DEPOPULATING CITIES AND CHRONIC FISCAL STRESS: THE DETROIT STORY

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I. INTRODUCTION

Since World War II, there have been several episodes of urban fiscal stress as cities faced a struggle to balance revenues, spending, and service provision.\(^2\) In one context, these fiscal struggles were related to state and national economic cycles. Revenues corresponded to economic activity and fell during recessions, forcing shifts in taxes or spending. However, beyond these cyclical events, structural causes of fiscal stress have also persisted for many American cities. Structural causes of fiscal stress may be related to population loss or changes in the makeup of the population, state and federal policy, and other factors that persist beyond economic cycles. These structural problems are likely to show up as the long run elimination of capital maintenance, run-up in debt levels, major increases in tax burdens, downsizing of certain services, and other

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\(^2\) Eric Scorsone & Christina Plerhoples, *Fiscal Stress and Cutback Management Amongst State and Local Governments: What Have We Learned and What Remains to be Learned?*, 42.2 ST. & LOC. GOV’T REV. 176, 177 (2010).
strategies, regardless of economic cycles. This paper, as part of a larger research project, seeks to identify these trends and explore the research question of how depopulating cities respond to chronic fiscal stress. A study of Detroit, MI from 1938 through 2010 will be used to highlight and analyze these issues.

The city of Detroit, Michigan was in many ways one of the great boomtowns in American history. Starting in the early 20th century, the city’s population and economic growth accelerated at an incredible pace, along with the growth of the automobile industry and heavy manufacturing in the industrial Midwest.

This meteoric rise was met with an equally precipitous fall as the domestic auto industry faced new competition and changing technology in the 1960s. In many ways, the peak of Detroit occurred in the 1940s as the arsenal of Democracy. Since the 1950s, the population and wealth of the city has declined every decade. The population peaked at 1.8 million and has fallen to 775,000 in 2010. For many across the globe, Detroit now represents the final stages of decay of a once great industrial city.

The city of Detroit was originally formed in 1815. However, unlike some if its peers such as Chicago or St. Louis, Detroit’s growth did not take off until the early 20th century and the formation of the domestic automobile industry. For example, Chicago’s population grew tremendously between 1860 and 1890 from 100,000 to over 1,000,000. At that time, Detroit was growing slowly and was not even in the top ten cities. Based on historical sources, an analysis of Census data from the United States, Chicago was one of the fastest growing cities in the country in the 19th century.

The city of Detroit first entered the top ten largest American cities in 1910. At that time, the automobile industry, particularly driven by Henry Ford and other entrepreneurs, was beginning to take off. In many ways, Detroit was the Silicon Valley of the early 20th century. The auto

7. The University of Chicago Library, Chicago in the 1890s, available at http://www.lib.uchicago.edu/e/collections/maps/ch1890/.
8. See Campbell, supra note 5.

In 1910, as America’s ninth largest city, Detroit’s population was at 450,000.\footnote{Id.} By 1920, the city had shot up to fourth place and had grown to 993,000.\footnote{Id.} The need for labor in the auto industry drove this population surge. In fact, the auto industry was the largest economic sector in the country in the 1920s.\footnote{Steven Klepper, The Evolution of the U.S. Automobile Industry and Detroit as its Capital 1 (2001), available at http://www.issevec.de/iss_download/Klepper%20ISS%20Prize%202002%20How%20Detroit.pdf.} Detroit’s population surged again during the roaring 1920s to over 1.6 million.\footnote{See SEMCOG, supra note 3.} In the span of two decades, Detroit’s population had grown by over 250 percent.\footnote{Id.} This matched Chicago’s growth rate during 1880 to 1900, when it was known as the fastest growing city in the world.\footnote{See Campbell, supra note 5.} Thus, Detroit became America’s boomtown of the early 20th century.

Over the past 70 years, as the city of Detroit has faced the growth and decline of the domestic auto industry and the advent of mass suburbanization in the post WW II era, the city’s finances have changed and evolved as well. These changes have been in response to changes in local, state, and federal policy. Over this time period, the city has faced periods of budget surpluses and budget deficits. More recently, the city has faced a constant accumulation of deficits.\footnote{Michigan State University Extension FAQ: A Proposed City of Detroit Consent Agreement and Public Act 4 of 2011, available at http://msue.anr.msu.edu/uploads/files/MUSE-FAB-FAQ-3-19-121.pdf.} These deficits reflect the challenges facing a city government as it adapts to changing economic circumstances.

This article seeks to understand and provide analysis on the changing nature of city government in response to changing economic and demographic conditions over much of the 20th century. The data set to be employed starts in 1938, during the height of the second recession of the great Depression, and ends in the current time frame of 2010. Over this period of 70 years, the city of Detroit has changed dramatically. The
city government responded in many different ways to the changing economic realities.

Although this is a case study, it also reflects changes over a long time period. A case study does not create the conditions for generalization across the population of cities whether in the United States or even across the globe. Cities in the United States such as Cleveland, Buffalo, and Pittsburgh, cities in the former East Germany, and other regions have also experienced economic and population decline. A case study of Detroit can provide the basis for the appropriate research questions and hypotheses that make sense in understanding the challenges facing city governments in depopulating and declining cities. In particular, it raises questions about the response of cities to conditions of acute and chronic fiscal stress.

II. BACKGROUND: THE DYNAMICS OF CITY FISCAL HISTORY

There has been very limited research on the impact of city fiscal stress with regards to the provision of city services and the maintenance of city infrastructure over long periods of time. One relevant source of literature is current and past research on city retrenchment efforts. For most of the fiscal history covered here, the city has been facing a declining population, economy, and tax base leading to different forms of austerity measures.

