

Economic Development and Sustainable Cities

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Abstract

The concept of sustainability has evolved from a focus largely centered on environmental issues to a more balanced approach that consists of environmental, economic, and societal elements. We argue that local efforts to promote sustainability and economic development are not mutually exclusive. Why do local governments pursue sustainability when public investments may be shared by other city governments within the region? To answer this question, we turn to the literature on local governing institutions and interest. The empirical analysis is based on a national survey of local sustainability policy conducted in 2011. A series regression models provide evidence of the mediating influence political institutions have on policy tool adoption.

Introduction

Within academia and professional associations, there is relatively strong agreement on the need for local governments to design and implement policies that are oriented towards “sustainability” (Leuengerger and Bartle 2010). The concept of sustainability focuses on the long-term policy and planning goal of maintaining a social-environmental system that is in balance (Campbell 1996; Jepson, 2004; Conroy and Berke, 2004). Sustainable *development* – as a guiding principle for local growth policies - has evolved from a focus largely centered on environmental issues to a more integrated approach that consists of environmental, economic, and societal dimensions (Adams 2006; Mazmanian and Kraft, 2009; Fiorino, 2010). Of these three pillars, this paper focuses on the economic dimension, specifically the use of different types of economic development policy tools utilized by local governments in the United States.

Local governments have long been active in designing and implementing policies to improve their economic competitiveness. Cities have also become increasingly active in crafting policies that provide economic opportunities for all who are eligible and supporting economic growth that consumes limited resources efficiently. Thus, public officials should as Scott Campbell (1996:297) suggests, “reconcile not two, but at least three conflicting interests: to “grow” the economy, distribute this growth fairly, and in the process not degrade the ecosystem”. Reconciling these objectives is not easily accomplished. Among the reasons is competition and conflict over policy benefits among local interests that play out in political arenas (Hawkins, 2011; Bulkeley and Betsill, 2003).

Even with this conflict, economic growth and environmentalism do not have to be mutually exclusive objectives (Portney, 2003; Feiock and Stream, 2001). There are, however, tradeoffs between the type of economic development policy that may be adopted and the types of benefits that can be generated for a locality and public officials. To demonstrate how these tradeoffs may factor into decision making, we distinguish between localized supply-side benefits and regional demand-side benefits. The former is closely associated with tax incentive policies and the latter a more entrepreneurial approach with human capital development representing a key policy tool. Both approaches have the underlying goal of supporting economic growth. The key difference lies in the extent to which local governments and officials can capture the monetary, geographic and symbolic benefits of the policy.

This classification describes only the types of policy tools local governments are utilizing. *Why* have local governments adopted these policy tools? To answer this question, we turn to the literature on local governing institutions and interest groups (Hawkins, 2011, Feiock, et al., 2008; Lubell, et al., 2005; Ramirez, 2009). This literature suggests sustainable development efforts at the local level are influenced by the demands placed on appointed and elected officials and the responsiveness and political behavior of different governing institutions. Empirically, the structure of local government institutions is found to determine policy tools when it combines with the structure of local interests (Clingermayer and Feiock, 2001; Feiock, et al., 2008). We follow this line of reasoning to examine the adoption of localized-supply side policy tools and the use of certain types of demand-side policy tools that provide more regionally shared benefits.

This paper investigates these questions using data collected from a 2011 survey of mayors and managers of U.S cities with a population of at least 50,000. Based on the responses, cities are attempting to achieve goals of sustainability through a variety of economic development policy tools. The empirical results suggest that cities adopt more localized supply-side policy tools or regional demand-side policy tools when business organizations, and to a lesser extent citizen groups, are a part of the policy development process. These effects are also found to be mediated when cities operate under a council-manager system. Local contextual factors, including age, income, and education are also found to be important variables depending on whether the number of supply side or demand side tools are being predicted.

The next section provides a brief review of the two common policy approaches towards economic development. Section two describes the localized and regional benefits that are linked to these development approaches. Theoretical arguments for the effect of interest groups and form of government are then presented. Section five discusses the data collection, variable measures and model specification. The results are then presented and the conclusion discusses implications for theory and avenues for future research.

Supply-Side and Demand-Side Policy Approaches towards Economic Development

Local governments are perceived to have a strong interest in economic development for a number of reasons. Growth can be strongly tied to a city's fiscal wellbeing, development supports the provision of adequate public services, and private sector investment improves job opportunities and diversifies the local employment base (Schneider 1989; Schneider et al. 1995).

It is also argued that local leaders mobilize public resources to move their locality up within a system of cities and to portray a friendly image to businesses (Pagano and Bowman 1998; Lewis and Neiman, 2009).

In many respects, however, the highly interdependent nature of the global economy has reshaped patterns of development and the geographic scale in which competition for private investment occurs (Porter, Michael. 2000). Nevertheless, in more instances than not cities pursue economic development in a competitive fashion with neighboring government units. Thus cities continue to utilize what are commonly referred to as “supply side” policy tools as a part of their economic development efforts (Eisinger, 1988).

