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Public Debt Management In The State Of Maine 1993 through 2010

John B. Greenwood

University of Southern Maine, Muskie School of Public Service

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Public Debt Management In The State Of Maine

1993 through 2010

5/26/2011

John B. Greenwood

Executive Summary

An analysis of Maine's public debt position was undertaken in order to: 1) review the history of Maine's public debt position; 2) compare Maine's public debt position against the U.S. average; 3) determine whether Maine's public debt position has been doing progressively better, worse, or about the same; and 4) if possible, make immediate-future hypotheses about Maine's public debt position.

In order for the reader to follow the author during the review and analysis of the data acquired, the following preliminary steps were undertaken: 1) provide the primary task and purpose of a public debt manager; 2) discuss what the primary mode of borrowing used by public debt managers is; and 3) review the pertinent factors involved in the use of structuring public debt.

The data that was utilized for this analysis came primarily from three sources: 1) a report issued by Moody's Investor Services regarding the history of Maine's bond ratings; 2) Maine Comprehensive Annual Financial Reports; and 3) U.S. Census Bureau statistics.

The core background of public debt management having been established and the review and analysis of the above-referenced primary sources having been completed, the following determinations were made:

- As of 2008 Maine's performance has been above average (the U.S. average) with respect to public debt management; and
- Maine's internal position on public debt has been doing, as of approximately 2005, progressively worse.

Based on these two determinations, the overarching conclusion that was reached was that despite its deteriorating public debt position, Maine's position is deteriorating at about the same

pace as the average U.S. state. Furthermore, Maine continues to maintain a comparatively better public debt position than the average U.S. state.

These determinations and the overarching conclusion are dependent on the receipt, review, and analysis of U.S. Census Bureau data for years 2009 and 2010, as said data was not available at the time the author drafted this report. Once these additional analyses are included into this report, it is hoped that immediate-future hypotheses can be made regarding Maine's public debt position as well as an update being applied to the conclusions-portion of this report.

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Introduction

The focus of this report is on public debt management in the State of Maine. It seeks to impart on the reader an understanding of how the State of Maine has fared in the past. It also seeks to provide the reader with a sense of where the State of Maine's position with respect to public debt management might go in the near future. These goals are meant to be achieved by way of analyzing historic data and interpreting multiple indicators simultaneously. Reviewing multiple indicators simultaneously is a method used in order to obviate issues concerning 'tunnel vision' while performing research; if indicators are viewed solely by themselves and not in conjunction to other indicators, Type I and Type II errors can occur (LaPlante, 1993).

The first section of this report discusses the methodologies undertaken when performing the necessary research and analyses for the report. Following the methodologies section is a section dedicated to the introduction of the concept of public debt management to the reader. A comparative analysis of Maine's public debt management position against that of the U.S. average follows. Maine's historic public debt management positions are then reviewed, during which trends, points of interest, and areas of concern are highlighted and commented on. Lastly, overarching analyses are performed that attempt to merge the analyses from the comparative and historic reviews of Maine's public debt management positions.

This report is meant to provide the reader with the findings of a descriptive research project. While the report itself is quasi-experimental in that it uses comparative data from previous years from both the U.S. average as well as Maine, the limitation of this utility should be noted. The limitation in question is that this report is meant only to address the [historic] public debt management position[s] in Maine and, as such, is primarily a case-study. Therefore, conclusions made herein should be interpreted cautiously by readers who are intent on reviewing

this report in order to assist them with reviewing a governmental entity besides the State of Maine. Furthermore, as all conclusions made herein are based on historic data, it is important to note that said conclusions should be used as *one of many* tools by anyone wishing to report on the future of Maine's public debt management position, as opposed to the *sole* tool. Due to the extreme degree of complexity inherent within the management of public debt systems in any level of government, a garbage-can model of decision-making that relies on multiple indicators is highly recommended for the same reason why multiple indicators are reviewed in tandem during the course of this report (Daft, 2010; Justice & Miller, 2011).