The city retrenchment literature offers some potential avenues upon which to build knowledge accumulation in the arena of city responses to long-term economic and demographic changes. One caveat is that this literature is generally focused on short-term responses to economic stress generally caused by a recession. This literature is focused on how cities and other local governments respond to negative changes in economic environments such as spending cuts, revenue increases, efficiency responses, and whatever other adaptations may occur.

The near bankruptcy of New York City in the 1970s greatly increased the interest in the fiscal health of cities. Several conceptual frameworks and theories were put forward to understand these events. Using these frameworks as a starting point, we can build an updated city fiscal health framework.

17. See Scorsone & Plerhoples, supra note 1, at 178.
18. Id. at 178-179.
19. Id. at 178-180.
21. Id. at 268-72.
Charles Levine is generally credited with beginning to focus on local government fiscal retrenchment in the 1970s. Many commentators noted that the 1970s was the era when growing local government budgets ended and a longer-term period of fiscal cutbacks began. Levine focused on the fact that local governments will generally not follow a rational budgeting approach which would include “forecasting and prioritization” but rather would undertake across the board cuts and easy budget reductions to avoid political strife.

These strategies would include across the board cuts, hiring and pay increase freezes, travel restrictions, and other types of items. Levine argues that we cannot expect governments to act in a rational manner using full information in the face of fiscal stress. He further cites “across the board cuts” as examples where a seemingly fair and equitable budget strategy actually leads to severe damage and differential impacts on departments and services.

Allen Schick defines several types of scarcity that a local government must respond to in terms of stress. Relaxed scarcity is defined as being unable to meet expansionary goals of infrastructure or other service delivery options. Chronic scarcity is a condition of being unable to meet inflationary cost increases. Acute scarcity reflects a downturn in the economy and short-term revenue pressures. Finally, total scarcity was defined as the long-term inability to meet budgetary and service needs. Clearly, for shrinking cities like Detroit, the reality of total scarcity is the most likely outcome. Total scarcity may be ameliorated at times by infusions of money due to a good economy.

23. Id.
24. Id. at 317.
26. See Levine, supra note 20, at 321.
27. Id.
28. Id. at 319.
30. Id.
31. Id. at 5.
32. Id.
33. Id.
34. Id.
Jick and Murray lay out a conceptual framework for understanding management during fiscal stress.\textsuperscript{35} They divide the strategies into internal and external options.\textsuperscript{36} The internal options include rational processes, across the board cuts, delay and abdication, and politically motivated choices.\textsuperscript{37} The externally related choices may include new sources of funds, joining new coalitions, threatening cuts to motivate interest groups to action, and showing the harm of service reductions and budget cuts via external audiences.\textsuperscript{38} It may be difficult in some cases to observe outcomes and determine which strategy was utilized.\textsuperscript{39} The authors argue that the rational type approach to cuts will dominate when there are widely perceived common organizational objectives, advance warning of cuts, and a strong internal management structure.\textsuperscript{40}

In the book \textit{City Money}, Terry Nichols Clark and Lorna Crowley Ferguson argued that a city’s fiscal situation is a function of the managerial and political system adapting to changing economic conditions.\textsuperscript{41} City fiscal stress is due to a situation where managers and leaders fail to properly adjust revenues and expenditures to a changing economic situation.\textsuperscript{42} In most cases, this implies that municipal leaders do not respond to a declining economic environment, including falling incomes, fewer jobs, and a shifting economic base.

George Downs and David Rocke, attempt to empirically test three different budget strategies in the face of revenue declines.\textsuperscript{43} The bureaucratic process model imagines a sort of rational algorithm that follows priorities and technical processes in budget reductions.\textsuperscript{44} The interest group model imagines that the various groups play off each other resulting in across the board cuts.\textsuperscript{45}

David Morgan and William Pammer also take a look at the question of whether any systematic strategies exist for addressing fiscal stress.\textsuperscript{46}

\begin{thebibliography}{99}
\bibitem{36} \textit{Id.} at 143.
\bibitem{37} \textit{Id.} at 144.
\bibitem{38} \textit{Id.} at 145.
\bibitem{39} \textit{Id.} at 146-47.
\bibitem{40} \textit{Id.} at 155.
\bibitem{41} Terry Nichols Clark and Lorna Crowley Ferguson, \textit{City Money} (Columbia Univ. Press 1983).
\bibitem{42} See Inman, \textit{supra} note 2, at 378-379.
\bibitem{44} \textit{Id.} at 336.
\bibitem{45} \textit{Id.} at 337.
\end{thebibliography}
They conclude, upon reviewing the experience of 66 cities, that no patterns can be determined. Other researchers have also found a lack of any consistent patterns in responding to stress. The conclusion is that a non-decision making or garbage can type model applies to retrenchment decisions. Of course, other possibilities include mis-specified models, lack of good data, and missing variables.

Harold Wolman also analyzes these issues but from the perspective of adoption of innovation under conditions of fiscal austerity. He states that it is likely that fiscal austerity may in some cases incentivize the need to adopt new innovations. However, no empirical evidence is presented to support these arguments and they remain at a conceptual level.

John Bartle addressed the cutback issue in the context of cities in New York State during the 1980s and early 1990s. He found that large aid cuts were generally handled via cash reductions, user fees, and capital spending. Interestingly, cities with the smallest aid cuts responded with revenue increases while cities with larger aid cuts did not. Unlike Levine and others, they did not find evidence of a neat sequential pattern for budget strategies nor did they find strong use of across the board cuts. Quoting Downs and Rocke, he cites “there is little evidence of any budget cutting algorithm based on stable account priorities.” The finding that does stand out is the attempt to maintain service levels via reductions and revenue increases but with few identifiable patterns across municipal governments.

