Political Fragmentation & Economic Growth in U.S. Metropolitan Areas^{*}

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This paper analyzes the impact of local political fragmentation on population, employment, and per capita money income growth in 314 U.S. metropolitan areas. The results are mixed. Smaller central cities and more special district overlap are important for population growth. The findings do not generalize to employment or per capita money income growth. These findings mask important regional variation: political fragmentation is largely unrelated to economic growth in Midwestern and Western metropolitan areas. These results partially support the hypothesis that governmental fragmentation can enhance local economic growth; however, the overall impact appears muted relative to a metropolitan area's economic characteristics.

Keywords: growth, decentralization, fragmentation, competition

Introduction

Metropolitan economic growth is of some importance to both scholars and policymakers; however, economic growth is uneven in the United States. Some metropolitan areas grow rapidly while others languish and decline. The underlying fundamentals of the economy of a city are thought to play a large part in this growth (Glaeser et al., 1995) as does a warmer climate (Rappaport, 2007). Another important factor that can influence metropolitan economic growth is the structure of local government (Foster, 1993; Grassmueck & Shields, 2010; Hammond & Tosun, 2011; Nelson & Foster, 1999; Stansel, 2005). This source of growth has received significant attention in the international sphere with the assertion that decentralization of public service delivery and revenue generation from national to metropolitan levels can fuel local economic growth (Martinez-Vasquez et al., 2017).

In the U.S. context, the question of the influence of local governance structure on metropolitan growth has been examined several times. There is significant disagreement in the literature about how to measure local government structure, the time period over which to measure growth, and the correct geographic aggregations to observe growth. These disagreements have led to a confusing set of results with little consensus among them. A potential unified source of this disagreement is the vast and complex local governance structure in the United States. Krueger and Bernick (2010) may say it best, "[i]f one were to start from scratch to design an optimally operating state and local governance system that eliminated diseconomies of scale, jurisdictional externalities, the adverse consequences of competition yet met the personal preferences for goods and services for the maximum number of residents...it would undoubtedly look quite different."

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This paper attempts to address the complexity of U.S.-styled local government structure and its relationship with economic growth in 314 metropolitan statistical areas from 1960 to 2000. There is disagreement in the extant literature on the relative impact of local government fragmentation on economic growth. As Foster (1993) explains, polycentrists' suggest an increasingly fragmented local government system is a means to provide a larger number of taxing/spending bundles that allow residents to more perfectly match their preferences. This increased competition between local governments for residents should constrain the size of the public sector, increase governmental efficiency, and lead to higher growth. Contrastingly, the 'government reformists' suggest that more a consolidated local government system will capture economies of scale, provide better coordination in land use planning, and eliminate counterproductive competition in economic development, all leading to higher growth.

This analysis to follow is similar in scope to the recent examinations of local government structure and economic growth in the U.S. context (Grassmueck & Shields, 2010; Hammond & Tosun, 2011; Stansel, 2005). However, it builds on these contributions in some important ways. First, the complexity of U.S. local governance arrangements is a fundamental aspect of the analysis. Rather than measuring local government structure in an absolute manner (i.e. the number of governments per capita) as much of the recent literature does, this analysis builds on the approaches of Foster (1993) and Grassmueck and Shields (2010) and attempts to incorporate the complexity of local governments. Second, this analysis examines a forty-year time horizon but does so by beginning with short-run growth (10-year), moving to mid-term growth (20- to 30-year), and ends with long-run growth (40-year). In doing so, the analysis allows for tracking how the influence of political fragmentation changes over time.

The remainder of the article proceeds as follows. First, I examine the previous literature, both theoretical and empirical, on political fragmentation and economic growth in the U.S. and global contexts. Next, I examine the prior conceptualizations of fragmentation in the U.S. context and suggest alternatives. Third, a model based on Glaeser et al. (1995) is presented. Finally, regression results are discussed, extensions and sensitivity analyses are conducted, and the policy implications of the results are explored.

Previous Literature

Theoretically, there are two schools of thought about the connection between local governments and local economic growth. First, from the public choice tradition, the proliferation of local governments (polycentricity) is thought to increase local growth. A similar yet distinct argument following from public choice is the concept that decentralization leading to higher growth. While the two share a common theoretical background, decentralization deals more with the devolution of taxation and service delivery from federal and state governments to the local level. This string of public choice theory is less influential to this analysis because the United States has a highly decentralized governance structure relative to other countries.¹ Second, from the governmental reform movement, more integrated or consolidated local government structures are thought to increase local economic growth. To a certain extent, this is an inversion of the public choice perspective. The respective literatures of the two perspectives are too vast to adequately summarize here;² however, the following is meant to introduce the major arguments of the two camps as they relate to economic growth.

Polycentricity

The theoretical public choice literature largely posits a positive relationship between local political fragmentation and metropolitan growth through increased efficiency (Tiebout, 1956). This increased efficiency leads to an environment more conducive to economic growth. Efficiency is secured by inter-jurisdictional competition between a large number of horizontally arranged local governments. As (Tiebout, 1956) and others explain, a sufficiently large number of local public good providers will act like private market actors, competing with each other for mobile residents. This competition between public good producers drives high-quality public service provision at low tax prices. Additionally, given many public good producers, a large theoretical variation in public service/tax bundles is produced allowing mobile citizen-voters to efficiently sort into localities that most perfectly satisfy their preferences for public service provision and tax price (Ostrom et al., 1961). This competition-induced efficiency should, in the minds of public choice proponents, lay the groundwork for increased long-run economic growth.

In addition to horizontally arranged local governments, the public choice tradition suggests that overlapping governments (such as special districts or school districts) can provide additional avenues for efficiency through the separation of "production" from "provision" of public services (Hawkins, 1987; Parks & Oakerson, 1989). The efficiency gained from this separation works similarly to the competition-induced efficiency described above. Provision refers to the decisions related to the adequate level of public services for an area. Production is the delivery of those services. There is no need for decisions related to the provision and actual act of production of public services to be done by the same local government. Often, efficiency can be gained by separating the two. For instance, a small city may wish to provide library services to its citizens; however, due to the small size of the jurisdiction, the production of this service is too inefficient to be feasible. This small city may band together with other adjacent cities who also wish to provide library services and produce this service on a more regional scale, capturing economies of scale and increasing efficiency. Since these decisions are made at a sub-metropolitan scale, on a service by service basis, and being mindful of the unique properties of the service in production and provision to enhance efficiency, it is assumed that services provided in this manner would be more efficient than from a single, metropolitan scale general-purpose government.

Related to the potential efficiency gains of separating provision from production, overlapping governments (i.e. special districts) can attempt to internalize spillovers of public services by expanding their boundaries beyond traditionally horizontally arranged local governments (i.e. cities). Foster (1997) suggests special districts are "geographically adaptable" or exhibit "territorial flexibility" (Bollens, 1957) and are capable of easily expanding (or contracting) their boundaries to accommodate changes spillovers (Mullin, 2008). Hooghe and Marks (2003) explain this kind of flexibility of design typifies Type II jurisdictions and can explicitly exist to minimize spillover effects.

