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THE MISUNDERSTOOD MUNICIPAL MARKET: WHY PREDICTIONS FOR MASS
MUNICIPAL DEFAULTS ARE INCORRECT

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Abstract

The municipal bond market has long been considered unexciting and virtually risk-free. Following the recession that began in 2008, several high profile analysts questioned the stability of the asset class. Despite extremely low historical default levels, there was a reaction in the market. Although municipal bonds are tax-exempt, yields on municipal debt traded in excess of 100% of comparable Treasuries, and remained there through 2011 as investors pulled more than \$40 billion out of municipal bond funds. Although there was only \$2.1 billion in defaults in 2011 out of \$3.7 trillion in outstanding debt, concerns remain about the state of the market. This thesis evaluated the state of the municipal market from several angles. In addition, the study reviews the Harrisburg, PA fiscal crisis which received a lot of attention in 2011 and into 2012. The study found that municipal issues and concerns for mass defaults are overstated. Municipal debt levels, both relative and nominal, have risen at a consistent pace since the market originated with only slight jumps during economic slowdowns. Pensions should continue to be monitored, but since they are long-term promises and many of the funding problems are a result of the recession, a return to normal economic conditions should fix the issue. State budgets were affected by a loss of revenue during the financial crisis and spending was limited by balanced budget restrictions. Federal stimulus helped them get through 2009 and 2010 and revenues are now on par with 2007. Finally, the study shows that Harrisburg is not a representative case in terms of its fiscal challenges, but it does display that even under intense financial distress, it is unlikely for a municipality to default on general obligation debt. In conclusion, this paper states that analysts have overstressed the challenges facing the municipal market and that mass municipal defaults during this recession are unlikely.

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Introduction

The credit quality of the municipal bond market has rarely been called into question. Low historical default rates and high recovery values have helped secure its status as a relatively safe asset class. However, as the market grew from \$1.5 trillion in 2000 to \$3.7 trillion in 2011, analysts and investors began to focus some attention on the possibility of increased changes in municipal credit quality and possible defaults. The negative sentiment was intensified by several high profile analysts who pushed municipal bonds into the financial spotlight following the 2008 recession. These analysts took the opportunity to predict widespread defaults over the next several years; some expecting defaults to be as dramatic as \$100 billion or more, which would be 3% of all outstanding municipal debt. These claims were fueled by the effects of the recession that began in 2008, which heavily pressured state and local budgets due to depressed home prices, decreased tax revenues, and pension funding issues. The underfunded pensions have gained extra attention due to widespread differences in opinion on how to interpret the value and of each pension's assets and liabilities, as well as the proper level of funding.

Meredith Whitney, an analyst who rose to fame after she predicted in October 2007 that mortgage losses would force the financial giant Citigroup to raise capital, sell assets, or cut its dividend, made the statement that gained the most attention. Her company released a report titled "Tragedy of the Commons" on September 28, 2010 that analyzed the financial condition of 15 states. The study warned that state budgets are more stressed than the public has been led to believe, and that sizable defaults would occur over the next several years. Investors began to grow concerned, but the market did not fully react until she appeared on CBS Corp.'s show "60 Minutes." Meredith Whitney appeared on the show on December 19, 2010 to discuss her view on the fiscal issues of municipalities. When asked her opinion on defaults she said, "You could

see 50 sizable defaults, 50 to 100 sizable defaults, more. This will amount to hundreds of billions of dollars' worth of defaults" (Kroft, 2010). Despite many well-known financial professionals publicly disagreeing, Meredith Whitney's interview sparked a sell-off in municipal bond funds (Abelson & McDonald, 2011).

Municipal bond funds lost over \$7.5 billion in November 2010 but the reaction was even more dramatic in December when investors pulled out \$13 billion from municipal funds. According to the Investment Company Institute, municipal bond fund outflows totaled \$44 billion from November 2010 to April 2011. Investors had clearly bought into Meredith Whitney's predictions. However, as the market was selling off, questions arose about Whitney's report. The largest concern was the overall vagueness of the document. The report stated, "We are not calling for any specific defaults within the scope of this report," which led investors to wonder where Whitney came up with her default numbers of 50-100 or more from. The definition of default was another key topic. "Debt service at the state level is not something we believe is at risk," says the 2nd page of the report, "States have and will continue to default on social contracts in the form of reduced spending." Regardless of these issues, Meredith Whitney had put the municipal bond market in the spot light (Abelson & McDonald, 2011).

Wall Street kept a keen eye on municipal bonds in the beginning of 2011. Despite the outflows in the beginning of the year, municipal defaults were limited. By mid-year many analysts were questioning if there was any validity to her predictions. Various interviews and articles pointed to the lack of defaults as a sign that Meredith Whitney's forecast was a complete failure. But the report by Whitney's company focused on the long term fundamentals. Whitney herself would speak about this in an interview with Mario Bartiromo, saying that defaults would end up being a multi-year issue. She also said, "I've never said that a state would default, but I

think the local municipal bonds are at a significant risk of default,” pointing out that she expects the problem to spread through local governments first (Bartirromo, 2011).

Throughout 2011, investment professionals everywhere began to share their opinion on the municipal market. Outlooks ranged from investors calling for a municipal doomsday to others who in essence laughed off the projections. One year after Meredith Whitney made her predictions, those who ignored her were left smiling. In fact, in 2011 total defaults were only \$2.1 billion, less than the \$2.8 billion in defaults in 2010; only a tiny fraction of the \$3.7 trillion market. This resulted in significant returns for municipal bond funds. National municipal long term funds generated returns in excess of 10%, as did high-yield municipal bond funds (Beals, 2012). From every perspective, 2011 was a pretty good year for municipal bonds.

As 2012 begins, there are still questions about the quality of the municipal bond market. The low level of defaults and double digit returns of 2011 had brought investors back into the market, but the long-term issues are still a viable concern. The prediction of mass defaults over a multi-year period is not off the table as the economy slowly recovers from the 2008 recession. Municipalities across America are still combating budget and deficit issues, pension concerns, and the end of several federal stimulus programs. This paper will explain why these 3 problems continue to be manageable.

The following section of this paper will provide an overview of the municipal bond market, summarize the types of municipal bonds, explain the tax-exempt status of municipal debt, and finally discuss who the holders of municipal debt are. The next chapter will review previous studies relating to historical municipal default rates and recovery values as well as studies about to the municipal pension problem. The current level of explicit state debt will be discussed in the subsequent section. This will be followed by an explanation and analysis of the

pension problem that state and local governments are experiencing, while the section after that will address municipal budgets and the end of federal stimulus programs. After that, is an in-depth case study on the fiscal crisis that is on-going in the city of Harrisburg, PA. This chapter aims to demonstrate the resistance of state governments to allow municipalities to default and also explain that the financial situation in Harrisburg was caused by poor management of a single project rather than a reaction to the previously mentioned issues that other municipalities are facing. Finally, the last section will summarize the conclusions drawn throughout this paper and explain that the financial stress caused by the recession is unlikely to cause extraordinary levels of municipal default.

The Municipal Debt Market

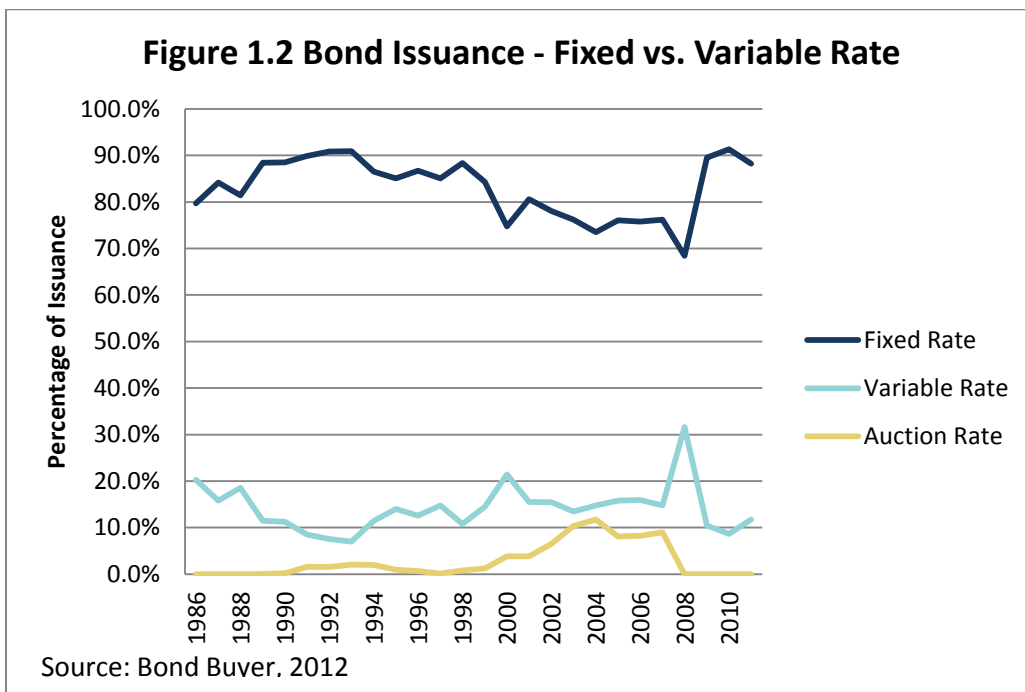
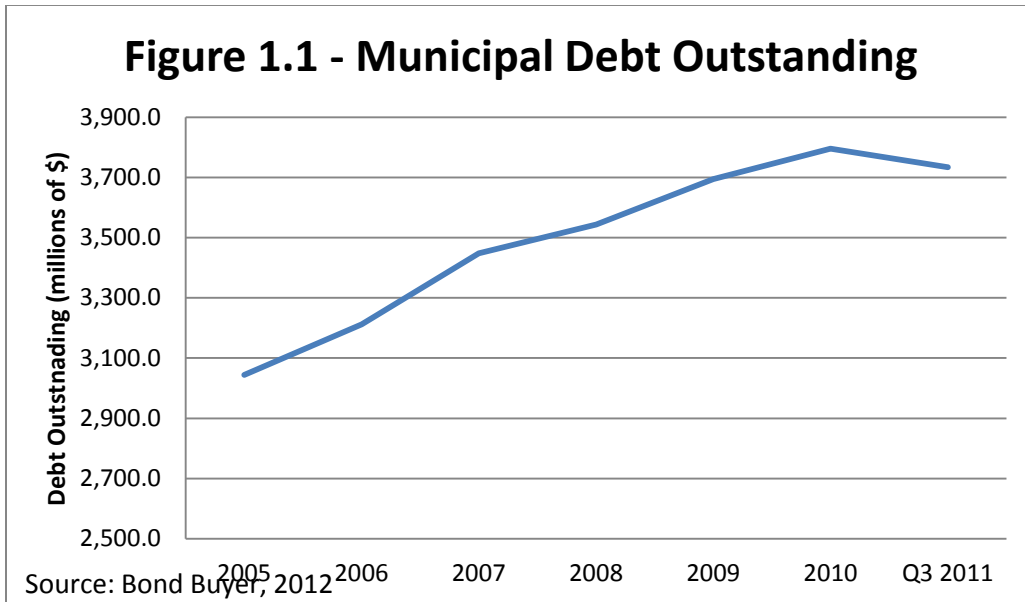
Origin and Growth

The ability of state and local governments to borrow dates back to the U.S. Constitution. The 10th Amendment gives the individual states full power over areas of government not granted to the Federal government. One facet that falls under this amendment is the ability of each state to tax, spend and borrow. Each of the fifty states has its own constitution which includes guidelines for the state's taxing, spending and borrowing, and additionally controls the authority of the cities and counties within the state. States, counties and cities are able to borrow by issuing municipal bonds.

The first officially recorded municipal bond dates back to 1812 when New York City issued a general obligation bond to fund the digging of a canal (O'Hara, 2012, p. 55). The market quickly began to grow and the total amount of outstanding municipal debt grew from \$25 million in 1843 to approximately \$2 billion in 1900 (Plante Moran Financial Advisors, 2009). The market continued to expand, reaching \$17.5 billion in 1932 before its growth was slowed by the Great Depression. However it was not slowed for long. The market grew to \$500 million by 1982 and hit \$1 trillion in 1987. In 2005 the \$3.0 trillion mark was reached, and as of the end of the 3rd quarter 2011 there was \$3.7 trillion of municipal debt outstanding (SIFMA, 2011). The Municipal Securities Rulemaking Board estimates that in the United States, including U.S. Territories and Puerto Rico, there are more than 55,000 issuers that account for this \$3.7 trillion (Municipal Securities Rulemaking Board, 2012).

As the market rapidly grew, municipalities also began to issue more complex debt. This debt included an increasing percentage of variable rate securities, often issued with intricate swap contracts. In 2008, the amount of variable rate bond issuances peaked to \$123 million,

over 30% of all municipal security issuance for the year. The market for auction rate bonds, which had surpassed 10% of annual issuance in 2004, dried up during the recession in 2008. The failure of these securities in early 2008 may have been a contributing factor to this growth, as auction rate securities were the other option for issuer who did not want to lock into fixed rate debt (The Bond Buyer, 2012).



Tax-Exempt Status

The first federal income tax in the United States was initiated with the Revenue Act of 1861. This Act was passed during the Civil War in an effort to raise money. Abraham Lincoln signed it into law and introduced federal income tax as a flat rate tax; 3% of income above \$800. Income tax was changed to a progressive tax a year later with the Revenue Act of 1862. Income in excess of \$600 was taxed at 3% while income greater than \$10,000 was taxed at 5%. This was again altered, moving to 4 different tax brackets in 1864. However, in 1872 income tax was repealed completely (Terrell, 2009).

In 1894, after more than a decade, the U.S. Government passed a new flat rate income tax for the United States. This led to the first consideration of the tax status of municipal bonds. The Supreme Court reviewed *Pollock v Farmers' Loan & Trust Company*, 157 US 429 in 1895 and ruled that the federal government had no power to tax interest on municipal bonds as it violated the doctrine of intergovernmental tax immunity as well as articles IV and V of the Constitution (Legal Information Institute). *Pollock v Farmers' Loan & Trust Company* also led to the ruling that the other taxes imposed by the Wilson-Gorman Tariff Act of 1894 were unconstitutional because the taxes were treated as a direct tax and were not imposed in proportion to each state's population. The 19th century ended without a permanent income tax in place (IRS).

The 16th Amendment to the United States Constitution was passed by Congress in 1909 and later ratified by the states in February of 1913. It stated, "The Congress shall have power to lay and collect taxes on incomes, from whatever source derived, without apportionment among the several states, and without regard to any census or enumeration" (Cornell University Law School, 2012). The amendment removed the previous ruling by the Supreme Court regarding

taxation based on population. One thing that was excluded from these taxes was interest income earned by holders of municipal debt due to protection by the 10th Amendment.

Prior to 1986, there were few changes in the tax treatment of municipal bonds. The Tax Reform Act of 1986 broke down tax-exempt debt into two categories, governmental and private activity. While the act added qualified hazardous waste facilities to the list of acceptable private activities for tax-exempt bonds, it removed numerous other previously accepted activities. A volume limitation was also put on private activity bond issuances. The tax-exempt status of government debt remained in place.

