C2ER spending category (supply-side, demand-side, miscellaneous spending) per capita by state, average across time periods

State	SBTCI band[a]	SS per cap	DS per cap	Misc per cap	Total per cap	State	SBTCI band[a]	SS per cap	DS per cap	Misc per cap	Total per cap
Alabama	Around Mean	$13.88	$3.07	$0.04	$16.99	Nebraska	Around Mean	$10.23	$10.83	$0.00	$21.06
Arizona	Around Mean	$6.32	$0.63	$3.14	$10.09	Nevada	Around Mean	$10.55	$3.27	$0.05	$13.88
Arkansas	Around Mean	$42.38	$8.68	$3.02	$54.08	New Hampshire	Around Mean	$7.57	$8.38	$0.61	$16.56
California	Below Mean	$3.30	$0.54	$0.08	$3.93	New Jersey	Above Mean	$7.65	$0.99	$0.82	$9.46
Colorado	Around Mean	$26.99	$2.40	$0.61	$30.00	New Mexico	Around Mean	$14.85	$5.55	$1.39	$21.79
Connecticut	Below Mean	$4.96	$0.58	$2.09	$7.63	New York	Around Mean	$10.67	$6.42	$0.72	$17.81
Delaware	Around Mean	$10.71	$1.21	$1.46	$13.38	North Carolina	Around Mean	$15.59	$13.25	$20.19	$49.03
Florida	Above Mean	$8.43	$7.62	$0.52	$16.57	North Dakota	Below Mean	$7.93	$16.48	$1.23	$25.63
Georgia	Around Mean	$5.98	$10.99	$3.60	$20.57	Ohio	Around Mean	$18.85	$5.61	$2.04	$26.49
Idaho	Around Mean	$0.24	$11.24	$0.00	$11.48	Oklahoma	Above Mean	$33.89	$5.17	$12.43	$51.49
Illinois	Around Mean	$4.42	$1.76	$0.26	$6.44	Oregon	Around Mean	$23.24	$7.66	$0.56	$31.47
Indiana	Above Mean	$4.40	$2.87	$1.02	$8.28	Pennsylvania	Around Mean	$13.35	$5.08	$9.82	$28.25
Iowa	Below Mean	$29.08	$39.02	$0.07	$68.17	Rhode Island	Around Mean	$26.57	$6.89	$0.90	$34.36
Kansas	Around Mean	$16.38	$10.67	$4.25	$31.30	South Carolina	Above Mean	$8.74	$2.56	$0.03	$11.33
Kentucky	Around Mean	$41.36	$8.59	$2.74	$52.70	South Dakota	Above Mean	$19.05	$13.53	$15.29	$47.87
Louisiana	Around Mean	$33.10	$1.98	$2.74	$37.83	Tennessee	Around Mean	$15.47	$8.50	$0.63	$24.60
Maine	Around Mean	$11.28	$20.42	$2.40	$34.10	Texas	Above Mean	$1.05	$10.42	$1.22	$12.69
Maryland	Below Mean	$10.64	$11.39	$2.73	$24.76	Utah	Around Mean	$45.05	$5.14	$2.27	$52.47
Massachusetts	Around Mean	$2.61	$1.59	$1.68	$5.88	Vermont	Below Mean	$8.23	$4.05	$1.30	$13.58
Michigan	Around Mean	$11.56	$10.44	$0.49	$22.49	Virginia	Above Mean	$8.43	$7.62	$0.52	$16.57
Minnesota	Below Mean	$12.81	$5.15	$3.71	$21.67	Washington	Above Mean	$8.56	$12.62	$0.30	$21.48
Mississippi	Around Mean	$10.23	$10.83	$0.00	$21.06	West Virginia	Above Mean	$13.93	$5.56	$0.45	$19.94
Missouri	Around Mean	$10.55	$3.27	$0.05	$13.88	Wisconsin	Above Mean	$22.09	$67.52	$0.00	$89.61
Montana	Above Mean	$8.56	$12.62	$0.30	$21.48	Wyoming	Above Mean	$128.05	$1.85	$0.00	$129.90

[a] SBTCI bands: (1) Below mean is < -0.5 SDs; (2) Around mean is within $\pm$0.5 SDs from mean; (3) Above mean is > 0.5 SDs

