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Research Article

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The Timing of Managerial Responses to Fiscal Stress

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Abstract: *Using 34 years of data from Florida counties, we examine the effect of multiple fiscal stressors on expenditures over time to test theoretical propositions in Charles Levine's seminal study on cutback management. We demonstrate support for Levine's stages model and his claims on linkages between the causes of fiscal stress and managerial responses. Specifically, unemployment levels produce differential effects by service area (e.g., human services bear the most significant share of the reductions), especially in relation to the persistence of the stressor. We cannot support the stages model with other stressor measures. We expand the literature to include county governments, enhancing the contemporary literature on local government fiscal stress.*

Evidence for Practice

- Persistently high unemployment leads county governments to follow the stages model of cutback management, where governments first respond with across-the-board spending cuts and then proceed to targeted cuts as the stressor persists. Unemployment statistics are among the most accessible and comparable economic statistics, and government administrators would do well to carefully track local unemployment conditions.
- As fiscal stressors persist over time, the effects are not evenly distributed across government functions. This result means analysts should avoid using aggregate measures of government spending to track the effects of fiscal stressors.
- The findings demonstrate that county government responses are comparable with those observed in municipal governments (e.g., Hendrick 2011), suggesting generalizability in contemporary county management with other local governments.

Allocating scarce resources during times of fiscal¹ stress is among the most controversial and vital decisions in public service. This allocation process engages diverse stakeholders, such as politicians, managers, and the constituents they serve, and it exposes core organizational priorities, pushes analytical and strategic capacities, and strains organizational morale and employees' job satisfaction (Levine 1984).

As demonstrated during the 2007–2009 U.S. national recession, even well-managed governments are likely to go through periods of fiscal stress and have difficulty balancing their budgets. As an initial response, governments may attempt to alleviate fiscal stress by seeking additional revenues, a strategy that is often politically infeasible (Carr, Elling, and Krawczyk 2010; Finegold, Schardin, and Steinbach 2003; Shubik, Horwitz, and Ginsberg 2009). Even if there is sufficient political support to increase taxes, fees, or charges, the process to approve and collect additional revenues is often

too time-consuming to satisfy current financial needs (Hoene and Pagano 2010). External support from intergovernmental grants may be too little and too late, due to lengthy application processes. Therefore, to balance their budgets, public managers are often compelled to reduce budgetary support for current public services.

Of course, decreasing current services creates significant challenges (Bozeman and Allen Slusher 1979; Glassberg 1978; Levine 1979). For example, it is not always clear which service areas are already operating close to maximum efficiency, where decreasing support may be particularly harmful. Public employees (e.g., public safety workers, librarians, and school teachers) and constituents of public services (e.g., participants in local recreation programs and parents of special-needs children) regularly lobby government officials to protect their services from decreases. Government practitioners may respond to these constraints by imposing across-the-board reductions that affect all city services

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on a somewhat equal basis (Hendrick 1989). Others target their decreases toward specific programs and services, focusing reductions on individual departments and agencies to the benefit of others (Hendrick and Garand 1991; Bordeaux 2016).

For several decades, Levine's (1978) stages model has profoundly influenced our understanding of the effects of fiscal stress on public management. Yet, there is little empirical research into the progression of governments through those stages. Also, while Levine (1978) typologizes the sources of stress and anticipates those sources will affect management responses, little is known about how different fiscal stressors influence progression through the stages. In addition, while many studies examine the effects of fiscal stress, most focus on those effects through a single downturn. This approach risks identifying idiosyncratic and unreliable effects. Given the extent to which recent American recessions increased fiscal constraints on governments, it is practically and conceptually important to improve our understanding of which services bear the most significant share of decreases and which services are mostly unaffected. In short, we ask how fiscal stressors affect service changes over time.

This study makes three key contributions to the literature. First, we add to the literature on service delivery and cutback management by examining how different types of government services are affected by fiscal stress, including the timing of expenditure decreases and the persistence of decreased expenditure levels. Prior research, such as Hendrick (2011), looks at municipal governments and the events impacting fiscal change and increasing fiscal stress. From this municipal and metropolitan research, we generally know that in economic downturns, municipal practitioners draw down on rainy day funds, refinance debt, shift revenues, and expenditures across fiscal years (Finegold, Schardin, and Steinbach 2003), and seek alternative funding (Wen et al. 2020). However, we know little about the duration of fiscal effects or the types of services most affected.

Second, by drawing on a balanced panel of annual government spending over a 34-year period, this study provides the most comprehensive test of Levine's stages model. A key tenant in Levine's work is the expectation that different sources of fiscal stress produce different types of responses. By examining data over 34 years, we can measure effects that are consistent over multiple events of fiscal stress.

Third, we focus on counties due to their changing role in contemporary service provision, advancing the current literature on county behavior. Early research perceived counties primarily as the administrative arms of the states (Benton 2002; Menzel 1996), implying that counties are lesser versions of local governments, providing only the necessities of society. Since the call for expanded research on counties (Benton et al. 2007), the literature has begun to look at counties in a different light. Our new impression of counties views them as fully functional units charged with providing the expected amenities defined by their citizenry (Farmer 2018). Because of the expanding responsibilities and service complexities of US counties, this study provides insights into an understudied government unit of growing practical importance while presenting results that are generalizable to other local governments.

Adding to prior research, we ask how fiscal stressors affect the rate of fiscal change over time in county governments. How persistent are the effects of fiscal stress on county services spending? To address these questions, we use 34 years of annual data from Florida counties to examine the impact of fiscal stressors on service expenditures. The results demonstrate the relative influence of various types of fiscal stressors on service spending and provide evidence of trade-offs in county governments.

This article proceeds as follows. In the next section, we articulate and present our hypothesized relationships. Following that, we specify our methodology, data, and method. We continue with the presentation of our results. The article concludes with a discussion of our key findings.

Hypothesis Development

Levine's (1978) seminal article on cutback management presents a theoretical stages model of organizational decline. Following Levine (1978), researchers began to model managerial responses to fiscal stress as a function of those stages. Notably, Levine, Rubin, and Wolohojian (1981) presented a three-stage model that starts with delay tactics, followed by stretching out remaining resources, and then transitions into cutting and smoothing spending. Similarly, Wolman (1980) developed a 5-part model that similarly begins with delay tactics and then specifies two stages of revenue-seeking behavior—first from the state government and then from own-source revenues. The Wolman model then progresses to spending cuts that are implemented initially across the organization but eventually becomes more targeted and focused on restructuring the budget to spending priorities. Both models describe managerial retrenchment strategies as a progression from resistance to restructuring.

Empirical efforts to quantify how closely administrators follow these stages have been limited and have yielded mixed results. Hendrick (2011) finds that local governments have first, second, third, and last resorts for managing fiscal stress and that the order of operations follows Levine, Rubin, and Wolohojian (1981). According to Hendrick (2011), local governments start with the slightest disruptive tools for adapting to fiscal threats and then move toward more disruptive decisions as the threat increases or continues. Dougherty and Klase (2009) found evidence supporting the stages model in their analysis of state budgetary policies. Their results suggest states shifted from across-the-board cuts to more targeted restructuring as the duration of fiscal stress increased.