Government Reform

As Foster (1993) notes, the government reformist argument that large, political integrated structures enhance growth is based on an assumption of efficiency. Rather than focusing on competitioninduced efficiency, government reformers stress the importance of administrative efficiency as a means of growth. Efficiency is gained by realizing economies of geographic scale in production (Advisory Commission on Intergovernmental Relations, 1974; Bish, 1971; Oakerson, 1999) as well as the ability to internalize inefficient externalities of public service provision (Rusk, 1993). Additionally, transaction costs should be lower and the cost of migration to the metropolitan area (one point of contact) should be lowered (Committee for Economic Development, 1970; Foster, 1993). All of these increases in administrative efficiency should lead to higher local economic growth.

The government reform tradition also argues for the elimination of overlapping jurisdictions. It is believed these overlapping governments are a source of inefficient duplication of services (Advisory Commission on Intergovernmental Relations, 1964) as well as increasing the overall size of the local public sector due to commons issues (Berry, 2008). Because overlapping governments often lack coordination, they are likely to over-provide public services through either of the mechanisms above. Consolidating these overlapping jurisdictions into a single, large, general-purpose government is thought to eliminate the lack of coordination and provide the most efficient level of service provision (Committee for Economic Development, 1966). This increased efficiency should lead to higher local economic growth.

Empirical Findings

Foster (1993) laments a lack of research on the linkages between local political structures and economic growth. Since 1993, the literature around this question has grown considerably. There are two distinct lines of research. One regression based examining various measures of political fragmentation and economic growth that finds limited support for the public choice perspective. The other is more focused on examining particular government reforms that largely finds no evidence of those reforms on economic development.

Early research on the determinants of metropolitan growth (or decline) typically omits any political structure variables. For instance, Carlino and Mills (1987) include no political structure variables in their examination of county-level growth. Similarly, Bradbury et al. (1982) only examines political structure in the context of suburban growth of a metropolitan area relative to the central city. Foster (1993) is likely the first to directly examine the link between local political structure and metropolitan level population growth. She finds that larger unincorporated suburban areas and higher numbers of school districts per municipality are associated with lower metropolitan population growth between 1960 and 1980. In a similar analysis, Nelson and Foster (1999) find metropolitan areas where the central city population dominates the metro population has a lower personal income growth. Areas with larger suburban cities are associated with higher growth.

The more recent, regression-based literature on the connection between political structure and long-run economic growth is generally supportive of the public choice perspective. However, each finds a different aspect of political fragmentation to be important. Stansel (2005) finds more counties per capita important for long-run metropolitan level population growth between 1960 and 1990. He also finds counties per capita and municipalities per capita to be important for long-run metropolitan level income growth. In separate models, Stansel (2005) finds that areas with large central cities relative to the metropolitan area in the initial period (1960) experience lower growth for both population and income. Grassmueck and Shields (2010)) find the number of gov-ernmental units per capita negatively associated with both employment and income growth in metro areas between 1992 and 2002. These results are at odds with Stansel (2005); however, Grassmueck and Shields (2010) construct indices of horizontal and vertical fragmentation in an attempt to deal with the issues with absolute or relative measures of fragmentation (see below for a more complete discussion) and those results suggest a positive correlation between horizontal aspects

of fragmentation and income, employment, and population growth over the same time period and this finding is driven by municipalities. Grassmueck and Shields (2010) also find vertical fragmentation to be associated with lower employment and per capita income growth; however, these results are sensitive to specification. Lastly, Hammond and Tosun (2011) find general-purpose local governments per capita are associated with negative population and employment growth rates for non-metropolitan counties between 1970 and 2000 and no relationship for metro counties. Special districts per square mile were positively associated with metropolitan county population and employment growth and unrelated for non-metropolitan counties. It is unclear what to draw from this confusing set of results other than local governance structures appear to be positively associated with economic growth in some instances, but the literature is uncertain which aspects of local political structure are important.

An important and related literature attempts to examine the relationship between city-county consolidations and economic development. In many ways, these consolidations are the pinnacle of the government reform movement by drastically reducing the number of general-purpose governments in a county (in the ideal consolidation, a reduction to one local government). In general, these find no evidence that city-county consolidation drives economic development (Carr et al., 2006; Carr & Feiock, 1999, 2004; Feiock & Carr, 1997; Hall et al., 2019; Savitch et al., 2010). Overall, these analyses provide little evidence the government reform perspective leads to economic growth; however, these studies are largely unable to shed light on the polycentric perspective as they only study a particular government reform.

Even with the increased attention in the academic literature on the relationship between local political structures and local economic growth, Foster's criticism of the literature largely still stands. Nearly all the attempts to link these two concepts rely on an absolute (number of governments) or relative (per capita) definition of political fragmentation. These approaches to measuring fragmentation are plagued with issues. The U.S. tradition of significant decentralization has generated a local government system that is incredibly complex and absolute or relative measures are simply incapable of adequately defining all the facets of this complex system (Grassmueck & Shields, 2010). In the next section, I more completely define this problem, propose new definitions in line with Foster (1993) and Nelson and Foster (1999), and outline a model of economic growth based on Glaeser et al. (1995).

Data & Model Specification

The local governance structure of metropolitan areas in the United States is complex; however, the measurement of political structure vis-à-vis economic growth has hardly attempted to incorporate this complexity (a notable exception is Grassmueck and Shields (2010)).³ Most of the more recent literature (Hammond & Tosun, 2011; Stansel, 2005) measures local government fragmentation in an *absolute* (counts of governments) or *relative* (governments divided by population or land area) manner. Foster (1993) explains this is problematic because absolute or relative measures do not address three dimensions of local governance. The first is *inclusiveness*. At least at the time of her writing, local government fragmentation tended to be measured as the total number of governments in a relative or absolute sense. However, there are multiple types of local governments (counties, cities, towns/townships, school districts, and special districts) endowed with different powers and having different service responsibilities. Lumping these governments together in a measure of fragmentation is inappropriate. While this has changed over time, the criticism stands

and serves as a guide for constructing measures of fragmentation. Second is *local government scale*. Local governments range in size and influence in metropolitan areas with larger governments contributing less to fragmentation than smaller ones. An ideal measure of fragmentation will take this into account. Absolute or relative measures of fragmentation tend to have a poor ability to differentiate between these factors. For instance, the number of cities per capita masks that there are numerous cities of differing and two metropolitan areas with vastly different levels of actual fragmentation may look quite similar under this measure. Finally, the *primacy of the county government* is an important concept. In parts of the United States, not all residents live in an incorporated place making the county government an important service provider.

In light of these criticisms, what is the most appropriate operationalization(s) of local government fragmentation? Following Foster (1993), three variables measuring municipal structure and two variables measuring single-purpose government structure are used. The first is the share of the metropolitan population in central cities (Foster, 1993; Nelson & Foster, 1999; Stansel, 2005). Metropolitan areas may have more than one central city⁴ but generally, a metropolitan area will only have one. As the share rises, more residents are served by one large general-purpose government, signaling lower levels of political fragmentation. The second is the extent of suburban municipal fragmentation. This is defined as the ratio of residents who live in suburban municipalities divided by the number of suburban municipalities yielding the average population of a suburban city in the metropolitan area (Nelson & Foster, 1999). As this ratio increases, fragmentation declines. The final variable measuring municipal structure is the proportion of non-central city residents living in unincorporated areas (Foster, 1993). This measures the importance of county government and high values signal lower levels of political fragmentation. For all three variables, an increase signals lower levels of political fragmentation.