RQ4 Principal Components Analysis

The fourth research question was whether states pursue distinct economic development strategies. My hypothesis was that states pursue a hodgepodge of strategies that defies easy categorizations. Replicating Hanley and Douglass's (H&D) approach (2014), I attempted to identify distinct strategies among the broad set of sub-categories of C2ER overall economic development spending. For the full 2012–2018 dataset (i.e., spending in years 2012, 2014, 2016) on economic development spending, the Kaiser-Meyer-Olkin (KMO) test was 0.660, which is considered mediocre ("Principal Components Analysis (PCA): SPSS Statistics", n.d.). Bartlett's test of sphericity was statistically significant. The PCA revealed four components that had eigenvalues greater than one (see Table 26), which collectively explained 59% of the variation. Several variables loaded across multiple components, like Hanley and Douglass's original analyses. Three variables—international trade, domestic recruitment, and business finance—loaded strongly (>0.6) on the first component though community assistance (0.57) and technology transfer (0.46) also loaded on this component (see Table 27). Three variables loaded on component two: strategic business attraction fund, entrepreneurial development, and technology transfer. Special industry assistance and workforce preparation loaded on the third component, and only one variable (tourism/film) loaded on the fourth component. Table 28 compares my findings to Hanley and Douglass's original findings and the "strategies" they ascribed to their components. Their categories seem quite contrived, a point they acknowledge: "Contrary to expectations, we find that the states do not follow conceptually coherent approaches, but instead rely on a combination of supply- and demand-side policies in pursuit of job growth" (p. 228). My principal components analysis supports these claims as well. For example, international trade and investment is commonly considered a demand-side tactic to

support growth of existing businesses, while domestic recruitment seeks to lure new firms to a given state. These two activities loaded together in my PCA despite their different approaches. Similarly, entrepreneurial development, a demand-side tactic, and strategic business attraction fund, a supply-side tactic, both loaded together. These loadings suggest states may not be very strategic in their deployment of ED funds.

Table 26

Total variance explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.689	24.444	24.444	2.689	24.444	24.444	2.424	22.035	22.035
2	1.405	12.775	37.218	1.405	12.775	37.218	1.447	13.154	35.189
3	1.255	11.406	48.624	1.255	11.406	48.624	1.315	11.954	47.143
4	1.093	9.939	58.563	1.093	9.939	58.563	1.256	11.421	58.563
5	0.978	8.894	67.457						
6	0.837	7.609	75.066						
7	0.757	6.883	81.949						
8	0.594	5.401	87.35						
9	0.537	4.882	92.232						
10	0.486	4.416	96.648						
11	0.369	3.352	100						

Extraction method: Principal Component Analysis.

Table 27

Rotated component matrix

	Component			
Program	**1**	**2**	**3**	**4**
International trade and investment (log)	**0.790**			
Domestic recruitment/out-of-state (log)	**0.737**			
Business finance (log)	**0.684**			
Community assistance (log)	**0.571**			
Technology transfer (log)	**0.459**	**0.447**		
Strategic business attraction fund (log)		**0.809**		
Entrepreneurial development (log)	0.354	**0.609**		
Special industry assistance (log)			**0.750**	
Workforce preparation & dev. (log)			**0.691**	
Business assistance (log)				-0.821
Tourism/film (log)		-0.360	0.397	**0.564**

Extraction Method: Principal Component Analysis. Rotation method: Varimax with Kaiser Normalization.

Table 28

Comparing Hanley and Douglass (2014) findings with my principal component analyses

Hanley and Douglass (2014)

Export-driven recruitment	Entrepreneurial	Rapid-response export-driven recruitment	Education-driven recruitment	Chip chasing	Minority development	Not elsewhere categorized
Domestic recruitment	Entrepreneurial development	International trade	Workforce development and preparation	Strategic busines attraction	Minority development	Business finance
International trade	Special industry	Strategic business attraction	Domestic recruitment	Technology transfer		Business assistance
						Community assistance
						Tourism/film

Note. H&D performed confirmatory factor analysis to identify latent factors driving variability (i.e., do spending outcomes suggest particular sets of strategies)?

Brazier

Component 1	Component 2	Component 3	Component 4	-	-	Not elsewhere categorized
International trade and investment (log)	Strategic business attraction fund	Special industry assistance (log)	Tourism/film (log)			Business assistance (log)
Domestic recruitment/out-of-state (log)	Entrepreneurial development (log)	Workforce preparation & dev. (log)				
Business finance (log)	Technology transfer (log)					
Community assistance (log)						
Technology transfer (log)						

Note. I performed principal components analysis to test whether particular spending categories moved together (i.e., do spending patterns reflect differentiated strategies?). I excluded minority business development, prgram administration, other program areas, and program support)

RQ5 Moderated Regression

I performed a series of moderated regression statistics to isolate the effects of supply-side, demand-side, and miscellaneous/administrative spending per capita on economic growth while accounting for the moderating effects of SBTCI and other control variables. I focused on supply-side spending as the primary spending variable after independently testing the

relationship between economic growth and each category (supply-side and demand-side spending). Demand-side spending never showed statistically significant relationships, so I do not include the results.