Supply side policies attempt to stimulate investment by reducing the costs of production incurred by a business in a specific locality. These come in the form of tax incentives, subsidies and abatements, loan guarantees, industrial revenue bonds, infrastructure development and less restrictive regulatory policies. Tax incentives and subsidies have been used extensively to stimulate economic growth and have garnered a great deal of attention in the policy literature. Incentives continue to outpace spending for other economic development strategies (Peters and Fisher, 2004:28) and development subsidies and the improvement of land for business remain popular policy tools (Bartik, 2005; Blakely and Leigh-Green, 2010).

This approach is not without its critics (see Bartik, 2005). It is argued that tax incentives and other supply side strategies merely relocate investment across a region, are only a marginal factor in firm location decisions and escalate competition among communities. These strategies

may also increase the costs of economic development efforts and redirect public resources away from social or educational programs. Moreover, tax incentives tend to benefit higher income groups disproportionately.

A more comprehensive approach towards economic development pursued by local governments is to employ “demand side” policy tools in conjunction with supply side strategies (Eisinger, 1988). A demand side approach aims to develop new local capital and markets, and enhance economic growth by promoting a well prepared labor force and the development or expansion of indigenous firms. This approach is often associated with public sector activism aimed at lower income groups and a more bottom-up or social capital path to economic prosperity. Human capital development policies attempt to build the level of skills and work-related aptitudes held by the local labor force through job training, entrepreneurship support, apprenticeship programs and basic school system reform. The assumption is that improved skills will lead to better wages and the creation of businesses that add value to the economy (Koven and Lyons, 2003).

However, the direct beneficiaries of entrepreneurial type strategies, particularly human capital development, appear to be far more widely diffuse than those of supply side strategies. The economic gains may also emerge long after those who have supported or implemented the policy have left elected or appointed office. Moreover, the contribution of the development strategy to the emergence and growth of new business is more difficult to trace, and the visibility of the results may be limited and investments of a relatively small scale (Hart, 2003; 2008).

Survey based evidence suggests that although some cities are active in “greening” these development approaches, there is much room for a focus on sustainability. For example, the results of a national ICMA survey reported by Svava and colleagues (2011) indicate that although seven out of ten cities assign of very high priority to the economy, they have only modest sustainability activity. Interestingly enough, investments in green jobs (a demand-side strategy), has the strongest association with action even though it is the least common high-priority area noted by respondents. Feiock and Francis’ (2011) survey of mid-sized cities suggest that 70% of respondents indicated that attracting green industries was at least “somewhat important” to their city’s overall economic development strategy. However, there is only modest support for green sector development in the form of some supply-side strategies (i.e. financial incentives) that encourage the use of energy efficient technologies in new development. Of the responding cities, 19.5% provide such incentives while 15% provide financial and other incentives to renewable energy utilities. Fewer cities in their sample are also willing to alter permitting practices for industries that promote green practices (11%). Only 6% relax regulatory or review processes for private developments that incorporate energy efficient technologies.

Does environmentalism and city development efforts have to work in opposite directions? Or, can they be integrated through supply side and demand side approaches towards economic development? Extant research suggest that cities are beginning, albeit at what appears to be a slow pace, to adopt sustainable oriented economic development policies (see Saha and Paterson, 2008). Additional evidence is needed to improve our understanding of the challenges and opportunities cities face in pursuing the objectives noted by Campbell (1996). The next

section discusses the localized and regionally shared benefits of policy that may influence decision making.

Localized and Regional Benefits of Sustainable Development Policy

Building consensus on sustainable development is a challenge because containing the benefits of local efforts wholly within municipal borders is extremely difficult (Sharp et al., 2010). Funding public transit and alternative energy facilities, for example, may lead to cleaner air for not only the host community but the region as a whole. Such actions, taken together, may represent a large public investment of which the benefits are not easily contained within one jurisdiction. This can be exacerbated when a city is located within a region that includes a large number of other governments (Post, 2004).

Human capital development is an important policy tool, but the benefits are more difficult to capture on a consistent and long term basis by the community. New jobs in the locality may not be filled by local people that receive training, and jobs that are filled may not be by the community's residents. Human capital development strategies may simply lead to an improved entrepreneurial capacity and a more skilled and educated workforce that does not remain within the jurisdiction that is making the investment. As a result, a community may not rigorously pursue this strategy.

The regionally shared benefits from a human capital development policy, however, can still improve the strategic economic position of the locality. Metropolitan agglomeration economies and improved regional competitiveness based on workforce characteristics can

emerge over the long term. For example, the underlying premise of a “cluster strategy” is that firms locate within a region because of the benefits from being located near related industries. Among the common competitive strengths and needs of clustered firms is a skilled and educated labor force (Porter, 2000). Many cities employ this strategy to receive benefits that may not be jurisdictionally contained but rather tend to be more regional in nature.