South Carolina v Baker (1988) was an important case in terms of the Constitutional interpretation of municipal tax-exemption. This ruling nullified the decision made by the Supreme Court in 1895 after Pollock v Farmers' Loan & Trust Company (Maguire, 2001). The Supreme Court ruled that the tax-exemption of state and local debt was not protected by the Constitution. Since this ruling, the legal basis for the tax-exempt subsidy is statutory, protected by section 103(a) of the Internal Revenue Code of 1954 (IRS). The positive economic effect of tax-exemption on issuers has helped provide a strong political backing for tax-exemption, although there are efforts to come up with a plan that will benefit holders of municipal debt more equitably, which is discussed later in this paper.

Types of Municipal Debt

Issuers of municipal debt are not limited to states, cities and counties. Special tax districts and special agencies of state and local governments are also allowed to issue municipal debt including transportation, housing, health care, education and many other authorities. The majority of these issuers can get funding through tax-exempt municipal debt. In fact, only 13 states do not issue tax exempt bonds (O'Hara, 2012). However, there are also multiple types of

municipal bonds, each with different benefits, sources of interest and principal payment, type of interest rate, and tax treatment (Municipal Securities Rulemaking Board, 2012). The following is an explanation of the most common forms of debt issued by municipal borrowers broken down by long-term and short-term.

Long-term:

- **General Obligation Bond (GO)** – General obligation debt is secured by the full credit and taxing power of the issuer. This type of debt is generally considered safe because the issuer can raise taxes to cover the necessary debt service. GO bonds provide the issuer the lowest borrowing costs because of the broad security pledge backing the repayment of principle and interest.
- **Revenue Bond** – Revenue bonds are not backed by the full taxing authority of the issuer. Instead, revenue bonds are payable from specified sources of revenue. These bonds may be used to fund various revenue generating projects including toll roads, power plants and water sewers.
- **Taxable Bond** – Taxable bonds are issued for projects that the Federal government will not subsidize the financing of. These projects often provide limited benefit to the general public and can include bonds for sports stadiums, certain housing projects, and replenishing pension funds.
- **Build America Bond** – Created by the American Recovery and Reinvestment Act of 2009, Build America Bonds are taxable. However, the issuer receives a direct federal subsidy equal to 35% of the total coupon interest paid to investors. The bonds could be issued from 2009-2010 for any capital expenditure that otherwise could have been funded with tax exempt bonds.

Short-term:

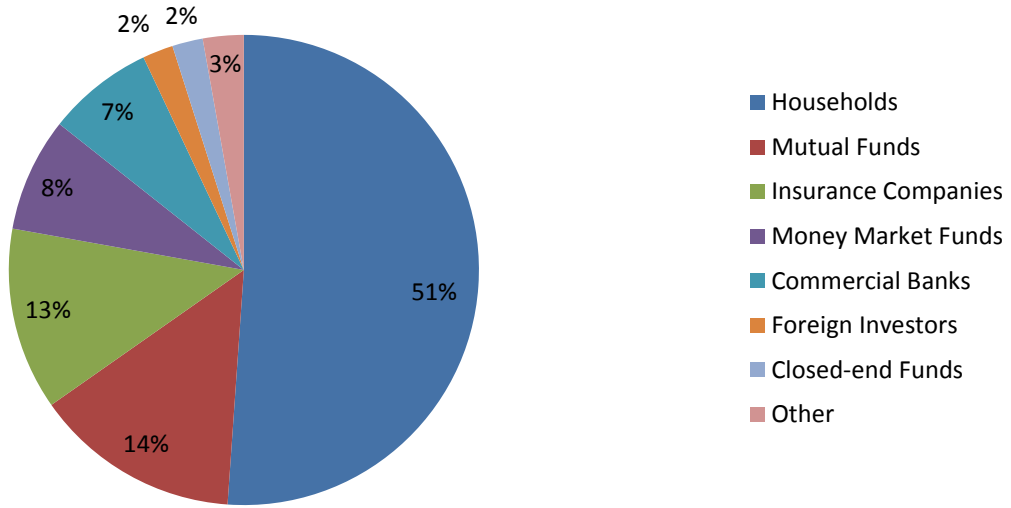
- **Variable Rate Demand Obligations (VRDO)** – VRDOs pay interest at a rate that is adjusted periodically. They are purchased at par and the rate may reset daily, weekly, monthly or even less frequently. VRDOs are unique because they are issued with a put feature. The holder of a VRDO can put back the note to the remarketing agent or liquidity provider (usually a bank) at any time. If the remarketing agent fails to sell the notes at any time, they are forced to hold the VRDO. The remarketing agent also tends to back the credit of the issuer.
- **Auction Rate Securities (ARS)** – ARS differ from VRDOs in that the rates are reset on these securities through a periodic Dutch Auction. The current debt holders may choose to continue to hold the notes at the auction set rate, bid in the auction, or sell their holding. These securities do not require a liquidity provider because the Dutch Auction provides liquidity. However, the 2008 crisis dried up the entire ARS market and in the event of a failed auction, the rates are set at a maximum that is much higher than the market rate.
- **Anticipation Notes** –These tend to be issued for less than a year in time sensitive situations. There are a variety of different types of anticipation notes. A few examples are: tax anticipation notes issued in anticipation of future tax receipts, grant anticipation notes issued in anticipation of grant money, and construction loan notes which are issued in anticipation of being paid off by the permanent financing.

Holders of Municipal Debt:

The municipal bond market is not very active. As seen in figure 1.4, following the issuance of a municipal security, very few trades take place. A key factor behind this is the breakdown of holders of municipal debt. The tax-exempt status of most municipal securities has led to individual or retail investors being the largest holders of municipal debt. As of the third quarter 2011, individual households held 51% of all outstanding municipal debt. Mutual funds and money market funds accounted for another 22% of the market, combining with households to compose more than 2/3 of all municipal debt outstanding. Other major holders include insurance companies and commercial banks. The remaining 15% is made up of a wide variety of institutions and governments.

The individual holders of municipal bonds tend to be high-net worth individuals. This is another result of the tax-exemption placed on municipal securities. The higher an individual's tax rate is, the more benefit he or she receives from owning a municipal security and receiving tax-free interest. In the case of a 5% tax-exempt municipal bond, an individual in the 33% tax bracket would be receiving a taxable equivalent yield of 7.46% while someone in the 15% tax bracket would only experience a taxable equivalent yield of 5.88%. Various proposals have been created to attempt to replace this tax-exemption with another form of subsidy or credit because to the uneven benefit it offers to high-net worth individuals.

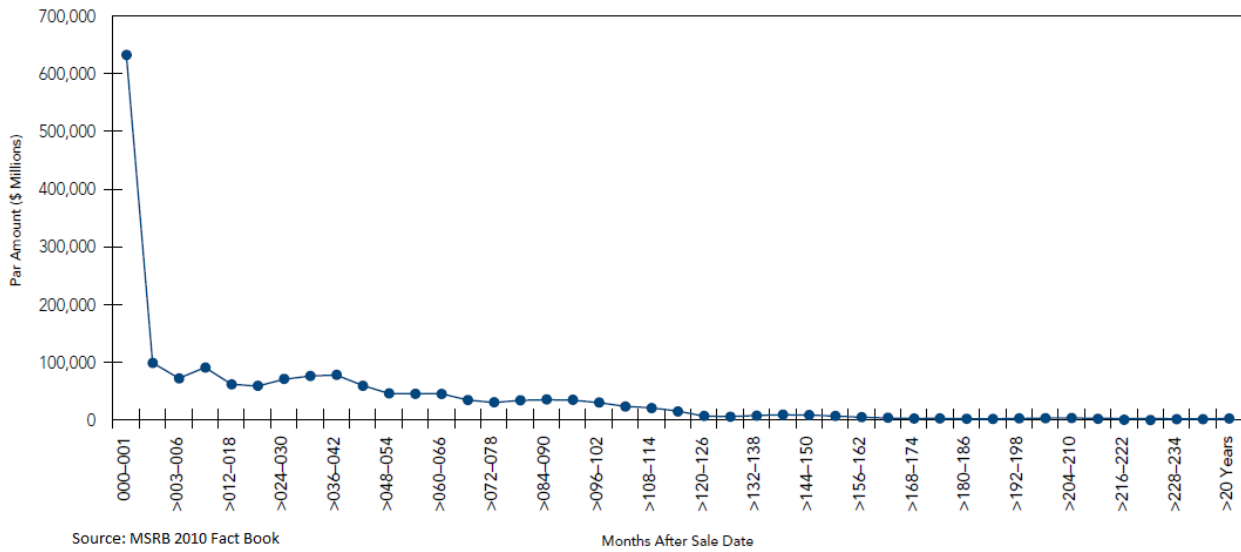
Figure 1.3 - Holders of Municipal Securities



Other includes holders with less than 2% of the total: brokers and dealers, government-sponsored enterprises, nonfinancial corporate businesses, savings institutions, ETF's, state and local government general funds, nonfarm noncorporate businesses, banks in U.S.-affiliated areas, and state and local government retirement funds.

Source: Federal Reserve Board, Flow of Funds Accounts, Flows and Outstandings; Third Quarter 2011.

Figure 1.4 Par Amount Traded by Months After Sale Date¹, 2010

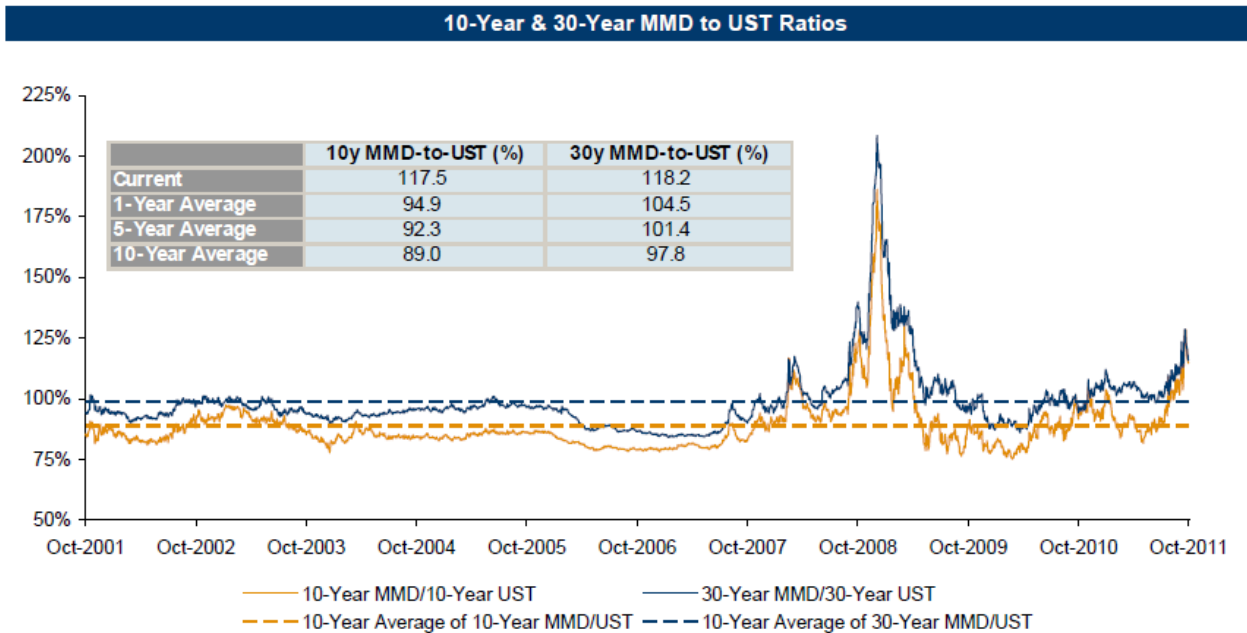


Source: MSRB 2010 Fact Book

New investors have entered the municipal bond market over the last several years. There are two main reasons for this, the creation of Build America Bonds (BABs) and municipal interest rates exceeding 100% of comparable Treasuries. As stated previously, Build America Bonds were created through the American Recovery and Reinvestment Act of 2009. The program allowed for municipalities to issue taxable bonds for a wide variety of purposes. Instead of offering tax-exemption to the buyer, the issuer received a direct federal subsidy at 35% of interest costs. BABs were therefore issued with higher yields than comparable tax-exempt municipal debt which provided all buyers the same benefit (rather than an unevenly high benefit to higher tax bracket buyers). This debt also was popular with foreign investors. While they historically were not very active in the municipal market since they are not subject to U.S. income tax (and therefore do not receive the same benefit as other buyers), foreign investors were able to benefit from the higher yields on BABs. Numerous investment and pension funds were also active because of the opportunity for yield.

The second reason is that since 2008, yields on municipal securities surpassed those on comparable Treasuries. Historically the ratio of 10-year municipal bond yields to 10-year Treasuries was between 80-90%. The financial crisis caused this ratio to exceed 100%. After, briefly dipping below 100%, the ratio again reached this level in 2011 as a result of concerns about the credit quality of these bonds but also historically low Treasury yields. This high ratio has enticed yield-seeking investors to enter the market as they are unable to earn high rates on Treasury securities.

Figure 1.5- MMD to UST Ratios



Source: Barclays Capital, Key Factors Impacting the Tax-Exempt Market, 2011

These new investors have changed the dynamic of municipal bond trading. There is now a slightly more active market place for common municipal issuers. In addition, it has sparked a greater interest in the municipal market across the financial industry. While individuals will likely always be the largest holders of municipal bonds because of the tax effects, more demand from other investors will make it easier and possibly cheaper for municipal debt issuers over the long-term. As institutions get more involved, there will also likely be more clarity in the market as they trade the securities more actively and the market becomes more liquid. However, this new demand has not pushed yields below comparable U.S. Treasury ratios.

Literature Review

Historical Defaults:

Fitch Ratings first looked at historical municipal bond defaults in September 1999 when David Litvack published *Municipal Default Risk, Public Finance Special Report* (1999). The report evaluated municipal bonds issued from 1979-1986 and found the 13- to 20-year cumulative default rate to be 1.49%. However, when he narrowed the results down to water/sewer, general obligation (tax-backed), transportation, education and single-family housing the default rate decreased dramatically to between .01%-.40% with an average of less than .26%. He found that the majority of the default risk in the municipal bond market was in municipal bonds issued on behalf of corporations or municipal entities. The results showed 13- to 20-year cumulative default rates for industrial development bonds of 14.89%, 4.86% for multifamily housing and 2.62% for healthcare bonds. The author concluded that even the highest default risk municipal sectors had default rates comparable to the “BBB” to “A” range for corporate bonds while the lower risk sectors had rates in the range of “A” to “AAA” rated corporate bonds. Litvack (1999) also found that default rates for issuance after 1986 were much lower than in the period from 1979-1986.

The Fitch study was updated in *Municipal Default Risk Revisited, Public Finance Special Report* by Litvack and McDermott (2003). This study covered defaults from January 1, 1980 through October 2002. During that time frame, the authors found that total defaults reached \$32.8 billion vs. \$26.3 billion in the previous study. This 24% increase had a miniscule effect on the cumulative default rate. For bonds issued from 1979 to 1986, the rate marginally increased from 1.49% to 1.50%. Additionally, for bonds issued from 1987 to 1994 the cumulative default rate rose from 0.49% to 0.63%. The table below taken from this report shows that the dollar

value of defaults from 1987 to 1997 was below 1% for every year except 1994. The risk of certain sectors remained largely in-line with the original study, with tax-backed general obligation and traditional revenue bonds having the lowest cumulative default rate (.25%) while industrial development bonds (14.62%) and non-hospital healthcare bonds (17.03%) had the highest. One of the most interesting points made by Litvack and McDermott (2003) is that sectors that made up only 8% of total issuance (multi-family housing, non-hospital healthcare and industrial development) accounted for 56% of defaults. This again demonstrates the lower risk of default for more traditional public finance sectors.

