A RESEARCH NOTE

A Reassessment of City/County Consolidation: Economic Development Impacts

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OVER THE PAST two decades, a large body of literature has examined the fiscal consequences of city/county consolidation. Much of this research suggests that consolidation results in expansions in local budgets and in the scope and quality of municipal services (Erie, Kirlin, and Rabinovitz 1972; Benton and Gamble 1984; Seamon and Feiock 1995). Recent studies suggest that consolidation also benefits local economic development efforts (Owen 1992; Rusk 1993; Savitch and Vogel 1995). Unlike these public-sector tax and expenditure effects, the impact of consolidation on overall local economic conditions has not been subjected to systematic empirical tests. This research note begins to fill this lacuna by building on Benton and Gamble's analysis (1984) of the effect of consolidation on taxes and expenditures in Jacksonville, Florida. We employ a similar design, but also include private-sector growth and use a Box-Tiao time-series model (Box and Tiao 1975), together with more contemporary data to identify the overall economic development effects of a city/county merger.

Economic Development Consequences of Consolidation

Previous studies of city/county consolidation have focused almost exclusively on the conse-

quences for public-sector growth, while the impact on private-sector growth and overall economic development has received little attention. This is especially unfortunate because case studies suggest that consolidated government may enhance economic growth (Owen 1992; Durning 1989).

Theories of local political economy suggest several ways in which consolidation might promote economic development. One way consolidation supports growth is by enhancing the planning capacity of local government. Comprehensive planning on a metropolitan-wide basis under a single authority is viewed as a necessary condition for attaining coordinated development. Without comprehensive planning, existing jurisdictions may develop land-use regulations based on parochial interests and engage in zero-sum or negative-sum competition for new development (Rigos 1995). Fragmentation can promote socially inefficient competition for developmental resources by creating unnecessary business incentives. In addition, Becker (1996) argues that fragmentation leads to an erosion of planning capability on the part of local governments.

While citizens' confusion about the issue of responsibility in a fragmented system has received much attention (Lyons and Lowery 1989), less has been directed to the conse-

quences of multiple overlapping jurisdictions for businesses and developers. Consolidation may facilitate public/private cooperation on development issues and reduce the time and costs of gaining approval for new developments. Metropolitan government provides a mechanism to streamline the regulatory and development approval process: rather than having to secure permits and approvals from numerous independent governments, firms can deal with a single jurisdiction. This may be especially important for manufacturing firms making complicated siting decisions amid regulatory uncertainty. Studies of economic development confirm that the confusion, delays, and uncertainty that result from the need to gain development approvals from multiple departments, agencies, and governments can have negative consequences for new development (Feiock 1994).

Consolidation may also ensure a resource base sufficient for promoting economic development. Smaller, individual governments may have inadequate jurisdiction, legal powers, and tax sources to deal with development problems. Adequacy may only be attained by pooling the resources of an entire metropolitan area. Moreover, the large-scale infrastructure necessary for mass transit systems, downtown redevelopment, or sports stadiums, for example, can only be provided on a regional basis.

Some support for these relationships can be found in empirical research. Savitch and Vogel (1995) review evidence of economic interdependence between cities and suburbs. This suggests that, to be efficient, local development programs need to be implemented at a regional level. By themselves, neither cities nor suburbs can provide the generative assets that can be combined and coordinated to produce new products (1995, 2). Nevertheless, some empirical studies have drawn opposite conclusions. Morgan and Mareschal (1996) examine political fragmentation and economic conditions in 77 large metropolitan statistical areas and conclude that *decen*-tralization promotes economic growth.

Additional evidence for the linkage between metropolitan government and economic development can be derived from case studies of consolidation. In a review of research findings on the impact of city/county consolidations, Durning (1989) reports that local officials claim that consolidation benefits economic development and industrial recruitment efforts. Several commentators have credited the consolidated unigov for Indianapolis' success in promoting growth and economic development (Owen 1992; Rusk 1993). Owen (1992) argues that Indianapolis' successes in obtaining development grants and encouraging public/private partnerships for economic development were due, in large part, to consolidation. In Jacksonville, Florida, local government has been very active in corporate recruitment (Berry 1996), and community leaders assert that consolidation has made it easier to attract business because developers only have to deal with one government unit (Foren 1989).

Research Design and Data Description

This study builds on the work of Benton and Gamble (1984) by estimating the impact of the consolidation of the city of Jacksonville and Duval County, Florida, governments on overall economic growth in the county. Like Benton and Gamble, we use a quasi-experimental, interrupted time-series design to estimate the effects of consolidation, with the nonconsolidated governments of the city of Tampa and Hillsborough County serving as a control area. Benton and Gamble provide four reasons for their choice of Tampa/Hillsborough as a control area.