Studies critical of these stages' models include Bartle (1995), who rejects the sequence of strategies predicted by Levine, Rubin, and Wolohojian (1981) and instead finds responses to fiscal stress to be a characteristic of local conditions. Others critical of the stages models have integrated surveys with fiscal indicators. Morgan and Pammer Jr (1988) interviewed local officials on their responses to budgetary pressure and compared their answers to their governments' actual debt burden ratio's change over the prior seven years. Their approach relies on the respondent's memories of the strategies used, and it cannot address how managerial strategies changed as the severity and duration of the stressor evolved. The approach of asking managers about their managerial responses to fiscal stress was challenged by Maher and Deller's (2007) finding that local officials'

perceptions of the severity of fiscal stress are widely divergent from quantitative indicators of their cities' fiscal condition. If managers' memories of the degree of fiscal stress were worse than their government's objective fiscal condition, then managers' statements about what strategies they adopted would not be tied to a given level of organizational decline.

Given the opportunity for strategic responses, we follow Levine (1978) and Hendrick (2011) hypothesizing that:

Hypothesis 1: Early after the onset of a fiscal stressor, managers will perform across-the-board spending cuts.

According to Bartle (1995) and Dougherty and Klase (2009), misalignment with public manager behaviors may occur due to a relatively short time-period of analysis. Identifying patterns of strategic behavior may require observing the same public entities pass through multiple events of fiscal stress of varying duration and severity. A longer time horizon to enable comparison of fiscal behavior before and after the fiscal stress arises.

Current work has tried to illuminate the issue of managerial behavior as a function of time. López-Hernández et al. (2018) use survival analysis to examine how fiscal pressures influence local government outsourcing. They study 11 years surrounding the Great Recession (2000–2010) and estimate the impact of fiscal stressors on the outsourcing decision while controlling for the passage of time. González-Gómez and Guardiola (2009) examine Spanish municipalities' outsourcing behavior following a national law change that permitted contracting out for water management services. Their duration model measures how the passage of time since the legal change affects the adoption of an outsourcing strategy. Wang and Peng (2018) employ event history analysis to examine 81 state pension plans over 14 years. While their study is not focused on fiscal stress responses, their methodology allows them to investigate shifts in strategy over time. This leads to the following hypothesis:

Hypothesis 2: Extended durations of a stressor will eventually induce targeted budgetary restructuring.

The legal environment may constrain the selection of a decreasing funding strategy at the state and local level. Justice and Yang (2018) present a theoretical framework to describe how laws such as tax and expenditure limitations may limit the strategic choices available to local officials when confronted with fiscal stress. Some forms of local government, particularly counties, are required by the state to provide certain services, such as the sheriff and jail components of public safety. Other county services, such as parks and other amenities, are locally determined. The interaction between state service requirements and budgetary restructuring strategies should create a pattern of targeted cuts that protect mandated services, leading us to hypothesize:

Hypothesis 3: Targeted spending cuts will protect state-mandated spending at the expense of locally determined services.

Some spending areas, such as transportation, are centered on maintaining capital infrastructure, such as filling potholes on local

roads. Support of these assets is costly, and deferring maintenance is a relatively easy way to push spending to the future and mitigate current fiscal pressure. Following this intuition, we predict that capital intensive spending areas will experience earlier spending reductions than other services. However, a confounding factor for this deferral hypothesis is that countercyclical spending often targets infrastructure as it is perceived to be a quick way to create construction jobs. Federal grants, such as those that came through the American Reinvestment and Recovery Act of 2009, were predominantly targeted to infrastructure and “shovel-ready” projects. This leads us to hypothesize that:

Hypothesis 4: Easily deferred service areas will experience more immediate cuts.

These hypotheses are tested by comparing budget cuts to individual expenditure categories to overall spending levels before, during, and after fiscal stress periods. If a spending cut is truly across-the-board, then reducing each spending category will be comparable to the change in total spending. If spending starts across the board and then begins to diverge to a more concentrated pattern of cuts as the duration of the stressor increases, the pattern of cuts is consistent with a progression in spending reduction strategies.

Methodology

This study examines expenditure changes and how those changes are affected by Levine's (1978) typology of four contributors to the organization's decline, which Hendrick (2011) supports: political vulnerability, environmental entropy, problem depletion, and organizational atrophy. Describing erosion in a community's economic base that threatens the government's ability to maintain a given level of public services is the pressure of *environmental entropy*. Levine gives the decline of manufacturing in the Midwest as an example of this type of stress. *Political vulnerability* describes an organization's inability to resist resource transfer to other competing agencies or organizations. Cuts to state aid, used by Bartle (1995) as a measure of fiscal stress, reflects a relatively low priority for local services within the hierarchy of state fiscal policy. A prediction accompanied Levine's typology that the source of organizational decline will influence the choice of the response strategy. Testing the other two elements of Levine's typology, problem depletion, and organizational atrophy, is outside the scope of this paper but should be the topic of future studies before the literature can definitively assess the validity of the stages-of-retrenchment model.

Dependent Variable

We use the change from year t and year $t-1$ in spending per capita to measure spending changes. We examine six categories of county spending in this analysis. Administrative spending includes all legislative, executive, and judicial services. Judicial Services include all administration of the county court system. Public Safety spending consists of all law enforcement, detention and correction, fire control, and ambulance and rescue services, as well as the county court system. County utilities, waste disposal, flood control, and other environmental protection services encompass Physical Environment spending. Transportation spending includes road and street maintenance, the operation of county airports and parking facilities, and county transit system operation. Human Services spans the operation of all county hospitals, physical and mental

health services, and other county welfare services. Aggregating all the preceding categories in addition to other operational spending on Culture/Recreation and Economic Development composes the final category. These categories reflect all the spending categories used by local governments in Florida. All dollars are adjusted to constant 1983–1984 dollars using the Bureau of Labor Statistics (BLS) consumer price index.

Fiscal Stressors

We inform our measures of fiscal stress using the work of Kodrzycki’s (1998) and Zullo’s (2009), studies of the relationship between fiscal stress and privatization. They operationalize fiscal stress using the ratio of budget surplus (deficit) to local expenditures, the ratio of debt-related expenditures to total revenues, and the local unemployment rate as a measure of the regional economy’s health. The use of unemployment rates is similar to Pierse and McHale (2019), who use unemployment rates in local jurisdictions to assess the duration of spells of unemployment. Using data obtained from the Bureau of Labor Statistics, we calculate these measures for each county over the period of our analysis. Additionally, we measure reductions in intergovernmental revenues as an additional measure of organizational decline representing state and federal reprioritization of local spending during economic downturns.

We focus on the impact of extended periods of relatively high fiscal stress. Rather than incorporating each measure of stress in absolute terms, we measure each county’s relative position to its long-run average across our 32-year period. We define relatively high fiscal stress as having a stress indicator value greater than one standard error above the individual county mean. This measure allows the relative definition of stress to vary across counties but is consistent within counties over time.