The final two political fragmentation variables measure the influence of single-purpose local governments. This is done with two variables: school district decentralization and special district overlap. School district decentralization operationalized as the number of school districts divided by the total number of non-overlapping general-purpose governments (Foster, 1993).⁵ If there are many school districts per city/town, local political fragmentation is enhanced. Lastly, special district overlap is operationalized as the number of special districts divided by the total number of non-overlapping general-purpose governments (Foster, 1993).⁵ If there are many school districts per city/town, local political fragmentation is enhanced. Lastly, special district overlap is operationalized as the number of special districts divided by the total number of non-overlapping general-purpose governments (Berry, 2008; Foster, 1993; Nelson & Foster, 1999). Again, higher levels of this variable are indicative of more fragmentation.

The models presented below examine three indicators of economic growth: growth in log population, growth in log employment, and growth in log real per capita money income.⁶ The first two are generally accepted measures of local economic growth. The third, real per capita income growth, is somewhat problematic. As Glaeser et al. (1995) argue, real income growth is a better indicator of national economic growth. At the local level, individuals are mobile and will likely move in response to changes in productivity (wages). Additionally, employers may have to compensate workers for low quality of life with higher wages. The combination of these effects muddies the connection between income growth and actual economic growth. Nevertheless, much of the prior literature examines real income growth and it is included here as well.

As can be seen in Table 1, metropolitan areas have grown by roughly 50 percent in population, 100 percent in employment and, 70 percent in real per capita money income between 1960 and 2000. However, there is much variance around these averages. The geographic variation in population growth can be seen in Figure fig:popgrow. Geographic growth trends are similar for the other two dependent variables and are omitted for space. Growth largely occurring the southern

and western regions on the United States; however, there is extreme variation in all three measures, geographically. The Naples, FL (276%), Punta Gorda, FL (242%), and Las Vegas, NV-AZ (242%) PMSAs experienced the largest amount of population growth between 1960 and 2000. The bottom three PMSAs for population growth are Steubenville-Weirton, OH-WV (-24%), Wheeling, WV-OH (-22%), and Johnstown, PA (-19%).

Figure 1: Population growth, 1960 - 2000



Connecting any covariates to metropolitan economic growth is rife with potential problems. As cities are large interconnected systems, nearly every potential relationship is endogenous. Glaeser et al. (1995) propose a framework for examining the correlates of economic growth where growth is a function of variables measured at the beginning of the time period. For this analysis, growth in four distinct time periods (10-year, 20-year, 30-year, and 40-year, all starting in 1960) is a function of variables in 1960 (or 1962). By arranging the model specification in this manner, the risk of endogeneity is curtailed as future growth cannot influence past levels of the covariates. Additionally, it allows for the tracking of the influence (or lack thereof) of political fragmentation in the short, medium, and long terms. Following Glaeser et al. (1995), as well as the more recent literature on local government fragmentation and economic growth (Hammond & Tosun, 2011; Stansel, 2005), several control variables, are introduced. First, the initial conditions for each type of growth and per capita money income are included. These two variables set the baseline for estimating long-run growth with initial conditions. To these initial variables, prior growth is added to control for the trajectory of the metropolitan areas.⁷ One might expect those metropolitan areas already in decline or experiencing rapid growth in the pre-trend time period may continue

to do so in subsequent time periods. Lastly, three variables measuring the economic health of the metropolitan area are introduced. The unemployment rate in 1960 controls for the overall economic health and one might expect that distressed metropolitan areas in 1960 will struggle to achieve rapid growth in the future. The share of employment in manufacturing in 1960 controls for the potential impact of the massive shift away from manufacturing. Those metropolitan areas with large exposure to the manufacturing sector are likely to experience low or negative long-run growth as those jobs shifted to different regions in the U.S. and internationally. Finally, the percentage of the population with 16 plus years of schooling is included to control for the ability of the metropolitan area to be a driver in the shift to the knowledge economy over the time period. Much research suggests that a highly educated workforce is a correlate of growth Glaeser and Saiz (2004).

The main data sources are the 1962 Census of Governments (COG) and the five Census of Population and Housing (CPH) between 1960 and 2000. The unit of observation is the primary metropolitan statistical area (PMSA) and are defined at the end of the time period by the 1999 MSA definition to capture all possible effects as metropolitan areas expand over 40 years. PM-SAs in Alaska (1, Anchorage) and Hawaii (1, Honolulu) are excluded. Additionally, the components of the Boston-Worcester-Lawrence, MA-NH-ME-CT consolidated metropolitan statistical area (CMSA) are excluded because there are no county-based definitions of the component PM-SAs.⁸ The final dataset is identical to Stansel (2005) and includes 314 PMSAs in 45 states. Data sources and summary statistics for all of the variables are reported in Table 1.

The impacts of local political fragmentation on growth are identified by regressing population, employment, and real income growth on the five measures of local political fragmentation⁹ and the above control variables. State fixed effects are included to control for important state-specific unobservables such as weather or geography that are common to all PMSAs in a state. These fixed effects also control for laws related to local government creation, annexation, home rule authority, etc. To account for any state-specific correlation in the residuals, the errors are clustered on the state.

Regression Results

The empirical results for population, employment, and real per capita money income growth are presented in Figures 2, 3, and 4 (tabular results can be found in the Appendix). To aid in comparison across the 4 time periods, coefficients are shown in standardized form¹⁰ and confidence intervals are provided. As mentioned above, positive signs for central city share, suburban municipal fragmentation, and suburban unincorporated population and negative signs for school district decentralization and special district overlap are indicative of the "government reformist" perspective. The opposite signs are indicative of the "polycentrist" perspective.

Turning first to population growth, note the trend in the political fragmentation variables and long-run population growth. As the growth horizon becomes longer, the five political fragmentation variables trend toward the polycentric perspective. The only two variables that exhibit statistical significance are the central city population share and special district overlap. The larger the central city as a proportion of the total MSA, the lower growth that MSA exhibits. This result shows signs of acceleration as well. MSAs with larger central cities in the initial time period have increasingly lower growth compared. This is roughly similar to that found by Stansel (2005) using the 1960 to 1990 time period. The economic effects of this lower growth are small, but poten-