First, another city in Florida was chosen so as to control for the effect that state statutes and constitutional provisions might have on local government structure and policies. Second, Tampa came the closest to matching Jacksonville with respect to a number of socioeconomic factors which past studies have shown to influence local revenues and expenditures (e.g., total

population, population growth, minority population, level of income, education, urbanization, industrialization, culture). Third, the two areas have had similar forms of government prior to the Jacksonville consolidation and their respective counties also had similar forms of government. Finally, in 1967, the year in which the Jacksonville consolidation passed, Hillsborough County voters defeated a proposal that would have consolidated the city and the county. In sum, though no city would be a perfect match with Jacksonville, Tampa appears to come closest. (Benton and Gamble 1984, 193)

We extend Benton and Gamble's work in several ways. First, we include two control groups instead of one. While we still include an analysis of Tampa/Hillsborough to allow comparison to the earlier work, we also examine economic trends for all Florida counties, with the exception of Duval County. This design allows us to discern whether economic changes in Jacksonville/Duval might correspond to state and national economic trends.

We also focus on economic development rather than taxation and expenditures. Our interest is in assessing the change in manufacturing-, retail-, and service-sector activity that may have resulted from consolidation. We examine trends in the number of firms within each of these sectors. We hypothesize that, following consolidation, manufacturing, retail, and service establishments will increase in Duval County, but no similar increase will occur across the other Florida counties or in Hillsborough County. While it would be desirable to also include trends in employment and wages, this data is not available annually at the local level. The source for the number of manufacturing, retail, and service establishments in each county is *County Business Patterns,* 1950–1993.[1]

The Box-Tiao procedure is the preferred approach for assessing the impact of a discrete policy intervention over time (Box and Tiao 1965; 1975). The advantage of the Box-

Tiao approach is that it models serial correlation as a time-series process, allowing the effect of the intervention to be distinguished from the "noise" of history, seasonality, and random error (Box and Tiao 1975; McDowall et al. 1980). Once modeled, serial dependence is statistically controlled, so that the effect of the intervention can then be estimated and tested for statistical significance without fear of bias due to understated standard errors (McDowall et al. 1980).

Before estimating the effect of consolidation for these economic series, it was necessary to identify the underlying processes and then estimate the parameters for the model. This was accomplished using identification and estimation procedures cited in Box and Jenkins (1970). After identifying the autoregressive terms, we add a dummy variable for consolidation, with a value of "0" for the preconsolidation period (1950–1968), and "1" for the postconsolidation period. Unifying a city and county government is a major undertaking, and it takes several years for the consolidated government to fully emerge (Durning 1995). Thus, the consolidation variable is operationalized so that the full impact of the merger between the city of Jacksonville and Duval County is not felt until five years after the merger. Beginning with 1969, x increases by increments of 0.2 until it reaches the value "1" in 1973.[2]

Our hypotheses correspond to the model terms, or estimated regression coefficients, that represent the effect of this intervention (Table 1). The consolidation variable identifies the impact of consolidation on trends in economic activity and is interpreted by the values of the model terms as the change in the growth of the manufacturing-, retail-, or service-sector due to consolidation. Because consolidation occurred in the Jacksonville/Duval area, we expect to observe an increase for the postconsolidation period in all three sectors. However, as no such consolidation occurred in Tampa/Hillsborough or in any other local governments in the state of Florida, we do not expect to find statistically sig-

Table 1: Economic Development Impacts: A Time-Series Comparison, by Sector and Area

	Area		
Sector[a]	Jacksonville/Duval	Tampa/Hillsborough	All Nonconsolidated Florida Counties[b]
Manufacturing	ARIMA (0,1,0)	ARIMA (1,1,0)	ARIMA (1,1,0)
	Constant 7.08 (1.88)	Constant 9.43 (1.86)	Constant 186.79 (3.12**)
	Consolidation .10 (.63)	Consolidation .24 (1.15)	Consolidation 5.59 (2.29**)
	D-W Stat 1.97	D-W Stat 1.90	D-W Stat 2.05
	ADF Stat –4.15**	ADF Stat –4.43**	ADF Stat –4.72**
	Q-Stat, Lag 1 .07 (.79)	Q-Stat, Lag 2 .62 (.43)	Q-Stat, Lag 2 .31 (.58)
Retail	ARIMA (0,1,0)	ARIMA (0,1,0)	ARIMA (0,1,0)
	Constant 36.06 (1.06)	Constant 40.12 (1.06)	Constant 839.12 (2.00*)
	Consolidation 1.53 (1.11)	Consolidation 2.39 (1.54)	Consolidation 40.33 (2.35**)
	D-W Stat 2.01	D-W Stat 1.80	D-W Stat 1.99
	ADF Stat –4.83**	ADF Stat –3.98**	ADF Stat –4.15**
	Q-Stat, Lag 1 .01 (.92)	Q-Stat, Lag 1 .28 (.60)	Q-Stat, Lag 1 .02 (.90)
Service	ARIMA (3,2,0)	ARIMA (3,2,0)	ARIMA (3,2,0)
	Constant 3.48 (.15)	Constant 4.33 (.27)	Constant 37.45 (.20)
	Consolidation .033 (.03)	Consolidation .21 (.32)	Consolidation 5.72 (.75)
	D-W Stat 2.35	D-W Stat 1.94	D-W Stat 1.94
	ADF Stat –4.42**	ADF Stat –7.59**	ADF Stat –8.44**
	Q-Stat, Lag 4 1.21 (.27)	Q-Stat, Lag 4 .38 (.54)	Q-Stat, Lag 4 .48 (.49)

[a] Values in table are estimated regression coefficients; *t*-values are in parentheses. D-W denotes the Durbin-Watson statistic; ADF denotes the augmented Dickey-Fuller test statistic, and; Q-Stat denotes the Ljung-Box Q statistic. The probability that the residuals contain only "white noise" is reported in parentheses alongside the Q-Stat.