We seek to measure the influence of rules-in-use by controlling for Florida property tax limitations. The state of Florida has implemented two types of property tax rate caps. The first dates back to 1968 when the state amended the Florida

Constitution to limit property tax millage rates to 10 mills for counties, municipalities, and school districts (Florida Budget Subcommittee on Finance and Tax 2011). Florida implemented a second property tax rate limitation in 2007. This limit uses the concept of a “rolled-back” property tax rate to regulate the growth of property taxes over time. The rolled-back rate refers to the property tax rate that, when applied to the current year’s property tax base, would generate the same amount of revenue as if the maximum rate was applied in the previous year. Florida Statutes section 200.065(5) defines the current year’s maximum rate to be 110 percent of the rolled-back rate and an adjustment for per-capita income growth (Florida Statutes 2017). We use an indicator variable (ATCAP) to denote whether the county-year observation’s adopted property tax rate is at the maximum tax rate. We note that local governments can adopt rates that exceed either of the two millage rate limitations. Doing so requires one of two conditions: a county referendum or a supermajority vote from the county board.

Choosing to adopt a millage rate at the cap is an important indicator of the institutional constraints that bind the local fiscal policy. Tax limitations represent intergovernmental regulations that limit the options available to local government practitioners during periods of fiscal stress. Local governments at the rate limitations may exhibit different fiscal responses than those with room to generate additional own-source revenue.

Controls

We include three controls for county fiscal characteristics. The income per capita represents a local demand for public spending. Intergovernmental revenue per capita measures external aid that would also support county expenditures. The third economic control measures the tax burden. The tax burden measure is the ratio of income per capita to general revenue per capita. We remove all county-level fixed effects from the analysis by taking the first differences of the estimating equation. Table 1 provides descriptions of each variable used in the analysis. Table 2 contains summary statistics for all variables used in the analysis.

Table 1 Variable Descriptions

Variable Name	Description
<i>Dependent variables</i>	
Total	Spending on aggregate general expenditures per capita
Admin	Spending on administration services per capita
Safety	Spending on public safety services per capita
Physical	Spending on physical environment services per capita
Human	Spending on health and human services per capita
Transp	Spending on transportation services per capita
<i>Explanatory variables</i>	
Uncount	The number of consecutive years that a county has experienced unemployment more than one standard deviation above its average across the time series.
Debtcount	The number of consecutive years that a county has experienced a debt ratio higher than one standard deviation above its average across the time series.
IGRcount	The number of consecutive years that a county has experienced intergovernmental revenues more than one standard deviation below its average across the time series.
NETcount	The number of consecutive years that a county has experienced net income more than one standard deviation below its average across the time series.
INCcap	Personal income per capita
IGRcap	Intergovernmental revenue per capita
Taxburden	The ratio of income per capita and general revenue per capita

Notes: All dollars are normalized using the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (1982–1984 = 100).

Table 2 Summary Statistics

Variable	Mean	SD	Minimum	Maximum
Total	422.19	198.90	114.76	1,680.02
Admin	103.84	46.79	19.81	452.73
Safety	142.40	79.35	8.20	856.92
Human	26.53	43.50	0.00	711.31
Physical	29.42	41.89	0.00	590.83
Transp	79.35	53.53	0.00	752.73
Uncount	1.35	2.25	0	16
Debtcount	1.14	2.26	0	14
IGRcount	3.85	5.29	0	22
Netcount	1.24	2.04	0	18
Netratio	8.06	14.70	-55.73	101.02
INCCap	13,348	4,400.24	5,623	33,748
IGRCap	119.69	74.23	23.95	814.63
Taxburden	33.38	12.74	8.37	87.50

Data

To examine the effect of fiscal stressors on county spending changes, we collect financial, economic, and demographic data on 66 of the 67 counties in Florida from 1979 to 2014. We find that Duval County's data reporting is inconsistent, rendering this single county data unusable for the analysis. The unit of analysis is the county.

We examine spending changes in counties because counties tend to have strict balanced-budget requirements, have diverse service delivery demands, perform similar kinds of services, and have limited revenue sources that are likely to make trade-offs particularly common, thereby having a direct effect on service delivery.

The contemporary literature has begun to investigate the importance of county governments, outside of the administrative arms of state governments. In contrast to conventional fiscal federalism theory, which argues the local government is the developmental state, Xu and Warner (2016) find increased spatial inequality as expenditures driven by county needs crowd out expenditures related to county growth and development. Nonmetropolitan counties and older suburbs exhibit higher local effort, while outlying suburban areas have lower effort. Curtis et al. (2019) show how housing and community development and parks and recreation expenditures decrease county low birth weight incidences. They show that the effects of these improvements in maternal health, in preconception and prenatal periods, are through enhanced physical activity and social interaction mechanisms. Deslatte (2017) looks at county government land-use-planning. He observes that county modernization escalates the flexibility for elected officials to increase their ability to promote development interests as they confront growth.

Research on politics and political impacts has advanced our knowledge of county behavior. Choi et al. (2010) demonstrate that politics matters more at the county than at the municipal level. Choi et al. (2010) find a consistent positive relationship between voting for Democratic candidates at both the presidential and gubernatorial levels, total spending, and expenditures in allocative, developmental, and redistributive policy arenas. Park (2014) finds that California counties' primary impacts are by the state's leadership, financial support from other governments, and county residents' political/ideological preferences. Park (2014) implies that counties with more supporters for Democratic presidential candidates are likely

to spend more on welfare services. Pink-Harper (2018) finds that the form of county government, as measured by having a county manager, has only a marginal impact on county economic growth and development trends in Pennsylvania, Illinois, Alabama, and Washington, the states under study.

While this research has provided information on counties' policy and political impacts, other research on counties is about fiscal behavior. In Bernick et al. (2014), the transparency of county governments is assessed based on financial information available on the county's website. Wang (2011) studies two environmental funding areas in county government: funding to protect the environment and funding to develop the environment. Counties with higher levels of manufacturing and farming activity spend more to protect the environment, while counties with higher population densities spend more to develop the environment. Wang (2011) shows that environmental spending in counties results from environmental pressure and budgetary politics.

Counties are also a relevant unit of analysis because they are relatively poorly studied despite their growing service responsibilities and complexities. The relative scarcity of county-level research, combined with the traditional view of counties as an administrative-extension of state government, means there is little guidance in applying studies of state and local governments to counties—the fiscal stress literature is a clear example.

Our concentration on county governments within a single state is due to the necessity that government expenditures are classified uniformly. The Florida Department of Revenue requires local governments to complete a standardized annual report of their revenues and expenses, which is audited and revised. Though errors are likely to exist still, the reporting and classifications are reasonably reliable and valid.

Findings

Our first set of results estimate the persistence of the effect of fiscal stressors on Florida county spending. The results in Table 3 present our analysis of the high-unemployment stressor (i.e., environmental entropy). The appendix contains the GMM instrumentation process used. The columns of Table 3 depict the marginal effects for each of the six expenditure categories. We take the natural log of all continuous variables for ease of discussion.