Finally, urban regime theory has become another factor in trying to understand the explanatory forces driving local government decision-making. Regime theory views power as distributed across a variety of private and public actors within the urban milieu. Urban regime has been defined as “a set of principles, rules, norms, and decision making procedures around which actors expectations converge in a given issue

47. Id.
48. Id.
50. Id. at 178.
52. Id. at 41.
53. Id. at 42-43.
54. Id. at 47
55. Id.
56. Id.
All of these actors play various roles in the outcome of urban politics and urban policies adopted and implemented. It has been less successful in explaining regime change. There have been some correlations observed that link regime change to demographic change, federal policy shifts, and political mobilization. This theory emphasizes the importance of political and social factors in understanding the types and degree of austerity or revenue strategies used to address fiscal stress. To date, no empirical research has been conducted directly using this framework as input.

In summary, there is little literature addressing the long-term responses to chronic fiscal stress. To the extent literature actually exists, it tells a story of minimal systematic patterns to city fiscal austerity strategies. Further, most of this research focuses on short-term responses versus long-term responses. Several frameworks discussed in the next section will provide guidance towards a conceptual framework.

III. METHODOLOGY: BUILDING AND USING A CONCEPTUAL FRAMEWORK

In order to guide the analysis, a conceptual framework is presented. The purpose of this framework is to suggest the important variables in understanding long-term trends in a city’s fiscal health and the relationship among those variables. Some previous work identifies some of these key variables.

The municipal response comes in several forms. Revenues may be raised in the form of tax increases or raising user fees. The downside consequence of this action may be to put more pressure, by raising the relative tax burden, on creating outmigration incentives for people and firms. The potential problem with this solution is that state law plays a major role in the fiscal authority of municipalities. Since the 1970s, many municipalities can no longer easily raise taxes or greatly restrict the types of taxes they can use.

Another response may be to cut spending. Depending on the level of slack and efficiency in the organization, spending cuts may or may not result in service level reductions. Typically, because of the nature of municipal spending, layoffs or furloughs are a part of many spending reduction plans. Local governments tend to be very labor-intensive organizations. Another, more extreme and less used strategy are pay reductions, which do not reduce employment.

58. Id. at 814.
59. Id. at 811.
In addition to revenue increases and direct spending cuts, there are other accounting and borrowing solutions. One strategy is to delay spending on areas such as capital maintenance and pensions. In essence, this constitutes a form of borrowing from future taxpayers. Pension payments for existing employees must be made, but can be delayed for future retirees in theory. Capital maintenance, such as bridges and roads, can also be delayed for some period of time. However, at some time, these infrastructure units can become dangerous and lawsuits may be filed. There is also direct borrowing. In some states, cities can issue deficit elimination bonds. Cities may also borrow internally from one fund that has cash to one that does not have cash. In either case, this type of borrowing imposes the future cost on taxpayers of addressing immediate fiscal imbalance. During a fiscal crisis, the level of outstanding direct debt may increase to relieve stress.

The final set of strategies constitutes a form of indirect borrowing. Cities may change fiscal years, change investment return assumptions on pensions, or move employees from one fund to another. These accounting tactics simply represent another form of borrowing from the current period into the future. Unlike explicit long-term debt obligations, accounting solutions generally only last for a year or two before the obligation becomes due.

Based on these strategies, there are several possible definitions of fiscal health and/or fiscal stress. The International City County Management Association (ICMA) has defined several concepts in this regard. These four concepts are cash solvency, budgetary solvency, long-term solvency and service level solvency.

Fiscal stress is an interim level prior to a fiscal crisis. Stress refers to a situation where projections indicate that there is an upcoming imbalance between revenues and spending needs. In a situation of fiscal stress, the government may be experiencing, or is expected to experience, this type of imbalance, but there is still cash available in the form of fund balance savings or a rainy day fund.

Thus, budgetary insolvency and long term insolvency refers to a situation of fiscal stress. The government is projecting an imbalance between resources and uses. These types of insolvency are projections and are not necessarily representative of the government’s cash position.

A fiscal crisis occurs when a government’s legal spending obligations and contracts cannot be met with the cash available. This typically happens when a government’s cash flow will be inadequate to

62. See Inman, supra note 2, at 378.
meet immediate payroll, short-term vendor invoices, and pension and health payments to existing retirees. Under these conditions a municipality may, with state permission, file for Chapter 9 bankruptcy.\textsuperscript{63} Such a situation may result in major disruptions in public services.

This is similar to the definition employed for fiscal crisis by Robert Inman. Inman defined a fiscal crisis as a situation where maximum tax revenues fell short of legally obligated spending, intergovernmental aid and other revenues.\textsuperscript{64} In his framework, Inman states that four conditions can lead to a fiscal crisis: (1) unfavorable economic change, (2) demographic transition, (3) negative state and federal policies, and (4) local politics and the difficulty of spending cuts.\textsuperscript{65}

The one piece that is missing from Inman’s framework is a dynamic concept of the interaction between short-term policies, long-term solvency, and fiscal crisis. In other words, short-term solutions to a cash solvency problem can invoke borrowing, directly or indirectly as described above, that can later lead to a fiscal crisis that may be worse.

Given the interest in a longitudinal analysis in fiscal health and crisis, this dynamic component plays an important role. Conceptually, such a dynamic analysis would contain several elements. Changes in tax rates or the introduction of new tax rates would have important implications on the migration patterns of households and businesses. In most cases, new taxes would lead to some degree of out-migration that would have negative fiscal consequences holding other factors constant.

Tax increases are not the only issue to impact migration patterns. Spending cuts and service reductions may also have negative consequences. Lack of public services may drive both people and businesses out as well. In fact, it is likely that the balance between taxes and spending shapes the ultimate implications on migration patterns.