Variable	Source	Mean	St. Dev.	Min.	Max.
Growth in log of population, 1960-2000	СРН	0.562	0.455	-0.240	2.770
Growth in log of employment, 1960-2000	CPH	1.075	0.498	-0.943	3.166
Growth in log of real per capita money income, 1959-1999	CPH	0.701	0.158	0.343	1.266
Growth in log of population, 1960-1990	CPH	0.436	0.375	-0.178	2.268
Growth in log of employment, 1960-1990	CPH	0.707	0.398	-0.031	2.428
Growth in log of real per capita money income, 1959-1999	CPH	0.557	0.141	0.256	1.090
Growth in log of population, 1960-1980	CPH	0.332	0.264	-0.092	1.697
Growth in log of employment, 1960-1980	CPH	0.532	0.283	-0.058	1.754
Growth in log of real per capita money income, 1959-1979	CPH	0.381	0.110	0.131	0.815
Growth in log of population, 1960-1970	CPH	0.166	0.146	-0.074	0.882
Growth in log of employment, 1960-1970	CPH	0.214	0.142	-0.160	0.834
Growth in log of real per capita money income, 1959-1969	CPH	0.025	0.124	-0.651	0.379
Population (1000s), 1960	CPH	411.858	833.223	12.594	8759.400
Population (1000s), 2000	CPH	691.711	1161.358	57.813	9519.338
Employment (1000s), 1960	CPH	151.682	331.624	3.656	3696.104
Employment (1000s), 2000	CPH	413.221	686.318	10.724	5388.789
Real per capita money income (\$1000s), 1959	CPH	10.122	1.904	5.145	16.113
Real per capita money income (\$1000s), 1999	CPH	20.299	3.463	9.899	36.651
Central city population share, 1960	CPH	0.468	0.1845019	0.000	0.937
Suburban municipal fragmentation, 1960	CPH	3407.841	4659.769	0.000	41103.000
Suburban unincorporated population, 1960	CPH	0.674	0.193	0.138	1.000
School district decentralization, 1960	COG	1.829	2.478	0.000	17.500
Special district overlap, 1960	COG	1.741	2.611	0.000	17.000
In population, 1960	CPH	12.215	1.061	9.441	15.986
ln employment, 1960	CPH	11.157	1.100	8.204	15.123
Real per capita income (\$1000s), 1959	CPH	10.122	1.904	5.145	16.113
Growth of log population, 1950-1960	CPH	0.260	0.217	-0.099	1.550
Growth of log employment 1950-1960	CPH	0.218	0.215	-0.114	1.572
Unemployment rate, 1960	CPH	0.052	0.016	0.016	0.111
Manufacturing share, 1960	CPH	0.236	0.119	0.034	0.537
Percent of population with 16+ years of school, 1960	CPH	0.081	0.030	0.024	0.218

Table 1: Summary statistics

N=314

CPH is the Census of Population and Housing

COG is the Census of Governments.

tially meaningful. Depending on the time horizon, moving from the 25th percentile of central city share (0.33) to the 50th percentile (0.46) decreases metropolitan population growth by between 1.1 percent (1960-1970) and 3.7 percent (1960-2000). Evaluated at the median metropolitan area population, this reduction in growth is associated with between a 2,000 and 10,700 person decrease in population.

Special district overlap is positively associated with long-run population growth in the latter two time periods (1960-1990 and 1960-2000). The economic impact of this association is smaller than central city share. Evaluated in the same manner, an increase in special district overlap from the 25th percentile (0.35) to the 50th percentile (0.82) is associated with an increase in metropolitan population by between 0.8% and 1%. Evaluated at the median metropolitan area population, this increase in growth is associated with between a 2,000 and 2,700 person increase in population. This result is not generally found in the literature. Foster (1993) finds no relationship between special district overlap and population growth from 1960 to 1980 and that result is replicated here. There is generally no relationship between the political fragmentation variables and employment or per capita income growth across the four time periods. A notable exception is central city population share in the 1960 to 1970, 1960 to 1980, and 1960 to 1990 time periods. For both employment and income growth, a larger central city population share is associated with slower growth. De-



Figure 2: Population growth and political fragmentation

pending on the time horizon, moving from the 25th percentile of central city share (0.33) to the 50th percentile (0.46) decreases metropolitan employment by between 1 to 3 percent and per capita personal income by 1 to 1.5 percent. Evaluated at the median metropolitan area, this is a potential reduction of between roughly 1,100 to 3,700 jobs and \$100 to \$250 less income per capita. Although using different variables and aggregations, this generally null finding is similar to that of Hammond and Tosun (2011)) and the analysis can replicate Stansels (2005) results for central city share and income growth from 1960 to 1990.

The remainder of the control variables largely perform as expected. Similar to the findings of others, pre-initial period growth is influential on future growth (Glaeser et al., 1995; Hammond & Tosun, 2011; Stansel, 2005). If a metropolitan area was growing from 1950 to 1960, that growth continued in all the time periods after on average. There is little evidence of convergence over time except for real money income. High initial per capita money income is associated with lower long-run growth in per capita money income across all time periods. This is a result echoed by Glaeser et al. (1995), Stansel (2005), and Hammond and Tosun (2011). Initial levels of unemployment, manufacturing shares, and educational endowments are all influential on long-run growth in ways consistent with the literature. High levels of initial unemployment reduce long-run growth across all three indicators. Glaeser et al. (1995) explain this negative sign is likely the result of two effects: emigration in response to the business cycle or low human capital endowments. All three models control for initial period educational attainment so the negative sign on unemployment is likely the result of emigration. The effect of initial period unemployment only grows strong as the time horizon expands. Lastly in the short run, manufacturing was at worst not associated with growth



Figure 3: Employment growth and political fragmentation

or was generally positive to growth, particularly for per capita income. However, higher initial exposure to manufacturing is associated with lower long-run growth for employment. As manufacturing declined in metropolitan areas, non-manufacturing industries did not take the place of former industries (Glaeser et al., 1995). Rather, jobs moved away from metro regions.

Overall, the many models paint a picture where local political fragmentation is weakly associated with the drawing of individuals to a metropolitan area. For those two factors most associated with growth (central city population share and special district overlap), the influence on growth from the short to the long run was one of acceleration. As the time horizon for growth becomes larger, the effect size for both of these variables becomes larger; both suggesting a more polycentric outlook on metropolitan growth and political fragmentation.

Extensions & Sensitivity Analysis

Glaeser et al. (1995) explain there are important regional differences in long-run growth. These differences may extend to the relationship between local political fragmentation and growth. Figures 5, 6, and 7 split the original dataset into four Census regions and re-estimates the results from above (tabular results can be found in the Appendix). In general, the influence of local political fragmentation is confined to metropolitan areas in the Northeast and South. Similar to the results in the previous figures, the signs are consistent with the "polycentrist" perspective. However, different from the results in the previous figures, the findings consistent with the "polycentrist" perspective are not confined to population growth alone. Three of the five political fragmenta-



Figure 4: Real per capita income growth and political fragmentation

tion variables are influential for short- and long-run employment growth as well as for shortand long-run per capita money income growth in the northeast region. In the southern region, increased political fragmentation is associated with higher population growth as well as money income growth. In both instances, smaller central city population shares, and more special district overlap is associated with higher levels of growth. Overall, these results suggest the findings in Figures 2, 3, and 4 mask regional variations in the relationship between local political fragmentation and economic growth.

There is some concern the results from Figure 2, 3, and 4 may be overly influenced by extreme values of growth. As can be seen in Figure 1, there are a few metropolitan areas with growth much above or much below what is typical. These extreme values could mask or overstate the relationship between local political fragmentation and long-run growth. This potentiality is explored in Table 2 where the dependent variables are trimmed using three different methods. Panel A trims the upper and lower five percent of observations in the distribution of dependent variables. Panel B trims the upper and lower ten percent of observations in the distribution of dependent variables. Finally, panel C trims observations above or below three standard deviations from the mean of growth. Among population growth models, Panel A trims 35 observations, panel B trims 67 observations, and panel C trims 10 observations. In all three operations, the findings are qualitatively similar to those found in Figure 2, 3, and 4 and supportive of the polycentric perspective. There is little reason to suggest the results in Figure 2, 3, and 4 are driven by outliers in growth.