Table 29 regresses these spending variables against employment growth; Table 30 regresses against RGSP growth; and Table 31 regresses against PCI growth. All independent variables were standardized to minimize multicollinearity challenges in the moderated regression analyses. With employment growth, supply-side (negative sign) and miscellaneous spending (positive) per capita had statistically significant relationships at p<.001. The interaction between SBTCI and supply-side spending (negative; p<.01) were also statistically significant. The model explained significant variance in employment growth (*Adj.* R^2 = .60, $F(15, 128) = 15.096$, $p < .001$). With RGSP growth, supply-side (negative) and miscellaneous (positive) spending per capita were statistically significant. SBTCI and the interaction between SBTCI and supply-side spending were not statistically significant. The model explained significant variance in employment growth (*Adj.* R^2 = .46, $F(15, 128) = 9.047$, $p < .001$). With PCI growth, none of the variables of interest were statistically significant. The model explained significant variance in employment growth (*Adj.* R^2 = .50, $F(15, 128) = 10.292$, $p < .001$).

Table 29

Moderated regression analysis with ED spending per capita by type, SBTCI, and employment growth

Variables	Coefficient	Standard error	Confidence
Constant	0.017***	(0.002)	[0.014,0.02]
Supply-side (SS) spending per capita	-0.002***	(0.001)	[-0.004,-0.001]
Demand-side spending per capita	0.001	(0.001)	[0,0.002]
Miscellaneous spending per capita	0.003***	(0.001)	[0.002,0.004]
SBTCI	0.002	(0.001)	[0,0.003]
Interaction (SS per cap * SBTCI)	-0.001**	(0)	[-0.002,0]
Taxes	-0.002	(0.001)	[-0.004,0]
Highway spending	-0.005***	(0.001)	[-0.007,-0.003]
Deficit spending	0.001	(0.001)	[-0.001,0.002]
Manuf. weekly wages	0	(0.001)	[-0.002,0.001]
HS attainment	0	(0.001)	[-0.001,0.002]
Region NE	-0.005*	(0.002)	[-0.009,0]
Region West	0.007***	(0.002)	[0.003,0.01]
Region Midwest	-0.006**	(0.002)	[-0.01,-0.002]
2014	-0.002	(0.001)	[-0.005,0.001]
2016	-0.005***	(0.001)	[-0.008,-0.002]

*p<0.05; **p<0.01; ***p<0.001

Note . Employment growth is the dependent variable

Table 30

Moderated regression analysis with ED spending per capita by type, SBTCI, and RGSP growth

Variables	Coefficient	Standard error	Confidence
Constant	0.017***	(0.002)	[0.012,0.022]
Supply-side (SS) spending per capita	-0.003**	(0.001)	[-0.005,-0.001]
Demand-side spending per capita	0.001	(0.001)	[-0.001,0.004]
Miscellaneous spending per capita	0.004***	(0.001)	[0.002,0.006]
SBTCI	0	(0.001)	[-0.003,0.002]
Interaction (SS per cap * SBTCI)	0	(0.001)	[-0.002,0.001]
Taxes	-0.004*	(0.002)	[-0.008,-0.001]
Highway spending	-0.006***	(0.002)	[-0.009,-0.003]
Deficit spending	0.002	(0.001)	[-0.001,0.005]
Manuf. weekly wages	0.001	(0.001)	[-0.002,0.003]
HS attainment	0.002	(0.001)	[-0.001,0.004]
Region NE	-0.007*	(0.003)	[-0.014,-0.001]
Region West	0.007**	(0.003)	[0.002,0.013]
Region Midwest	-0.007*	(0.003)	[-0.013,-0.001]
2014	-0.001	(0.002)	[-0.005,0.003]
2016	0.001	(0.002)	[-0.003,0.005]

*p<0.05; **p<0.01; ***p<0.001

Note. RGSP growth is the dependent variable

Table 31

Moderated regression analysis with ED spending per capita by type, SBTCI, and PCI growth

Variables	Coefficient	Standard error	Confidence
Constant	0.024***	(0.003)	[0.019,0.029]
Supply-side (SS) spending per capita	-0.002	(0.001)	[-0.004,0]
Demand-side spending per capita	0.001	(0.001)	[-0.001,0.003]
Miscellaneous spending per capita	0.001	(0.001)	[-0.001,0.003]
SBTCI	0.001	(0.001)	[-0.001,0.004]
Interaction (SS per cap * SBTCI)	0	(0.001)	[-0.001,0.002]
Taxes	0	(0.002)	[-0.004,0.004]
Highway spending	-0.006**	(0.002)	[-0.009,-0.002]
Deficit spending	-0.006***	(0.001)	[-0.009,-0.003]
Manuf. weekly wages	-0.001	(0.001)	[-0.003,0.002]
HS attainment	0.001	(0.001)	[-0.002,0.004]
Region NE	0.002	(0.003)	[-0.005,0.008]
Region West	0.008*	(0.003)	[0.002,0.014]
Region Midwest	-0.003	(0.003)	[-0.01,0.003]
2014	0.000	(0.002)	[-0.005,0.004]
2016	0.015***	(0.002)	[0.011,0.02]