Increased state or federal aid is another possible solution to short-term fiscal stress. However, this aid is not controlled by the local government and may be withdrawn at any time. This may become especially problematic as states are likely to cut local aid during a period of economic recession when the state is facing fiscal stress as well.

Finally, as stated above, short and long-term borrowing can be used. This strategy clearly imposes future costs and may lead to worsening the crisis down the road. Borrowing is often undertaken with the assumption that the near future will bring about an improved economy and revenues. Future borrowing is seen as a future cost in the context of economic improvement and prosperity and, because of this, it will be more

\textsuperscript{63} Id. at 379.
\textsuperscript{64} Id. at 378.
\textsuperscript{65} Id. at 379.
manageable. However, for many American cities, economic conditions have generally worsened rather than improved over time.

This discussion and framework provides an initial basis for considering the types of variables and relationships that need to be considered when assessing long-term city responses to chronic fiscal stress. As the research improves over time, it is hoped that this initial framework can be built into a more solid theoretical framework.

IV. ANALYSIS: CHRONIC FISCAL STRESS IN THE MOTOR CITY

The analysis presented here is in the form of a longitudinal case study of the city Detroit. Detroit provides an important outlier case of economic and financial crisis in the industrial world. As stated above, Detroit was one of the great industrial boomtowns of the early 20th century. An enormous long-term economic bust followed this boom.

This boom and bust cycle has played an enormous role in shaping city finances over time. The response to these changes can inform the debate and research of city finances and management over time in a geographic context. Geography, in particular, the sheer size of the city of Detroit at 138 sq. miles, plays an important role in understanding long-term financial sustainability.  

A further important factor to the analysis presented is the longitudinal analysis. It will be very difficult to collect this type of long-term data for many cities across the country. This is why many municipal financial analyses focus on short-term crosscutting data rather than long-term analysis. A long-term analysis allows for the analyst to gain a perspective on how the city responds to stress and prosperity over a period of many economic cycles, changes in social conditions, and changes in city management. Most importantly, it allows a review of how short-term changes in responding to acute fiscal stress cause potential problems that lead to chronic fiscal stress.

The case study materials were collected primarily via three sources. Information on city finances and city operational factors was primarily gathered from the city of Detroit’s annual financial audit. These financial audits are available back to the 1850s, but only in modern form since 1938. The city revenue spending and operational factors were compiled from these financial audits from 1938 through 2010. Other useful

research tools were two major reports from the 1950s and 1960s that provided a further relevant context from those earlier periods.\textsuperscript{67}

Since 1938, the city has collected data on a variety of operational factors from the financial audit. This type of data include police stations, fire stations, fire hydrants, fire calls, arrests and traffic tickets, parks and park acreage, water miles, transportation ridership, number of employees, and a variety of other factors. This data is critical in assessing the financial and operational changes in the city over a long period of time.

This operational data allows for better comparative analysis of the financial factors. For example, the number of employees, including police officers, fire officers, and public works employees, provides a unit analysis to assess changes in costs per employee over time. This is critical in assessing the changing nature of finances over time.

The following section presents a descriptive analysis of changes in city services and finances over the past seventy years in the city of Detroit. The first part of the discussion focuses on changes in the provision of city services using basic operational data. The second part focuses on changes in finances including revenue, spending, and fund balance over that same period.

\textit{A. City Services and Operations (1938-2010)}

By 1938, the city of Detroit had been fundamentally transformed into a major industrial power and America’s fourth largest city.\textsuperscript{68} At that time, the city government had under its jurisdiction three major city hospitals, a large streetcar and trolley system, a historical museum and art museum, the Detroit public school system, and responsibility for the welfare system and a corrections house.\textsuperscript{69} These functions existed in addition to the more typical urban services such as police and fire protection, sewer and water systems, a city public health department, general administration, and parks.\textsuperscript{70}

\begin{footnotesize}
\begin{enumerate}
\item See City of Detroit Committee on City Finances, Summary Report (November, 1957); see also Karl D. Gregory & James A. Papke, \textit{The Financial Problems of the City of Detroit: A Staff Memorandum Prepared for the Citizens Income Tax Study Committee for the City of Detroit} (1960).
\item Detroit (Mich.) Office of the Attorney General, \textit{Annual Report of the Auditor General of the City of Detroit, Michigan}. The emphasis is on the calculations for the years 1938 through 2010 and 2011.
\item Id.
\end{enumerate}
\end{footnotesize}
Starting in the 1940s and 1950s, the city’s population growth slowed tremendously. In fact, 1958 was the peak year for the city’s population at nearly 2 million residents. From that point forward, the city population would decline for the next fifty years. However, even as population growth slowed, the growth of public facilities and capital continued to climb.

Simple statistics illustrate changes in the urban public service system from the late 1930s. In 1940, the city had just over 40,000 streetlights. This number grew by 50 percent to just over 70,000 in 1970. Between 1970 and 1980, this number grew again by another 25 percent to over 90,000. This growth occurred even as the population fell by over 20 percent during the 1970s. The city’s boundaries did not change during this time. Thus, some types of urban services were expanding in the face of severe population loss. These types of services, such as street lighting, added to the city’s cost burden.

Streetlights were not the only urban service or infrastructure unit that expanded in the face of declining population and loss of tax base. From 1940 through 1970, the city road network system grew by almost 50 percent. In 1940, there were 1,800 miles of road in the city. Even as the population peaked and began to fall, the road network continued to grow until 1970 when it peaked at 2,800 miles of road. Given the northern weather conditions, these roads require constant maintenance, repair, and snowplowing capacity.