Moody's Investors Services published a similar report in February of 2010. *U.S. Municipal Bond Default and Recoveries, 1970-2009* by Jennifer Tennant and Kenneth Emery looks at a time-frame longer than the Fitch reports. This special report evaluated Moody's-rated municipal bonds and found that there were 54 defaults out of approximately 18,400 rated issuances and only 3 of these defaults were on debt back with a general obligation pledge despite general obligation bonds accounting for 53% of the 18,400 ratings. The main finding of the report was that the average 5-year historical cumulative default rates for investment-grade municipal debt and speculative-grade municipal debt were 0.03% and 3.40% respectively which were much lower than similar corporate bonds at 0.97% and 21.4%.

Pension Funding:

State and local pensions have taken the spotlight recently in evaluating total levels of municipal debt. There are several discrepancies that arise when valuing pension plans. Robert Novy-Marx and Joshua Rauh published a report in 2010 that is most frequently cited in reviewing the total level of liabilities of state pensions and the funding gap between the plans' assets and liabilities.

Novy-Marx and Rauh's study, *Public Pension Problems: How Big Are They and What Are They Worth?* (2010), finds a significant problem with the median discount rate used by state pension funds. At 8% it is far above the level of return offered by U.S. Treasuries, which are widely considered the most risk-free investment. The study states that one appropriate option would be discounting the liabilities at a rate similar to the rates on general obligation bonds issued by the respective municipalities. Using this discount rate, the national total of state promised liabilities is \$3.2 trillion as of June 2009. This total was calculated utilizing the Accumulated Benefit Obligation (ABO) method, which gives the lowest possible amount state and local governments would owe because it takes the total liabilities if the plan was completely frozen ignoring future service and wages. Novy-Marx and Rauh (2010) continued their research by calculating liabilities if the rates are adjusted to mirror what are considered risk-free rates, the rate on U.S. zero-coupon bonds. The study concludes that liabilities jump to \$4.43 trillion under these conditions. This discount rate is reasonable because pension liabilities supersede other debt requirements in most municipalities. In addition, they valued the liabilities when using the same discount rates but a different liability concept, entry age normal (EAN). EAN reflects a portion of liability that includes future service and salary. Using this method, the present value of liabilities was \$3.53 trillion and \$5.28 trillion.

Finally, the authors commented on the shortfall between pension funds liabilities and assets. As of June 2009, state pension plans had \$1.94 trillion in assets. The difference between the calculated liabilities and these assets was \$1.26 trillion and \$2.49 trillion under the municipal debt rate method and Treasury rate method respectively using the ABO concept. EAN resulted in funding gaps of \$1.59 trillion and \$3.34 trillion when discounted at the municipal rate and Treasury rate respectively.

In *The Crisis in Local Government Pensions in the United States (2010)*, Novy-Marx and Rauh evaluate the total level of liabilities for local municipal pension plans in the United States. The report only includes plans with greater than \$1 billion in assets. While this eliminates around 97% of local pension plans, it includes two-thirds of workers. The key is that the study shows the difference between reported and actual pension funding gaps. The reported value of the pension liabilities as of June 2009, using EAN, was \$488 billion and only \$298.3 billion in assets. When Novy-Marx and Rauh (2010) calculated the liabilities using ABO, the total decreased to \$430 billion. However, both of these values are with liabilities discounted at 8%. The study used methods similar to the previous state pension report and discounted the liabilities at a rate closer to the municipal GO debt and also at the U.S. Treasury rate. The results when discounted at these rates were liabilities of \$507 billion and \$681 billion respectively (using ABO). If the EAN method was used, to match the method reported by localities, the total liabilities would equal \$571 billion and \$810 billion when discounted at the municipal GO debt rate and the U.S. Treasury rate respectively. The level of unfunded liabilities was calculated with the ABO method. When discounted using the respective GO debt rate, unfunded liabilities totaled \$209 billion versus \$383 billion when discounted at the Treasury rate.

There are several other papers that have tried to value state and local pension liabilities with similar results. The Pew Center on The States published *The Widening Gap: The Great Recession's Impact on State Pension and Retiree Health Care Costs (2011)* which concluded the gap in 2009 grew to at least \$660 billion using the state assumption of an 8% discount rate. This gap increased to \$1.8 trillion and \$2.4 trillion when discounting at the corporate debt rate and Treasury rate respectively. Both of these figures fall within the range of the results that Novy-

Marx and Rauh's study, *Public Pension Problems: How Big Are They and What Are They Worth?* (2010) reported.

Valuing Liabilities In State and Local Plans (2010) by Munnell et al argues that the Projected Benefit Obligation (PBO) method is more appropriate than the ABO method used by many others on this topics. This method includes future earnings and service which projects greater liabilities than the ABO method. This report lists state pension assets at \$2.7 trillion; a number that was reported before assets decreased drastically during 2009. However, the authors still conclude that there is a large shortfall between liabilities and assets under the PBO method, totaling \$0.7 trillion using the state's 8% discount rate and \$2.2 trillion when discounted at 5%. To compare to other research, the authors also used the ABO method and found that when liabilities were discounted at 5% there was a \$1.5 trillion gap between liabilities and assets.

Andrew G. Biggs used a different method than the other research. In his paper *The Market Value of Public-Sector Pension Deficits* (2010) he uses an options pricing model to calculate the total liabilities of state plans. Using mid-2008 numbers, when states were reporting a gap of only \$438 billion, Biggs (2010) calculated a difference of \$3.04 trillion and a funding ratio of only 45%. This method encompasses the tax-payer guarantee on pension's liabilities as a virtual put option against the municipality and tax payers. He also makes the case that the long-term pension problem resolution will have to include reforms to pension contributions, benefits, and retirement age.

Despite the clear difference between municipal pension fund assets and liabilities, there are several papers that question whether it is an actual problem. *The Origins and Severity of the Public Pension Crisis* (2011) by Dean Baker summarizes the causes of this shortfall and explains why it is not as severe as the numbers may indicate. Baker (2011) argues that the majority of the

gap was created by a drop in asset value from 2007-2009. He states that, “If pension funds had earned returns just equal to the interest rate on 30-year Treasury bonds in the three years since 2007, their assets would be more than \$850 billion greater.” Baker (2011) then uses dividend yields and projected corporate profit growths to derive an appropriate expected asset growth rate which he calculates to be an average of 7.3% over the next 30 years. Given the low PE ratios in the stock market, he expects pension funds to be able to meet or surpass that level. The paper concludes that the difference in assets and liabilities is not due to inadequate contributions, but rather the stock market plunge which should not be an issue as pension liabilities are long-term promises and increased stock market returns should close the gap over time.

The topic of full funding must also be discussed. Henning Bohn looks at this topic in *Should Public Retirement Plans Be Fully Funded? (2010)*. He notes that most financial research on pensions is based on the view that pensions are only fully funded if the market values of assets equals the present value of promised pensions. However this is different than the accounting version as, “The accounting view considers a pension fully funded if an actuarial measure of fund assets at some date equals an actuarial measure of accrued liabilities.” The various interpretations of full funding make this a difficult topic; however the question still remains whether plans should be 100% funded. The author argues that there is no perfect optimal level of funding, yet it is appropriate for funds to veer from 100% funding depending on economic and investment opportunities. He does state that the funding ratio should not dip too far below 100%.

In continuation of the funding topic, the Brookings Institution published *State and Local Pension Funding Deficits: A Primer (2010)* which states, “80% seems to be a popular minimum target, although there is not a strong theoretical reason for that particular figure – it is the result

of empirical analyses and judgment calls.” This 80% figure matches numbers reported by Matthew H. Scanlan and Carter M. Lyons in the *Journal of Investing*. Their paper, *The Retirement Benefits Crisis: A Survival Guide* (2006), provides an early look at the issue. Their research shows that funds have been funded below the 100% level since 2001, hovering close to 80% from 2002-2004. They also show that these funding ratios were much higher than corporate pension plans which had ratios of less than 70% from 2002-2004.

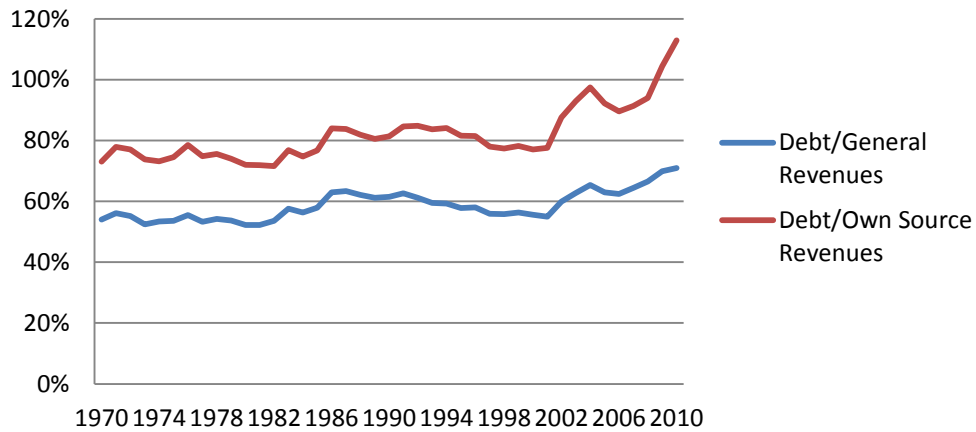
Municipal Debt Level

The size of the municipal debt market has grown rapidly over the last 30 years. There was only \$500 million in municipal debt outstanding in 1982 and as of the third quarter 2011 there was \$3.7 trillion (SIFMA, 2011). It is apparent from those statistics that the level of municipal debt outstanding has increased significantly over this time. However the increase in debt outstanding is best compared using relative measures. The level of debt can be compared to various measures such as general revenues, expenditures, or tax receipts. This report looks at both debt to general revenues and debt to own source general revenues (general revenue – intergovernmental revenue). In addition, the results will be broken down into three categories: state, local, and state and local.

General revenue and own source general revenue are used in this report for a few reasons. The main reason is that state and local governments have significant control over their revenue sources which are mainly comprised of taxes. They have even more control over own source revenues because that excludes intergovernmental funding. In addition, revenues fluctuate closely with the economy which shows how relative debt levels are effected by slowdowns in the economy. Finally, these two measures were used as opposed to individual tax sources because different revenue streams respond to economic activity at different times, such as the continued growth of property taxes throughout the recession.

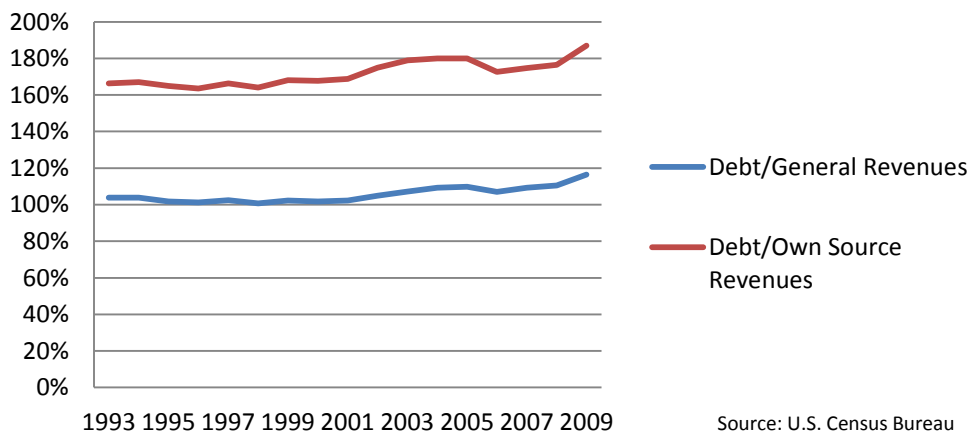
State data was available from the U.S. Census Bureau from 1970-2010. State and local data, as well as pure local data, was accessible from 1993-2009. Both data sets span multiple recessions and cover a period of growth in the municipal debt market. While total debt outstanding grew significantly, relative to general revenues growth was not as dramatic. The figures below, 3.1-3.3, show the trend in state and local debt as a percentage of general revenue and general own source revenue.

Figure 3.1 - State Debt Levels



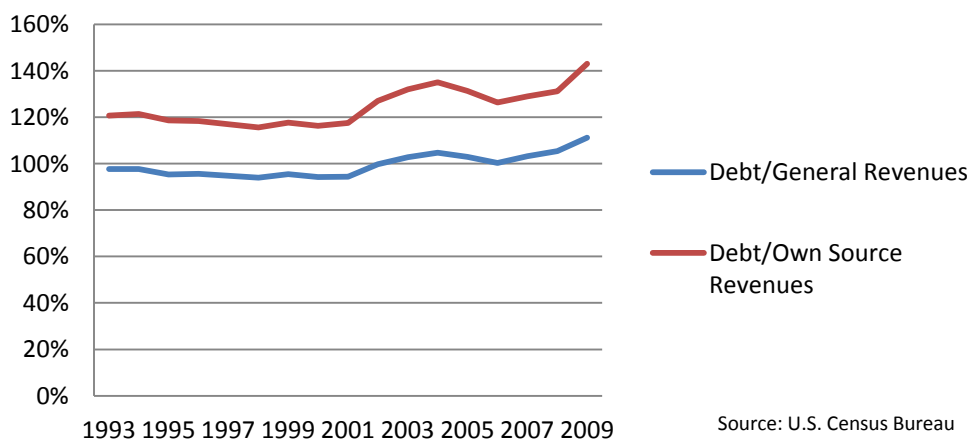
Source: U.S. Census Bureau

Figure 3.2 - Local Debt Levels



Source: U.S. Census Bureau

Figure 3.3 - State & Local Debt Levels

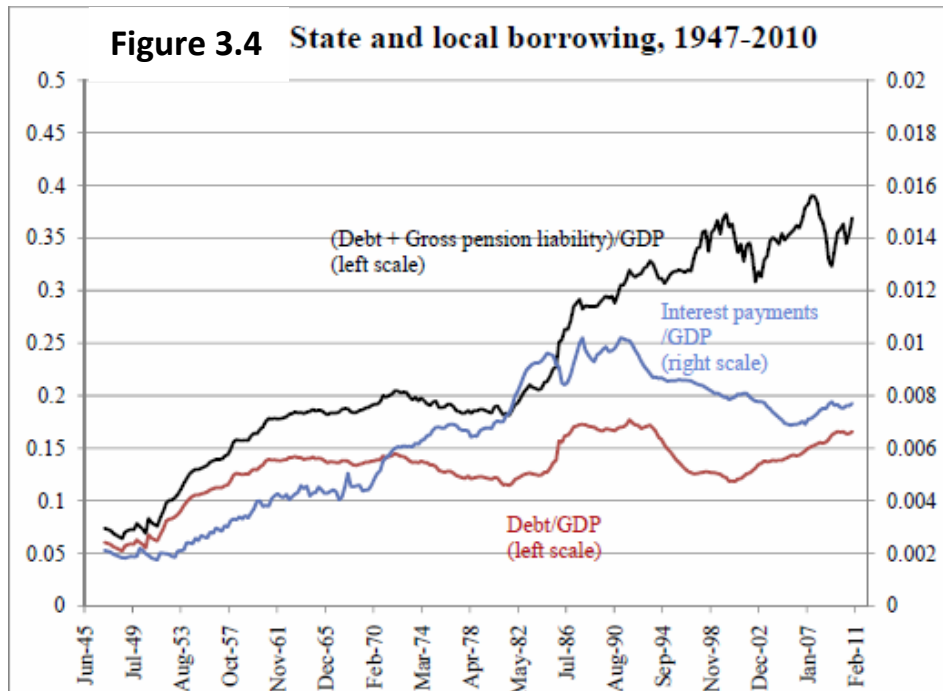


Source: U.S. Census Bureau

These charts show a few general trends. The first is a small, but steady increase in debt to general revenues over time. Second, there is a clear spike in the ratios during and just after the recession in the early 2000s followed by a few years of declining debt to revenue ratios. In addition, the state debt chart shows that a similar jump occurred in the late 1980s and early 1990s, after which the ratios again fell for a few years. In fact, both of these increases are similar to how the ratios have changed during the most recent recession.