One way to capture more of the benefits of sustainable development policy is by modifying traditional supply side tools. For example, local governments may ease development approvals for projects that reduce energy consumption, or provide tax incentives for manufacturers of “green economy” products and that invest in alternative forms of energy production. Policy tools such as these can provide direct monetary benefits to the community in the form of tax and transactions related revenue. Moreover, buildings are constructed within a jurisdiction, support services and suppliers may emerge, and additional investment in the immediate area may also appear. Such benefits are “localized” because they can be largely contained or captured with the jurisdiction that provides the incentive.

We present these differences as localized supply-side benefits and regional demand-side benefits. In both cases local activities serve the purpose of employment creation, tax base improvement, improved competitiveness and other development objectives. Supply side policy tools such as tax incentives are used with the assumption that the city will receive direct benefits in the form of a business relocating or remaining in the community. In comparison, the benefits of human capital development are likely to be shared across the region because of the mobility of workers and the nature of economic exchange relations within metropolitan regions.

That a city uses a particular policy tool tells us only little about the factors that influence these choices. How politics matters, or more specifically the characteristics of governing institutions and the nature of interest groups, are important contextual factors that motivate local decisions. These are discussed in the next section.

Local Interests and Sustainable Economic Development Policy

Policy tools are employed by local governments “to produce a certain outcome in the economy and in society” (Peters, 2000: 37). Benefits of a particular policy may also be distributed – intentionally or unintentionally - among groups or individuals. The urban governance process that blends and coordinates public and private interests is influenced not only by structural conditions, but also the political pressures on local officials from private interests (Pierre, 1999). Organized groups that engage in the decision making process can exert great influence over elected officials to enact policies that conform to their economic or other interests (Judd and Swanstrom, 1994; Logan and Molotch, 1987). Thus local interests with different perspectives on development and growth often compete to capture a larger share of the policy benefits.

As cities are widening their approach to sustainable development, there is also greater collaboration with citizens and neighborhood based groups (Hawkins and Wang, forthcoming). Participation by residents is now largely considered to be an essential element for successful environmental protection and ecosystem management (Brody, 2003; Koontz, 2006). Pitt (2010), for example, found that over-adopters of policy also demonstrated greater community

involvement throughout their climate change mitigation planning processes, and Wang et al. (forthcoming) found that that a resident based bottom-up process leads to a greater capacity of cities to undertake sustainability activities.

In terms of economic development, public investments in human capital are expected to be favored by citizen groups because they can directly take advantage of the benefits. Compared to incentivized development policies oriented towards businesses, training and education programs, for example, provide opportunities for local residents to improve their skills. Although there is the potential for residents to find employment in businesses that locate in the community due to incentives, human capital can improve an individual's marketability. This can widen the scope of one's employment opportunities throughout the region. This is important since businesses are mobile and have the potential to relocate in order to further their own interests.

H1: Cities that work closely with local citizen groups on sustainability will adopt more regional demand-side policy tools.

H2: Cities that work closely with local citizen groups on sustainability will adopt fewer localized supply-side policy tools.

This is not to say residents will be completely adverse to development or the use of supply side tools by their city. The resources that come with private investment may provide residents with tangible benefits, such as lower tax bills or more public facilities and amenities, and of course opportunities for employment. Many supply side policy tools are mainly designed,

however, with the business as the direct beneficiary in mind. There can be accompanying policy decisions that distribute more benefits to residents, such as first source hiring agreements.

Whether such measures are implemented is questionable at best. In fact, some studies suggest that growth promotion activities of local governments are scrutinized by residents because of the perceived negative externalities and impacts on quality of life (Hawkins, 2011). This of course varies across cities with different structural conditions, but localized groups are shown to mobilize and be highly vocal in pressing their demands on city hall to address growth related issues (Berry et al., 1993).

Chambers of commerce, real-estate groups, and development interests are also active in shaping sustainability policy at the local level (Wang et al., forthcoming; Lubell et al., 2005; O'Connell, 2009). Extant research on local policy orientation has focused on the level of influence of the development community to explain growth policy decisions (Ramirez, 2009). The growth machine model of politics, for example, suggests that groups that will benefit directly from development policies will promote it and mobilize in favor of it (Logan and Molotch, 1988; Molotch, 1976). From this perspective, local real estate and development interests use their political power to affect the costs and benefits of growth by manipulating policy decisions. Among the benefits captured by land based interests are higher rents and greater opportunities for investment. Moreover, many policy tools reflect businesses and affiliated organizations working closely with local elected officials on policy decisions (Stone, 1989). But this can result in the targeting of benefits to specific geographic areas and narrow constituencies aligned with the urban governance regime.

The propensity for cities to pursue more localized supply-side benefits should increase when cities work closely with business interests. Whereas residents often want a greater share of the local budget to go towards municipal and social services, the growth coalition presses for more money to go towards physical infrastructure and investment in policies that aid development (Logan and Molotch, 1988). Localized supply-side policies are likely to provide direct benefits for existing businesses because new private investment may result in greater demand for business support services. Moreover, cities are likely to respond favorably to the demands and expectations of businesses since they generate revenue that allows cities to supply adequate public services without imposing high taxes on residents (Wolman and Spitzley, 1988). It is also important for local governments to generate support from businesses on sustainable development because these local interests can help to address resource constraints that present significant challenges for policy implementation (Feiock and Fancis, 2011).