[b] All nonconsolidated counties in Florida. Of the 67 counties in Florida, only Duval is excluded from this measure.

*$p < .05$. **$p < .01$.

nificant changes in growth in these areas corresponding to the postconsolidation period in Jacksonville/Duval.

Analysis

Trends in the number of manufacturing, retail, and service establishments were identified using the process described above. Nonstationarity required that each series be differenced prior to estimation. For the manufacturing and retail series, the first difference was taken. For the service-sector series, it was necessary to take the second difference before stationarity was achieved.[3] Plots of the differenced series revealed evidence of a first order autoregressive process for both manufacturing and retail establishments. Service establishment growth was nonlinear

and exhibited a more complex underlying process. It was necessary to include three autoregressive terms to remove the effects of autocorrelation and produce a model in which the residuals were not different from white noise.[4]

In addition to reporting the estimated coefficients with their *t*-values for the consolidation variable and the autoregressive terms, Table 1 reports the Durbin Watson (D-W) statistic and the augmented Dickey-Fuller (ADF) statistic to assess stationarity. The table reports no evidence of increased economic growth in any of the three sectors in the Jacksonville/Duval area following consolidation. In each instance, the effect of the consolidation intervention variable is positive, but fails to achieve statistical significance. As expected, the results reported for the Tampa/Hillsbor-

ough area are similar; the difference in growth between the pre- and postconsolidation periods is positive for all three sectors, but not statistically significant. The intervention variable for the manufacturing and retail series for Florida counties did achieve statistical significance, suggesting that the annual change in the size of these two sectors was greater in the postconsolidation period (1973–1993). A similar effect was not found for the service sector.

Conclusion

While economic benefits remain an important selling point for metropolitan government, our analysis failed to find evidence of a link between consolidation and economic development. No significant increases in manufacturing-, retail-, or service-sector growth were found that correspond to the consolidation of Jacksonville/Duval governments. While consolidation may improve the planning capacity and the legal, jurisdictional, and financial resources of local government, this enhanced capacity has not directly translated into improved overall economic development outcomes in this case.

This evidence suggests that the persistence and recurrence of the consolidation issue on local agendas may be due more to its distributional consequences than to its impact on economic growth. Critics have charged that consolidation is promoted to benefit elite interests. Consultants, academics, and developers have been singled out as among those supportive of consolidation in order to advance their individual interests (Seamon and Feiock 1995). Bohland and Edwards (1990) argue that consolidation originates from a coalition of local groups and individuals interested in promoting urban expansion. While the economic benefit to the entire community may be modest, certain interests are likely to be particularly advantaged by and, therefore, promote boundary expansion through consolidation (Swanson 1993; Rigos 1995). The results presented here suggest that critics of

consolidation may be at least partially correct in asserting that a city/county merger provides a vehicle to advance certain groups' agendas without enhancing overall economic growth.

Additional research will be necessary to completely resolve these issues. Although our analysis reveals that the Jacksonville/Duval consolidation has not enhanced the local economy, the primary motivation behind the merger was to redress political scandals and corrupt politics rather than promote local economic development. More definitive conclusions await comparative studies that examine the economic consequences of city/county consolidation over time for a larger set of communities adopting metropolitan governments. Such a panel design would provide a more systematic test of the link between consolidation and economic growth by including instances in which the promotion of local economic development is an explicit goal for the parties advocating consolidation.

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Notes

1. Note that the U.S. Census Bureau did not publish *County Business Patterns* for the years 1952, 1954,

1955, 1957, 1958, 1960, 1961, and 1963. In addition, the 1950 edition contained data only for manufacturing establishments. The missing data were interpolated: the number of establishments for each missing year was calculated as the average of the preceding and subsequent years. Estimation of the missing points in this manner permitted use of the full period (1950–1993) without a disruption in the underlying trend in the sector.

2. Models were also estimated with consolidation taking effect immediately (1950–1968 = 0; 1969–1993 = 1). The results were essentially no different from that of the model specifying a five-year impact (1950–1968 = 0; 1969 = 2; 1970 = 4; 1971 = 6; 1972 = 8; 1973–1993 = 1).

3. Because service establishments required a second-order differencing before stationarity was achieved, the service-sector terms actually estimate the effect of consolidation on the rate of growth in service establishments.

4. See McDowall et al. (1980) for a fuller discussion on the procedure by which the appropriate specification of the process governing the disturbance term is selected and verified. Autocorrelation and partial autocorrelation plots are available from the authors.

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