*p<0.05; **p<0.01; ***p<0.001

Note:. PCI growth is the dependent variable

Discussion of Findings (RQ4–RQ5)

The fourth hypothesis asserted that states do not pursue distinct economic development strategies. In line with other scholars, the principal component analysis supported the notion that states pursue what amounts to an “any and all” strategy for economic development. Combined with the previous section’s findings, not only are states grasping at the nearest strategy, their efforts tend to be inappropriate for the specific business climate and, in fact, may be counterproductive. As Reese (2014) noted in her analysis of the various local ED strategies in Michigan, doing nothing may be the optimal strategy in many, if not most, scenarios.

My fifth hypothesis was that neither supply-side nor demand-side spending on their own had a statistically significant relationship with economic growth. The findings ran counter to my ingoing hypothesis. The first major takeaway is that supply-side spending, not demand-side

spending, was tied to economic growth. More specifically, supply-side spending had a statistically significant, negative relationship with two forms of economic growth: employment and RGSP growth. These findings are concerning because states spend the majority of their economic development budgets on supply-side strategies, which are negatively associated with desired growth outcomes.

Despite states spending a third of their economic development budgets on demand-side strategies and scholars heralding the rise of these strategies (Eisinger, 1988; Bradshaw & Blakely, 1999), I did not find demand-side spending to have any statistically significant relationship with any measure of economic growth. A few potential explanations exist that could explain these demand-side findings. One, demand-side strategies may require a minimum level of spending to be effective and most states simply do not invest enough to tip the scales. Two, the effects of demand-side spending may not be captured in a simple regression analysis. Entrepreneurial development strategies, for example, follow a complex impact chain in which state strategies support entrepreneurs in securing financial capital, building the know-how and capabilities to survive and thrive, and facilitating connections to help the company grow. Three, the benefits of demand-side strategies may not readily show up in simple measures of economic growth; said differently, these strategies' objectives include more than just increasing economic growth. For example, international trade development efforts help diversify a company's customer base, helping the firm become more resilient. Growth may be just one of several positive outcomes.

The second major takeaway is that business climate, as measured by SBTCI, matters both independently and in combination with supply-side spending in the case of employment growth only. These analyses lend some additional support to my previous findings that economic

development spending and actions do not exist in a vacuum, and policymakers need to have a deep understanding of their business climate to deploy the optimal economic development strategies to spur growth.

Limitations and Threats to Validity: RQ4–RQ5

Several limitations related to these last two analyses are worth noting in addition to the limitations mentioned for the first three research questions: the discretion inherent in the manual categorization of supply- and demand-side spending by C2ER; the interconnected relationships among spending, business climate, and growth; the limited timeframe of the study (2012–2018); and the inability to measure implementation quality. The first limitation is that the explicit objective of many of the spending categories is not necessarily economic growth. For example, demand-side spending, which helps companies become more resilient or more efficient, will not always translate into employment, output, or growth measures (nor should that necessarily be the goal). The second limitation is that, even if some of these strategies do or could impact economic growth outcomes, the impact chain may be too complex to be identified by simple regression analyses. Since governments can only impact economic outcomes indirectly through either macro business climate efforts or their support of individual companies, the relationship with growth must flow through other mechanisms. Third, measuring the presence of a coherent economic development strategy requires more than a simple analysis of an organization's budget. Successful strategies require not only adequate resourcing but also managerial attention and disciplined execution. For example, an economic development organization's budget may be overly skewed towards supply-side grant programs given the automatic nature of statutory programs (i.e., if a company qualifies, it applies and is awarded the grant) but may focus most of

its organization's "mental" energy on executing an international trade program. In this case, a simple budget analysis would imply wrongly a heavy organizational focus on the grant program.

Conclusion

State governments across the country understandably and rightfully care want to do all they can to support and spur economic growth in their communities. However, the tools they use and the spending they deploy in aggregate seem to have little effect on desired outcomes. I found ED spending to have limited, sometimes negative, but often inconsequential, effects on economic growth when accounting for a state's busines climate. Furthermore, I found supply-side spending to account for the bulk of states' ED spending despite the spending category's negative relationship with economic growth, though this effect was also small and depended on which growth measure was used. Last, like other scholars, I did not find any evidence that states pursue distinct overall ED strategies. I explore the implications of these findings in the next chapter before discussing policy recommendations.