Businesses also have a stake in the availability of a skilled workforce, particularly industries of the “green” and “new economy”. Based on human capital theory, long-term growth is a function of both technological and human capital development (Romer, 1990; Lucas, 1988). This focuses attention to the importance of a quality workforce, “talent”, and how knowledge increases individual productivity that businesses value in order to maintain their competitive advantage (Glaeser and Saiz, 2004; Feiock, Moon and Park, 2008). Thus when city officials work closely with local businesses interests it is likely the city will also adopt more demand side policies.

H3: Cities that work closely with chambers of commerce on sustainability are likely to adopt more localized supply-side policy tools.

H4: Cities that work closely with chambers of commerce on sustainability are likely to adopt more regional demand-side policy tools.

One of the challenges for local officials is to highlight the co-benefits some groups may receive from sustainability policy while negating threats posed by other interests (Sharp et al, 2010). Research on the involvement of cities in climate protection networks, for example, has emphasized the importance of cost savings as a co-benefit of participation (Bulkeley and Betsill, 2003; Kousky and Schneider 2003; Krause, 2011). Framing the issue and the resultant benefits thus become essential with competing claims to what sustainability entails and how best to achieve it (Campbell, 1996; Betsill and Bulkeley 2007).

Local Governing Institutions

Closely linked with the role of local interest groups in policy making is how governing structures influence the performance and decisions of political actors (Clingermayer and Feiock, 2001; Lynn, Heinrich, & Hill, 2001). The discretion in policy choices and the opportunities and incentives of public officials is constrained by the municipal form of government. In a council-manager system, professional administrators are responsible for managing the day-to-day affairs of city government. This governance structure is intended to insulate centralized executive power from political influences and interest group pressures (Sharp, 1991). Although this form of

government replaces political “high power” incentives with “low power” incentives (Frant, 1996) it still guarantees that city administration remains under democratic control (Svara, 1997).

Nevertheless, the profession itself is very much political in nature and managers are highly engaged in policy making (Nalbandian 1999; Nelson and Svara 2010). Promoting new administrative initiatives or being seen as a leading policy reformer can enhance one’s reputation within professional networks (Feiock et al., 2001). In addition, research suggests that cities with a full time city manager are more receptive to innovative administrative techniques and policy than cities with a mayor council form of government. Cities with a council-manager form of government, for example, are found to apply fiscal impact analysis to evaluate development projects more stringently than cities with a mayor, reflecting their focus on the efficient and innovative management of the local economy (Ha and Feiock, 2011) Svara’s (2011) report indicates that cities with a council-manager form of government are generally doing more to promote sustainability than cities with alternative forms of government.

Economic development is particularly risky for public officials because results can be relatively unknown and it requires significant resources. While appointed manager’s tenure and career are generally insulated from symbolic politics, mayors may not be willing to take political risks when they present little opportunity for credit claiming. For example, Kwon, Berry and Feiock (2009) find that cities with a council–manager form of government have a strong positive effect on the early adoption of policy. One explanation they suggest is that green incentive strategies are new and thus there is risk in pushing for investments in these more specialized development areas. Their findings reinforce the hypothesis that political leaders in mayor–

council government are more risk averse and attentive to political, rather than economic incentives for policy adoption. The “high-power” political incentives of mayors may lead to policies that reflect more of “getting on the bandwagon” rather than actually addressing a real need (p. 16).

H5: Cities with a council-manager form of government are expected to pursue more localized supply-side policy tools than cities with a mayor-council form of government.

H6: Cities with a council-manager form of government are expected to pursue more regional demand-side policy tools than cities with a mayor-council form of government.

Depending on the political institutional arrangement *and* the activity of local interests some development policy tools are likely to be utilized more or less frequently. Feiock and colleagues (2008) suggest that the adoption of economic development policies that shape the benefits of land owners and business interests takes place in a “political market” in which these private interests seek to change the policy environment. Political institutions mediate demands of private actors and the willingness of public officials to supply policies these interest groups desire (Clingermayer and Feiock 2001; Lubell, et al., 2005; Jeong 2006). This suggests an interactive relationship.

In mayor-council governments, shorter time horizons from ongoing election cycles pushes elected official to become risk adverse (Steinacker, 2004). Supply-side strategies provide more direct benefits to land owners and positive externalities to surrounding businesses through

the development or redevelopment of land. Compared to demand side strategies, supply side tools thus may produce visible results more quickly and create opportunities for public officials to claim credit for policy success. Coupled with pressures from the business community, elected officials may act quickly in order to tout successful implementation. Elected officials can accrue individual benefits by supplying the policy that supports the economic interests of the business community (Sharp et al., 2010). However, sustainability is a long term agenda and some development policies are also relatively new and untested. Pursuing sustainable development can be risky because policy outcomes can be difficult to measure and it may require cities to assume significant upfront costs. Thus two hypotheses are presented.