The next general takeaway is that the recession has had a much greater impact on the debt to general own source revenue ratio than debt to general revenue. This is a sign of the major increase in intergovernmental funding, mainly through federal stimulus plans, that took place during the recession. Also, it shows the effectiveness of the funding as the debt to general revenue ratio actually only increased slightly. The topic of federal funding is discussed more in chapter 5 when state and local budgets are reviewed.

A report done by Daniel Bergstresser and Randolph Cohen (2011) compared state and local debt levels to GDP. The authors also include a comparison of interest payments to GDP and debt + pension liabilities to GDP (pensions are discussed in depth in the next chapter of this report). The figure below, taken from their report, indicates similar ratio increases in the late 1980s and early 2000s, similar to the recent ratio change. However, as a percentage of GDP, both interest payments and debt levels peaked in the 1980s and were yet to surpass that level as of fiscal 2010. While they have begun to climb again since the early 2000s, there is still room to go before new highs are set. Most importantly, these ratios also decreased in the years following increases caused by economic slowdowns. The image from their report is show below.



Source: Bergstresser & Cohen, Why fears about municipal credit are overblown, 2011

Finally, the debt to general revenue and general own source revenue charts show that state debt ratios have consistently been significantly lower than local debt ratios. In fact, local debt to revenue ratios have exceeded 100% for an extended period of time. When debt is just compared to own source revenues, the ratios are 60% higher. While local ratios have increased over the last 20 years, they have remained close to the 100% level. Also, although state general revenue ratios remained under 80%, state and local combined debt to general revenue ratios have above 100% for the last 10 years, indicating that there is more local debt outstanding than state debt.

According to the U.S. Census Bureau, in 2009 state debt accounted for 38.95% of outstanding municipal debt while local issuers made up the other 61.05%. This explains why the ratio increase for state and local debt in 2008 and 2009 was relatively smaller than the large increase at the state level. Since local issuers have a larger impact of the overall debt ratio, it is

definitely important to watch. However, because states are funded by a higher percentage of tax revenue, state ratios are also very important indicators of the relative debt levels in the market.

The size of the municipal debt market has continually increased since its origin. Relative measures also indicate debt becoming a higher percentage of both state and local debt to general revenue and general own source revenue over the last 30 years. The ratios have slowly increased over the years, with the exception of the late 1980s and 1990s. Both times, because of economic slowdowns, the ratios increased significantly and then quickly fell back to pre-slowdown levels. Despite high overall relative levels of debt, this recession has only shown a slightly larger reaction than was seen during the other slowdowns. Therefore, while it may take a few extra years, relative debt levels should fall back to the pre-recession levels once revenues rebound. The relative levels of state and local debt do not indicate any reason to expect unusual level of defaults at the moment.

State and Local Government Pension Funds

The funding level of state and local government pension funds is a topic that has been at the center of the discussion regarding the fiscal condition of municipalities. Defined benefit pension plans act like long term debt because the government can push off wages or expenditures today and pay them in the future. However, pension funding is a complex matter. There are several key issues related to pensions that will be explained and reviewed in this chapter. The first topic covered is discount rates and liability concepts as many economists believe that the government standards do not correctly reflect pension liabilities and funding levels. Another question relates to what should be considered “fully funded” for a pension fund since the funds are able to invest and grow their assets pools. In addition, it is important to question if the current level of underfunding is just a cyclical issue caused by poor investment performance during the recession or a long-term problem. Next, the asset allocation choices of pension funds are taken into perspective. Finally, the impact of pension plans on state and local governments in the short and long-term will be discussed.

Pensions are not just functionally equivalent to debt but also hold the same level of importance. In most states, pension payments have the same priority as GO debt. Pension benefits are actually protected by constitutional provisions in the majority of states with some level of guarantee (Brown & Wilcox, 2009). Because of this, states cannot skip pension payments. While the pension plans have their own asset bases, if the plans are underfunded states have to use revenue money to make the pension payments while also balancing their debt obligations. There is some validity to the argument that pension liabilities should be added to GO debt levels to show the true level of debt held by state and local governments, but because pensions have their own assets, combining the total with other municipal debt would not make complete sense.

Pension liabilities are discounted into the future. An appropriate discount rate assumption is crucial when valuing pension liabilities. Since pensions are long-duration promises, small changes in the discount rate can have dramatic effects on the total value. While there is debate regarding the correct discount rate, it is widely agreed that the rate used by state and local governments misrepresents the value of their pension liabilities, although that opinion is not completely universal (as seen in Baker, 2011). The Government Accounting Standards Board sets the standards for how public pension funds officials report and fund their plans in Statements 25 and 27 (Munnell, Kopcke, Aubry, & Quinby, Number 11, June 2010). These statements allow the plans to be discounted at a rate that is equal to the assumed return on the pension's assets. The main problem with this is that it ignores the risk of the investments. It also suggests that pensions would benefit from high risk investments because it would allow the plans to be discounted at higher rates, decreasing the level of long-term liabilities. The median discount rate used by state and local pension funds is 8% (Novy-Marx & Rauh, Public Pension Problems: How Big Are They and What are They Worth?, 2010). Even if it is concluded that the rate should be lower, it is difficult to say what the appropriate discount rate should be. Arguments have been made for basing the rate on comparable municipal GO debt or even more extreme U.S. Treasury rates.

The next subject that is questioned relates to the appropriate liability concept. There are four major methods used, each which account for different factors. The accumulated benefit obligation method is the most limited as it only accounts for service already completed. The broadest is the present value of benefits method which projects future earnings based on salary growth and expected retirement schedules. The following table, recreated from Novy-Marx and

Rauh's *The Crisis in Local Government Pensions in the United States (2010)* lists and explains each concept in order of most narrow to most broad.

Method	Breadth
Accumulated benefit obligation (ABO)	Represents promised benefits under current salary and years of service. Often used interchangeably with the concept of "termination liability," or liability if the plan were frozen, although there are some differences
Projected benefit obligation (PBO)	Takes projected future salary increases but not future years of service into account in calculating today's liability. Used in FASB accounting for corporations.
Entry age normal (EAN)	Reflects a portion of future salary and service by allowing new liabilities to accrue as a fixed percentage of a worker's salary throughout his or her career.
Present value of benefits (PVB)	Presents a full projection of what current employees are expected to be owed if their salary grows and they work and retire according to actuarial assumptions.

Source: Novy-Marx and Rauh, The Crisis in Local Government Pensions in the United States ,2010

As stated above, ABO is the simplest method because it does not require a model for projecting future earnings and service, making the values easy to compare. It shows what the pension plans would contractually owe even if they were able to completely freeze their pension plans. However, the most common method used for reporting by states and local governments is EAN because it reflects a portion of liability that includes future service and salary. But, there is no standard for which liability concept to use. The table below, table 4.2, is a summary of the findings from several reports which used different discount rates and liability concepts. The reports also vary as to whether they cover states, local governments, or both.

Table 4.2							
Study	Value As Of	Liability Concept	State/ Local	Discount Rate	Deficit (trillions)	% Funded	
Novy-Marx and Rauh, <i>Public Pension Problems: How Big Are They and What Are They Worth? (2010)</i>	June 2009	ABO	State	8% (as reported)	\$1.2	62.6%	
				Muni GO	\$1.26	60.6%	
				Treasury	\$2.49	43.8%	
				EAN	Muni GO	\$1.59	54.5%
				Treasury	\$3.34	36.7%	
Novy-Marx and Rauh, <i>The Crisis in Local Government Pensions in the United States (2010)</i>	June 2009	ABO	Local	8% (as reported)	\$0.13	69.4%	
				Muni GO	\$0.21	58.8%	
				Treasury	\$0.38	43.8%	
				EAN	8% (as reported)	\$0.19	61.1%
				Muni GO	\$0.27	52.2%	
				Treasury	\$0.52	36.8%	
The Pew Center on the States, <i>The Widening Gap: The Great Recession's Impact on State Pension and Retiree Health Care Costs (2011)</i>	June 2009	Multiple*	State	8% (as reported)	\$0.66	77.6%	
				Corporate	\$1.8	56.1%	
				Treasury	\$2.4	49.6%	
Munnell et al, <i>Valuing Liabilities In State and Local Plans (2010)</i>	June 2008	PBO	Both	8% (as reported)	\$0.7	79.4%	
				5%	\$2.2	55.1%	
				ABO	5%	\$1.5	64.3%
Biggs, <i>The Market Value of Public-Sector Pension Deficits (2010)</i>	June 2008	Options Pricing	State	---	\$3.04	45%	

*The Pew Center used a combination of liability concepts, as reported by each state

The table leads to several important conclusions. The first is that there is a large funding gap in municipal pension plans, both state and local. Every study, regardless of method or discount rate, showed funding levels under 80%. The state reported numbers, which use the 8% discount rate, show 2009 funding levels ranging from 62.6%-77.6%. The 77.6% is more than 6% lower than the 84% funding level that the Pew Center (2011) found using 2008 numbers

(The Pew Center on the States, 2011). Local pensions also showed significant levels of underfunding; only 69.4% funded using the 8% liability discount rate.

The effect of a discount rate changes is very apparent. As the discount rate decreased, the funding level fell dramatically. This is most recognizable in the Munnell et al (2010) study but it is clear in each report. This is an issue because the 8% discount rate that is used by pension funds when they report is the highest discount rate used. Unfortunately, 8% is an optimistic scenario and the pension problems are likely worse than states report. In addition, Biggs (2010) uses an options pricing study that encompasses multiple simulations of asset returns and found the lowest funding percentage. This study uses the most realistic discount rate because it is based on market returns. The only real conclusion from this is that pension funds are currently discounting their liabilities at optimistic rates and below average investment returns could cause huge funding problems.

Finally, the liability concept chosen had a significant effect on the results. When the studies used broader liability concepts, state and local funding percentages dropped considerably. The switch from ABO to EAN caused a 6-7% drop in state funding levels according to Novy-Marx and Rauh (2010) and a 6-8% decrease at the local level. The PBO method, utilized by Munnell et al (2010) also shows this effect. They used PBO on 2008 numbers and found a funding level of 79.4% which is 5% lower than Pew's 2008 findings which used a combination of state liability concepts. This issue again points out that any pension fund that values its liabilities with ABO is likely undervaluing its funding gap and EAN will yield a more unfavorable but more accurate result.

These studies showed that municipal pension plans are underfunded. But what should be considered fully funded? This question has been asked multiple times, and there is no correct

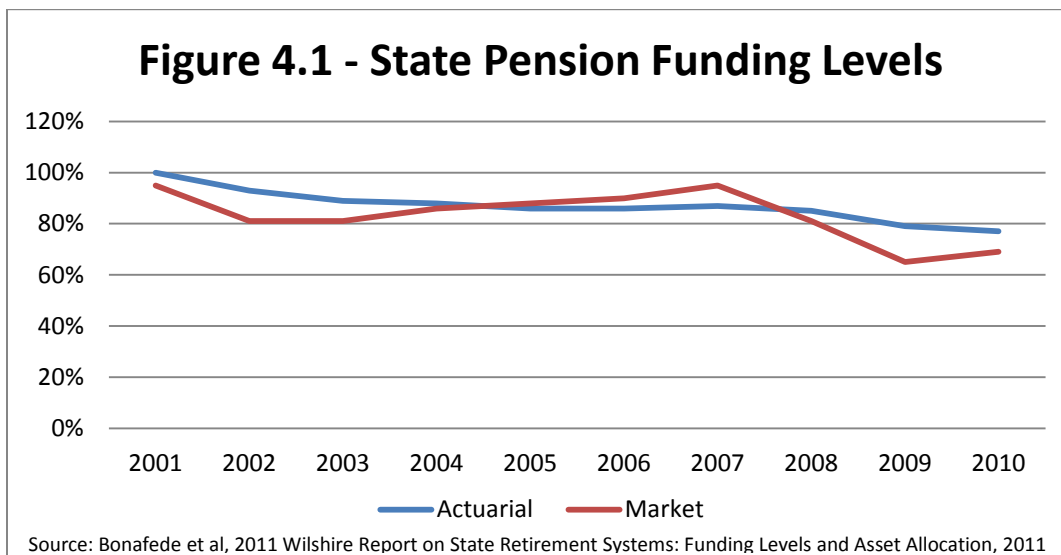
answer. While there appears to be some agreement that 80% or more is fully funded (due to future asset growth), there are arguments for 100%. One way to approach this question is to look at the level of funding for pension funds over the last 10 years.

Pension funds heavily rely on investment returns to grow their asset bases at the same pace as liabilities. The past 25 years, 1984 to 2009, have been favorable for pension funds with the median investment return equaling 9.3%. However, the last 10 years, 2000-2009, pulled down the average with the median return only reaching 3.9% (Pew Center on the States, 2012). Due to this, it would be expected that this decade, which has experienced years of sharp negative and positive swings in the financial market, would be difficult for pension funds.

As of the 2001 fiscal year, pension funds were 100% funded based on actuarial values and 95% according to market values (Bonafede, Foresti, & Walker, 2011). But funding levels fell the next two years after the tech bubble burst in 2001, and the S&P returned -13.04% and -23.37% in 2001 and 2002 respectively (Standard Insurance Company, 2009). Actuarial valuations smoothed out the losses through 2006 despite positive returns in the equity market each year. The market value recovered quickly in 2004. Pension funds benefitted from a slow return to normalcy in the market. However, the 2008 recession was more destructive.