CHAPTER FIVE
POLICY RECOMMENDATIONS AND CONCLUSION

The findings in this dissertation raise many questions about the effectiveness of current economic development practices in the U.S. First, policymakers do not appear to follow coherent strategies; instead, they deploy a grab-bag of policies and programs. Second, taken collectively, the programs that states choose to fund do not seem to be effective and, for supply-side programs especially, may even be counterproductive. And third, my findings, paired with research on the proliferation of ED programs, suggest policymakers do not seem to be responding to the business climate in which they operate, leading to scenarios in which ED strategies are poorly matched to their business context. In this chapter, I start with a review of the key findings of this dissertation before outlining policy recommendations targeting policymakers and economic developers.

Synthesis of Paper Findings

A few scholars have studied the relationship between economic growth and either state economic development spending **or** state business climates. No one, to the best of my knowledge, has analyzed these three concepts in an integrated manner. This trinity matters because economic development strategies are not executed in a vacuum: The existing business climate both shapes the development of strategies and impacts their effectiveness. With over $5B spent annually on state economic development programs (Council for Community and Economic Research, “C2ER”) and up to $80B in state and local tax incentives awarded each year (Story, Fehr, & Watkins, 2012), much is at stake.

This study sought to fill this void in the literature by integrating the three elements—state economic development spending, business climates, and economic growth—into one moderated regression analysis, illuminating the role that environmental factors like business climate can have on the relationship between state economic development efforts and economic growth. I

followed these analyses with a deeper exploration of the types of economic development spending that drove the regression findings and an analysis on whether states pursue distinct economic development strategies.

Four findings stand out. First, by itself, state ED spending was negatively associated with employment growth. State ED spending did not have a statistically significant relationship with either real gross state product (RGSP) or per capita income (PCI) growth. Second, some but not all state business tax climate measures played a statistically significant role as a moderator variable, affecting the steepness of the ED effectiveness slope. For example, states with a tax climate rated poorly by the Tax Foundation had only slightly negative relationships between state ED spending and employment growth; states rated highly had steeply negative relationships. The other measures returned a mix of results (Cato's Economic Freedom index had no significant results on or its own or interacting with ED spending; Jacoby and Schneider's public spending index was significant when interacting with ED spending; Beacon Hill Institute was significant on its own and when interacting with ED spending but since it is composite index that included both inputs and outcomes in their index, the implications are difficult to interpret). Third, in line with previous studies, states did not appear to follow any coherent strategies, pursuing what seems like a hodgepodge of initiatives. Finally, states favored supply- over demand-side strategies (59% to 34% of budgets, respectively), with supply-side budgets having a statistically significant but negative relationship with employment and RGSP growth. With average spending of $42M per year on demand-side programs, it is unlikely that insufficient spending explains away the finding that demand-side strategies had no association with growth.

Collectively, these findings point to a need for more informed and effective economic development strategies at the state level. Despite these findings, state ED is not a lost cause.

State-led economic development can be productive, helping to support economic growth and improve quality of life. However, improved outcomes will only result from improved practices and policy decision-making.

Policy Recommendations

Economic development seeks to solve too many problems with too many programs that have too little corresponding oversight and accountability. The recommendations that follow focus heavily on two actors, policymakers and economic development organizations, rather than offering recommendations for the full breadth of economic development activities and agencies (i.e., the 15 economic development activity categories identified by C2ER). Four recommendations can help the practice of economic development reach its aspirations for impact.

Clarify the objectives for economic development and align the means to those objectives

Economic development is a field rich with contradiction, irony, and, at times, self-imposed counterproductive activity. With billions of public dollars at stake, one might assume economic developers are pursuing clear objectives using effective, efficient strategies. This is not the case. I have noted throughout this dissertation that the objectives of economic development depend on who you ask: scholars (standards of living, per capita income), public officials (project announcements and promised jobs), practitioners (promised jobs and capital investment), and residents (actual jobs for residents distributed equitably) all seek different objectives.

Many economic development organizations do not tie their process-oriented metrics like project announcements, promised job creation, and promised capital investment to their stated objectives of improving standards of living (per capita or median household income is typically

used as a proxy measure) or actual job growth. JobsOhio offers one of the best performance reports that I have reviewed and includes figures on whether the promised jobs materialize. Thus, I offer two straightforward fixes: (1) Align the metrics that economic developers report to their mission statement (and, it should go without saying, publish their reports) and (2) analyze their economic growth and incentives data to establish a baseline causal understanding of the impact of their strategies on their objectives. Better aligned metrics published in a transparent format and tracked with care by the EDOs' boards or political sponsors would push these organizations to maximize the impact of their work.