Table 3 Marginal Effects of High Unemployment

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Total Spending	Administrative	Public Safety	Physical Environment	Human Services	Transportation
One year of high unemployment	-0.018*** (0.003)	-0.008* (0.005)	-0.011** (0.004)	0.028* (0.016)	-0.013 (0.011)	-0.032*** (0.009)
Two years	-0.015*** (0.002)	-0.006* (0.004)	-0.008** (0.003)	0.020 (0.012)	-0.018** (0.008)	-0.022*** (0.006)
Three years	-0.012*** (0.002)	-0.005 (0.003)	-0.006*** (0.002)	0.011 (0.012)	-0.024** (0.010)	-0.012** (0.005)
Four years	-0.009*** (0.003)	-0.003 (0.003)	-0.004** (0.002)	0.002 (0.015)	-0.029** (0.015)	-0.0013 (0.008)
Five years	-0.006 (0.004)	-0.002 (0.004)	-0.002 (0.003)	-0.006 (0.020)	-0.035* (0.020)	0.009 (0.011)
Observations	2,217	2,217	2,217	2,212	2,209	2,214

Note: Standard errors in parentheses.

* $p < .1$; ** $p < .05$; *** $p < .01$.

Our results, shown in Table 3, indicate that increases in the persistence of high unemployment harm all county spending categories, except for the physical environment, for the first three years. The impact of high unemployment is diminishing over time, a theoretically intuitive result given that administrators would likely address the effects. To understand the impact of high unemployment over time, we exponentiate the marginal coefficient to adjust for our count variable, a technically more accurate result. The first row of Table 3 shows high unemployment reduces total spending by $(\exp[-0.018]-1) \times 100 = 1.78$ percent. This effect continues on total spending for four years, albeit at a diminishing rate per year.

We see a different effect on the physical environment, with spending increasing for the first year of high unemployment. Initially, we conjecture this outcome may be due to the administrator's abilities to influence fixed costs, like those associated with utilities, waste disposal, and flood control. We performed sensitivity testing to examine why the coefficient on the physical environment might take this positive sign, revealing that the American Recovery and Reinvestment Act (ARRA) is the primary driver. Human services outcomes are somewhat troubling with the persistence of high unemployment. In the first year of high unemployment, there is no statistical effect of high unemployment on human services spending. After this first year, human services see a decrease in spending that is increasing over time. This resulting decrease in spending differs from all other categories of spending. It appears that human services, such as county hospitals, physical and mental health services, and other welfare services, are impacted after the first year of high unemployment, and do not recover from that effect during the next years of high unemployment. The result tells us that public administrators find it very difficult to spare human services spending when high unemployment persists.

Putting our results in the context of our hypothesized relationships, we find that high unemployment appears to be reacted on by managers in across-the-board cuts. We find evidence of a direct connection of managers reducing total, administrative, public safety, and transportation spending. At the same time, human services spending has the correct sign associated with a reduction, and, due to ARRA, physical environment services spending increases. If we argue that early-onset encompasses two years, we find general

support for hypothesis 1, except for physical environment spending. Our results support Levine's (1978) work and the empirical work of Hendrick (2011), with an exception noted for physical environment spending.

Looking at hypothesis 2, our results from the persistence of high unemployment show that the longer we observe the stressor, the more focused or targeted the reduction in spending. This reduction becomes quite apparent when we see the stressor lasting more than three periods. We recognize that with high unemployment continuing into year 4, only public safety and human services show reduced spending. When we observe the fifth period of high unemployment, only human services are directly affected. We conclude that we have support for hypothesis 2 for the high-unemployment stressor.

Our estimates for high employment show little support for hypothesis 3. The spending cuts associated with either instant or perpetual high unemployment do not spare public safety or human services from reduced spending. Both of these spending categories contain constitutionally required services. Thus, for our stressor, high unemployment, we reject hypothesis 3. Putting our attention on hypothesis 4, we find partial support for the deferral of services when looking at the high-unemployment stressor. We observe a reduction in spending on transportation services. However, we find the impact of ARRA on the physical environment, countercyclical spending by the federal government as a confounding factor that reduces the effect of deferred service spending.

We offer a complement to our tabular measures for the persistence of unemployment by looking at a graphical analysis. Figure 1 presents a series of lines illustrating the percent change in spending per capita that occurs for each year following a shock to county unemployment. Differences in the size of the lagged dependent variable's estimate affect how quickly these effects taper off.

Examining the high-debt-ratio stressor in Table 4 offers a different story than our estimates of high unemployment. We show that multiple years of a high debt ratio affects only total spending, finding no impact on the individual spending categories. The influence on total spending is a reduction of 1.12 percent in the first year of a high debt ratio. The result of total spending falls to 0.73

percent when experiencing a high debt ratio for two consecutive years. The shock on total spending becomes insignificant when the high debt ratio persists for a third year, allowing us to hypothesize that county administrators manage the effect of a high debt ratio on overall spending while removing the temptation to affect the individual spending categories.

Putting the results of a high debt ratio in the context of our hypothesized relationships, we see that a high debt ratio appears to be comparatively ignored by county managers in across-the-board cuts. We find little evidence of a direct connection between spending categories and a high debt ratio. We conclude that county managers do not respond to individual spending categories when the high-debt-ratio stressor is observed. The implication leads us to reject hypothesis 1, that across-the-board cuts accompany the high-debt-ratio stressor.

Investigating hypothesis 2, the persistence of a high debt ratio disappears within the individual spending categories. These results lead us to reject hypothesis 2 regarding the role of a high debt ratio. Our estimates for a high debt ratio show no support for hypothesis 3. The spending cuts associated with either an instant or constant high debt ratio spare all individual services from reductions in spending. Turning our attention to hypothesis 4, we find no support for the deferral of services, thereby rejecting this hypothesized relationship.

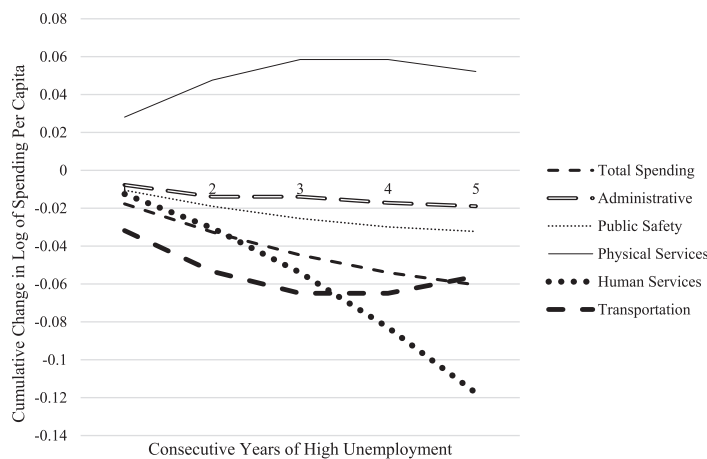


Figure 1 Cumulative Effect of Extended Periods of High Unemployment

Table 4 Marginal Effects of High Debt Ratio

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Total Spending	Administrative	Public Safety	Physical Environment	Human Services	Transportation
One year of high debt ratio	-0.011** (0.005)	-0.005 (0.006)	-0.006 (0.009)	0.007 (0.023)	-0.009 (0.012)	0.006 (0.009)
Two years	-0.007** (0.003)	-0.003 (0.005)	-0.002 (0.007)	0.0002 (0.018)	-0.007 (0.009)	0.005 (0.007)
Three years	-0.003 (0.003)	0.0004 (0.004)	0.002 (0.005)	-0.006 (0.014)	-0.004 (0.006)	0.004 (0.006)
Four years	0.0004 (0.002)	0.003 (0.003)	0.006 (0.004)	-0.013 (0.014)	-0.002 (0.005)	0.003 (0.006)
Five years	0.004 (0.004)	0.006 (0.004)	0.010** (0.005)	-0.019 (0.017)	0.0006 (0.006)	0.003 (0.007)
Observations	2217	2217	2217	2212	2209	2214