Methodology

The research required to undertake the report in question was based solely on the review and analysis of pre-existing documentation available to the public. Some data was readily unavailable online and had to be acquired by way of requesting said data from the originating organization.¹ However, the vast majority of data was acquired by way of accessing the U.S. Census Bureau's website as well as the State of Maine's website. That being said, the data collection method utilized was, for all intents and purposes, an unobtrusive on the collected information from secondary sources.

Once the data was obtained, corrections to the data were made by way of deflating dollar amounts to a common unit in order to conduct valid analyses. The 2009 currency of the U.S. dollar was utilized as the common unit of analysis. Following the establishment of a common unit of analysis, simple computations regarding ratios, percent changes, and differences among dollar amounts were made in order to achieve the desired processes of analysis (e.g. ratio of principal payments made to total debt services incurred for years 2000 through 2010). The results of these analyses were then inserted into graphical images in order to clarify, among other things, the relationships (if any) between variables, the history of variables, and the performance of variables. Lastly, interpretations of analyses and overarching conclusions were made via the use of knowledge found in peer-reviewed literature as well as knowledge that was deemed by the author to be considered common.

¹ This only occurred once, as some data in the earlier editions of Maine's Comprehensive Annual Financial Reports was not reported.

Public Debt Management: An Understanding

The Purpose And Task Of The Public Manager.

The purpose of public debt management is to minimize cost of debt to the public (Balibek & Koksalan, 2010; Bertocchi, 1993; LaPlante, 2010). The underlying question therein is why does the public have to incur debt? The answer to that question is that governments simply do not have the financial resources with which to pay for every single capital investment that a government and/or its citizens are in favor of, particularly during lean budget seasons (Denison, Hackbart, & Moody, 2009). The task of the public debt manager, therefore, is to determine how capital investments are to be paid for while keeping his or her four primary professional/technical prescriptions in mind (economy, efficiency, effectiveness, and equity) (Justice & Miller, 2011). Put another way, the question is how much money should be paid upfront and how much should be borrowed in order to finance the capital investment in question. It is left up to the public debt manager to find an answer to this question.

The Preferred Method Of Borrowing Used By Governmental Entities.

There are many methods of borrowing used by governmental entities. In terms of dollar amounts, the most widely used vehicle for borrowing money is by way of issuing municipal bonds. The municipal bond is a promise to pay back to the borrowee the amount borrowed in addition to borrowing costs. A borrowee agrees to these conditions and lends the amount in question to the borrower (said governmental entity). Payments are then made by the borrower to the borrowee in accordance with the agreed upon schedule.

It is important to note that the core reason behind a borrowee lending money is that there are to be returns on said investment made (via the borrowing costs incurred by the borrower). However, the primary reasons why borrowees invest in municipal bonds are that they are

extremely safe investments and a majority of them enjoy tax exemptions. Due mainly to these two reasons, municipal bonds dominate the fixed-income market (Elebash, 1994).

Factors To Consider.

How much debt to finance (in conjunction with how much will be paid upfront) is the foremost factor to be taken into consideration by a public debt manager. The more money that is borrowed, the greater the borrowing cost to the governmental entity is incurred. Also, once bonds are issued, funding for the principal and interest payments on said bonds becomes dedicated. If an excessive amount of bonds is issued and too much funding becomes dedicated to making said payments, a government's budget can become severely restricted to the point that it can cease to operate effectively. In order to maintain flexibility in its budget, a governmental entity must remain cognizant of its debt burden.