The drop in funding from 2008 to 2009 was severe. The market value of funding fell from 81% to 65% driven by the extreme negative equity market returns. Actuarial valuations indicate a less dramatic decrease from 85% to 79%, dropping further to 77% in 2010. Yet, market valuations show a jump from 65% to 69% in 2010 (Bonafede, Foresti, & Walker, 2011). While actuarial values will continue to decrease for some time (as they did from 2002-2006), market values have already begun to indicate a recovery. The progress is similar to that which occurred from 2003 to 2004. However, the 2009-2010 increase, after only one year of decline,

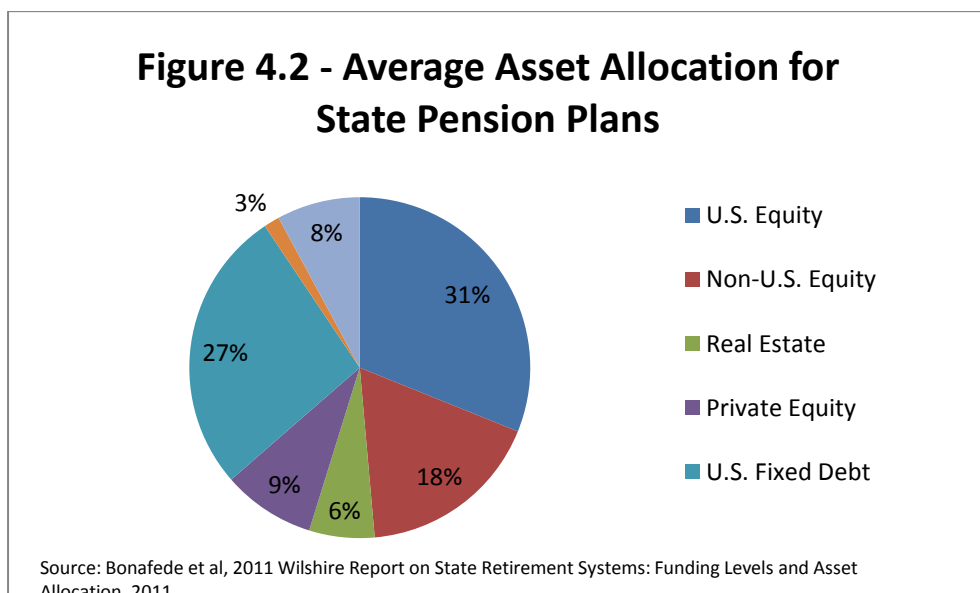
would indicate that funding is actually improving quicker than it did previously. The chart below shows how state pension funding levels have changed over the past 10 years.



The most recent recession has definitely negatively affected pension funding. Funding levels have reached their 10-year low and are well below the generally accepted “fully funded” threshold of 80%. But, the one large bright spot is that funding levels have already begun to recover as of 2010. Since that point, the economy and equity markets have continued to gain momentum. In fact, the S&P 500 broke 1,350 in February 2012 for the first time since June 2008. The thing that destroyed pension fund assets in fiscal year 2009, equity markets, may also be what helps to rebuild the asset base and get pension funds closer to their funding targets. This is because equities are the largest part of state pension asset portfolios.

As of 2010, the average state pension fund was allocated in 63.6% equity and 36.4% debt. This allocation leaves pension funds heavily exposed to the volatility of the equity market. Therefore, while assets were hit hard during the bear market in late 2008 and early 2009, they also have begun to recover as the market started to improve. The funds are also invested in real estate and private equity. These two portions of the portfolios also likely contributed to the asset

deterioration recently as the U.S. real estate market continues to be a lagging sector of the economy. As capital markets have dried up, the private equity portion has probably also lost some value. The effect of poor investment performance has been a major problem. Dean Baker states, “If pension funds had earned returns just equal to the interest rate on 30-year Treasury bonds in the three years since 2007, their assets would be more than \$850 billion greater.” This would be a significant improvement in funding levels (Baker, 2011). Below is the complete breakdown of the average state pension fund from Bonafede, Froesti, & Walker (2011).



However, the investments were not the only factor in the decreased funding levels. States have also been unable to fully contribute their actuarially required contribution (ARC). Since these are just actuarial numbers and states can contribute more than 100% in a given year, this problem can be fixed over the long-run. In the past, states have actually been able to avoid making contributions some years because of better than expected investment returns (Pew Center on the States, 2010). However, the last few years have indicated a troubling trend. In fiscal year 2008, 26 states failed to contribute 100% of their ARC. The situation got worse during the 2009 fiscal year, as 28 states failed to make 100% of their required contribution, 12 below 80%,

without strong investment returns to balance it out (Pew Center on the States, 2010). While this problem can be fixed with significant investment returns, the other solution would be states making over 100% of their full contributions. One key reason states are unable to do so is decreased revenues and balance budget requirements which are discussed in the next chapter.

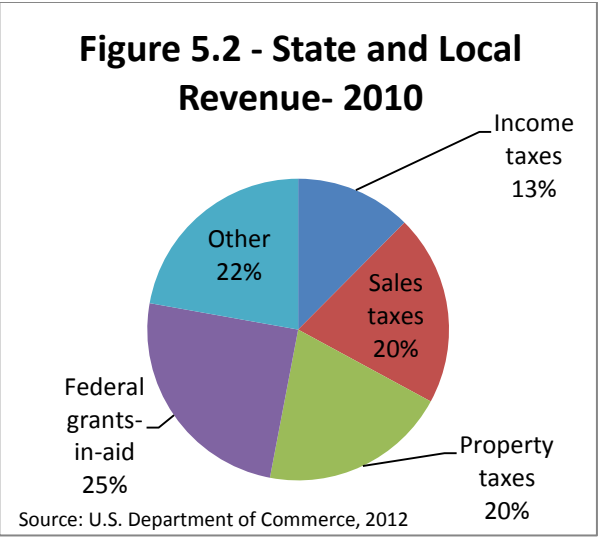
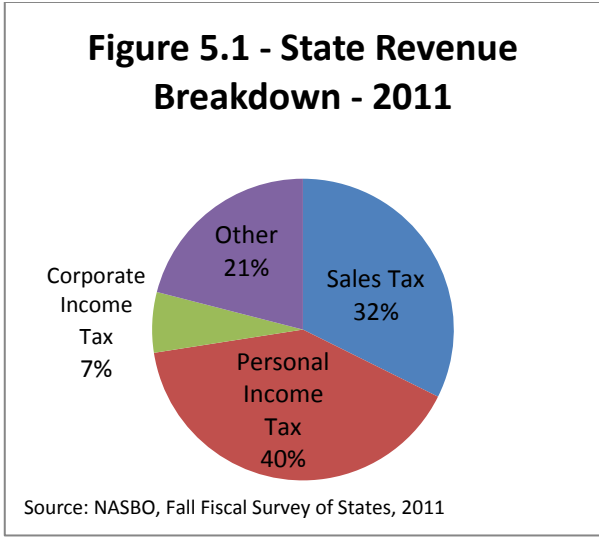
While many states have been unable to increase their contributions, they are not ignoring the problem. Since 2008, when the pension problem began to receive more attention, numerous states have taken action to reform their plans. In 2008, 8 states took action either reducing benefits or increasing employee contributions and in some states doing both. In 2009 this number increased to 11 states. The most legislation to reform pension plans has come in 2010 and 2011 with 21 and 29 states enacting measures to significantly change their pension plans. Over these two years, 41 different states revised their plans (some states did so in both 2010 and 2011). States are clearly not ignoring the problem (NCSL, 2012).

Multiple factors have contributed to the recent underfunding of state and local pensions. Under optimistic assumptions the market value of pension funding is only 69% (the actuarial value which smooths losses is 77%). These low funding percentages definitely deserve attention. However, there are several positive indicators that show that this problem is unlikely to have large repercussions in the short or long-term. States have also already taken legislative action to combat the problems their pension funds are dealing with. In addition, the average state funding percentage based on market values has already recovered from its low of 65% in 2009, jumping to 69% in 2010 a sign that the worst may be over. These legislative changes and a return to normal market conditions should allow pension funding percentages to increase steadily and reach fully funded levels over the long-term.

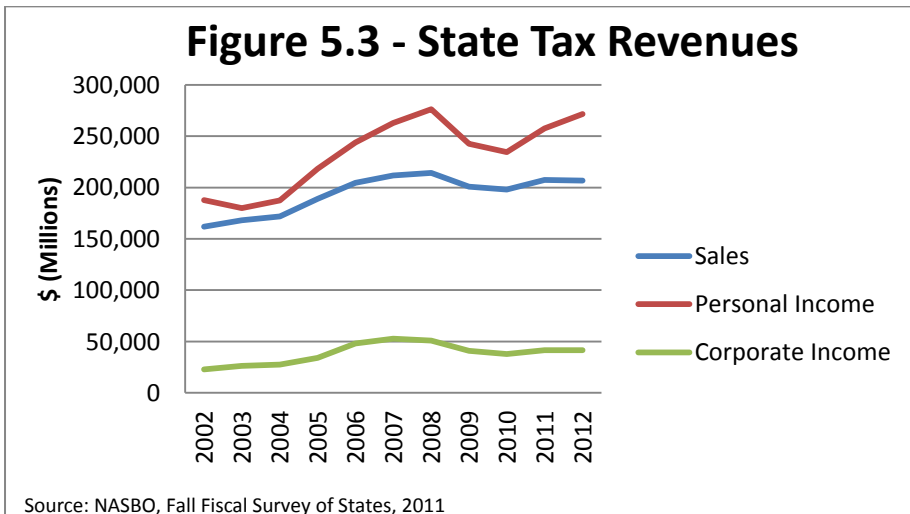
State and Local Government Budgets

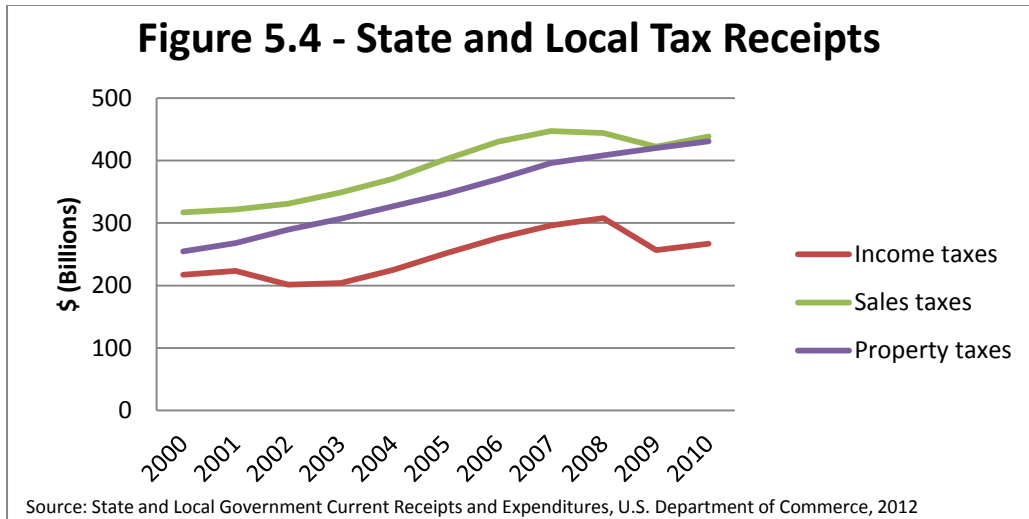
The recession that began in December 2007 and ended in June 2009 has had unprecedented and lasting effects on state and local budgets. The economic slowdown caused state and local tax receipts to fall 5.55% from 2008 to 2009, while state tax receipts alone fell more than 13% between fiscal 2008 and 2010. State revenues were hit hard as taxes make up close to 80% of general fund revenues. Despite massive levels of federal government aid, revenues remained well below 2008 levels for several years. Since 44 out of the 50 states have some form of balanced budget requirement, state general fund budgets decreased significantly for two straight years. In addition, mid-year budget cuts, a sign of weaker than expected revenues, occurred at very high levels during fiscal 2009 and 2010. Recently, however, the financial condition of state and local governments has started to improve. Tax receipts have begun to rebound and state budgets have returned back to pre-recession levels. Although federal aid began to decline in 2011, state revenues continued to increase significantly. This chapter will look at state and local finances before, throughout and after the recession, while also evaluating the sustainability of the financial recovery as federal stimulus programs wind down away.

State and local governments rely heavily on tax receipts. At the state level personal income tax, sales tax, and corporate income tax combine for almost 80% of revenues. In regards to both state and local revenues, taxes (including property tax) account for over 50% (Bureau of Economic Analysis, 2012); this breakdown is shown in the following figures. This reliance on taxes leaves state and local budgets heavily exposed to economic cycles. Since the end of the 2001 recession, tax receipts have increased steadily. The most recent recession put an abrupt end to that.



The economic impact of the recession was felt globally. In the United States unemployment rates rose, housing values fell, and individuals became hesitant to spend money. As a result, from fiscal 2008 to 2009 income tax receipts fell 17%, sales tax receipts declined by 5%, and property tax growth slowed to 3% (Bureau of Economic Analysis, 2012). In total this resulted in a 13% drop in state tax revenue and a 5.5% decrease in state and local tax receipts (U.S. Census Bureau, 2012). Local governments felt the impact less because property taxes continued to increase, which they receive a large part of their revenue from. The graphs below depict this drop in tax revenue during the recession.





Municipal revenues began to show signs of this tax revenue drop in fiscal 2008. State revenues dropped 4.3% from 2007 levels. Revenues continued to decrease through fiscal 2010 when states reported revenues 6.85% lower than they were in 2007 (NASBO, 2000-2011). Unfortunately, when state budgets for 2008 and 2009 were drawn they did not prepare for such a dramatic recession. In order to cover expenditures, state officials were forced to dip into the balance of their general funds. The reason they had to do this is because of state balanced budget requirements.

The requirement for state officials to balance annual budgets is a statutory or constitutional requirement in 44 out of the 50 states. Governors in these 44 states must submit a balanced budget to the state legislature; however, only 41 states require the state legislature to pass a balance budget. In addition, just 37 states mandate that the governor sign a balanced budget. The following table, from NASBO (2008) lists each state's requirements. As a result of these restrictions, it is very rare to see any state operate without a balanced budget. This becomes a significant challenge when states are facing decreased revenues like they did during the recession.