Set a comprehensive vision for economic development

One of the ironies of the current state and local economic development system is that the strategies and tactics (e.g., incentives or workforce programs) managed by economic development professionals have such questionable economic impact. The most effective economic development tactics, as measured by per capita earnings, are ones that lie outside of economic developers' direct sphere of influence. In his paper, "What Should Michigan Be Doing to Promote Long-Run Economic Development?", Bartik (2009) recommended a suite of eight tactics whose benefits (measured by per-capita income) outweighed the costs of the programs. Of the eight tactics, only two—customized training and reformed business incentives—were within the scope of responsibilities for the average state EDO. The other six—workforce development programming, manufacturing extension programs, universal pre-K, summer school for early elementary school students, career academies, and adult workforce programs—exist outside of what is traditionally considered economic development. This siloization of economic development is problematic and serves no one well (see Coan, 2017, who weaves the concept of siloization throughout his history of American state and local economic development). Thus, my

recommendation encourages policymakers to take a systems-level, rather than a program-level, view of economic development.

Some states lay out comprehensive economic development visions and strategies from the governor's office (e.g., Florida) while other states duplicate strategic planning efforts (for example, Virginia requires its governor and EDO each publish an economic development plan on different reporting cycles). However they approach planning, every state should have a detailed vision of the activities ascribed to economic developers, a clear delineation of roles and responsibilities, and a process to track and measure implementation progress. Furthermore, this plan should be comprehensive in its coverage of the drivers of economic growth and development (e.g., human and physical capital, supportive business and entrepreneurial climate). Sadly, implementation tends to be the element most commonly overlooked, whether intentionally or not, by most if not all of these "comprehensive vision" documents. For example, Virginia's governor-led document does not mention anything about implementation and Florida's plan weakly notes that the Department of Economic Opportunity will be the "lead agency for facilitating and monitoring plan implementation" (p. 49). Thus, my recommendation is straightforward: make sure a vision exists; make sure it is shared, supported, and executed across and throughout agencies; and make sure it does not conflict with other visions for economic development in the same state.

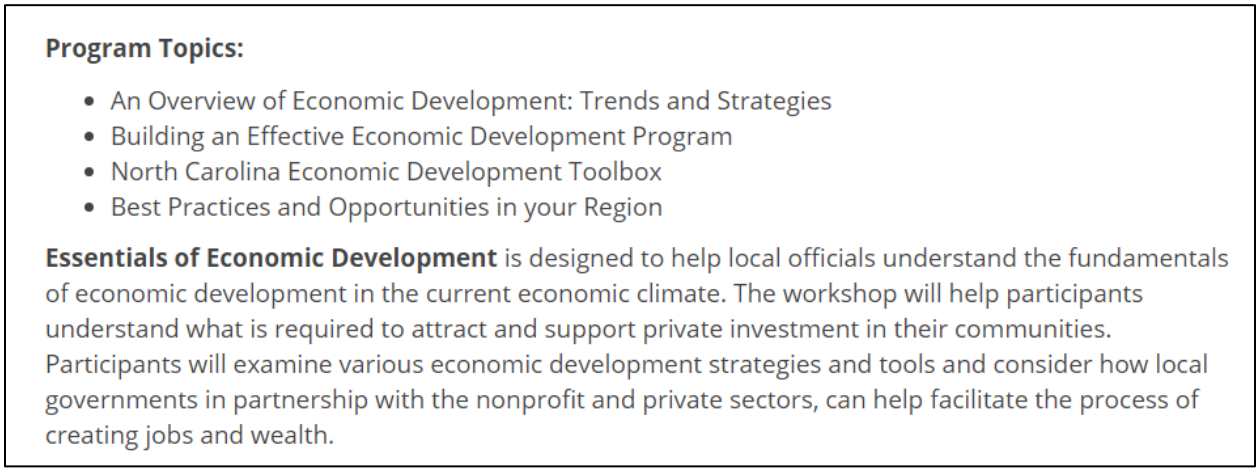
Focus on who moves the needle on business climate