Note: Standard errors in parentheses. * $p < .1$; ** $p < .05$; *** $p < .01$.

Using the complementary graphical presentation for the high debt ratio (Figure 2), we observe the total spending effects. Although the graphical display for high debt ratio indicates the adverse effects on administrative, public safety, and transportation spending, none of these effects are statistically supported (Table 5).

When looking at low intergovernmental revenue as a fiscal stressor, we see that as time increases, the sign on total spending persists. Although total spending is statistically inconsequential, both administrative and public safety spending is statistically significant for the periods, albeit with the incorrect sign for our hypotheses. We reject all of our hypothesized relationships for the low intergovernmental revenue stressor. Graphically, Figure 3, and in our tabular analysis, the statistically supported effects of administrative and public safety spending are the opposite sign of our hypothesized relationships. This counterintuitive outcome may be explainable. Let us consider the outcome of administrative expenditures. As intergovernmental revenue continues to decline, county governments increase spending throughout the period, although the effect is diminishing. It may be that counties are growing administrative spending to seek alternative revenue sourcing, thereby increasing spending since intergovernmental revenue is in decline, and county administrators are looking for an alternative revenue source.

Regarding the outcome of public safety spending, spending is increasing at a decreasing rate after the first year of intergovernmental revenue decline. This outcome suggests a substitution effect of county funds for intergovernmental revenue. Priority to constitutionally required public safety, once supported by intergovernmental revenue, continues within the county. County administrators substitute county funds since intergovernmental resources are dwindling.

The results presented in Table 6 and Figure 4 show our last fiscal stressor, low net income per capita. The outcomes show that we should reject all of our hypothesized relationships, given both the sign and statistical significance of the marginal effects. Although the findings are the opposite of those hypothesized, increases in spending are differentiable across categories. Spending on the physical environment is the largest in magnitude, while expenditures for human services has the smallest impact.

The literature on fiscal stress indicates that we should see a negative sign on the marginal effects, but we see positive outcomes. Why would this result occur? One explanation would be that our measure for low net income is inadequate. If that was the case, it seems like we would not observe such robust outcomes. Alternatively, county administrators, seeing a persistent decline in net income per capita, increase their spending across the board, assuring a welfare net is in place during economic downturns. This latter explanation seems to fit the role of counties in the literature where counties are complements to state governments. Although fiscal federalism suggests that the provision of welfare nets are best at the state or federal level, local governments play a substantial part in the financing and execution of social welfare policy (Gillette 2011).

Craw (2010) argues that the federal and state governments have increasingly devolved accountability to local governments for social welfare policy. An example is that since the enactment of federal welfare reform in the late 1990s, 40 percent of states have broadened local autonomy and responsibility for public welfare policy (Gainsborough 2003).

Our final results discussion concerns our control variables offered in Table 7. We find that our control variable for income, the log of real income per capita, is consistently positive and significant for total spending and the two individual spending categories

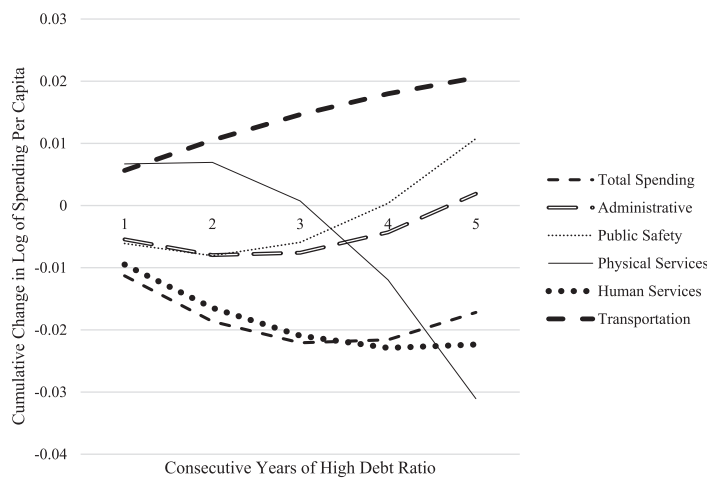


Figure 2 Cumulative Effect of Extended Periods of High Debt Ratio

of administrative and public safety, an expected result. We find mixed results for the log of real income per capita for the physical environment and consistent insignificant results for transportation spending. Our control for tax burden, the log of the tax burden, is consistently negative and significant across all spending categories regardless of the fiscal stressor under evaluation. Our final control, the log of intergovernmental revenue per capita, is reliably positive for total spending; however, it has mixed results for each of the individual spending categories and the accompanying fiscal stressor.

Conclusion

The importance of understanding management's use of financial resources to induce the stability and performance of public organizations is an essential aspect of public administration. Adding to this needed literature, we examine a panel of county governments to understand how the persistence of fiscal stressors, such as unemployment, debt, intergovernmental revenue, and per capita income, affect expenditures in service-function categories.

Our efforts illustrate that persistent unemployment induces stage-like behaviors found in Levine, Rubin, and Wolohojian (1981) and Hendrick (2011). Using multiperiod shocks, county administrators begin with virtually across-the-board reductions in spending. The first year of exposure to fiscal stressors appears to support the expectation that government practitioners prefer across-the-board decreases to virtually all service-function categories. They then, after approximately three periods, focus on targeted drops as the stressor continues. We see that as fiscal stressors persist beyond the first year, the cumulative effects are disproportionately borne by health and human service functions. This finding introduces a prioritization for financial practices during persistent fiscal scarcity as we observe that health and human service functions become the focus of reduced spending. Our outcome for unemployment leads us to question the utility of aggregate spending data to understand the effects of financial resources on specific types of public services. We question aggregated approaches, particularly under conditions of persistent fiscal scarcity.