Complicating the question of how much money should be paid upfront versus how much should be borrowed is a point of vital importance: intergenerational equity (Justice & Miller, 2011). It is a common argument made by proponents of public debt that the financial burden of capital investments should not only rest on the current generation, but on the generations to follow as well. This argument is based on the premise that capital investments (e.g. a subway system) will be used by a number of generations and it is only fair to make future generations pay for the use of said capital investment, as they will benefit from them as well. More often than not this argument is considered legitimate when paired with the fact that it is simply too expensive for a single generation to pay upfront for most, if not all, capital investments undertaken during the course of their lifetime. Public debt managers must take great care, though, in making sure that they do not fall prey to a moral hazard found within this situation,

that being that current generations can simply avoid paying for capital investments and pass the entire burden on to future generations.

The need for public debt financing having been established, the question remaining to be answered is how should the debt be structured. As the initial down-payment made on the capital investment becomes larger, the amount of public debt needing to be financed becomes smaller. Furthermore, the smaller the amount of public debt needing to be financed, the cheaper the cost of borrowing.² Therefore, it is in the best interest of a governmental entity to pay as much as it can when making the initial down-payment on a capital investment.

The next question to be asked of the public debt manager is what amount of the debt should be long-term and what amount of the debt should be short-term. Long-term bonds can last as long as 35 years while short term bonds can last as little as a matter of days. As the length of the term of the bond increases, so too does the amount of debt incurred via the cost of borrowing. This is because more interest payments are made on the principal amount borrowed. Conversely, the shorter the term of the bond, the lower the interest rate the bonds are offered at. This is because shorter-term bonds are less risky to borrowers and, hence, require lower interest rates in order to offset said risk for investors. In the event of interest rate hikes, borrowing costs are minimized due to the short-term period of the bond (Balibek & Koksalan, 2010). On the other side of this argument is that short-term bonds are more risky to governmental entities than long-term bonds because if interest rates rise and those rises are sustained, when the governmental entity goes to issue a new bond, it will be more expensive than the last issuing (Balibek & Koksalan, 2010; Georges, 2006).

Of primary importance is what type of long-term public debt financing tools are to be utilized by the governmental entity when engaging in public debt management. The two primary

² The cost of borrowing being a function of the principal amount borrowed.

types of public debt financing tools utilized by public debt managers are general obligation municipal bonds and municipal revenue bonds. General obligation municipal bonds are backed by the full faith and credit of the issuing governmental entity.³ It is because they are backed by this condition and because governmental entities have the legal ability to tax that general obligation municipal bonds are rated the safest investment that one can make, second only to U.S. Treasury Bonds. General obligation bonds are, however, limited in their use by legislation (debt caps) and, in some cases, voter reluctance (LaPlante, 2010). Municipal revenue bonds, on the other hand, dedicate funding from a specific revenue source (e.g. using a certain percentage of tolls to help pay for the cost of a highway). Due to the superior safety of general obligation bonds over revenue bonds, revenue bonds tend to have higher interest rates and, accordingly, incur higher borrowing costs. Despite the increased cost in borrowing, revenue bonds are sometimes used due to the fact that the limitations set upon them by legislation and voters are much less stringent.

Acquiring a good bond rating from a bond rating agency is considered vital in the process of managing public debt management (LaPlante, 2010). Better credit ratings indicate to potential borrowers a safer investment. As safer investments require less concern on behalf of potential borrowers, interest rates can be lowered and become more favorable for borrowers.⁴ Bond ratings can also be buttressed with the purchasing of bond insurance, the spreading out of maturities (the length of the bond; short- or long-term), and the establishment of reserves by the

³ It is important to note here for the purpose of this paper that states cannot go bankrupt, despite popular belief (ICMA, et al., 2011).

⁴ Better interest rates, in these cases, are defined as lower interest rates. This is because lower interest rates equate to lower borrowing costs to the governmental entity issuing the bonds in question. If a borrower can offer a lower interest rate, it becomes more attractive to said governmental entity to accept said borrower's bid for the purchase of the bond.

governmental entity dedicated to the increased liquidity of a municipal bond⁵ (Balibek & Koksalan, 2010). Additional ways include decreasing the length of a bond and making available other types of investment tools to borrowers (LaPlante, 2010). While the manipulation of scheduled principal and interest payments can be undertaken by public debt managers to meet short-term debt management goals, doing so is done at the risk of decreased bond ratings and, accordingly, increased borrowing costs when viewed in the long-term (Moody's Investors Services).