The number of parks in the city also grew during this period. From only 38 parks in 1940, the city had built over 400 parks by the mid 1970s. This growth occurred even as the number of residents began to fall dramatically. Furthermore, the number of acres doubled. The city was required to maintain and provide upkeep for a little over 3,000 acres in 1940, which had expanded to almost 6,000 acres in 1978. These

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71. See United States Census Bureau, supra note 66.
72. See DETROIT (MICH.) OFFICE OF THE ATTORNEY GENERAL, supra note 67.
73. Id.
74. Id.
75. Id.
76. Id.
77. Id.
78. See Campbell, supra note 5.
79. See DETROIT (MICH.) OFFICE OF THE ATTORNEY GENERAL, supra note 67.
80. Id.
81. Id.
82. Id.
83. Id.
84. Id.
85. Id.
parks were generally small neighborhood based parks.\textsuperscript{86} While beneficial to those areas, small parks are much more expensive to maintain given the potential economies of scale associated with park and recreation operations.\textsuperscript{87} These parks and their acreage provided another source of fiscal stress on the city.

Another key trend in city services is the Detroit Public transportation system. Over time, especially in the early and mid-twentieth century, Detroit ran one of the nation’s largest streetcar and trolley systems.\textsuperscript{88} That system was finally disbanded in the 1980s.\textsuperscript{89} Today, the city runs an extensive bus system that requires large general fund transfers to maintain it.

The passage of time reveals an important part of the public transportation story. In 1947, the transit system had over 7,000 employees.\textsuperscript{90} This number has fallen to under 2,000 in the mid-2000s.\textsuperscript{91} During the same time interval, ridership or seating capacity was over 100,000 in 1947 at its peak and had fallen to just under 26,000 in 2005.\textsuperscript{92} Again, this reveals the dramatic changes in the system. However, the number of miles served has not changed dramatically. In fact, the number of miles served is identical to what it was in 1947.\textsuperscript{93}

In this case unlike parts or street lighting, the city has partially responded to the fiscal challenges of depopulation by changing the nature of its transit system. Trolley car services were slowly reduced and finally disbanded in line with population changes.\textsuperscript{94} Yet, the bus system is being maintained with a very low population density in some areas and at a high fixed cost.\textsuperscript{95} In 1947, at the height of the system, its annual ridership was over 500 million rides a year.\textsuperscript{96} By the mid-2000s, annual ridership had fallen to 88 million.\textsuperscript{97} This translates into a FY 2008-09 general fund subsidy of nearly $70 million.\textsuperscript{98} This is the cost of maintain a transit system in a shrinking city.

\textsuperscript{86} Id.
\textsuperscript{87} Id.
\textsuperscript{88} Id.
\textsuperscript{89} Id.
\textsuperscript{90} Id.
\textsuperscript{91} Id.
\textsuperscript{92} Id.
\textsuperscript{93} Id.
\textsuperscript{94} Id.
\textsuperscript{95} Id.
\textsuperscript{96} Id.
\textsuperscript{97} Id.
\textsuperscript{98} Id.
These basic operational and service characteristics provide a high level overview of some of the changes occurring in Detroit’s operations. Each of these functions was either directly or indirectly paid for by the city General fund.\textsuperscript{99} These expenses had to be maintained in the face of a shrinking population and internal tax base. In some cases, city services adjusted to changing population dynamics but in other cases they did not.\textsuperscript{100}

\textbf{B. Revenues}

In understanding the city of Detroit’s long-term fiscal position, it is useful to start in assessing the income side of the balance sheet. The city has had access to property taxes for its entire history, however like many cities this has declined in importance. Income taxes and state shared revenue have mostly taken up the slack. These revenue sources have in essence allowed the city to export its tax base. More recently, revenue declines are very evident in all of Detroit’s main income sources. The next section tracks these individual revenue streams.

Property taxes remain a cornerstone of the Detroit fiscal system. From 1938 through 1974, property taxes remained the single most important source of revenue for the city (see Chart 1 below).\textsuperscript{101} In 1940, property taxes represented over two thirds of all total revenues.\textsuperscript{102} This had shifted down to 50 percent in 1964 and had fallen to only one-third by the mid 1970s.\textsuperscript{103} Property taxes in the city have had a tendency to move in a stepwise pattern over the decades.

From 1938 through 1954, property taxes stayed in the range of 5 to 10 million dollars.\textsuperscript{104} The Great Depression and WW II had major implications on public finance across the country.\textsuperscript{105} This pattern changed in the late 1950s as property taxes accelerated in the 1960s.\textsuperscript{106} At the same time, one can observe some of the major state policy breakpoints. In 1978, the state voters passed the Headlee Amendment that resulted in a major reduction in taxes. For the city it meant a decline

\textsuperscript{99} Id.
\textsuperscript{100} Id.
\textsuperscript{101} Id.
\textsuperscript{102} Id.
\textsuperscript{103} Id.
\textsuperscript{104} Id.
\textsuperscript{105} Id.
\textsuperscript{106} Id.
of almost 30 million dollars in tax revenues. The nominal property tax revenue was not met again until the mid 1990s.

In the 1990s and early 2000s, property taxes grew as home values and the national housing bubble took off. Property taxes grew from the late 1990s through the mid 2000s from $150 million in revenue to almost $250 million. However, this turned around quickly and property taxes began to decline precipitously. In fact, nearly 20 million dollars had been shaved off property taxes by the end of fiscal year 2009. By this time, property taxes represented only 13 percent of total city general fund revenues.

The following chart depicts in nominal terms, what has happened to the city’s property tax revenues over the past six decades. In most cases, the property tax base has experienced stagnant growth and little uptick. Generally during economic boom years, there is some improvement in property taxes. However, these revenues have fallen dramatically since the housing boom that ended in 2008.