Table 5.1 - Balanced Budget Requirements

State	Governor		Legislature		Governor	
	Must Submit Balanced Budget	Constitutional/ Statutory	Must Pass Balanced Budget	Constitutional/ Statutory	Must Sign Balanced Budget	Constitutional/ Statutory
Alabama	Yes	C,S	Yes	Statutory	No	
Alaska	Yes	Statutory	Yes	Statutory	Yes	Statutory
Arizona	Yes	C,S	Yes	C,S	Yes	C,S
Arkansas	Yes	Statutory	No		Yes	Statutory
California	Yes	Constitutional	Yes	Constitutional	Yes	Constitutional
Colorado	Yes	Constitutional	Yes	Constitutional	Yes	Constitutional
Connecticut	Yes	Statutory	Yes	C,S	Yes	Constitutional
Delaware	Yes	C,S	Yes	C,S	Yes	C,S
Florida	Yes	C,S	Yes	C,S	Yes	C,S
Georgia	Yes	Constitutional	Yes	Constitutional	Yes	Constitutional
Hawaii	Yes	C,S	No		Yes	C,S
Idaho	No		Yes	Constitutional	No	
Illinois	Yes	Constitutional	Yes	Constitutional	Yes	Statutory
Indiana	No		No		No	
Iowa	Yes	C,S	Yes	Statutory	Yes	Statutory
Kansas	Yes	Statutory	Yes	C,S	No	
Kentucky	Yes	Statutory	Yes	Constitutional	Yes	C,S
Louisiana	Yes	C,S	Yes	C,S	Yes	C,S
Maine	Yes	C,S	Yes	Constitutional	Yes	C,S
Maryland	Yes	Constitutional	Yes	Constitutional	No	Constitutional
Massachusetts	Yes	C,S	Yes	C,S	Yes	C,S
Michigan	Yes	C,S	Yes	Constitutional	Yes	C,S
Minnesota	Yes	C,S	Yes	C,S	Yes	C,S
Mississippi	Yes	Statutory	Yes	Statutory	No	
Missouri	Yes	C,S	No		Yes	Constitutional
Montana	Yes	Statutory	Yes	Constitutional	No	
Nebraska	Yes	Constitutional	Yes	Statutory	No	
Nevada	Yes	Statutory	Yes	Constitutional	No	
New Hampshire	Yes	Statutory	No		No	
New Jersey	Yes	Constitutional	Yes	Constitutional	Yes	Constitutional
New Mexico	Yes	Constitutional	Yes	Constitutional	Yes	Constitutional
New York	Yes	Constitutional	Yes	Statutory	Yes	
North Carolina	Yes	C,S	Yes	Statutory	No	
North Dakota	Yes	Constitutional	Yes	Constitutional	Yes	Constitutional
Ohio	Yes	Constitutional	Yes	Constitutional	Yes	Constitutional
Oklahoma	Yes	Statutory	Yes	Constitutional	Yes	Constitutional
Oregon	Yes	Constitutional	Yes	Constitutional	Yes	Constitutional
Pennsylvania	Yes	C,S	No		Yes	C,S
Rhode Island	Yes	Constitutional	Yes	Constitutional	Yes	Statutory
South Carolina	Yes	Constitutional	Yes	Constitutional	Yes	Constitutional
South Dakota	Yes	Constitutional	Yes	Constitutional	Yes	Constitutional
Tennessee	Yes	Constitutional	Yes	Constitutional	Yes	Constitutional
Texas	No		Yes	C,S	Yes	Constitutional
Utah	Yes	Constitutional	Yes	C,S	Yes	
Vermont	No		No		No	
Virginia	No		No		Yes	Constitutional
Washington	Yes	Statutory	No		No	
West Virginia	No		Yes	Constitutional	Yes	Constitutional
Wisconsin	Yes	Constitutional	Yes	Constitutional	Yes	C,S
Wyoming	Yes	Constitutional	Yes	Constitutional	Yes	Constitutional

Source: NASBO, Budget Processes in the States, 2008

States begin to plan out their budgets well before the fiscal year begins. There are 27 states that plan budgets on an annual basis, while 21 states plan the next 2 years budgets at a time (although the frequently revise the second year), and 2 states use a combination of both. The state agency that creates the plan submits the future budget to the governor usually in the fall of the fiscal year prior to the budget year. Following hearings and a review, the governor submits his recommended budget to the legislature around January. From that point, the legislature has 5 months to adopt a budget. This long timeline makes it difficult for states to account for sudden economic downturns until the next year (NASBO, 2008).

Government officials had their first chance to account for the recession in the fiscal 2009 budget. The fiscal 2009 budget was created after the recession was well underway and it illustrated the financial pressures that the states were under. State budgets for fiscal 2009 were 3.8% less than 2008 budgets on a nominal basis, the first annual decrease since 1983. Yet, 2010 was even worse. Year over year, state budgets decreased 5.7% from 2009 to 2010. However, despite states adjusting their budgets to deal with the effects of the recession, revenues failed to reach budgeted levels. This forced states to use mid-year budget cuts.

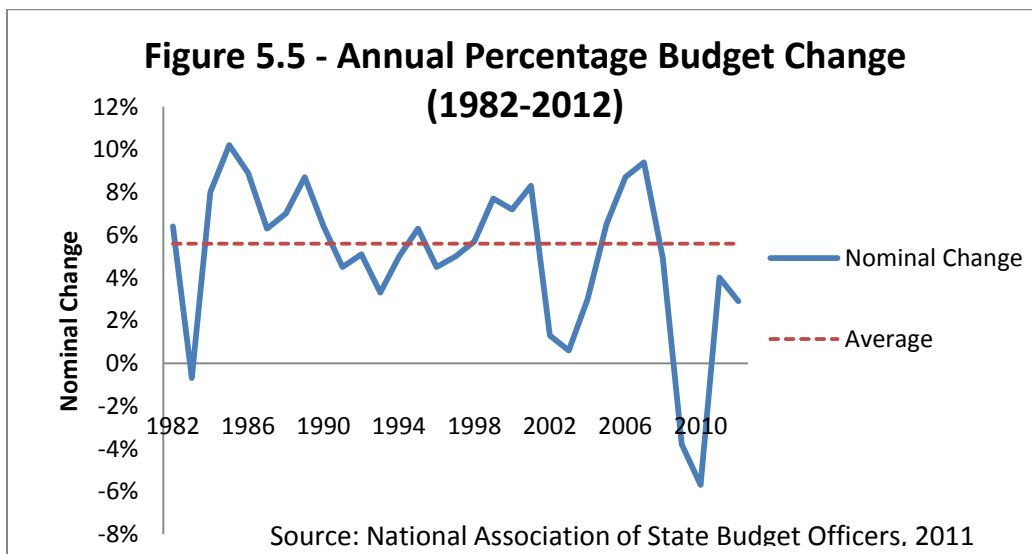


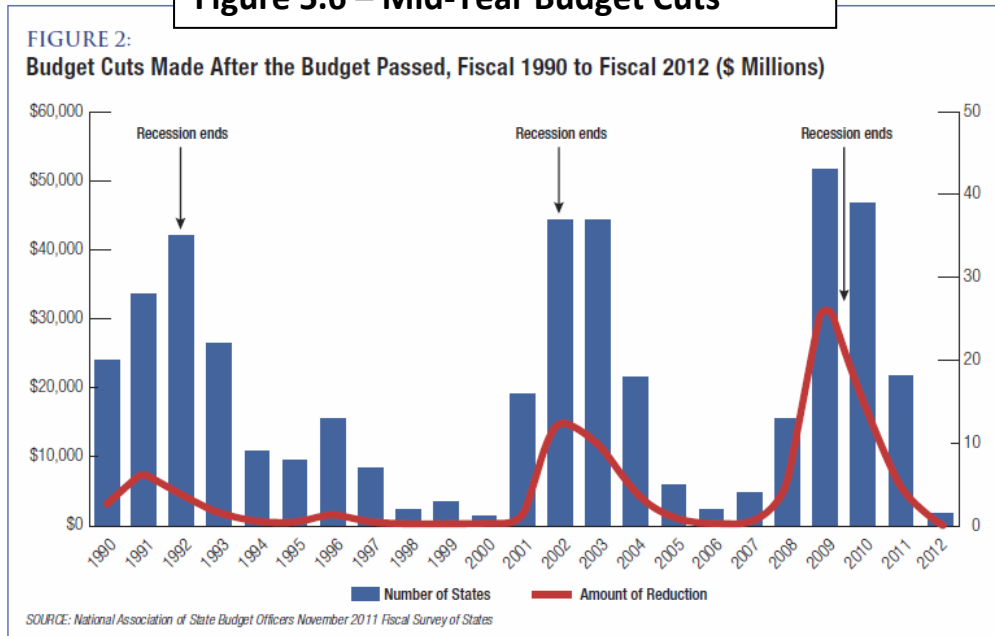
Table 5.2 - Total State General Funds (Millions)						
Year	Beginning Balance	Revenues	Resources	Expenditures	Ending Balance	Budget Stabilization Fund
2007	51,673	\$654,744	\$710,264	\$655,037	46,805	29,894
<i>% change</i>	<i>54.10%</i>	<i>11.83%</i>	<i>14.10%</i>	<i>15.35%</i>	<i>-2.85%</i>	<i>42.06%</i>
2008	\$34,539	\$626,484	\$674,794	\$663,890	\$8,165	\$27,111
<i>% change</i>	<i>-33.16%</i>	<i>-4.32%</i>	<i>-4.99%</i>	<i>1.35%</i>	<i>-82.56%</i>	<i>-9.31%</i>
2009	\$34,260	\$625,514	\$670,301	\$660,946	\$4,682	\$29,006
<i>% change</i>	<i>-0.81%</i>	<i>-0.15%</i>	<i>-0.67%</i>	<i>-0.44%</i>	<i>-42.66%</i>	<i>6.99%</i>
2010	\$10,181	\$609,870	\$638,354	\$623,394	\$8,014	\$21,034
<i>% change</i>	<i>-70.28%</i>	<i>-2.50%</i>	<i>-4.77%</i>	<i>-5.68%</i>	<i>71.17%</i>	<i>-27.48%</i>
2011	\$8,344	\$649,047	\$676,868	\$648,095	\$18,925	\$24,154
<i>% change</i>	<i>-18.04%</i>	<i>6.42%</i>	<i>6.03%</i>	<i>3.96%</i>	<i>136.15%</i>	<i>14.83%</i>
2012*	\$18,010	\$659,445	\$687,817	\$666,572	\$15,624	\$30,175
<i>% change</i>	<i>115.84%</i>	<i>1.60%</i>	<i>1.62%</i>	<i>2.85%</i>	<i>-17.44%</i>	<i>24.93%</i>

Source: NASBO, Fiscal Survey of States, 2007-2011

*2012 figures are as appropriated in 2012 budgets

Mid-year budget cuts are rare when the economy is growing steadily because revenues tend to match or exceed budgeted expenditures. But when a recession sets in, and revenues are weaker than expected, states need to use these cuts to balance their budgets. During the recessions that occurred in the early 1990s and 2000s budget cuts were used frequently. However, during 2009 and 2010 mid-year budget cuts were used more often than in either of the previous two recessions, and the total dollar amount reduced was much higher as well. In all, 41 states made mid-year budget cuts in 2009 totaling over \$30 billion. Cuts remained frequent in 2010 as 39 states made mid-year budget cuts totaling \$18 billion (NASBO, 2000-2011). The image below, from NASBO Fall Fiscal Survey of States 2011 shows how high this level of budget cuts was.

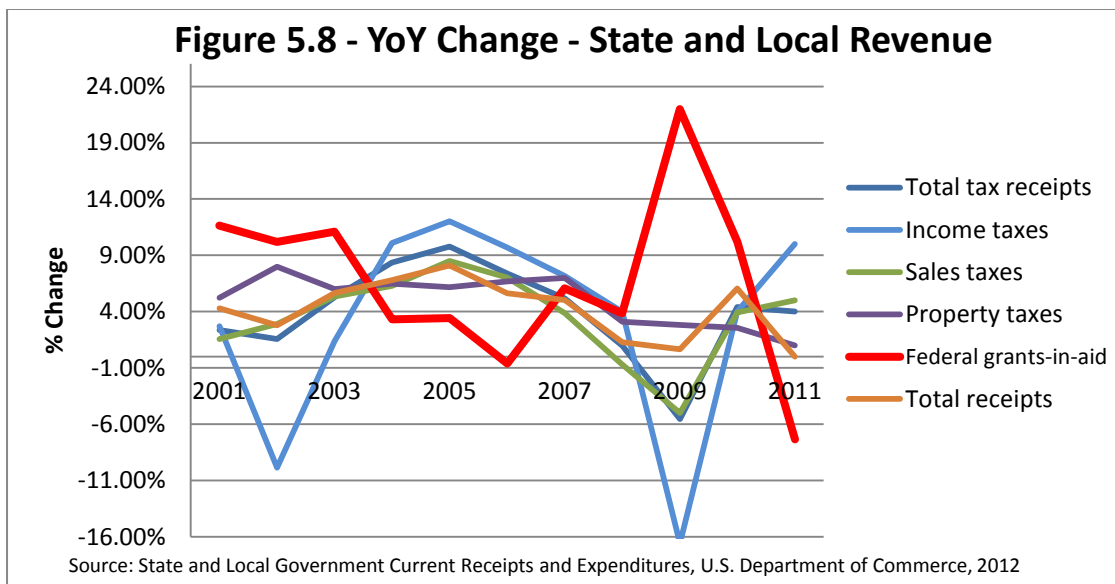
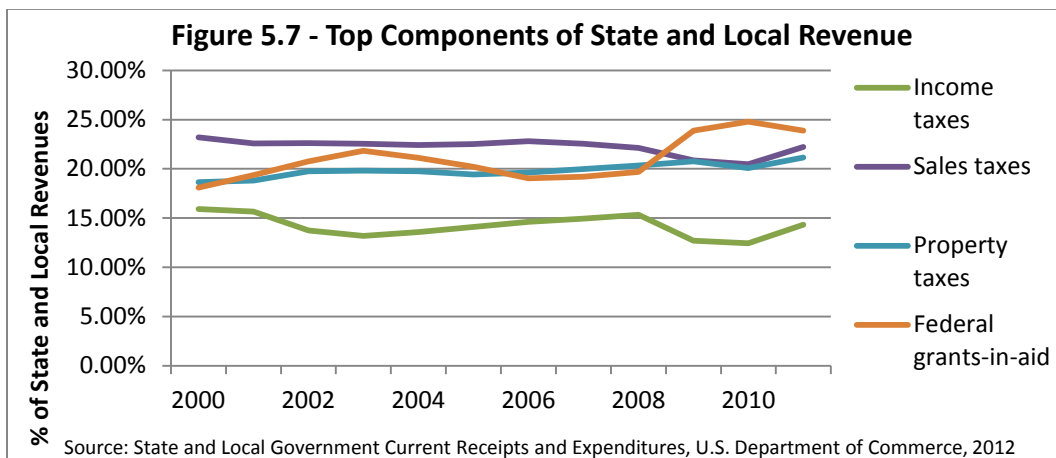
Figure 5.6 – Mid-Year Budget Cuts



In addition to budget cuts, the states have one more place to turn during financial crisis. The federal government has provided more than 18% of state and local revenues since 2000 (Bureau of Economic Analysis, 2012). When economic activity slows and revenues decrease, the federal government provides additional funding to help keep the states running. The 2007-2009 recession brought the level of government aid to new highs. Multiple stimulus plans were passed to help the economy recover, with the American Recovery and Reinvestment Act being the largest and contributing the most to the states. The Act has allocated \$840 billion across the country: \$299.8 billion as tax benefits including tax credits and hiring incentives, \$226.3 billion in contracts, grants and loans, and \$220.8 billion in entitlements to help states cover large expenditures such as Medicaid and unemployment benefits (The Recovery Accountability and Transparency Board, 2012).

These stimulus plans helped the states get through the recession as over half of the funding from the American Recovery and Reinvestment Act came during fiscal 2009 and 2010.

During these 2 years, federal aid totaled 24% and 25% respectively, of all state and local revenues. Federal aid to state and local governments peaked as their other sources of revenue were declining rapidly (as seen below). But the funds didn't only cover state and local expenditures, many of the funds that were allocated to tax benefits, contracts, grants and loans were used to create new jobs. These jobs helped to stimulate tax revenues again and lead the country towards recovery.



The recession officially ended in June 2009 but states did not show true signs of recovery until fiscal 2011. For the first time since the recession began, income, sales and property tax revenues increased year over year. As a result, state general fund revenues increased 6.4% from fiscal 2010 and expenditures increased almost 4%. Despite federal aid to local and state governments decreasing 7% from \$531.5 billion in 2010 to \$470.6 billion in 2011, state revenues rose to the highest levels since fiscal 2007.

State budgets for the 2012 fiscal year illustrate expectations of a continued recovery. Revenues are projected to be \$659.4 billion exceeding 2011 revenues of \$649.0 billion as well as pre-recession 2007 revenues which totaled \$654.7 billion. As revenues recover, expenditures will begin to rebound and relative debt levels will fall, all while federal aid declines. The large increase in federal aid that occurred during the recession was necessary because of state balanced budget requirements which force most states to pass annual balanced budgets. The federal funds helped cover revenue declines so that states could continue necessary expenditures during the recession. Since states have demonstrated significant signs of recovery, this intergovernmental support is becoming less necessary. While it will take years for the effects of the recession to disappear from budgets, as long as the trend started in fiscal 2011 and apparent in 2012 continues, states should be able to cover their debt requirements within their annual budgets.