Bond ratings companies analyze the following four factors when determining a rating for a municipal bond: 1) economic strength; 2) financial strength; 3) management and governance; and 4) debt profile (Moody's Investors Services). Debt that governmental entities are morally obligated to pay in the event that the originating borrower defaults on the debt is considered neutral by bond rating agencies (LaPlante, 1993). However, in the event that a call is placed on said debt, it then becomes necessary for bond rating agencies to take into account said debt. In order to acquire a superior bond rating, governmental entities must therefore do their best to increase their governmental entity's position with respect to these five factors. Doing so will increase their governmental entity's bond rating, thereby decreasing borrowing costs and lessening the burden of debt placed on the governmental entity.

Tying It All Together.

There is a lot of recent history regarding the inappropriate management of public debt, the consequences of which have undermined public confidence (Blackburn, 2006; Howell-Moroney & Hall, 2011). In some instances, the mere forward appearance of mismanagement on behalf of public managers has been enough to undermine public confidence (Justice & Miller,

⁵ Increased liquidity means the availability of actual cash that can be provided to borrowers in the event that call options (the ability to request a refund of a bond) are put into effect.

2011). The public, as referenced above, not only references current and potential investors but also the citizens of governmental entities. Without their confidence, work needing to be accomplished (capital investments) will not be accomplished and society as a whole will be worse off because of it. Therefore, sound public debt management is vital.

By paying attention, at the very minimum, to the aforementioned points made regarding what the purpose and task of a public debt manager is, the preferred method of borrowing, and the factors involved in the use of said method, a more sound manner of managing public debt can be accomplished and maintained. However, for the purpose of this report, these points can and should be used in the analysis of the past, current, and possibly near-future public debt position of the State of Maine. Said analysis follows.

Comparing Maine To The National Average

The first step to be undertaken in the review of Maine's public debt management is that of comparing Maine's pertinent indicators to those of the national average. This will be done in order to gauge where Maine has stood with respect to the nation as a whole.

The U.S. Census Bureau.

The first of the two data sets to be analyzed in this regard is the data acquired from the U.S. Census Bureau. The time period analyzed will be from 1993 to 2008.⁶ The pertinent factors to be reviewed will be: 1) revenue; 2) expenditure; 3) debt outstanding; and 4) holdings. All figures have been adjusted to 2009 dollar amounts, exclude Washington, D.C. as part of the national average, and include State and local government financial data with respect to Maine.

Revenue.