H7: Cities that work closely with chambers of commerce under a mayor-council form of government will adopt more supply side policy tools.

H7 Alternative: Supply side policy tools will be provided more readily under a council-manager form of government when business interests are active the policy making process.

H8: Cities that work closely with citizen groups under a council-manager form of government will adopt fewer supply-side development strategies

For city managers, there are also individual benefits that can accrue by pursuing sustainability, but low powered incentives reward technical and managerial expertise, administrative efficiency and innovative policy making. Frederickson (1999; 2003) argues that

the shared public service ethic of professional administrators make them more inclined toward collective problem solving. Thus, participation in regional networks through professional organizations or associations may influence a manager's willingness to view issues as crossing jurisdictional borders and pursue a more regional oriented approach to policy. For example, Carr, LeRoux and Shrestha (2009) found that a local officials' participation in professional networks is statistically related to cooperation with other governments. Furthermore, because of the greater insulation from interest group pressure, development policy is likely to be oriented towards community-wide issues rather than the targeting of benefits to specific organizations or geographic areas. Thus, when a council-manager form of government combines with citizen activity in sustainable development policy formulation, cities are likely to adopt more demand-side policy tools.

H9: Cities that work closely with chambers of commerce under a council-manager form of government will adopt more regional demand-side strategies

H10: Cities that work closely with citizen groups under a council-manager form of government will adopt more regional demand-side policy tools.

Data and Method of Analysis

There is a wide range of policy interventions and institutions that can be devised by local governments for sustainability purposes. Understanding these actions is important because cities represent the principle jurisdictional unit that develop governance structures that impact local growth and the environment (Bulkeley and Betsill; 2003, 48–49; Portney 2003). To collect data

on economic development policy tools, a questionnaire was mailed to the manager or mayor of each city with a population of at least 50,000. Of the 601 cities in the sampling frame, 263 responded to the survey, resulting in a response rate of 44 percent. The council-manager and mayor-council forms of government are present in 66.0 percent and 31.0 percent of responding cities. This is similar to 62.0 percent and 35.9 percent in U.S. cities with a population of over 50,000 (ICMA 2010).

We are primarily interested in explaining why cities adopt sustainable development policy tools. Survey respondents were asked to identify yes or no whether the policies listed in Table 1 are utilized by their city. Column one lists the supply-side policies that provide localized benefits. Demand-side policy tools that provide benefits that are more apt to be shared across the region are listed in the second column. Displayed in parentheses is the percent of cities in the final sample that have adopted each of the policies.

--Table 1--

To measure local interest groups, respondents were asked to indicate whether or not they work closely with businesses and citizen groups on developing a sustainable vision for the city. Cities with a council-manager form of government are measured as a binary variable. Interaction terms between the interest group variables and the local form of government tests whether the influence of interest groups on the number of policies adopted is conditional on the type of political institution.

The size and structure of the legislative body is also expected to shape the political context of sustainability policy (see Gerber and Philips, 2005). Cities that have district elections for city councilors have been found to experience more geographically centered policy conflicts than cities with at-large systems. Whereas managers and at-large representatives take a citywide policy focus, councilors elected by district often take a narrow view of city needs and are more responsive to neighborhood pressures (Krebs and Pelissero, 2010:393-394). The characteristics of the city council is measured as the proportion of the councilors elected at-large.

Portney (2003, 2005) discusses economic development need as an important variable that could affect sustainability initiatives at the local level. Socioeconomic status of the population often drives policy decisions, particularly in economic development (Lewis, 2002). Income has been found to have a positive and significant effect on development policies (Clingermayer and Feiock, 1990) as well as on the dollar amount for tax abatements (Reese, 1991). Johnson and Neiman (2004) argue that cities experiencing rapid population growth could face problems with the availability of employment opportunities. Therefore, these cities are likely to engage in activities that promote business attraction and job creation to meet the demands for employment. Studies also support the hypothesis that larger the population, the greater the pressure for job creation (Mills and Lubuele, 2000).

Variables used to account for these factors include population size, change in population between 1990 and 2000, median household income and percent white. Since competition for private investment also drives policy decisions, it is expected that communities that are experiencing less growth than the region as a whole will be more active in pursuing economic growth. This is measured as the difference between local population change and the change in

metropolitan population between 1990 and 2000. In addition, survey respondents were asked if economic growth is a priority for their community. This is measured with a binary variable.

Political ideology is an important explanation for environmentally oriented action (Portney; 2005; Konisky, Milyo, and Richardson, 2008). Portney (2003) finds for example a significant bivariate relationship between sustainability and residents' educational attainment. At the multivariate level, Saha (2009) finds a significant relationship between sustainability activities and political culture that embraces environmentalism. Thus we expect that political pressure from highly educated and younger citizens that tend to support environmentalism and a propensity to think "green" may shape development policy. These factors are measured with median age, percent democrat vote in 2008, and percent with a Bachelor degree.