I have noted how business climate is critical to supporting growth, though no consensus exists on a precise definition of the term. Economic developers certainly have a role to play in the maintenance of a business climate, but policymakers are the true decision makers. Three points are worth noting. First, business climate forms over time through policy decisions

executed by generations of policymakers at the state and local levels (on the influence of political culture on state business policy climates, see Witko & Newmark, 2005). Second, site selection consultants routinely list policy decisions as the most important factor in selecting a location. For example, a widely followed *Area Development* survey of corporate executives and site selection consultants identifies the top ten site selection factors considered by these decisionmakers (Gambale, 2020). Only one, tax exemptions (i.e., incentives, which were eighth on the list), can be affected by economic developers. The other factors—highway accessibility, availability of skilled labor, labor costs, quality of life, construction costs, corporate tax rates, energy availability and costs, environmental regulations, and proximity to major markets—are either products of policy decisions or unchangeable (i.e., proximity to major markets). Taking these two points together, policymakers, not economic developers, have outsized influence on economic development and growth outcomes. Thus, economic developers need to take their role as educators of policymakers on economic development principles and the potential impact of particular policy decisions (or non-decisions) more seriously. North Carolina, via The University of North Carolina School of Government, provides an example of an institutionalized approach to educating policymakers on economic development. Their "Essentials of Economic Development" course targets elected officials explicitly, catering to their busy schedules with one-day workshops (Figure 5). North Carolina's approach contrasts starkly with Virginia's, where local economic developers routinely express the need for elected officials to be engaged with and educated on economic development matters but no formal program like UNC's offering currently exists. Every state EDO would be well served to make policymaker education at the state and local levels an explicit pillar of their strategic and operational plans.

Figure 5

Example of an economic development workshop



Source: "Essentials of Economic Development". (n.d.). University of North Carolina School of Government. Accessed at https://www.sog.unc.edu/courses/essentials-economic-development.

Leverage state EDOs as strategic thinkers about economic competitiveness

Many entities (e.g., universities, think tanks, consultants) produce reports throughout each year covering everything from broad analyses of the state's economic health and competitiveness (for examples, see "Louisiana Economic Outlook", n.d. or "Washington Area Economy," 2019) to issue-oriented challenges at the local level (for a housing example, see "A Picture of Housing in Virginia," 2013 or "The Sharing Economy: Implications for Local Government Leader," 2015). Lobbyists and interest groups use these reports in their competition for policymakers' attentions. Yet, state EDOs, who are charged explicitly or implicitly with being the keepers and advocates for their state's economic competitiveness, invest very little time, money, and effort in producing their own perspectives on the economic competitiveness of their state (for a rare example, see research gathered by NYCEDC's Economic & Policy Group in "Insights," n.d.). This is ironic especially since nine of the 10 top location factors cited in *Area Development*'s survey deal with policy decisions outside of EDOs' locus of control. Thus, my recommendation focuses on the power of information: invest in and encourage state EDOs to

review, compile, contract with partners, and/or produce their own research on how to improve their state's economic competitiveness. These reports should not be mere rationalizations for more incentives; they should be systematic reviews of the key pillars of competitiveness (e.g., talent, infrastructure, policy environment) that surface pain points for policymakers to consider. I believe these reports should also include policy recommendations, though each state has different lobbying regulations and political cultures that may frown upon their EDOs engaging in explicit lobbying.

Summary of Recommendations

Policymakers, practitioners, and other stakeholders seek to achieve lofty objectives: support and stimulate economic growth that provides quality jobs for residents and, ultimately, improves the standards of living for all. However, theory and hope are not enough to generate real impact. I offered four recommendations to ensure alignment on the goals or objectives of economic development efforts; marshalling the many stakeholders in economic development towards the same objectives and focusing more attention on policymakers who have outsized influence on the business climate; and, last, leveraging the state's primary economic development organizations for insights on how policymakers can best support and spur growth in their economies.

Future research

State and local economic development is a thriving field of research across disciplines like public policy, public administration, and economics, among others. In my professional opinion, most of the state-level academic studies tend to be of limited use to practitioners and policymakers. In my academic opinion, most of the issues that drive impact (e.g., operational improvements, policy tweaks) are data-poor and are not of high interest to economic

development scholars (on the "Great Divide" between scholars and practitioners, see Currid-Halkett & Stolarick, 2011). Nonetheless, the two spheres need to align more closely. A few major issues exist. First, and most obvious, academic studies tend to circulate within academic circles; very few economic development academic studies make the leap to the mainstream. The few economic development books and scholars that have achieved a mainstream following like Enrico Moretti (*New Geography of Jobs*) and Richard Florida (*The Rise of the Creative Class)* have focused on the factors (e.g., sectors or occupations) associated with fast-growing regions rather than which strategies and tools policymakers and economic developers can use to spur growth. These works stand in contrast to scholars like Raj Chetty (Opportunity Insights) and Matthew Desmond (Eviction Lab), who have turned their studies on poverty and evictions, respectively, into policymaking and on-the-ground research centers supporting grassroots, local action across the country. The field of state and local economic development needs an equivalent of Opportunity Insights or Eviction Lab to help local and state decisionmakers systematically identify pain points and develop policies and solutions that fit their circumstances. In short, economic development, especially at the state level, needs a shock to its system that drives systemic reform (and the Amazon HQ2 process was a missed opportunity for major reform). Second, the university-based regional economic development centers that publish economic development reports (e.g., impact studies, program evaluations) tend to produce very narrowly defined findings based on the needs of whichever body (typically government or nonprofit) hires them. Their work is needed, but their reports are often too narrowly focused to be widely useful to the economic development practitioner community. The Upjohn Institute offers an important counterpoint, however, providing scholarly but practitioner-focused research that offers practical recommendations and examples of evidence-based, impactful programs. Nonetheless, in lieu of