When we look at other fiscal stressors, we find a minimal response from county managers when faced with high debt ratios. We observe that total spending does decrease under this fiscal stress, the only significant category of expenditures. This effect lasts two periods, and it loses significance. We observe that county managers'

Table 5 Marginal Effects of Low Intergovernmental Revenue

Variables	(1) Total Spending	(2) Administrative	(3) Public Safety	(4) Physical Environment	(5) Human Services	(6) Transportation
One year of low IGR	-0.003 (0.003)	0.012*** (0.004)	0.008* (0.005)	0.001 (0.016)	0.006 (0.008)	0.006 (0.005)
Two years	-0.002 (0.003)	0.011*** (0.004)	0.008* (0.004)	0.001 (0.014)	0.006 (0.007)	0.005 (0.005)
Three years	-0.002 (0.002)	0.009*** (0.003)	0.008** (0.003)	0.001 (0.012)	0.005 (0.006)	0.004 (0.004)
Four years	-0.001 (0.002)	0.008*** (0.003)	0.007*** (0.003)	0.001 (0.010)	0.004 (0.005)	0.002 (0.003)
Five years	-0.0004 (0.001)	0.006*** (0.002)	0.007*** (0.002)	0.001 (0.008)	0.003 (0.004)	0.001 (0.003)
Observations	2217	2217	2217	2212	2209	2214

Note: Standard errors in parentheses.
* $p < .1$; ** $p < .05$; *** $p < .01$.

responses are mute when the stressor high debt ratio is observed at the individual spending category. This response to the high debt ratio is in opposition to the contemporary literature assumption that high levels of public debt threaten the fiscal health of a government (as an example, see Liu, Moldogaziev, and Mikesell 2017). Long-term claims on available local government resources may not reduce the opportunity for supporting important individual service demands, given our outcomes.

Our results show that multiple periods of intergovernmental reductions impact both administrative and public safety spending in a positive way. Although this is the opposite of our hypothesized relationship, one explanation is that managers put more emphasis on these two categories by seeking alternative funds to substitute for this revenue loss while attending to county-level safety.

We show a robust differential effect on spending activity when counties are under the stressor, low net income per capita. This outcome introduces an interesting paradox. As low per capita income persists, all spending categories see an increase in spending, the opposite of our hypothesized relationships. This spending continues to increase at a decreasing rate through the third period of low net income per capita. After the third period, we observe a targeted managerial approach where total, administrative, and public safety spending continue to increase at a decreasing rate.

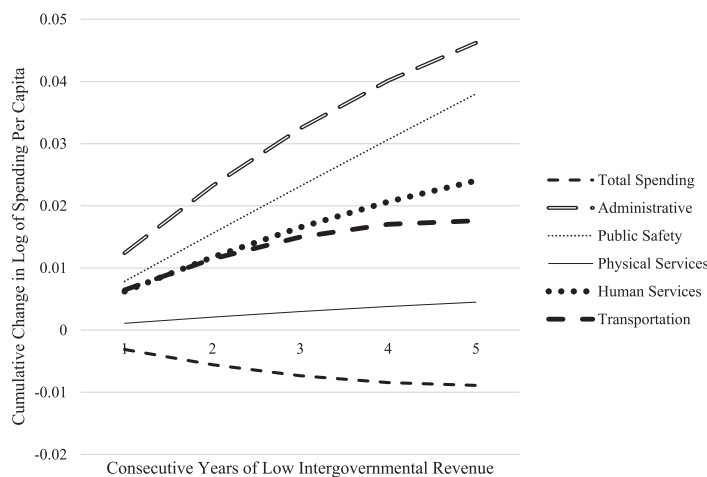


Figure 3 Cumulative Effect of Extended Periods of Low IGR

Table 6 Marginal Effects of Low Net Income Per Capita

Variables	(1) Total Spending	(2) Administrative	(3) Public Safety	(4) Physical Environment	(5) Human Services	(6) Transportation
One year of low net income per capita	0.068*** (0.006)	0.055*** (0.006)	0.046*** (0.006)	0.110*** (0.018)	0.025** (0.012)	0.077*** (0.012)
Two years	0.055*** (0.004)	0.046*** (0.004)	0.037*** (0.005)	0.089*** (0.015)	0.021** (0.010)	0.060*** (0.007)
Three years	0.042*** (0.003)	0.037*** (0.004)	0.028*** (0.004)	0.068*** (0.013)	0.018** (0.009)	0.042*** (0.006)
Four years	0.029*** (0.005)	0.028*** (0.004)	0.019*** (0.004)	0.046*** (0.013)	0.014* (0.008)	0.025*** (0.009)
Five years	0.016** (0.008)	0.012*** (0.005)	0.010** (0.005)	0.025 (0.015)	0.010 (0.007)	0.007 (0.014)
Observations	2217	2217	2217	2212	2209	2214

Note: Standard errors in parentheses.

* $p < .1$; ** $p < .05$; *** $p < 0.01$.

In contrast, the physical environment, human services, and transportation spending are statistically unchanged, providing support for hypothesis 2, but in a counterintuitive way.

Our results imply impacts on practice. Our results may indicate a “best practices” empirical outcome for county managers under the stressor of high unemployment. The results indicate that in the first year of high unemployment, practitioners use a common tool—across-the-board reductions in spending—and apply this tool to the vast majority of offered services, the exception being human services. We see that after using this tool, practitioners turn to a targeted approach, that is, reductions that are now minimal in specific services and increasing in others. We find that cuts to administrative, public safety, and transportation fall compared to the first incremental cuts, while human services begin to see increasing cutbacks. By year three, human services absorb the most substantial decrease, an increase of 33 percent over year two, while administrative services are no longer a statistically significant cut. In year three, public safety reductions have fallen by about 25 percent from the prior year’s cuts, physical service cuts are not statistically different than zero, and transportation cuts have fallen by about 45 percent compared to cuts in year two. By year five, the only expenditure cuts are to human services, which have again increased by about 20 percent compared to year four. All other services are spared expenditure cuts. These outcomes indicate that human services, which has the smallest average expenditure across counties, absorbs the largest cuts after being spared cuts in the first year of fiscal stress. Our outcomes indicate that services over time are treated differently, leading to a stages process.

Our results of the other three stressors—high debt ratio, low IGR, and low net income per capita—have results that do not support many of our hypothesized outcomes, but would support that managers do not see the threat of these stressors as compelling as the stressor of high unemployment. This lack of a stages-like approach by administrators indicates that other approaches are used, indicating a limitation of our study.

Our results focus on the stages approach for Florida county governments. Our focus on Florida Counties leads to an important limitation. According to Wen et al. (2020), city behavior in both revenue structure and economic functions differ from that of counties. However, there are unclear differences between counties by

state, although Moller, Alderson, and Nielsen (2009) indicate that socio-demographic measures vary by county, which impacts income inequality. Little research shows that county fiscal behavior varies by state, although some evidence is present for county variation in performance measures (Berman and Wang 2000; Wang and Berman 2001). We propose that researchers seek to understand county behavior variation across and by state.