Since not every city in the sample has adopted the policies listed in Table 1, zeros are large proportion of counts in the data. A series of zero-inflated Poisson regression models are used to handle the problem of the zero counts. The dependent variable for the localized supply-side regression equation ranges from 0-11, and from 0-7 for the regional demand-side equation. Figure 1 displays the count of the number of supply-side and demand-side policy tools adopted by cities in the final sample. Table 2 provides the mean, standard deviation, and minimum and maximum values for the independent variables.

--Figure 1--

--Table 2--

Results

Four estimated regression models for the localized supply-side policy tools are presented in Table 3. The first column (Model 1) presents the results without interaction terms. Among the local interests and governing institution variables only business interests has a positive and significant effect on the number policies adopted. This provides support for the notion that more localized supply-side policy tools, of which the benefits are mainly oriented towards businesses, are likely to be adopted by cities when businesses are engaged in planning for sustainable development. Theoretically, the variation across jurisdictions in sustainable development policy can also be attributed to the institutional rules embedded in different governing structures that shape the behavior of local officials. The results suggest, however, that form of government does not have an effect on the number of policies adopted.

Model 2 is intended to test the hypothesis that local institutions mediate the demands of business interests. Underlying this hypothesis is that the incentives of local officials operating under reformed and unreformed governing arrangements will affect the supply of policy and the associated benefits to various interests. The positive effect of the interaction term indicates that when cities with a manager form of government work closely with business interests more supply side policy tools are adopted. This result is consistent with the findings of other research that suggests managers are not less favorable to growth compared to mayors. Feiock and colleagues (2008) for example find that managers work closely with pro-development interests to provide the conditions for economic development. Similarly, Lubell et. al. (2005) analysis suggests that professional administrators become vulnerable to development interests, especially when rapid growth is occurring. On the other hand, the results of Model 3 indicate no significant

effect on the number of supply-side policy tools adopted when citizen interests is combined with form of government.

The unrestricted model presented in the last column of Table 3 includes both interaction terms. The results are generally consistent with the previous model results, except that citizen involvement now has a positive and significant effect on the number of supply side policy tools adopted. Among the control variables, population, population density, percent white, percent democrat vote and growth priority have a positive effect. Age, however is negative, indicating that with an older population comes less demand for the types of businesses targeted by the incentive policies.

--Table 3--

Table 4 presents the results for the regression equations that estimate the number of regional demand-side policy tools adopted by cities in the sample. It was expected that since businesses will benefit by having access to a more skilled and better trained workforce, when these interests are involved in the policy process more demand side strategies will result. The results in Model 1 support this hypothesis. Since the direct benefits of demand-side policies are oriented towards residents and the local workforce, it was also expected that when citizen interests are engaged in planning for sustainability it will result in a greater number of policies. This is also supported with the results presented in Model 1.

City managers are likely to be engaged with other cities throughout the region through their professional network. Moreover, compared to mayors, managers are generally more

insulated from localized and geographic based interests and less adverse to risk. Thus it was expected that cities operating under the reformed governing structure will adopt more regional demand-side policy tools. The results of Model 1 indicate no significant effect. However, in the three subsequent models that include the interaction terms, form of government mediates the effect of both business interests and citizen interests on the number of demand-side policy tools adopted. When cities operate under a council-manager form of government and work closely with businesses (Model 2) and citizens (Model 3) on sustainable development more demand-side policy tools are likely to be adopted. When both interaction terms are included in Model 4, however, only the business interests are mediated by form of government.

Similar to the previous results, the percent democrat vote and priority given to development and growth in the community are both positive and significant. As expected, the more educated the residents the more demand-side policies that are adopted. On the other hand, median household income has a negative effect on local policies. This finding may point to less demand from residents or even small businesses for training or skills development when economic need, measured by income, is less of a concern.

--Table 4--

The results point to the argument that for cities to be successful in achieving goals of sustainable development local officials must establish partnership initiatives with local businesses to improve resource efficiency, as well as under take public information and collaborative strategies with citizens (Bulkeley and Betsill, 2003:24; Wang et al., forthcoming).

In the absence of leadership by elected officials city managers can come to play an essential entrepreneurial role in policymaking (Teske and Schneider, 1994).

Previous work suggests that because of low powered incentives that downplay symbolic politics, managers are less likely to shape policy at the whim of localized interests. Managers are, however, more likely adopt policies earlier than elected officials that are more risk adverse. Thus the results may have to do more with the pursuit of efficiency and effective management than touting policy success. The policy making role of city managers across cities varies, but there is evidence that managers assume a pronounced leadership role, and take on the position of a broker or negotiator in policy making (Ruhil, Schneider, Teske, & Ji, 1999; Nalbandian, 1999).

If an inclusive and collaborative process is undertaken, a greater share of the benefits can be distributed to more groups. This may also reduce conflict and build consensus on what sustainability may “look like” and how best to achieve local goals. The results indicate the important role of the structure of political institutions. When business and citizen interests are engaged in the processes of crafting sustainable development policy, cities with a manager form of government can perhaps more effectively broker and negotiate among these interests and supply policy that aligns with their demands. Thus the nature of political institutions can frame the co-benefits of sustainable development policy that can be derived in light of the potential conflict among these groups.