	Pane	el A: 5% Trimn	ned	Pan	el B: 10% Trimr	ned	Panel	C: ± 3 S.D Trim	med
	Population	Employment	Income	Population	Employment	Income	Population	Employment	Income
				40-ye	ır growth (1960-	-2000)			
Central city population share	-0.3186**	-0.1911	-0.1150**	-0.1651	-0.1804	-0.1197***	-0.2600**	-0.1462	-0.0712
4	(-2.62)	(-1.52)	(-2.52)	(-1.50)	(-1.55)	(-2.91)	(-2.34)	(-1.18)	(-1.11)
Suburban municipal fragmentation	-0.0000**	-0.0000**	-0.0000	-0.0000-**	-0.0000***	-0.0000	-0.0000**	-0.0000**	-0.0000*
Suburban unincorroorated population	-0.1341	-0.1527	0.0075	-0.0865	-0.1557	0.0116	(-2-34) -0.1548	-0.1578	-0.0723
	(-0.91)	(-1.01)	(0.21)	(-0.66)	(-1.15)	(0.34)	(-1.19)	(-1.30)	(-1.48)
School district decentralization	0.0137**	0.0127*	-0.0022	0.0070	0.0087	0.0009	0.0140^{**}	0.0080	-0.0034
	(2.24)	(1.98)	(-0.66)	(1.37)	(1.07)	(0.28)	(2.11)	(0.91)	(-0.85)
Special district overlap	(1.82)	(0.81)	-0.0013 (-0.19)	0.0220^{***} (3.16)	0.0139 (1.56)	-0.0017 (-0.27)	(1.78)	(1.16)	0.0018 (0.38)
Ν	279	279	279	244	245	248	306	306	309
Adj. R ²	0.588	0.595	0.553	0.518	0.538	0.526	0.661	0.678	0.590
				30-ye	ır growth (1960-	(1990)			
Central city population share	-0.2063*	-0.2540**	-0.1171***	-0.1529*	-0.1307	-0.1092***	-0.2011**	-0.2225**	-0.1111**
	(-1.76)	(-2.29)	(-2.79)	(-1.78)	(-1.50)	(-3.37)	(-2.16)	(-2.42)	(-2.45)
Suburban municipal fragmentation	-0.0000+++	-0.0000**	-0.0000	-0.0000*	-0.0000***	0.0000	-0.0000**	-0.0000**	-0.0000
Suburban unincorporated population	-0.1286	-0.1450	0.0128	-0.0447	-0.1953*	0.0185	-0.1171	-0.1340	-0.0202
4 4 4	(-1.06)	(-1.34)	(0.32)	(-0.45)	(-1.80)	(0.52)	(-1.13)	(-1.46)	(-0.54)
School district decentralization	0.0114**	0.0123**	0.0000	0.0043	0.0075	0.0011	0.0117**	0.0103**	-0.0006
Smoothal district accordance	(2.42) 0.0151**	(2.07) 0.0023	(0.01) -0.0024	(0.95) 0.0180***	(1.34)	(0.27) -0.0060	(2.23) 0.0123	(2.04) 0.0046	(-0.18) -0.0019
operat distinct overligh	(2.14)	(0.21)	-0.0023	(2.73)	(1.07)	(-1.12)	(1.62)	(0.49)	(-0.48)
N	279	277	278	243	245	245	305	305	307
Adj. R ²	0.684	0.674	0.657	0.649	0.616	0.610	0.740	0.741	0.699
				20-ye	ar growth (1960-	-1990)			
Central city population share	-0.1689*	-0.1402**	-0.0360	-0.1142*	-0.1856**	-0.0412	-0.1691**	-0.2007**	-0.0766**
Suburban municipal fragmentation	(7/.T-) -0.0000-***	(01.2-) -0.0000-**	0.0000-	-0.0000*	-0.0000-***	(#C.1-)	(70.7-)	-0.0000***	(c1.7-)
2	(-3.11)	(-2.61)	(-0.21)	(-1.92)	(-3.11)	(1.23)	(-2.13)	(-2.70)	(96.0-)
Suburban unincorporated population	-0.0947	-0.1444* (-183)	-0.0048	-0.0833	-0.1224 (-1 47)	0.0207	-0.1013	-0.1034	-0.0323
School district decentralization	0.0076*	0.0107***	-0.0032	0.0065*	0.0066	-0.0027	0.0092**	0.0078**	-0.0034
	(1.76)	(3.15)	(-1.66)	(1.83)	(1.34)	(-1.31)	(2.15)	(2.16)	(-1.43)
Special district overlap	0.0108**	0.0022	-0.0011	0.0112**	0.0037	0000-0-	0.0070	0.0008	0.0017
N	278	278	277	244	244	241	305	304	306
Adj. \mathbb{R}^2	0.654	0.691	0.680	0.604	0.624	0.637	0.715	0.740	0.711
Conchus di tra socia da tra da	0.0170	0.066.2	***>0110	10-ye	ar growth (1960-	-1970)	2020 U	2020 0	0 1070***
Cellitat city population share	-0.0479	-0.000	000 0-0	-2 36)	-0.0402	(90 °-)	-0.070- (-1.45)	-0.0730	0/7170-
Suburban municipal fragmentation	++00000-	++00000-	0.0000	(0C.7-) -0.0000-**	*00000-	0.0000	(C∓-T_)	(7C-T-)	0.0000
D -	(-2.65)	(-2.32)	(1.13)	(-2.15)	(-1.86)	(1.57)	(-3.44)	(-2.87)	(0.71)
Suburban unincorporated population	-0.0679	-0.0953**	0.0053	-0.0388	-0.0629**	0.0179	-0.0566*	-0.0716**	0.0037
School district decentralization	(9C.1-) 0.0081***	(-2.49) 0.0047	(0.16) -0.0008	(-1.20) 0.0073**	(-2.09) 0.0047	(0.60) -0.0003	(c/.1-) 0.0096***	(-2.32) 0.0047	-0.0005
	(3.24)	(1.39)	(-0.29)	(2.23)	(1.39)	(60.0-)	(4.14)	(1.33)	(-0.18)
Special district overlap	0.0027	0.0013	0.0004	0.0009	-0.0018	-0.0010	0.0004	0.0008	0.0002
Ν	276	278	278	(0.36) 244	245	(-0.41) 246	301	302	305
Adj. R ²	0.569	0.536	0.526	0.547	0.525	0.516	0.625	0.591	0.573

 $\begin{array}{ccccc} N & 276 & 278 & 244 \\ \mbox{Adj.} R^2 & 0.569 & 0.536 & 0.526 & 0.547 \\ \mbox{Notes: Control variables are not reported. Cluster-robust t-statistics in parentheses. *** p-0.01, *** $$

Table 2: Sensitivity Analysis



Figure 5: Population growth and political fragmentation by region

Policy Implications & Conclusions

This analysis seeks to explore the relationship between local political fragmentation and long-run economic growth in 314 U.S. metropolitan areas from 1960 to 2000. Following Glaeser et al. (1995) and others, a model of economic growth is specified. Paying specific attention to the unique aspects of U.S. local government, several variables are layered onto this model. The results suggest that smaller central cities and more special district overlap enhance metropolitan area population growth. However, the same factors are largely unrelated to growth in employment or per capita money income. Similar to Hammond and Tosun (2011), this analysis suggests that the unique aspects of special district forms of local government, flexibility and their ability to overlap other governments, can enhance population growth. The findings mask important regional variations. Political fragmentation is largely unrelated to economic growth in the Midwest and Western regions. Taken as a whole, the results present a muted and context-specific influence of political fragmentation on economic growth.