**Chart 1:**
**Detroit Property Tax Revenues (Nominal Terms, 1938-2010)**

The income tax has become a critical source of revenue for the city over time. By 2009, over one-third of all city revenues came from the

107. Id.
108. Id.
109. Id.
110. Id.
111. Id.
112. Id.
income tax in the General Fund. The income tax was instituted in 1963 in the city of Detroit via state legislation. The income tax rate has changed over time. However, the one constant has been that commuters pay one half the rate of city residents.

With growing incomes and the ability to tax export to commuters in the suburbs, the city of Detroit has been able to increase its revenue capacity. The negative is the likely deterrent effect to creating and retaining jobs in the city. No other city or local government jurisdiction in the metropolitan Detroit area, with the exception of Ann Arbor, MI has a city income tax. Townships and counties are not allowed to have income taxes because of the lower public service burdens they are expected to provide to citizens.

Income tax collections started in 1963 with a little over 30 million dollars. From that point, the income tax grew tenfold to over 300 million dollars in the late 1990s. At that time, income tax collections represented over one third of all city revenues. However, since the peak in 2000, income tax collections have continued to fall through 2010 with only $240 million collected in FY 2008-09. This number was down from a peak of $380 million in FY 1999-2000.

**Chart 2: Income Tax Collections (Nominal Dollars, 1963-2010)**

There are several other critical sources of revenue for the city. The utility user’s tax is one of those sources. It was first introduced in 1971, grew to about $50 million in the 1980s, and has stayed at that rate ever since. In real terms, its purchasing power has fallen dramatically since the 1980s. Thus, we see that the utility user’s tax has not grown at all in nominal terms, let alone real terms (see Chart 3 below).
The final source of total revenue is stated shared taxes. The formula for state shared taxes has changed over time. There are both constitutional and statutory portions of the state revenue sharing system. The city of Detroit began receiving state shared revenue under a constitutional amendment passed in 1938. State sales tax collections are diverted into a restricted fund and then shared via a formula with all of the states, cities, villages, and townships. The program was designed to avoid the potential problems of having many local sales tax collection efforts. From 1938, state shared revenue grew quickly and by the mid-1970s had surpassed property taxes as the major source of city tax revenues. State- shared revenue and city income tax revenues were essentially tied for first place as the city’s major tax source.

125. Id.
127. Id. at 2.
128. See DETROIT (MICH.) OFFICE OF THE ATTORNEY GENERAL, supra note 67.
131. See DETROIT (MICH.) OFFICE OF THE ATTORNEY GENERAL, supra note 67.
132. Id.
Similar to property taxes and income taxes, state shared revenues began to fall after the 2000 recession.\textsuperscript{134} State sales tax collections were anemic and the state began to cut portions of the statutory shared revenue program.\textsuperscript{135} From a peak in 2000 of over $300 million, state shared revenue to Detroit fell to $260 million in FY 2008-09.\textsuperscript{136} Thus, all of the major revenue sources for the city of Detroit have fallen over the course of the last decade. These declines would ultimately result in the worst fiscal crisis that has ever faced the city.

\textit{C. Expenditures}

Revenues are not the only part of the Detroit fiscal story. Most importantly, the compensation paid and promised to employees is a critical part of the fiscal evolution of the city. The city’s costs, not unlike other cities in the United States, have risen dramatically over the past few decades.\textsuperscript{137} Even as the workforce shrank, the cost per employee has risen.\textsuperscript{138} The cost structure represents the other half of the fiscal story and is the focus of the next section.

\textsuperscript{133} Id.
\textsuperscript{134} Id.
\textsuperscript{135} Id.
\textsuperscript{136} Id.
\textsuperscript{137} Id.
\textsuperscript{138} Id.
D. Spending Trends

The overall city General Fund budget is the focus of the analysis presented here. The General Fund covers the police department, fire department, planning and zoning, recreation and cultural activities, public health department, and general government such as the Mayor’s Office and City Council.\(^{139}\) To some extent, the scope of General fund activities has changed over time. Up until about the 1960s, the city General Fund covered prisons and social welfare programs.\(^ {140}\) However, these programs were fairly small scale.\(^ {141}\) Generally, the scope of programs has been consistent over time. The major programs outside the General fund include the water and sewer activities.\(^ {142}\)

Chart 5 reveals the nominal and real spending using the state and local government consumption expenditure price index. This chart shows that real spending was much higher in the 1940s and has continually gone down over time. This is despite the large increase in nominal spending.

The decline in spending is particularly acute in two periods. Real spending dropped from over $2.5 billion in the late 1930’s to a fairly steady $2 billion figure from the 1940s through the 1990s. Thus for over fifty years, the city of Detroit General Fund was fairly consistent. Spending was able to remain relatively constant, in the face of economic decline, due to their ability to tax export via the income tax, utility user’s tax, and state shared revenue.

\(^{139}\) Id.
\(^{140}\) Id.
\(^{141}\) Id.
\(^{142}\) Id.
The 2000s represented an unprecedented level of decline in real and nominal General fund spending. In real terms, the city General Fund spending had fallen by over 40 percent (see Chart 5). This is an enormous decrease relative to any changes in the past. Inflation has whittled away the purchasing power of the city’s General Fund. One could ascertain that other funds have taken up the slack for the General Fund. However, special revenue funds have generally been used for new purposes or for state or federal mandated programs. Thus, it is unlikely that there has been much of a substitution effect.

Another major source of expenditures is the pension system. The City of Detroit has had an employee pension going back into the 1920s. The modern pension system was born in the 1930s when a multitude of systems were combined into two: (1) the general pension system and (2) police and fire pension system. These two pension systems remain in place as of today.