We propose that further research into alternative methods to fiscal stress needs to be sought. Our outcomes lead to a need to operationalize new approaches to fiscal stress outside of the current literature on public administrators' behavior. Further research

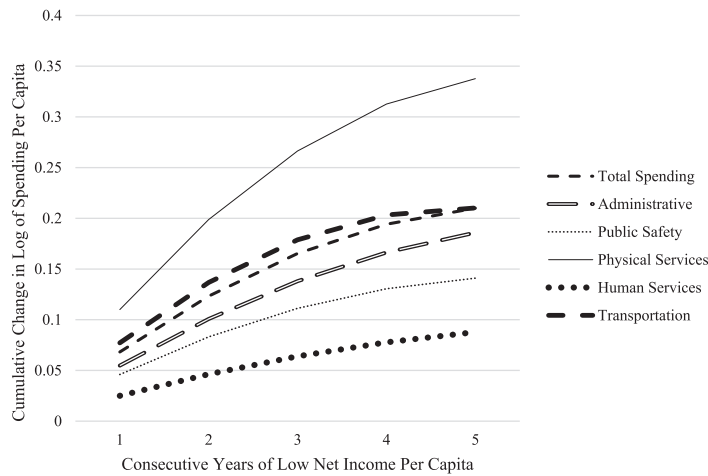


Figure 4 Cumulative Effect of Extended Periods of Low Net Income Per Capita

is needed into understanding the political and administrative behaviors behind the differential reductions in different spending categories. This may be especially helpful by studying panels of spending data in states with different political environments, where spending priorities and revenue constraints may differ from Florida.

Note

1. In this study, we use a broad definition of fiscal stress to include conditions of increased revenue scarcity and/or escalated expenditure demands that significantly strain a government's financial resources. The literature identifies fiscal stress as a function of fiscal condition. Many local government researchers note that many factors affect local government fiscal conditions, indicating that no single metric is all-encompassing of the many components of fiscal condition (Jacob and Hendrick 2012). Research has proposed that local decisions and the external environment affect fiscal condition (Groves, Nollenberger, and Valente 2003; Hendrick 2011; Honadle, Costa, and Cigler 2004). The result is that fiscal stress involves the government's environment, its fiscal structure, and the balancing of fiscal structure and the environment (Hendrick 2004; Hendrick 2011). Fundamentally the adaptation to the environment is a key function of fiscal condition (Hendrick 2011). Broadly viewed, the environment may consist of factors that vary from the immediate availability of economic resources to the political culture within the government (Clark and Ferguson 1983). Chapman (2008) conjectures that when fiscal decisions and available resources are asymmetrical, fiscal stress ensues.

Table 7 Control Variable Results

	(1)	(2)	(3)	(4)	(5)	(6)
	Total Spending	Administrative	Public Safety	Physical Environment	Human Services	Transportation
<i>High unemployment</i>						
Log of real income per capita	0.797*** (0.068)	0.946*** (0.135)	1.523*** (0.172)	0.569** (0.271)	-0.331 (0.206)	-0.145 (0.125)
Log of intergovernmental revenue per capita	0.077*** (0.024)	-0.044 (0.029)	-0.110*** (0.036)	-0.213** (0.104)	-0.004 (0.085)	0.421*** (0.068)
Log of tax burden	-0.508*** (0.040)	-0.136*** (0.049)	-0.305*** (0.072)	-1.291*** (0.191)	-0.300* (0.157)	-0.457*** (0.113)
<i>High debt ratio</i>						
Log of real income per capita	0.872*** (0.064)	0.970*** (0.130)	1.577*** (0.164)	0.456* (0.270)	-0.291 (0.218)	0.040 (0.112)
Log of intergovernmental revenue per capita	0.103*** (0.024)	-0.028 (0.030)	-0.083** (0.039)	-0.263** (0.108)	0.044 (0.074)	0.460*** (0.069)
Log of tax burden	-0.446*** (0.044)	-0.109** (0.049)	-0.267*** (0.076)	-1.388*** (0.201)	-0.261 (0.172)	-0.326*** (0.112)
<i>Low intergovernmental revenue</i>						
Log of real income per capita	0.906*** (0.064)	1.056*** (0.126)	1.656*** (0.165)	0.340 (0.276)	-0.243 (0.202)	0.121 (0.126)
Log of tax burden	-0.510*** (0.041)	-0.117** (0.047)	-0.270*** (0.069)	-1.224*** (0.175)	-0.296* (0.152)	-0.585*** (0.120)
<i>Low net income per capita</i>						
Log of real income per capita	1.077*** (0.054)	1.066*** (0.123)	1.644*** (0.159)	0.254 (0.265)	-0.314 (0.226)	0.053 (0.115)
Log of intergovernmental revenue per capita	0.052*** (0.020)	-0.073** (0.031)	-0.127*** (0.038)	-0.299*** (0.109)	0.033 (0.073)	0.406*** (0.063)
Log of tax burden	-0.650*** (0.036)	-0.254*** (0.050)	-0.378*** (0.076)	-1.617*** (0.212)	-0.320* (0.190)	-0.503*** (0.119)

Note: Standard errors in parentheses.
*p < .1; **p < .05; ***p < .01.

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Appendix: GMM Results for Each Model

	(1)	(2)	(3)	(4)	(5)	(6)
Unemployment	Total Spending	Administrative	Public Safety	Physical Services	Human Services	Transportation
Lag of dependent variable	0.300*** (0.033)	0.478*** (0.042)	0.385*** (0.053)	0.536*** (0.041)	0.506*** (0.096)	0.367*** (0.044)
Count of consecutive years of high unemployment	-0.020*** (0.004)	-0.009 (0.006)	-0.013** (0.006)	0.037* (0.021)	-0.007 (0.016)	-0.042*** (0.012)
Count of consecutive years of high unemployment ²	0.001* (0.001)	0.001 (0.001)	0.001 (0.001)	-0.004 (0.003)	-0.003 (0.003)	0.005** (0.002)
Log of real income per capita	0.797*** (0.068)	0.946*** (0.135)	1.523*** (0.172)	0.569** (0.271)	-0.331 (0.206)	-0.145 (0.125)
Log of intergovernmental revenue per capita	0.077*** (0.024)	-0.044 (0.029)	-0.110*** (0.036)	-0.213** (0.104)	-0.004 (0.085)	0.421*** (0.068)
Log of tax burden	-0.508*** (0.040)	-0.136*** (0.049)	-0.305*** (0.072)	-1.291*** (0.191)	-0.300* (0.157)	-0.457*** (0.113)
Observations	2217	2217	2217	2212	2209	2214
Number of id	66	66	66	66	66	66
N	2217	2217	2217	2212	2209	2214
id	66	66	66	66	66	66
AR1	1.50e-10	9.16e-11	1.09e-07	1.51e-09	1.00e-06	0
AR2	0.749	0.0336	0.140	0.218	0.162	0.349
SARGAN	326.9	255.2	213.1	218.9	138.5	192.9
SARGAN-P	0	0	0	0	6.67e-07	0
HANSEN	65.25	65.39	64.65	63.87	60.37	64.21
HANSEN-p	0.538	0.533	0.559	0.586	0.704	0.574
difhansen	64.30	65.54	63.97	64.24	59.17	64.21
difhansenP	0.431	0.389	0.442	0.433	0.613	0.434
diff	0.951	-0.150	0.688	-0.362	1.199	-0.00476
diffp	0.917	1	0.953	1	0.878	1
# of Inst	73	73	73	73	73	73