As Martinez-Vasquez et al. (2017) note, the relationship between local fragmentation and longrun economic growth is likely an endogenous one. This can arise due to an omitted variable influencing both fragmentation and economic growth. More likely, areas that want to generate long-run economic growth could strategically construct their local government structure in an attempt to achieve such growth. The preceding analysis takes steps to mitigate the first concern by fully specifying an accepted model of long-run economic growth in the literature (Glaeser et al., 1995). The second concern is dealt with by using initial period measures of fragmentation as



Figure 6: Employment growth and political fragmentation by region

is now common in the literature (Akai & Sakata, 2002; Hammond & Tosun, 2011; Stansel, 2005). However, neither are likely to fully account for the potential endogeneity. Ultimately, the literature is hampered by a lack of relevant, time-variant instruments (Martinez-Vasquez et al., 2017).

The results of this analysis present some implications for policymakers interested in enhancing economic growth in urban areas. First and largely consistent with the preceding literature, political fragmentation has a muted and inconsistent influence on economic growth. The two factors most associated with population growth, central city population share and special district overlap, display significant regional variation. These factors are important for Northeastern and Southern cities and largely unrelated to growth in the Midwest and West. A plan to enhance local economic growth via changes in governance structures appears dubious at best. Second and similarly consistent with the literature on urban growth, economic fundamentals of the metropolitan area are the best predictor of future growth. The results presented here suggest policymakers should focus on attracting individuals and jobs to their area as these two factors are the most important in predicting future growth.

As others have noted, how decentralization or political fragmentation is measured is important (Grassmueck & Shields, 2010; Martinez-Vasquez et al., 2017). Future research should focus on continuing to refine measures of local political fragmentation in the US context. Additionally, more effort should be exerted to identify viable time-variant instruments, so more current analyses of economic growth and local political structure can be conducted. The growth in special districts in the US is largely unexamined in the context of this and other long-run analyses because of the starting time. Over the last 50 years, the growth in special district has topped 200 percent on



Figure 7: Real per capita income growth and political fragmentation by region

average and the results presented here suggest this should have some impact on local economic growth.

Notes

¹There has been a fairly large amount of centralization of local authority in state governments (Bowman & Kearney, 2011) and an increase in federal authority over time. In a relative sense, the US is reasonably decentralized.

²There are two recent reviews of these literatures that more completely survey the literature on local government fragmentation. See Hall et al. (2018) and Goodman (2019).

³Grassmueck and Shields (2010) examine and attempt to overcome the issues with absolute or relative measures of political fragmentation with two indices: one measuring vertical fragmentation (a Hirschman-Herfindahl index of all local government expenditures) and one measuring horizontal fragmentation (the Metropolitan Power Diffusion Index of municipal/township expenditures introduced by Miller (2002)). This is a fundamentally different approach than the one taken here; however, the two analyses are attempting to solve the same problem with different methods

⁴The Office of Management and Budget often designates multiple cities in an MSA as "central." Generally, this is cities over 50,000 in population; however, the reality of assignment to "central" status is much more complex.

⁵In 11 states, towns may overlap other forms of general purpose local government and serve as supplements to other governments.

⁶Specifically, these are defined as $ln(var_2000/var_1960)$ where var is population, employment, or per capita money income.

⁷Unfortunately, 1949 per capita money income is unavailable. Pre-trend population growth is substituted.

⁸CMSAs and PMSAs in much of the northeast are defined by township rather than the county. OMB provides a means to convert these definitions to a county-based system (New England County Metropolitan Areas); however, these are not available for component PMSAs of a CMSA.

⁹There is some concern about the potential for collinearity between the five measures of political fragmentation. Pairwise correlations and the variance inflation factor (VIF) suggest the concern for this is minimal.

¹⁰A one standard deviation change in the independent variable leads to an X standard deviation change in Y.

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Appendix

Table A1: Metro area	a growth & local	political	fragmentation,	1960 to	2000 and	1960 1	to 1	990

	(4)	(=)	(2)	(1)	(=)	(()
	(1)	(2)	(3)	(4)	(5)	(6)
	Growth	Growth	Growth	Growth	Growth	Growth
	in log of					
	popula-	employ-	real per	popula-	employ-	real per
	tion,	ment,	capita	tion,	ment,	capita
	1960-2000	1960-2000	money	1960-1990	1960-1990	money
			income,			income,
			1959-1999			1959-1989
Political Fragmentation (start of period)						
Central city population share	-0.2863**	-0.1338	-0.0725	-0.2243**	-0.2471**	-0.1132**
	(-2.38)	(-0.81)	(-1.09)	(-2.22)	(-2.57)	(-2.36)
Suburban municipal fragmentation	-0.0000*	-0.0000*	-0.0000	-0.0000	-0.0000	-0.0000
	(-1.69)	(-1.86)	(-1.49)	(-1.37)	(-1.68)	(-0.60)
Suburban unincorporated population	-0.1024	-0.1146	-0.0820	-0.0651	-0.0771	-0.0309
	(-0.70)	(-0.80)	(-1.57)	(-0.54)	(-0.71)	(-0.75)
School district decentralization	0.0089	0.0089	-0.0038	0.0068	0.0049	-0.0011
	(0.80)	(0.85)	(-0.91)	(0.76)	(0.58)	(-0.29)
Special district overlap	0.0200**	0.0109	0.0020	0.0166*	0.0091	-0.0018
1 1	(2.05)	(0.97)	(0.41)	(2.00)	(0.95)	(-0.43)
Control Variables (start of period)	. ,				. ,	. ,
In population	0.0009	_	0.0023	-0.0125	_	0.0090
	(0.01)		(0.14)	(-0.25)		(0.74)
In employment	_	0.0184	-	-	-0.0074	_
1 5		(0.32)			(-0.17)	
Real per capita money income	-0.0540	-0.0581	-0.0253**	-0.0397	-0.0426	-0.0201**
1 1 5	(-0.93)	(-1.17)	(-2.28)	(-0.86)	(-0.98)	(-2.07)
Growth in log population, 1950-1960	0.6527***		-0.0570	0.6292***		-0.0135
01 1 ,	(5.87)		(-1.36)	(7.32)		(-0.33)
Growth in log employment, 1950-1960	_	0.9230***	_	_	0.7970***	_
,,,,,		(5.54)			(7.25)	
Unemployment rate	-5.1266***	-4.5169***	-2.5270***	-3.8751***	-3.7541***	-2.2892***
enempioyment rate	(-5.84)	(-5.16)	(-4.68)	(-5.52)	(-4.72)	(-4.98)
Manufacturing share	-0.3879	-1 1486***	-0 1123	-0.3160	-0.6062*	-0 1465
interfecturing bitale	(-0.97)	(-3.37)	(-0.96)	(-0.92)	(-1.85)	(-1.26)
% population with 16+ year education	2 2789	1 6496	0.6606*	1 9131	1 6780	0 4305
/o population whit for year education	(1.61)	(1.41)	(1.69)	(1.65)	(1.66)	(1.23)
State fixed effects	Vac	Vac	Vec	Vac	Vac	Vas
M	311	311	311	310	310	310
$\Lambda d; P^2$	0.674	0.661	0.606	0.608	0.608	0.640
лиј. Л	0.074	0.001	0.000	0.090	0.090	0.049