At least in part, the pension systems have been identified as major fiscal problems facing the city of Detroit. Currently and in the past, the
city has offered a defined benefit plan to all employees.\textsuperscript{148} The details of the plans do differ between general employees and police and fire employees. Not surprisingly, police and fire employees are offered a more generous benefit with less time of service in order to be eligible for retirement and a higher level of annuity.\textsuperscript{149}

In the 1940s and 1950s, the city had a much higher level of employment. This was because of the school district being under the city government.\textsuperscript{150} This also accounts for the wild swings in total employment as the school was both within and without city government over the course of several years in the 1950s. However, once these trends are taken into account, the city government overall employment has been on a downward slide.

By the late 1980s, city government retirees exceeded the number of employees.\textsuperscript{151} With less than one employee per retiree, the city of Detroit’s pension systems are considered super-mature.\textsuperscript{152} This low ratio also signals major problems as the burden of retirees is being placed on the current payroll and ultimately the current tax system. Resources for retired employees, also a legal obligation under Michigan’s constitution, are crowding out resources for current employees and services.

By 2005, the total cost of the general, police and fire pension costs was at over $170 million per year.\textsuperscript{153} With a total general fund budget of just over $1 billion, this implied that 17 percent of all Detroit general expenditures were targeted to the pension system.\textsuperscript{154} In 1980 for example, this number was around $120 million.\textsuperscript{155} The numbers jump around quite a bit as the city altered its funding strategy in response to fiscal stress.

For several years in the late 1990s and early 2000s, the city vastly underfunded the police and fire system.\textsuperscript{156} This underfunding created major problems later in the decade. In fact, the city had to float a municipal certificate of participation to essentially borrow money to fund the pension system.\textsuperscript{157} This correlates to the proposed framework

\begin{itemize}
\item \textsuperscript{148} Id.
\item \textsuperscript{149} Id.
\item \textsuperscript{150} Id.
\item \textsuperscript{151} Id.
\item \textsuperscript{152} Christopher Bone, A Framework for Establishing Corporate Retirement Funding Policy, The Pension Forum, June 1996.
\item \textsuperscript{154} Id.
\item \textsuperscript{155} Id.
\item \textsuperscript{156} Id.
\item \textsuperscript{157} Id.
\end{itemize}
discussed earlier that cities tend to borrow from the future to pay current bills that are due. Future Detroit residents will pay for the pension obligations as well as the borrowing necessary to properly fund the pension system.

As a point of comparison, the 1960 examination of the city’s finances by professors from Wayne State University projected that in 1983, the total pension would require annual funding of $21.9 million.\textsuperscript{158} In point of fact, the system required over $120 million in funding that year.\textsuperscript{159} What caused such a large underestimate? The biggest factor was the major increases in lifespan for the city employee population. This change alone probably accounted for the largest bulk of the underestimate. Built into these expenditure figures, the pension and health care costs are a major portion of these costs. These costs continue to push out other needs.

\subsection*{E. A History of Fiscal Crisis}

The 2000s were not the first time the City of Detroit faced a fiscal crisis. Granted, there are challenges in specifically defining a “local fiscal crisis”. One tangible measure of a local fiscal crisis is the need to issue deficit elimination bonds. These are bonds that provide upfront cash to a local government so that it may pay off an accumulated deficit. In essence, long-term debt is being issued to pay off short-term debt.

The notion of an operating deficit is the first concept used to assess Detroit’s long-term fiscal health. Chart 6 depicts the level of operating balance or the difference between total revenues and total expenditures from 1938 through 2010. There are several points raised by this graph. Point one is that Detroit has faced numerous operating deficits over the past sixty years. Second, the swings between negative and positive have grown much more variable in the past two decades.

Through the course of history, the city of Detroit has issued deficit elimination bonds on three occasions.\textsuperscript{160} The 1981 recession was particularly severe in Michigan and for the auto industry. PA 80 of 1981 was passed by the state legislature and provided cities with the capacity to issue deficit elimination bonds for the first time. Prior to that time, there was no explicit state authorization for the issuance of deficit elimination bonds. Historically, municipal bonds are issued for long-lived assets, such as roads, bridges, and sewer and water lines. These bonds are generally based on a hard asset with a fixed amortization schedule.

\textsuperscript{158} See Karl D. Gregory & James A. Papke, \textit{supra} note 65, at 37-38.
\textsuperscript{159} See Detroit (Mich.) Office of the Attorney General, \textit{supra} note 67.
\textsuperscript{160} Id.
Chart 6 depicts the trends in total resources, total spending, and surpluses or deficits for the city. Several observations may be garnered from the chart. The city has run deficits in about one out of every three fiscal years since 1938. This certainly qualifies as the definition of chronic fiscal stress. The degree of stress has increased and become more volatile since the 1970s.

**Chart 6: General Fund Operating Deficits (1938-2010)**

The negative fiscal status in the late 1970s is visible leading to the issuance of the first deficit bonds. The second big deficit in the early 1990s led to a second series of deficit bonds in the early 1990s. Since then, the city has had a volatile course of surplus or deficit in the 2000s as the Michigan economy sank. Spending and revenues do appear to track together although in some cases there are big spikes in one or the other. Further investigation will be required to determine fiscal trends. More importantly, are there any trends that show how the city responded to these fiscal situations?

Chart 7 depicts the resources, uses, and balances between the two. Resources include the ongoing revenue streams as well as the transfers in from other funds. Uses include the expenditures and transfers out from the General Fund to other funds. The balance is simply the difference between resources and uses. Since 2004, expenditures and revenues have both tracked down. However, revenues have fallen at a faster rate than expenses. The balance line is consistently below zero and in negative territory for every year since 2007.