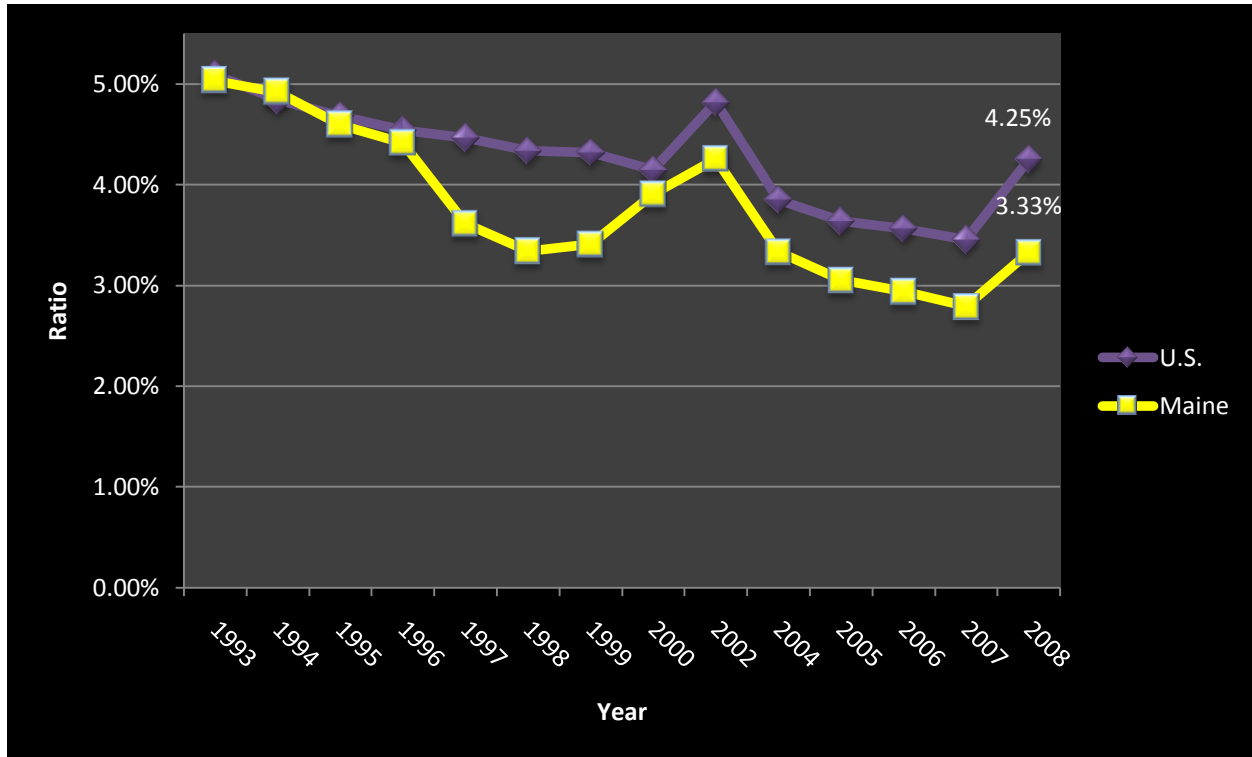
Ratio of interest on debt to revenue. The ratio of interest on debt to revenue provides an indication how much interest on debt is costing the respective governmental entity per year as a percent of the revenue received. Positive results are operationalized as smaller ratios. As Figure 1 below indicates, between 1993 and 1996, the U.S. and Maine maintained approximately the same ratio. However, since 1996 those ratios have, at times, differed significantly. As of 2008, the U.S. average was 4.25%, versus Maine's 3.33% (a difference of 0.92%). What this means is that Maine's burden of debt (interest on debt being an important indicator that thereof) has historically been above average.

Also worth noting is the trend that this data implies. Despite the fact that during several years there occurred a significant increase in ratios (e.g. 2000 and 2008), there appears to be a downward trend in said ratios. This can, in and of itself, be generally interpreted as a positive

⁶ For years 2001 and 2003, state-level data was unavailable. Therefore, those years were skipped during the course of this comparison. Furthermore, data was not available post-2008 at the time of this analysis.

trend; a decreasing ratio of interest on debt to revenue is indicative of decreasing debt burden (interest on debt being an important indicator that thereof).