Harrisburg, PA Fiscal Crisis

The city of Harrisburg, Pennsylvania currently finds itself under intense financial duress. The city has \$459,207,671 in outstanding GO and guaranteed debt; more than 8 times the city's 2012 budget, and 21% of the budget is debt service. The breakdown shown in the chart makes it clear that the GO debt is not the major issue. In fact, the GO debt only has debt service of \$10-\$12 million dollars through 2016 which is manageable under the city budget. The real problem is all of the debt that the city of Harrisburg has guaranteed. The real dates back to a project that spans 50 years and has caused trouble throughout its tenure.

Table 6.1
Publically Issued General Obligation and Guaranteed Debt
Principal Amounts Outstanding as of January 1,2012
(Unkovic, 2012)

GO/Guaranteed Debt	Principal Amount Outstanding
City GO Debt	\$60,286,689
Guaranteed Lease Rental Debt	\$3,960,982
Guaranteed Stadium Debt	\$7,685,000
Guaranteed THA Resource Recovery Facility Debt – Series 1998, 2002, 2003	\$216,760,000
Guaranteed Parking Authority Debt	\$85,441,000
Guaranteed THA Sewer Debt	\$2,239,000
Guaranteed Redevelopment Authority Debt	\$82,835,000
Total Outstanding GO and Guaranteed Debt	\$459,207,671

Despite this massive burden of debt, state officials have been extremely hesitant to allow the city to file for bankruptcy. Officials are concerned that any default would have a huge

negative effect on other municipality's ability to issue debt. Since many states require state approval before a municipality is able to complete its bankruptcy filing, these officials have a lot of say in the decision making process. The case in Harrisburg is a perfect representation of this control. The City Council in Harrisburg has filed for bankruptcy twice but the state has blocked the filings. Instead, the state wants Harrisburg to prove that it fits the insolvent clause required under Chapter 9 of the bankruptcy code, as well as test the market for several city owned assets.

The situation in Harrisburg is complex and full of mistakes. This story begins in 1969 when the incinerator project began. Over the 50 years that followed, city officials made several poor financial decisions that lead them to be placed under receivership in 2011. This summary follows each decision from the time the incinerator was built, up through early 2012 as the city awaits approval of the Receiver's Recovery Plan. While the fate of the city is still undecided, this case represents the extremes of financial mismanagement by a municipal government and the power of state governments in the bankruptcy process.

Harrisburg, a city of almost 50,000 people, serves as the county seat of Dauphin County and the capital of the state of Pennsylvania. The city's location on the Susquehanna River led to its early importance for westward pioneers and later as an industrial leader. Not only did the city have access to waterways, it also was an important railroad city. These two sources of transportation led to the Pennsylvania Steel Company opening the first exclusive steel mill in the United States in nearby Steelton, PA. As the steel industry grew, so did the city and the passenger traffic that went through it. The industrial decline of the 20th century initiated a shift in the city towards a service-based economy in addition to a population movement to the suburbs; which shaped the next several decades. This steady decline in the city's population led continued up until the end of the century and led to a quickly decreasing tax base.

The current financial crisis in Harrisburg stems from former Mayor Stephen H. Reed's attempts to revitalize the city after being elected in 1981. While many projects he undertook during his term helped to attract new interest in the city, the effects of his mistakes have been felt more than his successes. In the process of revamping the city, Mayor Reed piled on new debt for the city. The one project and debt issuance that has been criticized the most, and a major factor in Harrisburg, PA defaulting and filing for bankruptcy was the THA (The Harrisburg Authority) debt issued in 1998, 2002 and 2003 for the retrofitting of a trash incinerator. While these were revenue bonds were issued by THA and not Harrisburg, the city guaranteed the debt which also carried a secondary guarantee from Dauphin County. The bonds were also insured by Assured Guaranty. These issuances had total principal outstanding of over \$215,000,000 as of January 1, 2012, more than three times the cities total GO debt and almost 4 times greater than the 2012 city budget (Unkovic, 2012).

The waste-to-energy trash incinerator project dates back to 1969 when officials in Harrisburg built it to convert trash into energy for the city. The initial price was only \$12.5 million. Unfortunately, that would only be a small portion of what this incinerator has cost the city. In 1977 an additional \$19.2 million was borrowed for the incinerator project, followed by \$9.7 million in 1984, \$25.3 million in 1985, and \$40 million in 1993; the year that THA bought the incinerator and took over operations from the city. THA then began issuing its own debt, which the city of Harrisburg guaranteed, including \$55 million in 1998, \$25 million in 2000 and \$17 million in 2002. The city and THA were well indebted in regards to this project and had a lot riding on its success. However, the project was rarely operating at a level necessary to generate the amount of revenue it would need to pay off the debt (Corkery, *The Incinerator That Kept Burning Cash*, 2011).

During the 1980s the incinerator's problems started to build up. The plant was running at just 25% capacity as it was hindered by frequent shut downs and outages. Mayor Reed reached out to the city of Chicago for help since they had a similar facility. A plant director from Chicago spent almost a year in Harrisburg fixing the plant's problems. He managed to revamp the incinerator so that it was operating efficiently and turning a profit. The facility continued to grow larger when THA added a turbine to the plant to generate electricity as a new revenue opportunity. In addition, the authority also built a steam transmission line to the Bethlehem Steel Corporation which they expected to pay for itself after several years. There were many positive signs that the plant could prove to be a successful revenue generator. However, in 1990, Dauphin County made a critical decision that put an end to the series of optimistic indicators (Luciew, 2011).

Harrisburg's incinerator relied on the trash from Dauphin County (the county which it is the county seat of). The primary market for the plant was local trash which kept its costs manageable. Unfortunately for Harrisburg, the 1990 Dauphin County solid-waste plan eliminated the incinerator as an option for trash disposal. Instead, garbage from the county would be sent to surrounding landfills which offered lower prices. This decision led to millions of dollars in lost revenues for the plant, as the majority of its market had just disappeared. The project, which still had millions of dollars in outstanding debt, was once again operating at a deficit. The incinerator was sold to the Harrisburg Authority in 1993 for \$40.7 million and the plants revenues were revived in 1995 when Dauphin County was legally forced to change its waste disposal plans and send its waste back to the incinerator. Despite this, losses continued to mount and the decades old plant had new problems to deal with (Luciew, 2011).

Amendments to the Clean Air Act had placed much more stringent restrictions on emissions levels. The city attempted to decrease its production or burn rate in order to comply with these new rules, however there was limited success. After multiple extensions to limit the plants emissions, the U.S. Environmental Protection Agency shut down the facility in 2003. Mayor Reed and other elected officials were in a difficult position. There was viable logic for leaving the facility closed as it had struggled to generate money and reach its original expectations. However, there was also still more than \$100 million dollar in city and THA debt related to the project (Buntin, 2010). The city would make a very risky decision in 2003.

The verdict was to go forward with a project to retrofit the incinerator. Undertaking this project would require more borrowed funds. The Harrisburg Authority would end up initially issuing new debt totaling \$125 million, without receiving an independent assessment of the financial feasibility of the project (Tadena & Maher, 2012). Harrisburg's financial fate would rest on the success of the incinerator due to its guarantee on the debt. In addition to retrofitting the two existing boilers, the city also included plans to build a third boiler with hopes that it would increase revenue. Harrisburg's plan was for the incinerator to handle a load of 800 tons per day of garbage. Under these conditions, the expectation for revenues was \$23.2 million in 2006 and rapid growth from that point. The debt was expected to be fully paid off in 2034 when annual revenues were projected to reach \$44 million (Last, 2011).

After receiving multiple bids for the project, the city awarded it to a company with limited experience with such large project, Barlow Projects Inc. The decision was predominantly financial. Barlow submitted a bid for \$77 million which was \$40-\$50 million less than other bids that were submitted and over \$100 million less than the highest bid. Due to the already huge debt load related to the incinerator, this bid made the most financial sense to the

city. The company also had created a new technology that would allow the boilers to function without moving grates, which was very appealing since the plant had frequently suffered shut downs caused by jammed grates in the past. Unfortunately, the partnership between the city and Barlow never lived up to expectations and was plagued with problems (Luciew, 2011).

These issues began almost immediately as Barlow struggled to manage such a hefty undertaking. Due to its small size Barlow did not qualify for a performance bond to cover their share of the project. This would have acted as insurance in the event of any delay or other issue that would cause unsatisfactory completion. The city hoped that other guarantees and precautions would make up for this (Last, 2011). Initially the city withheld a portion of payment due to Barlow, which they set at 20%. They also did not front the traditional 50% of equipment expenses. The city did give Barlow the power to choose the subcontractors that would manage certain portions of the project. Their two major choices were Victory Energy and Cianbro. Cianbro provided the final major piece of security for the city as they were able to get a traditional performance bond for its entire \$18 million contract (Luciew, 2011).

Victory Energy LLC, was tasked with building the three steel boilers for the incinerators. The company was behind schedule from the beginning, causing time delays for the rest of the retrofit. Victory was also slow in locking in steel prices which led to them surpassing the agreed upon budget after steel prices spiked; costing up to an additional \$2.7 million. At the time, it seemed that the \$2.7 million budget overrun would be the most harmful aspect of Victory's mistakes. Yet, the time delay would be a greater burden, felt throughout the entire project since much of the work required the arrival of the boilers to continue.

Timely completion of the project was important because the city had factored in revenue from the incinerator for the year 2006 into their decision to go ahead with the project. By the time the boilers arrived to Harrisburg, it seemed nearly impossible for to retrofit to be completed as scheduled and budgeted. Barlow decided to release Cianbro, the general contractor at the incinerator site, from the agreed upon \$18 million contract with the expectation that they would still be able to complete the retrofit on time. This led to a massive increase in spending by Cianbro, including man power and equipment, which forced the Harrisburg Authority to borrow an additional \$25 million to help fund the financial demands of the project at the end of 2005. Barlow would also have to cut ties with Cianbro following the overspending, which subsequently removed the guarantee of their performance bond (Last, 2011).

January 2006 passed without a completion date in sight. The original contract included a clause that would require Barlow to pay \$22,000 for each day past the completion date that the project went unfinished. However, the city could not enforce this clause because Barlow had no money to pay the fines. In April 2006, Barlow met the “substantial completion” clause of their contract. The three boilers passed their test burns and air-standard screenings. But the project was far from full completion (Last, 2011). The third boiler had been built outside of the original building. While it was operational, Barlow never completed the shelter the surrounded it, which led to numerous breakdowns. In addition, all three boilers began to have ash problems shortly after they began running; a clear sign of the cost cutting Barlow did to complete the project (Luciew, 2011).

Stuck with poorly completed product, the Harrisburg Authority needed to replace Barlow at the end of 2006. Covanta, one of the largest companies in the industry, was hired by the Harrisburg Authority to take over the plant. Covanta was faced with the very important task of

getting the third incinerator operating efficiently again as the authority was quickly losing money without it running. Covanta has had control over the facility since December of 2006 and it appears that they will have control over the facility as long as it is owned by the authority. As of 2011, they claim to have the facility running at 92% (Last, 2011).

It has been abundantly clear for several years that the facility’s profits will not be enough to cover the huge level of debt associated with the project. For the last 3 years, the total debt service on debt related to the facility has been greater than the operating income of the incinerator. In fact, in 2009 the incinerator actually posted an operating loss of \$1,239,913 based on revenues of \$25,032,944 and expenses of \$26,272,867 (Unkovic, 2012). The payment of the Harrisburg Authority’s debt is guaranteed by the city of Harrisburg, which has created major concerns about the financial future of the city (Buntin, 2010). There is currently \$301,552,500 in debt related to the project outstanding with limited operating profit from the incinerator to support it. This large amount of debt, coupled with the negative effects of the 2008 recession, has pushed the city of Harrisburg into the spotlight and raised bankruptcy concerns.

Table 6.2
Resource Recovery Facility Debt
Principal Amount Outstanding as of January 1, 2012
 (Unkovic, 2012)

Debt	Principal Amount Outstanding
Series 1998	\$11,165,000
Series 2002A	\$14,080,000
Series 2003A	\$22,555,000
Series 2003B	\$29,085,000

Series 2003C	\$24,285,000
Series 2003D1	\$31,480,000
Series 2003D2	\$65,000,000
Series 2003E	\$10,135,000
Series 2003F	\$9,795,000
Covanta Loan	\$23,587,500
County Working Capital	\$34,685,000
CIT Loan	\$26,000,000
Total Outstanding RRF Debt	\$301,552,500

When Linda Thompson challenged incumbent Mayor Stephen Reed in 2009, the financial crisis was a developing political issue. The city operated at a deficit of \$1,489,420 in 2008 and was headed for a deficit greater than \$5,000,000 for 2009 (Kroboth & Bream, 2011). After defeating Mayor Reed in the Democratic primary and Nevin Mindlin in the general election, Mayor Thompson stepped into the quickly escalating problem (Smith, 2010). Shortly after her election, the company hired by the city to audit its financial situation stated, “It is our conclusion that the city is in a state of financial crisis, caused primarily by the incinerator issue. We are not confident that the city will be able to act quickly enough or has sufficient resources available to avoid an Act 47 designation by mid-2010” (Patriot-News Editorial Board, 2009). The financial situation of the city was rightfully the hottest topic in the mayor’s office.

An Act 47 classification was something that had been thrown into the discussion occasionally in the past; however it was becoming increasingly inevitable. Act 47, officially known as the Financially Distressed Municipalities Act is written to, “Empower the

Pennsylvania Department of Community Economic Development (DCED) to declare certain municipalities as financially distressed. It provides for the restructuring of debt of financially distressed municipalities; limits the ability of financially distressed municipalities to obtain government funding; authorizes municipalities to participate in Federal debt adjustment actions and bankruptcy actions under certain circumstances; and provides for consolidation or merger of contiguous municipalities to relieve financial distress” (Pennsylvania Office of the Receiver, 2012). The severity of the situation set in when the city stated that it would be unable to pay the general obligation debt it had coming due in September 2010.

The city had skipped several payments on THA debt throughout the year, forcing Dauphin County and Assured Guaranty Municipal to cover the payments because of their secondary guarantee (Varghese, Harrisburg Misses Bond Payment, 2010). But the debt coming due in September was Harrisburg GO debt, not THA debt, which meant Harrisburg could not just pass the problem onto someone else. If Harrisburg was unable to make the payment, the city would be forced to default on the debt. Pennsylvania Governor Ed Rendell decided to step in to save the city from defaulting. The state sent a \$4.2 million package of expedited payments, grants, and loans to the city to help them make the \$3.3 million bond payment (Thompson C. , 2010). In addition to paying off the debt, the funds were also supposed to help pay for the financial advisor hired by the city to create a long-term financial plan. Unfortunately, the city failed to agree on an advisor. State officials recognized the city was unlikely to come up with a solution on its own and began to put pressure on the City Council to consider Act 47.