Notes: Control variables are not reported. Cluster-robust *t*-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1

	(1) Growth	(2) Growth	(3) Growth	(4) Growth	(5) Growth	(6) Growth
	in log of popula-	in log of employ-	in log of real per	in log of popula-	in log of employ-	in log of real per
	tion,	ment,	capita	tion,	ment,	capita
	1960-1980	1960-1980	money	1960-1970	1960-1970	money
			income,			income,
			1959-1979			1959-1969
Political Fragmentation (start of period)						
Central city population share	-0.1832**	-0.2076**	-0.0845**	-0.0848*	-0.0842*	-0.0740*
	(-2.13)	(-2.56)	(-2.19)	(-1.71)	(-1.99)	(-1.81)
Suburban municipal fragmentation	-0.0000	-0.0000*	-0.0000	-0.0000	-0.0000*	-0.0000
	(-1.32)	(-1.88)	(-0.97)	(-1.57)	(-1.79)	(-0.92)
Suburban unincorporated population	-0.0659	-0.0793	-0.0450	-0.0558	-0.0786**	-0.0739
	(-0.76)	(-1.07)	(-1.59)	(-1.51)	(-2.28)	(-1.27)
School district decentralization	0.0052	0.0034	-0.0036	0.0079**	0.0050	0.0008
	(0.74)	(0.55)	(-1.39)	(2.06)	(1.27)	(0.25)
Special district overlap	0.0109*	0.0039	0.0016	0.0016	-0.0015	0.0032
	(1.69)	(0.50)	(0.52)	(0.45)	(-0.38)	(0.88)
Control Variables (start of period)						
In population	-0.0273	-	-0.0042	-0.0078	-	0.0133**
	(-0.80)		(-0.54)	(-0.46)		(2.50)
ln employment	-	-0.0268	-	-	-0.0136	-
		(-0.98)			(-1.08)	
Real per capita money income	-0.0220	-0.0180	-0.0218***	-0.0119	-0.0071	-0.0171**
	(-0.70)	(-0.67)	(-3.27)	(-0.87)	(-0.69)	(-2.62)
Growth in log population, 1950-1960	0.5035***	-	-0.0126	0.3900***	-	-0.1879**
	(7.12)		(-0.42)	(7.21)		(-2.26)
Growth in log employment, 1950-1960	_	0.6084***	-	-	0.4014***	-
		(6.64)			(7.45)	
Unemployment rate	-2.4827***	-2.1759***	-0.7469**	-2.0517***	-1.6309***	-1.1326**
	(-5.46)	(-3.51)	(-2.05)	(-5.35)	(-3.07)	(-2.66)
Manufacturing share	-0.0894	-0.3027	-0.0381	0.0984	0.0543	0.5140***
	(-0.34)	(-1.29)	(-0.50)	(0.94)	(0.49)	(4.23)
% population with 16+ year education	1.6328**	1.5994**	0.0913	1.3302***	1.2898***	1.0966***
	(2.08)	(2.59)	(0.40)	(4.06)	(4.62)	(3.22)
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Ν	310	310	310	310	310	310
Adj. R ²	0.675	0.707	0.665	0.631	0.602	0.367

Table A2: Metro area growth & local political fragmentation, 1960 to 1980 and 1960 to 1970

Notes: Control variables are not reported. Cluster-robust *t*-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A3: Metro area growth & local political fragmentation by region

	40-year gro	wth (1960-20	(00				30-year grov	wth (1960-199	(06			
	Panel A: N	ortheast		Panel B: Mi	dwest		Panel A: No	ortheast		Panel B: Mi	dwest	
	Population	Employme	at Income	Population	Employmen	t Income	Population	Employmer	nt Income	Population	Employmer	it Income
Central city population share	0.2754	0.1786	-0.1591*	0.0304	0.0996	0.0179	0.2376	0.0700	-0.1444**	0.0256	0.1275	-0.0001
-	(1.58)	(1.27)	(-2.49)	(0.10)	(0.32)	(0.13)	(1.65)	(0.65)	(-3.93)	(0.13)	(0.54)	(-0.00)
Suburban municipal fragmentation	-0.0000*	-0.0000***	-0.0000**	-0.0000	-0.0000	0.0000	-0.0000**	-0.0000**	-0.0000**	-0.0000	-0.0000	-0.0000
- - -	(-2.34)	(-4.37)	(-3.01)	(-0.37)	(-0.83)	(0.33)	(-3.41)	(-3.40)	(-2.88)	(-0.58)	(-0.94)	(-0.00)
Suburban unincorpo- rated population	-0.5893**	-0./622***	-0.1385	0.0767	-0.0744	0.0742	-0.5194**	-0.6143**	77.60.0-	0.0829	0810.0-	9660.0
	(-2.81)	(-4.05)	(-1.98)	(0.28)	(-0.32)	(0.71)	(-3.12)	(-3.53)	(-1.33)	(0.47)	(-0.10)	(0.59)
School district decen- tralization	0.2207	0.1557	0.0315	0.0079	0.0243*	0.0020	0.1814^{*}	0.1790	0.0522*	0.0051	0.0117	0.0049
	(1.94)	(1.38)	(1.83)	(0.68)	(1.98)	(0.22)	(2.09)	(1.75)	(2.37)	(0.72)	(1.06)	(0.52)
Special district overlap	0.1029	0.1993**	0.0509**	-0.0274	-0.0190	-0.0185	0.1061*	0.1488**	0.0520^{**}	-0.0199	-0.0228	-0.0162*
	(1.86)	(3.34)	(3.14)	(-0.35)	(-0.22)	(-1.23)	(2.39)	(3.12)	(3.73)	(-0.33)	(-0.37)	(-2.10)
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ν	43	43	43	29	62	79	43	43	43	79	62	79
Adj. R ²	0.576	0.737	0.579	0.554	0.645	0.526	0.628	0.705	0.569	0.619	0.684	0.456
	Panel C: So	outh		Panel D: Wo	st		Panel C: So	uth		Panel D: We	st	
	Population	Employme	nt Income	Population	Employmen	t Income	Population	Employmer	nt Income	Population	Employmer	it Income
Central city population share	-0.6081**	-0.3218	-0.1108**	-0.6659	-0.4275	-0.0546	-0.5075**	-0.5847**	-0.1640***	-0.4965	-0.3994	-0.1085
	(-2.49)	(-0.72)	(-2.14)	(-1.81)	(-0.95)	(-0.29)	(-2.51)	(-2.92)	(-2.05)	(-1.62)	(-1.18)	(-0.82)
Suburban municipal fraomentation	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000***	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000*
100000000000	(-1.41)	(-0.19)	(-1.62)	(-0.44)	(-0.93)	(-3.18)	(-1.29)	(-1.07)	(-1.49)	(-0.00)	(-0.31)	(-1.93)
Suburban unincorpo- rated population	0.0108	0.1216	-0.1554*	-0.1770	-0.2056	-0.1844	0.0908	0.1053	-0.0978	-0.1224	-0.1800	-0.1013
J. J	(0.04)	(0.83)	(-1.86)	(-0.49)	(-0.53)	(-1.11)	(0.43)	(0.57)	(-1.30)	(-0.46)	(-0.56)	(-0.84)
School district decen- tralization	-0.0154	-0.0151	-0.0073	0.0249	0.0150	0.0003	-0.0129	-0.0119	-0.0048	0.0207	0.0175*	0.0020
	(-0.55)	(-0.59)	(-1.63)	(1.50)	(1.32)	(0.05)	(-0.54)	(-0.56)	(-0.98)	(1.77)	(1.96)	(0.53)
Special district overlap	0.0486^{**}	0.0244	0.0206**	0.0089	0.0052	-0.0047	0.0381^{**}	0.0334^{**}	0.0124	0.0077	0.0001	-0.0060*
	(2.83)	(1.16)	(2.83)	(1.03)	(0.62)	(-1.20)	(2.44)	(2.23)	(1.53)	(1.01)	(0.01)	(-2.19)
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ν	126	126	126	63	63	63	125	125	125	63	63	63
Adj. R ²	0.531	0.476	0.648	0.533	0.531	0.303	0.591	0.587	0.646	0.526	0.469	0.263
Notes: Control variables ¿	are not reporte	ed. Cluster-ro	bust t-statistics	in parentheses	. *** p<0.01, *	** p<0.05, * p<	0.1					