Figure 1. Ratio of Interest on Debt to Revenue

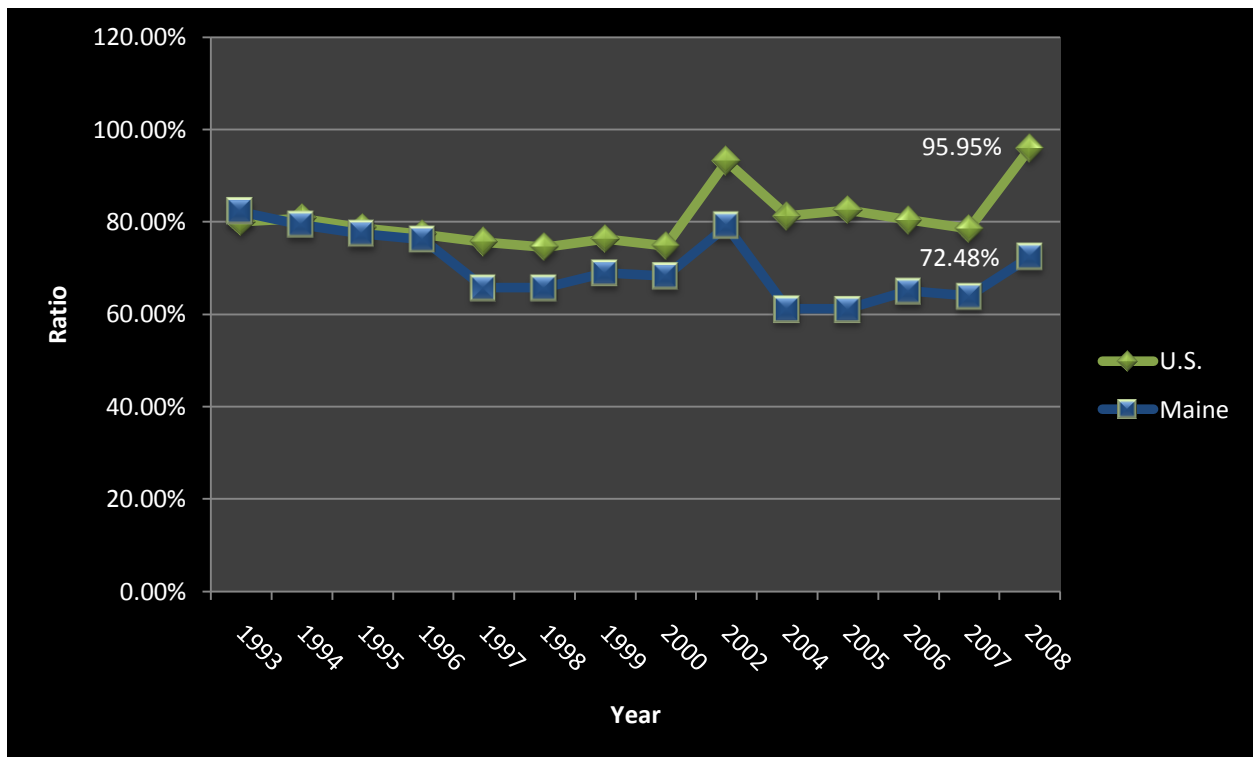


Source: (U.S. Census Bureau).

Ratio of debt outstanding to revenue. The ratio of debt outstanding to revenue provides a similar indication as the previous ratio. That is, how much total debt is costing the respective governmental entity per year as a percent of the revenue received. Positive results are again operationalized as smaller ratios. As interest on debt is derived from how much debt is accumulated, it is unsurprising that Figure 2 below almost perfectly mirrors Figure 1 above. The ratios of the U.S. average and Maine began at relatively similar levels, experienced similar degrees of variability, and ended (as of 2008) at very different ratios (95.95% versus 72.48%, respectively). However, while the underlying trend for Maine is a somewhat downward sloping one, the U.S. average appears to be experiencing a somewhat upward trend as of 1999. Just as a

downward sloping trend for the ratio of interest on debt to revenue is a positive sign, so too is the case when analyzing the ratio of debt outstanding to revenue. Furthermore, the reverse of that statement (an upward sloping trend is a bad sign) is also valid. Lastly, this figure supports the conclusion that Maine's debt burden (debt outstanding being an important indicator that thereof) has historically been above average.

Figure 2. Ratio of Debt Outstanding to Revenue



Source: (U.S. Census Bureau).