	(1)	(2)	(3)	(4)	(5)	(6)
Debt	Total Spending	Administrative	Public Safety	Physical Services	Human Services	Transportation
Lag of dependent variable	0.303*** (0.033)	0.477*** (0.043)	0.376*** (0.052)	0.542*** (0.040)	0.515*** (0.092)	0.376*** (0.045)
Count of consecutive years of debt ratio t	-0.015** (0.006)	-0.008 (0.008)	-0.010 (0.011)	0.013 (0.028)	-0.012 (0.015)	0.006 (0.012)
Count of consecutive years of debt ratio ²	0.002** (0.001)	0.001 (0.001)	0.002 (0.001)	-0.003 (0.003)	0.001 (0.002)	-0.000 (0.001)
Log of real income per capita	0.872*** (0.064)	0.970*** (0.130)	1.577*** (0.164)	0.456* (0.270)	-0.291 (0.218)	0.040 (0.112)
Log of intergovernmental revenue per capita	0.103*** (0.024)	-0.028 (0.030)	-0.083** (0.039)	-0.263** (0.108)	0.044 (0.074)	0.460*** (0.069)
Log of tax burden	-0.446*** (0.044)	-0.109** (0.049)	-0.267*** (0.076)	-1.388*** (0.201)	-0.261 (0.172)	-0.326*** (0.112)
Observations	2217	2217	2217	2212	2209	2214
Number of id	66	66	66	66	66	66
N	2217	2217	2217	2212	2209	2214
id	66	66	66	66	66	66
AR1	9.21e-11	6.23e-11	7.09e-08	9.40e-10	1.31e-06	0
AR2	0.707	0.0298	0.119	0.211	0.167	0.335
SARGAN	349.1	252.5	208.9	219.1	147.1	210.9
SARGAN-P	0	0	0	0	6.19e-08	0
HANSEN	65.37	65.64	65.23	64.11	58.72	65.01
HANSEN-p	0.534	0.524	0.538	0.577	0.755	0.546
difhansen	65.54	65.36	64.10	64.47	60.97	63.25
difhansenP	0.389	0.395	0.438	0.425	0.549	0.467
diff	-0.167	0.282	1.131	-0.363	-2.251	1.760
diffp	1	0.991	0.889	1	1	0.780
# of Inst	73	73	73	73	73	73

	(1)	(2)	(3)	(4)	(5)	(6)
IGR	Total Spending	Administrative	Public Safety	Physical Services	Human Services	Transportation
Lag of dependent variable	0.291*** (0.035)	0.473*** (0.044)	0.366*** (0.053)	0.558*** (0.040)	0.511*** (0.092)	0.358*** (0.044)
Count of consecutive years of low IGR	-0.004 (0.003)	0.014*** (0.005)	0.008 (0.005)	0.001 (0.018)	0.007 (0.009)	0.008 (0.006)
Count of consecutive years of low IGR ²	0.000 (0.000)	-0.001** (0.000)	-0.000 (0.000)	-0.000 (0.001)	-0.000 (0.001)	-0.001** (0.000)
Log of real income per capita	0.906*** (0.064)	1.056*** (0.126)	1.656*** (0.165)	0.340 (0.276)	-0.243 (0.202)	0.121 (0.126)
Log of tax burden	-0.510*** (0.041)	-0.117** (0.047)	-0.270*** (0.069)	-1.224*** (0.175)	-0.296* (0.152)	-0.585*** (0.120)
Observations	2217	2217	2217	2212	2209	2214
Number of id	66	66	66	66	66	66
N	2217	2217	2217	2212	2209	2214
id	66	66	66	66	66	66
AR1	1.04e-10	8.25e-11	1.80e-07	1.80e-09	1.40e-06	0
AR2	0.834	0.0391	0.0653	0.193	0.174	0.565
SARGAN	399.3	238.8	190.6	223.4	141.2	265.8
SARGAN-P	0	0	0	0	3.19e-07	0
HANSEN	65.12	65.15	64.63	63.92	62.91	65.33
HANSEN-p	0.542	0.541	0.559	0.584	0.619	0.535
difhansen	64.69	65.50	64.69	64.75	61.38	65.54
difhansenP	0.452	0.424	0.452	0.450	0.570	0.423
diff	0.423	-0.358	-0.0552	-0.822	1.529	-0.209
diffp	0.935	1	1	1	0.675	1
# of Inst	72	72	72	72	72	72

	(1)	(2)	(3)	(4)	(5)	(6)
NET Income Per Capita	Total Spending	Administrative	Public Safety	Physical Services	Human Services	Transportation
Lag of dependent variable	0.160*** (0.027)	0.405*** (0.041)	0.348*** (0.052)	0.549*** (0.039)	0.507*** (0.091)	0.315*** (0.045)
Count of consecutive years of low net income per capita	0.081*** (0.009)	0.064*** (0.008)	0.055*** (0.008)	0.131*** (0.023)	0.029** (0.014)	0.095*** (0.017)
Count of consecutive years of low net income per capita ²	-0.007*** (0.002)	-0.004*** (0.001)	-0.004*** (0.001)	-0.011*** (0.003)	-0.002* (0.001)	-0.009*** (0.003)
Log of real income per capita	1.077*** (0.054)	1.066*** (0.123)	1.644*** (0.159)	0.254 (0.265)	-0.314 (0.226)	0.053 (0.115)
Log of intergovernmental revenue per capita	0.052*** (0.020)	-0.073** (0.031)	-0.127*** (0.038)	-0.299*** (0.109)	0.033 (0.073)	0.406*** (0.063)
Log of tax burden	-0.650*** (0.036)	-0.254*** (0.050)	-0.378*** (0.076)	-1.617*** (0.212)	-0.320* (0.190)	-0.503*** (0.119)
Observations	2217	2217	2217	2212	2209	2214
Number of id	66	66	66	66	66	66
N	2217	2217	2217	2212	2209	2214
id	66	66	66	66	66	66
AR1	2.72e-09	9.89e-11	4.42e-07	2.77e-09	9.98e-07	0
AR2	0.116	0.0995	0.0827	0.301	0.181	0.694
SARGAN	242.8	210.9	192.1	217.3	136.6	191.5
SARGAN-P	0	0	0	0	1.13e-06	0
HANSEN	64.24	64.75	63.20	64.47	62.86	63.03
HANSEN-p	0.573	0.555	0.609	0.565	0.621	0.615
difhansen	62.53	64.87	62.68	63.61	59.94	65.33
difhansenP	0.493	0.411	0.488	0.455	0.586	0.396
diff	1.711	-0.118	0.517	0.855	2.919	-2.300
diffp	0.789	1	0.972	0.931	0.571	1
# of Inst	73	73	73	73	73	73

Notes: Robust standard errors in parentheses. * $p < .1$; ** $p < .05$; *** $p < .01$.