Conclusion

This study sought to answer two questions. First, are cities integrating environmentalism into traditional approaches towards economic development? Generally speaking the results

provide a qualified “yes”. Based on the results of a national survey, cities are “greening” supply-side and demand-side policy tools. Among the types of policy tools adopted by the most cities in the sample are linking environmental goals to publicly financed development projects, brownfield redevelop fund, zoning or regulations that allow for onsite renewable energy systems, sustainable technology education classes and workshops to the community and business employers

Pursuing economic development without conditioning the impacts of policy on the environment can undermine sustainability practices. Most of the literature on economic development at the local level, however, has treated development tools in isolation from environmentalism and the broader framework of sustainability (see Reese, 1996; Reese and Rosenfeld, 2004). The descriptive results reported in this study suggest environmentalism and development are not an either/or proposition. Rather, both a supply-side approach and a demand-side approach provide opportunities for cities to integrate environmental objectives into their pursuit of economic growth. The results of this study may in fact reflect how some suggest sustainable development ought to be framed: becoming more sustainable is strongly tied to a city’s competitive advantage for economic development (Portney, 2003:228).

The second question this study sought to answer is what explains the adoption of these policy tools? A supply-side approach and a demand-side approach both require public investments, but some policy tools yield quicker returns and more visible results, and others require perhaps a more regionally integrated and networked perspective on development policy. Policy decisions are made when local officials respond to the demands of interests that that seek

to alter policies that provide benefits that align with their economic or other interests. Depending on the type of governing structure, the demands are translated into policy that distributes benefits to some interests over others. In terms of supply-side policy tools, the objectives are largely meant to support business and their economic interests with the assumption that investment occurs within the locality. Businesses also have an interest in a qualified and trained workforce, but it is citizens who through training and human capital development policy are the direct beneficiaries. This can also indirectly provide benefits to surrounding communities.

We found no evidence to suggest that form of government has a direct effect on the number of policy tools adopted by cities our sample. With regards to the local interest groups, when the demand-side policy approach is considered citizen interests have a positive effect on the number of tools adopted. On the other hand, for both supply and demand-side policy tools, business interests have a positive effect.

Businesses interests can directly influence a reduction in resource use while maintaining economic and social outputs, but the policies that are developed with their participation are mediated through governing arrangements. Evidence in this study supports this hypothesis: when business interests are involved in the policy process and cities have a reformed governing arrangement more of the sustainable development policies are likely to be adopted. Similar results are reported for only demand-side policies when citizen interests interact with a council-manager form of government. Local contextual factors are also important. Cities adopt more sustainable development policies when growth is considered a high priority, but depending on

the age, education, and voting behavior of residents, cities adopt either more demand-side or supply-side policy tools.

As Portney and Cutter (2010) point out, systematic evidence is needed of how cities will minimize environmental impacts while maintaining a strong fiscal base and employment opportunities for residents. The results presented in this study provide some evidence of how local governments are responding to these seemingly conflicting objectives and factors that may influence these decisions. More research, however, is undoubtedly needed. When fiscal or employment issues become more pressing, will cities abandon an environmentalist approach with the hope that it will contribute to growth? That cities perceive competition for private investment from surrounding communities, and as a result engage in more economic development activities, further complicates a persistent and consistent sustainable development agenda. Furthermore, whether cities are simply recasting old policy tools as sustainable, or initiating new policy tools remains one of the difficulties in assessing local activities (Svara, et al., 2011). A longitudinal study may help to answer these questions.

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Table 1: Sustainable Development Policy Tools

Localized Supply-Side Policy Tools	Regional Demand-Side Policy Tools
<ul style="list-style-type: none"> -Linked environmental goals to publicly financed development projects (74) -Established a brownfield redevelop fund (73) -Zoning or regulations that allow for onsite renewable energy systems (67) -Low interest loans for energy efficiency measures and building materials (60) -Priority permitting and fee waivers for installation of green technologies (43) -Designated locations for alternative energy generation, R & D and manufacturing (41) -Incentives that lower financial barriers to energy efficiency gains (35) -Density bonus for buildings achieving LEED Certification (28) -Fee reductions to cover of LEED cert. (20) -Expedited application and permit process for alternative energy facilities (20) -Property tax credit to commercial building achieving LEED certification (12) 	<ul style="list-style-type: none"> -Offered sustainable technology education classes or workshops to the community (90) -Offered sustainable technology education classes or workshops to employers (79) -Offered capacity improvements to green existing business practices (54) -Provided a green-collar workforce training assistance (47) -Established a green collar jobs strategy (42) -Identified green-collar goals and assessed existing local opportunities (27) -Created a green collar jobs taskforce (16)