On October 1, 2010, less than a year after she had entered office, Mayor Thompson filed the request for Harrisburg to be classified as a financially distressed municipality and operate under Act 47. Numerous public hearing occurred where the Act 47 filing was debated. There

were mixed opinions about the benefits of Act 47 or if the city would be better off in bankruptcy. However, the city clearly needed outside help coming up with a plan and on December 15, 2010 the DCED issued a determination of municipal financial distress for the city (Pennsylvania Office of the Receiver, 2012). Harrisburg officially became one of 20 municipalities in Pennsylvania recognized as a distressed city under Act 47. The state gained a much more active role in assisting Harrisburg with its financial issues. The DCED had 30 days to appoint a recovery plan coordinator for the city which would set into motion attempts to create a recovery plan (Murphy, 2010).

Novak Consulting Group was selected as the coordinator for creating Harrisburg's financial recovery plan. Novak would also have the help of the Pennsylvania Economy League, the law firm of Stevens and Lee, and Bob O'Donnell from O'Donnell Associates. The team began working with city officials during a spring that would be full of challenges. Initially scheduled to be released in mid-spring, the report took longer than expected to create. When it was finally released on June 13, 2011, the plan recognized the city's growing deficit and included a wide variety of recommendations for the city to be able to pay its debts and avoid bankruptcy. The major suggestions included: sale or lease of assets including the city's parking garages and incinerator, reorganization of city as well as layoffs, tax and various other fee increases, and outsourcing several departments that were run by the city (Veronikis, 2011). The majority of the report reviews various divisions and operations of the city, rather than detailing how to avoid bankruptcy.

Two weeks after the plan was released, the City Council held a public hearing to discuss the recovery plan. The officials then had 25 days to decide whether to adopt the states recovery plan. Despite encouragement from Governor Tom Corbett and Mayor Thompson, the Council

voted 4 to 3 against the plan as concerns about upset taxpayers receiving a bad deal and a lack of detail about the asset sales outweighed the sense of urgency and need to initiate a plan (Tavernise, 2011). Harrisburg was the first city operating under Act 47 to reject the state-paid consultant's plan (Patriot-News Editorial Board, 2011).

Mayor Thompson was given 14 days to develop a new plan to present for the City Council's approval. Her plan was introduced on August 2, 2011 and tried to take some of the burden off the taxpayers and shift it to the state, commuters, Dauphin County, and Assured Guaranty Municipal. The plan's success was increasingly necessary as it would allow Harrisburg to pay city employees in the month of September, a month in which the city also had more GO debt coming due. The state would also be able to withhold financial assistance if the plan was not approved. Yet, on August 31 the City Council voted against the plan 4 to 3. Without an approved recovery plan, the stage was set for the state to take over Harrisburg's finances (Honan, 2011).

Governor Corbett began that process when he signed Senate Bill 1151 into law. This gave the governor the ability to issue a Declaration of Fiscal Emergency when a city operating under Act 47 failed to adopt a recovery plan. The state is also able appoint a receiver for the distressed city who can override the city council and mayor (Pennsylvania Office of the Receiver, 2012). As state officials were preparing to take over the city, local officials were still searching for options. Although they were able to get \$2.6 million from the state and \$7.4 from a loan for the parking authority to make the September debt payment and cover payrolls for the remainder of the year, the city still had no long term plan. After continually failing to come up with an agreement, Harrisburg City Council took surprising action.

On Tuesday night, October 11, 2011, the City Council voted 4 to 3 in favor of resolutions to file for Chapter 9 municipal bankruptcy protection and hire lawyer Mark Schwartz to defend the city (Luhby & Isdiore, Harrisburg votes to file for bankruptcy, 2011). The official filing came the next day sparking immediate reaction. Mayor Thompson and many state officials were strongly against the filing, considering the move illegal based on recent amendments to state laws (Corkery & Maher, Capital Files for Bankruptcy, 2011). The State of Pennsylvania went to the courts to get the bankruptcy filing tossed out. State officials still wanted to see the city sell or lease assets and raise taxes in an effort to avoid bankruptcy. Chapter 9 of the federal bankruptcy code requires state authorization of a municipal bankruptcy; this gave the state of Pennsylvania a lot of leverage in their lawsuit against Harrisburg. A judge put the status on hold till November 23 when she would rule the legality of the bankruptcy filing (Burton, Harrisburg Chap. 9 on Hold for a Month as State Pursues Takeover, 2011).

Governor Corbett also intensified his efforts to take over the city. On October 24 he declared a fiscal emergency in Harrisburg, making sure all vital services were continued in the city until a resolution was reached. The move put pressure on Mayor Thompson and the City Council as it set into motion a last chance 30-day period to agree on a plan to keep the city out of receivership. After the 30 days past, the DCED would be able to name a receiver of Harrisburg (Pennsylvania Office of the Receiver, 2012). Despite this looming action, the Harrisburg City Council gave up its attempt to create a recovery plan on November 14, leaving the city's future limited to bankruptcy approval on November 23 or a state appointed receiver taking over control (Varghese, Harrisburg Cedes Action on Plan to Bar Pennsylvania Takeover, 2011). Governor Corbett did not wait for the court's decision to appoint the potential receiver. On November 18 David Unkoivc was chosen as the receiver of Harrisburg, PA by the DCED secretary. His

appointment would have to be approved by Senior Judge James R. Kelley before it would be official. The state also needed a different judge to take its side in its lawsuit challenging the legality of the bankruptcy filing.

The November 23rd decision by federal bankruptcy Judge Mary France was in favor of the state. She ruled that the action of the Harrisburg City Council violated state law. In addition, she stated that the lack of approval by the mayor and the state made the bankruptcy filing illegal under Chapter 9 of the bankruptcy code (Luhby, Troubled Harrisburg now state's problem, 2011). This ruling left the approval of David Unkovic as the last hurdle in the state taking over financial control of Harrisburg. Judge Kelley issued his authorization on December 2 and Unkovic was given 30 days to come up with a recovery plan (Church, Harrisburg Court Approves Receiver for Pennsylvania Capital, 2011).

While David Unkovic was working on a new recovery plan, the City Council was continuing its battle for bankruptcy. On December 10 told the judge that ruled against the bankruptcy decision that they would be appealing her ruling (Church, Harrisburg Council Files Appeal to Reinstate City Bankruptcy, 2011). However, that appeal did not last long. The judge ruled only a few days later, on December 13, that the notice of appeal came too late and she would therefore be rejecting the appeal of her previous ruling. The City Council was still not giving up, filing a second appeal less than 10 days later (Church, Harrisburg's Lawyer Files Second Bankruptcy Dismissal Appeal, 2011).

The complexity of Harrisburg's debt situation led David Unkovic to request an extension on his original 30 day timeline. This request was approved and he was given an additional 30 days to dig through the debt problems of the city and negotiate with Assured Guaranty and

Dauphin County (Pennsylvania Office of the Receiver, 2012). Four days before his report was due, the City Council's second appeal was rejected. The decision by Judge Rambo mirrored that of Judge France (Church, Harrisburg City Council Bankruptcy Appeal Thrown Out Again, 2012). Bankruptcy was becoming a lost effort making David Unkovic's plan very important.

David Unkovic unveiled his plan on February 6, 2012. The plan included many of the ideas that the state had been suggesting in an effort to avoid bankruptcy. The receiver's report, similar to the Act 47 plan, called for the lease or sale of the incinerator as well as the city's parking facilities, stating that it was important to find out the actual value of these assets. Unlike the Act 47 plan, however, his report also clearly laid out many of the problems that the city is facing including a growing deficit, rising labor costs, limited revenue base, and a failure among city officials. The plan also included a focus on working with the other creditors, namely Dauphin County and Assured Guaranty for concessions in order to eliminate the incinerator debt. Finally, David Unkovic pointed out the urgency that surrounded the matter, stating a tight deadline of June 30, 2012 to keep the city from filing for bankruptcy again (Unkovic, 2012). Since the state law that kept the city from successfully filing for bankruptcy in 2011 would expire after that date, bankruptcy could be a very valuable tool in discussions with creditors to urge them to share in the losses.

The plan, which must be approved by a state judge within 60 days, officially put Harrisburg's parking, water and sewer systems, and the incinerator up for bid. Harrisburg had previously received bids for the incinerator, including one from Lancaster County for \$124 million (Burton, Harrisburg Receiver in Push to Close on Assets, 2012). The value of leasing the parking garage has also previously been estimated from \$100-\$200 million and a sale of the water system at \$50 million (Thompson L. D., 2011). The value of the assets will allow the city

to pay off a large portion of its debts, but the plan expects concessions from other creditors to play an important role in the city avoiding bankruptcy as well.

As of the end of February 2012, David Unkovic's plan is still awaiting approval. He is in the early stages of implementing his plan and the Commonwealth Court is holding a public hearing on the plan March 1, 2012; a month before the court must accept or reject the plan (Burton, Harrisburg Receiver's Plan Faces March 1 Hearing, 2012). The city is continuing to seek bids on the assets that are expected to be leased or sold as stated in the receiver's plan, despite three Harrisburg residents filing for an injunction to stop David Unkovic from implementing his plan (Burton, Harrisburg Residents Ask Federal Court for Injunction Against Plan, 2012). Reaction to the receiver's plan has been largely positive with the creditors appreciating the detail laid out in the report and considering it a move in the right direction for negotiations. City officials have continued to express the belief that bankruptcy is the best solution to the cities problems, but have noted that the creditors may be open to greater concessions as bankruptcy becomes a more realistic possibility (Burton, Harrisburg Receiver in Push to Close on Assets, 2012).

The situation in Harrisburg may end in bankruptcy. However, after a 2 year process and multiple failed attempts to file for bankruptcy, the solution is yet to be determined. Despite the added financial stress of the incinerator project (which other cities do not have to endure), Chapter 9 bankruptcy is being heavily discouraged. Pennsylvania officials have made it abundantly clear that they would prefer the city test all other viable options with bankruptcy as a last resort. This sentiment is the same feeling shared by officials in many other states as they fear a single bankruptcy filing could negatively impact other borrowers in their state.

Throughout the recession, Pennsylvania was able to keep Harrisburg out of bankruptcy. As the economy recovers, it continues to look like that may be a long term possibility as well.

Conclusion

The municipal credit market has increased in size and complexity over the last decade. This has brought new investors and attention to the market. While the market has been consistently stable since its inception, the recession that began in December 2007 placed significant financial pressure on municipal issuers at the state and local level. Prior studies have indicated very few defaults over the past 30 years, especially when compared to corporate credit markets, but the recent decline in the quality of issuers concerned several analysts. Public predictions for substantial defaults over the next several years failed to be realized in 2011 as defaults remained below 2010 levels. This study evaluated the current status of the market, expecting to reject the prediction of an extraordinary level of municipal defaults.

This thesis reviewed three major characteristics of the municipal market; all of which were reasons for the negative predictions. These three topics were: the current levels of municipal debt, state and local pension funding, and the status of state and local budgets. In addition, the financial crisis in Harrisburg, PA was studied to show that bankruptcy is the option of last resort and issuers search for other options before defaulting on payment. While each part of the study can be interpreted slightly differently, they all clearly showed signs of a recovery in the municipal market and are significant indicators that abnormally high levels of municipal defaults are unlikely to be realized.

Municipal debt levels have been increasing consistently since the market originated. Rather than looking at nominal debt levels, this thesis evaluated relative levels of municipal debt. The metrics used were debt to general revenue and debt to general own source revenue, which show not just the effect of nominal debt increases but also the changes in revenue due to economic cycles. These ratios showed several interesting trends. The first of which is that the

ratios slowly but steadily increased during the time period studied, 1970-2010 at the state level and 1993-2009 for the state and local data as well as just local data. This increase should not cause any short term issues, but could be troubling if the ratios continue to grow in the long-term. In addition, both data sets showed ratio spikes during economic slowdowns, specifically the later 1980s and early 1990s as well as the early 2000s. The increase during this recession has been similar, although debt to general own source revenue has been slightly more effected while federal stimulus has helped keep the effect on debt to general revenue limited. Finally, relative debt levels are and have been higher than the state level spanning the entire timespan of the data set. This has brought up the overall ratio of state and local debt to revenue because there is more local debt outstanding.

None of the trends related to municipal relative debt levels indicated reasons for concern in the short-term. While the long-term trend of increasing ratios is an issue, it is consistent with the last several decades and should not be a problem in the near term. The recent recession has had a similar impact on ratios as other economic slowdowns in the past, slightly greater because of the severity of the recession. While the ratios should be watched, as long as revenues continue to recover, relative debt level should not be a problem.

Next, state and local pension funding has been covered by numerous reports. Many of these addressed concerns about the true value of pension liabilities and the funding gap between liabilities and assets. These reports are summarized in table 4.2. There is an almost universal understanding that pensions are underfunded, but the level of which varies dramatically. More importantly however, is why these pensions are underfunded. The key reason is a lack of asset growth, especially in the equity portion of pension portfolios. Since liabilities are discounted at an expected rate of return, if the funds miss those growth targets the funding gap widens. Yet,

pension funds still have heavy exposure to the equity markets and financial markets in general. As markets have begun to rebound, funding ratios have already increased from 2009 to 2010. In addition, many state and local governments have made legislative changes to address these pension problems. The pension issues definitely needed to be recognized and changes had to be made. State and local governments have made these changes and if the trend from 2010 is continued pension funding will show clear signs of recovery. In addition, pensions are long-term promises and should not have a huge impact on budgets at the moment if the recovery slows.

The third topic was state and local budgets. The two most important points were state budget restrictions and budget cuts as well as the recovery in revenue which initially stemmed from federal funds but has recently been led by the rebound in tax revenues. State balanced budget requirements force states to keep expenditures at or below total revenues. During the recession, federal stimulus helped the states continue necessary services as states reduced their budgets. However, that was not enough and mid-year budget cuts peaked in 2009 and 2010. Since that point, budget cuts have dropped significantly, a sign that revenues are reaching expected levels and states can cover budgeted expenditures. As said before, the revenues during the heart of the recession were subsidized by federal funds, with intergovernmental revenue peaking at 25% of state and local revenue in 2010. This dropped in 2011 and yet state and local revenues still increased because of an increase in tax revenues which make up almost 80% of state revenues and 60% of state and local revenues. This increase has also allowed state revenues and budgets in fiscal 2011 to reach 2008 levels, and 2012 appropriated budgets are at 2007, or pre-recession levels. This recovery in state and local revenues is the strongest indicator of an improving municipal market. Not only does it improve the credit quality of municipal credit issuers, but also decreases relative debt levels.

Finally, the situation in Harrisburg, PA is complex and largely uncorrelated to the recession. The crisis was predominantly caused by guarantees on revenue bonds issued by the Harrisburg Authority to fund a trash incinerator that never lived up to expectations. The city's GO debt is only \$60,000,000 which is slightly higher than annual revenues and very manageable. However, when debt guaranteed by the city is added in, the total reaches \$459,207,671, a total that would be impossible to cover based on Harrisburg's current revenue sources. While city officials have attempted to file for Chapter 9 bankruptcy, the state has blocked this attempt. Instead, state officials want the city to prove it is insolvable (a key factor in Chapter 9) by testing the value of several assets and also working with the other creditors on the debt to see if they can gain significant concessions. The situation has dragged on for more than two years, indicating the emphasis on implementing a recovery plan rather than declaring bankruptcy. The study also shows that the debt situation in Harrisburg is not a sign of the overall market, because the GO debt is not the cause of the problem.

In conclusion, all signs point towards a slow but reasonable recovery in the municipal market. While municipal bond issuers are facing some long-term issues, there are very few indications that there will be mass defaults in the next few years. The recession brought attention to the problems in the municipal market which will allow state and local governments to correct these issues over time and avoid future defaults.

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