widely read evidence-based research and perspective, the private sector continues to promote its own perspectives that are obviously and understandably biased. For example, trade publications like *Site Selection* and *Area Development* have biased perspectives and national magazines like *CNBC* and *Forbes* publish rankings and articles designed to capture their readers' attentions. These articles continue to reinforce many of the least effective economic development practices.

With the above in mind, future research could focus on several areas: state ED spending, business climates, and state actions. Regarding state economic development spending, three subtopics stand out for future research. First, more focus should be placed on **measuring quality** across similar program types. Most studies in the 1980s and 1990s compared states by counting programs and most recent studies have used spending as a means for comparison. Still, both counts and budgets are imperfect proxies for quality. Second, **studies on incentives effectiveness** need to include smaller but more common packages. Recent scholars have made great strides analyzing project-level incentives data to understand what drives outcomes from economic development incentives. However, many of these studies focus on only the largest incentives (for example, Calcagno and Hefner, 2018 analyzed projects over $75M in incentives; Slattery and Zidar, 2020, analyzed incentives packages over $5M). As more scholars embark on this type of research, focusing on smaller packages will push our understanding of the most widely used tools in the field. Third, **scholars should study the programs that practitioners actually use**. Currid-Halckett and Stolarick's insightful study analyzed the significant distance between scholars and practitioners: "Scholars who publish in *EDQ* study distinctly different economic development topics than what practitioners employ in their localities and the IEDC awards as good practice" (2011, p. 149). More studies seeking to improve alignment between

scholars and practitioners could encourage the adoption of more evidenced-based practices in the field.

More attention on state business climate (e.g., how to define it, what should be included, how it affects economic development and growth outcomes) can help shift the narrative of which policies affect growth and development away from the private sector with obvious conflicts of interest towards objective perspectives. Lobbyists, site selection consultants, and trade and business-focused publications are the only players discussing and defining "business climate." No credible, objective counternarrative currently exists.

Last, more attention should be paid to what states can and should do to spur economic development and growth. Scholars in the 1980s and early 1990s produced seminal works on states and economic development (see Brace, 1993; Cobb, 1993; Eisinger, 1988; and Fosler, 1988), but the breadth and depth of research on this topic seems to have waned (note: work on what federal governments can do and has done, especially in the technology sector, seems to be in abundant supply; for examples, see Lerner, 2009; Mazzucato, 2015; Moretti, 2012). Timothy Bartik and the Upjohn Institute are doing great work. For example, his 2009 study, "What Should Michigan Be Doing to Promote Economic Development," and his 2011 book, *Investing in Kids,* expanded the study of economic development to include nontraditional areas like Pre-K and secondary school. More in-depth research on what states can do, especially regarding nontraditional levers that can spur growth and development, could shift conversations towards higher impact opportunities.

Conclusion

This dissertation explored how business climate shapes the relationship between state economic development activity and economic growth. Across the three dimensions of economic

growth analyzed—employment, real gross state product, and per capita income—economic development spending was negatively associated with employment growth (other measures, RGSP and PCI growth, were not statistically significant), and most steeply negative in states whose business climate was rated highly by the pro-business Tax Foundation. I also found only supply-side spending, not demand-side, to have a statistically significant relationship with growth. Last, in line with previous research, I found states do not appear to pursue any distinct economic development strategy.

States rightly focus on creating the conditions ripe for economic growth and development but seem to use the wrong (or at least, suboptimal) tools to achieve their desired outcomes. With nearly $5B spent on economic development operations and up to $80B in state and local incentives awarded each year, taxpayers deserve more effective practices and policies. I noted several areas where scholars can increase the relevance and prominence of their studies as well as specific recommendations for practitioners and policymakers to improve the practice of economic development, drawing upon my professional experiences in the field. Amazon's HQ2 search shined a much-needed light on the promise and peril of state-led economic development in this country. I hope the public sustains its interest in how states pursue growth and development and continues advocating for reform.

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