Table A4: Metro area growth & local political fragmentation by region

	20-year gro	wth (1960-198	(0)				10-year grov	vth (1960-197	(0			
	Panel A: No	ortheast		Panel B: Mi	dwest		Panel A: No	rtheast		Panel B: Mi	dwest	
	Population	Employmen	it Income	Population	Employmen	t Income	Population	Employmen	t Income	Population	Employmer	t Income
Central city population share	0.1450	-0.0049	-0.1492	0.0162	0.0970	0.0952	0.0788	-0.0091	-0.1155**	0.0055	0.0092	-0.0374
	(1.24)	(-0.05)	(-1.65)	(0.15)	(0.88)	(1.16)	(1.62)	(-0.28)	(-3.24)	(0.12)	(0.17)	(-0.49)
Suburban municipal fragmentation	-0.0000**	-0.0000**	-0.0000**	-0.000	-0.0000	0.0000	-0.0000**	-0.0000	0.0000	-0.0000	-0.0000	0.0000
5	(-3.71)	(-3.86)	(-2.87)	(-0.69)	(-1.14)	(0.48)	(-2.79)	(-1.77)	(0.28)	(-0.38)	(-0.52)	(0.61)
Suburban unincorpo- rated population	-0.3219**	-0.4039**	-0.0782	0.0681	-0.0350	0.0134	-0.1506**	-0.1540**	0.0920	0.0879	0.0352	0.0493
4	(-2.66)	(-3.17)	(-0.77)	(0.57)	(-0.29)	(0.18)	(-2.92)	(-3.16)	(1.32)	(1.46)	(0.49)	(0.50)
School district decen- tralization	0.1191*	0.1062	0.0032	0.0026	0.0093	-0.0006	0.0558**	0.0416**	0.0015	0.0034	0.0057	0.0035
	(2.33)	(1.73)	(0.14)	(0.56)	(1.46)	(-0.10)	(3.74)	(3.04)	(0.11)	(0.87)	(1.20)	(0.67)
Special district overlap	0.0737**	0.1137^{**}	0.0503**	-0.0134	-0.0257	-0.0181***	0.0273^{*}	0.0414^{*}	0.0235	-0.0012	-0.0031	-0.0057
	(2.89)	(3.74)	(3.47)	(-0.34)	(06.0-)	(-3.50)	(2.29)	(2.11)	(1.43)	(-0.05)	(-0.18)	(-0.68)
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ν	43	43	43	79	79	79	43	43	43	79	62	79
Adj. R^2	0.661	0.738	0.585	0.593	0.694	0.486	0.740	0.711	0.499	0.641	0.658	0.262
	Panel C: So	uth		Panel D: We	st		Panel C: So	uth		Panel D: We	st	
	Population	Employmen	it Income	Population	Employmen	t Income	Population	Employmen	t Income	Population	Employmer	t Income
Central city population share	-0.3934**	-0.4599**	-0.1362**	-0.3657*	-0.2421	-0.0175	-0.1842**	-0.1565**	0.0127	-0.2713*	-0.1976	-0.2048**
	(-2.34)	(-2.80)	(-2.83)	(-1.87)	(-1.18)	(-0.25)	(-2.31)	(-2.18)	(0.15)	(-1.98)	(-1.50)	(-2.71)
Suburban municipal fragmentation	-0.000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000-***	-0.0000	-0000	-0.0000	-0.0000	-0.0000	-0.0000***
ρ	(-1.30)	(-1.61)	(-1.67)	(-0.12)	(-0.65)	(-3.28)	(-1.54)	(-1.25)	(-0.81)	(-0.54)	(-1.07)	(-4.91)
Suburban unincorpo- rated population	0.0586	0.0270	-0.1199*	-0.1381	-0.1966	-0.1089	-0.0474	-0.0726	-0.2289	-0.0685	-0.1724	-0.1683*
	(0.37)	(0.20)	(-1.85)	(-0.60)	(-0.82)	(-1.45)	(-0.62)	(-1.13)	(-1.66)	(-0.71)	(-1.66)	(-2.12)
School district decen- tralization	-0.0122	-0.0070	-0.0052**	0.0213**	0.0147*	-0.0013	0.0021	0.0002	-0.0018	0.0191**	0.0151**	0.0027
	(-0.76)	(-0.54)	(-2.18)	(2.32)	(2.14)	(-0.39)	(0.34)	(0.04)	(-0.34)	(3.02)	(2.73)	(0.60)
Special district overlap	0.0328**	0.0312***	0.0157**	-0.0010	-0.0072	-0.0015	0.0161***	0.0132***	0.0203*	-0.0080***	-0.0095***	-0.0010
	(56.7)	(4.11)	(707)	(91.0-)	(06.0-)	(19.0-)	(3.43)	(07.6)	(1.97)	(-4.10)	(-4./8)	(77.0-)
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ν	125	125	125	63	63	63	125	125	125	63	63	63
Adj. R ²	0.568	0.579	0.548	0.509	0.490	0.271	0.558	0.486	0.389	0.608	0.625	0.137
Notes: Control variables à	rre not reporte	d. Cluster-rob	oust t-statistics	in parentheses.	*** p<0.01, *	* p<0.05, * p<	0.1					