Table 2: Descriptive Statistics of the Independent Variables

<i>Independent Variables</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min.</i>	<i>Max.</i>
Metro growth difference	-1.91	13.00	-95.07	66.99
Population (Log)	5.09	.342	4.67	6.58
Population change	8.85	11.35	-15.60	57.41
Population density	3,929	2,660	209	17,463
Percent white	69.62	15.86	16.7	94.4
Household income	53,052	17,910	24,525	119,483
Bachelor degree	32.11	13.89	9.7	78.7
Age	34.82	4.44	22.1	52.9
Democrat vote	58.41	12.15	19.00	89.00
Growth priority	.69	.46	0	1
Business involvement	.34	.47	0	1
Citizen involvement	.50	.50	0	1
Form of government	.67	.46	0	1
Council representation	55.69	42.18	0	100

Table 3: Localized Supply-Side Policy Tools

DV=Supply-Side Policy Tools	Model 1 Coef. (Std. Err)	Model 2 Coef. (Std. Err)	Model 3 Coef. (Std. Err)	Model 4 Coef. (Std. Err)
Local Characteristics				
Metro growth difference	-.001 (.005)	-.00007 (.005)	-.0009 (.005)	.0002 (.005)
Population (Log)	.475*** (.171)	.567*** (.175)	.466*** (1.74)	.546*** (.175)
Population change	-.011 (.007)	-.012 (.007)	-.011 (.007)	-.012* (.007)
Population density	.00005** (.00002)	.00004** (.00002)	.00005** (.00002)	.00004* (.00002)
Percent white	.012*** (.003)	.012*** (.003)	.012*** (.003)	.012*** (.003)
Household income	-3.86e-08 (4.39 e-06)	-3.68e-07 (4.35e-06)	-8.18e-08 4.39e-06	-6.19e-07 (4.35e-06)
Bachelor degree	-.002 (.004)	-.0009 (.004)	-.002 (.004)	-.006 (.004)
Age	-.031** (.014)	-.029** (.014)	-.031** (.014)	-.031** (.014)
Democrat vote	.009* (.005)	.010** (.005)	.009* (.005)	.010** (.005)
Growth priority	.239* (.123)	.253** (.123)	.241* (.123)	.264** (.123)
Local Interests				
Business involvement	.386*** (.116)	.067 (.182)	.385*** (.117)	.001 (.190)
Citizen involvement	.110 (.122)	.103 (.120)	.146 (.181)	.268 (.189)
Governing Institution				
Form of government	.083 (.124)	-.134 (.155)	.113 (.172)	-.028 (.181)
Council representation	.0007 (.001)	.0007 (.001)	.0007 (.001)	.0007 (.001)
Interaction Terms				
FOG x Business involvement		.476** (.210)		.570** (.226)
FOG x Citizen involvement			-.050 (.192)	-.242 (.214)
Model Statistics				
Log likelihood	-447.06	-444.50	-447.03	-443.84
LR chi2	76.43	81.55	76.49	82.86
Prob. > chi2	.000	.000	.000	.000

Table 4: Regional Demand-Side Policy Tools

DV=Demand-Side Policy Tools	Model 1 Coef. (Std. Err)	Model 2 Coef. (Std. Err)	Model 3 Coef. (Std. Err)	Model 4 Coef. (Std. Err)
Local Characteristics				
Metro growth difference	-.013 (.010)	-.013* (.008)	-.010 (.008)	-.012* (.008)
Population	.462** (.203)	.574*** (.198)	.559*** (1.98)	.600*** (1.98)
Population change	.007 (.011)	.007 (.009)	.005 (.009)	.006 (.009)
Population density	.00002 (.00002)	.00001 (.00002)	.00002 (.00002)	.00001 (.00002)
Percent white	.002 (.004)	.002 (.004)	.001 (.004)	.002 (.004)
Household income	-.00001** (5.12e-06)	-.00001** (5.11e-06)	-.00001** (5.12e-06)	-.00001** (5.12e-06)
Bachelor degree	.020*** (.005)	.020*** (.005)	.020*** (.005)	.020*** (.005)
Age	-.011 (.016)	-.010 (.016)	-.008 (.016)	-.009 (.016)
Democrat vote	.012** (.006)	.014** (.006)	.013** (.006)	.014** (.006)
Growth priority	.349** (.135)	.356*** (.135)	.318** (.136)	.336** (.137)
Local Interests				
Business involvement	.719*** (.132)	.271 (.206)	.699*** (.131)	.379* (.225)
Citizen involvement	.281* (.153)	.273* (.152)	-.187*** (.231)	-.016 (.278)
Governing Institution				
Form of government	-.030 (.144)	-.399** (.193)	-.502** (.226)	-.596** (.249)
Council representation	.002 (.001)	.001 (.001)	.001 (.001)	.001 (.001)
Interaction Terms				
FOG x Business involvement		.684*** (.246)		.496* (.293)
FOG x Citizen involvement			.732*** (.271)	.457 (.375)
Model Statistics				
Log likelihood	-364.00	-360.21	-360.89	-359.37
LR chi2(16)	105.04	112.63	111.28	114.31
Prob. > chi2	.000	.000	.000	.000

Figure 1: Distribution of Demand-Side and Supply-Side Policy Tools