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161. *Id.*
162. *Id.*
F. City Spending Adjustments

For this initial analysis, city spending shares were taken as a proxy for changes in priorities across the fiscal years. Since the city of Detroit has been in deficit mode for nearly half of all its post World War II fiscal years, it can be described in a state of persistent fiscal stress.

Public protection is often viewed as a major force in city budgets and the city of Detroit is no exception. Taking out the school budget that was within the city budget from the 1940s and 1950s, public protection, including police and fire, represented about 20 percent of city spending. Part of the reason for this lower number is the importance of hospitals and welfare spending in the city budget during those years.

For almost the entire period under investigation, certain budget areas have remained a relatively constant share of the budget. Recreation and culture, which includes the art museum, zoo, and green space, has generally accounted for 4-6 percent of the city general fund budget. Welfare and hospitals, which used to be in the budget, were no longer city responsibilities as of the 1960s. Public works, which would include street lighting, building repair and maintenance, and sidewalks, has generally represented about 10 to 14 percent of the budget without

163. Id.
164. Id.
165. Id.
166. Id.
167. Id.
major changes over time.\footnote{168} Thus, some areas of the budget do not appear, at least in budget share terms, to be differentially impacted during a long period of chronic fiscal stress.

Chart 8 shows us the relative budget shares of public safety and the non-public safety portion of the city budget along with the total budget. The simple story that emerges is that public safety, defined as the police and fire departments, have grown tremendously while the share of the budget to everything has fallen sharply in response. Thus, regardless of the level of fiscal stress that has occurred across time, the public safety budget’s share of the total budget has grown and crowded out other services. This trend did stop for a number of years starting in the late 1970’s. This reflected in part potentially the revenue growth of the 1990s due to the economic boom which allowed non-public safety spending to expand. However, by the early 2000’s, this trend had revered and most recently public safety spending again moved ahead of non-public safety spending. This points to the fact that across the board cuts have not been the general strategy used, in fact targeted cuts to non-public safety have been the norm. This may be due to state labor protection laws, local political preferences or citizen support for those services as fiscal stress.

\textbf{Chart 8: Budget Shares (%) for Public Safety and Non-Public safety Functions, Detroit General Fund (1938-2010)\footnote{169}}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{chart8.png}
\caption{Budget Shares (%) for Public Safety and Non-Public safety Functions, Detroit General Fund (1938-2010)}
\end{figure}

\footnotetext[168]{Id.}
\footnotetext[169]{Id.}
V. CONCLUSION

Over the course of the 20th century, the city of Detroit has faced the challenge of adapting to major economic changes. These changes include the decline of employment in the domestic auto industry. The city of Detroit, once the major center of the largest industry in America, quickly reversed course and became a major center of economic decline in the United States.

City government and its financial conditions face the challenge of both shaping and being shaped by these changing economic and social conditions. Fiscal health, and its corollary fiscal stress or crisis can be measured simply by operating deficits, loss of net assets, and degradation of infrastructure. As stated in the conceptual framework, as a city experiences fiscal stress, it is likely to respond through a variety of mechanisms. These mechanisms primarily revolve around borrowing from the future to pay current bills, including putting off infrastructure maintenance, short term cash borrowing, and pension underfunding.

As a declining population city or legacy city, Detroit also faces some peculiar revenue conditions it must address. In general, property taxes have grown albeit at fairly low rate.170 The major saving graces for the city have been the expansion and introduction of new taxes that tax exports and address a falling population. Both the Income Tax in the 1960s and the casino tax in 1999 have been critical in maintaining overall revenues and the tax base. Without these sources, the city would have faced fiscal disaster much earlier.

On the spending side, real (inflation adjusted) spending has been significantly cut. However, the basic problem, both in the past and today is that Detroit has failed to cut spending as fast as revenue stagnated or declined. For this reason the city has faced several periods of fiscal stress, especially since the 1980s. In 2012, the city now faces a fiscal crisis and a cash flow shortage. However, these current problems are a manifestation and buildup of the fiscal stress that was not addressed over the past few decades.

As a case study, the city of Detroit longitudinal analysis provides for a useful tool for proposing and refining research questions and hypotheses. On the revenue side, one hypothesis is that shrinking or legacy cities often address fiscal problems by introducing new taxes and engaging in tax exporting. Of course, this strategy will often be tied to the whims of the state legislature. Tax base expansion and tax exporting may allow these central-shrinking cities to avoid fiscal crisis.

On the spending and fund balance side of the equation, city spending may be reallocated across priority areas with some areas benefitting while others struggle. For example, public safety, in the form of police and fire departments, may gain relative budget shares relative to other departments. At the same time, even as employee numbers fall, the cost per employee appears to be rising. This employee cost problem also causes a reallocation from some budget areas to others. Thus, one may hypothesize that a budget share reallocation will occur as cities seek to adapt to economic and population decline.

Finally, cities will engage in internal and external borrowing to address acute fiscal stress. However, these responses to fiscal stress in the short term may cause chronic fiscal stress in the long term. Based on Detroit’s experience, one likely hypothesis is that borrowing may occur to address fiscal stress and therefore costs will be higher in the future.

Political and social forces and their implications for city adaptation to fiscal stress are one area where this analysis has not been examined. Political coalitions, leaders, and other factors likely play a major role in shaping the city’s choice of which strategies to use in addressing both acute and chronic fiscal stress. Also, social forces may shape the types of demands on city services. This may affect the type of budget share allocated across service areas or even the kind of services taken on by city government.

Future research will focus on examining a broader swath of cities in the United States. Currently, data collection is ongoing in the 30 largest cities in the United States. From 1940 through the mid 1990s, the Census Bureau collected city financial data on an annual basis. This data is currently being compiled and will be used to assess a broader set of responses to acute and chronic fiscal stress by city governments.