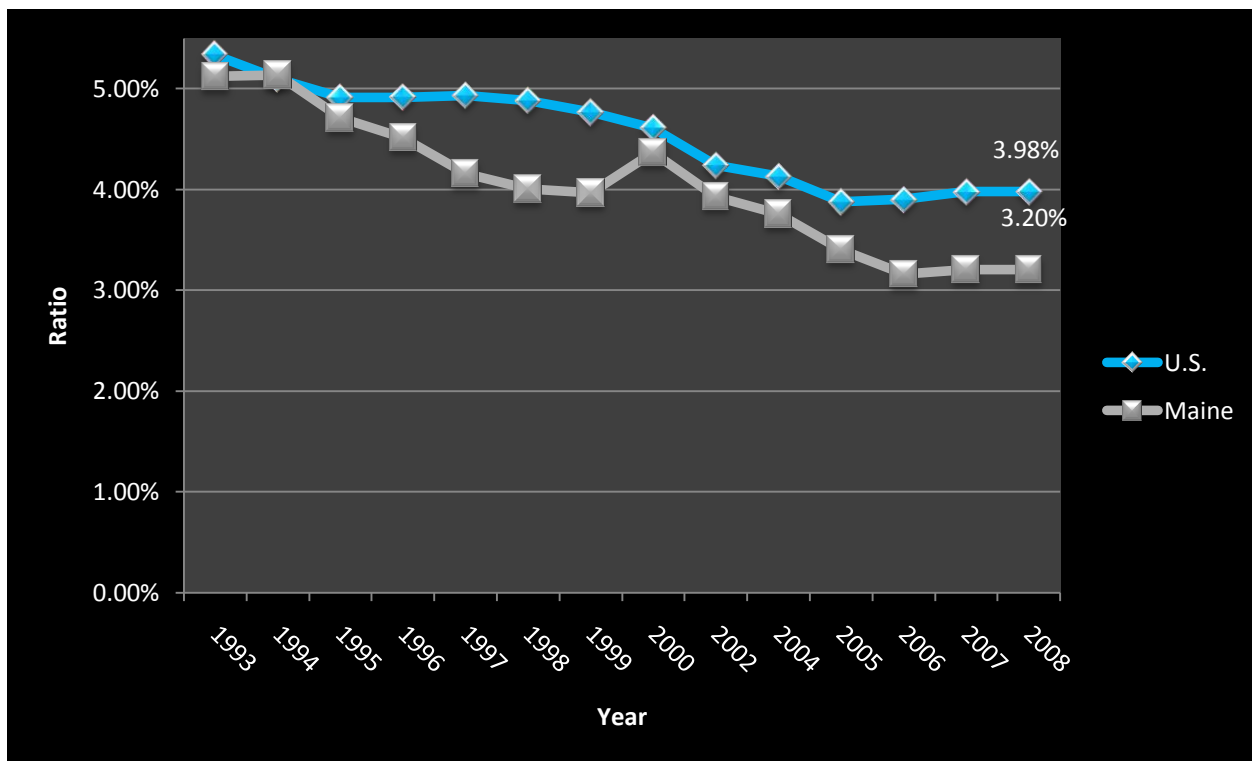
Expenditure.

Ratio of interest on debt to expenditure. The ratio of interest on debt to expenditure is highly similar to the ratio of interest on debt to revenue. The only difference is that it uses a different factor⁷ when comparing the ratio in question (ratio of interest on debt). Figure 3 below

⁷ In this case, replacing revenue with expenditure allows one to analyze variables as a percent of what is spent each year by the respective governmental entity. Positive results are again operationalized as smaller ratios.

supports this statement. What can be garnered from this figure is that when replacing the factor revenue with expenditure, erratic behavior on behalf of the overall trends of each individual governmental entity are lessened. However, the overarching conclusions are the same; Maine has historically had lower ratios of interest on debt to expenditure than the U.S. average and, as such, its debt burden (interest on debt being an important indicator that thereof) has been lower than the U.S. average.⁸ Furthermore, the overall trend indicates a general decline (U.S. as well as Maine) in debt burden (interest on debt being an important indicator that thereof).

Figure 3. Ratio of Interest on Debt to Expenditure



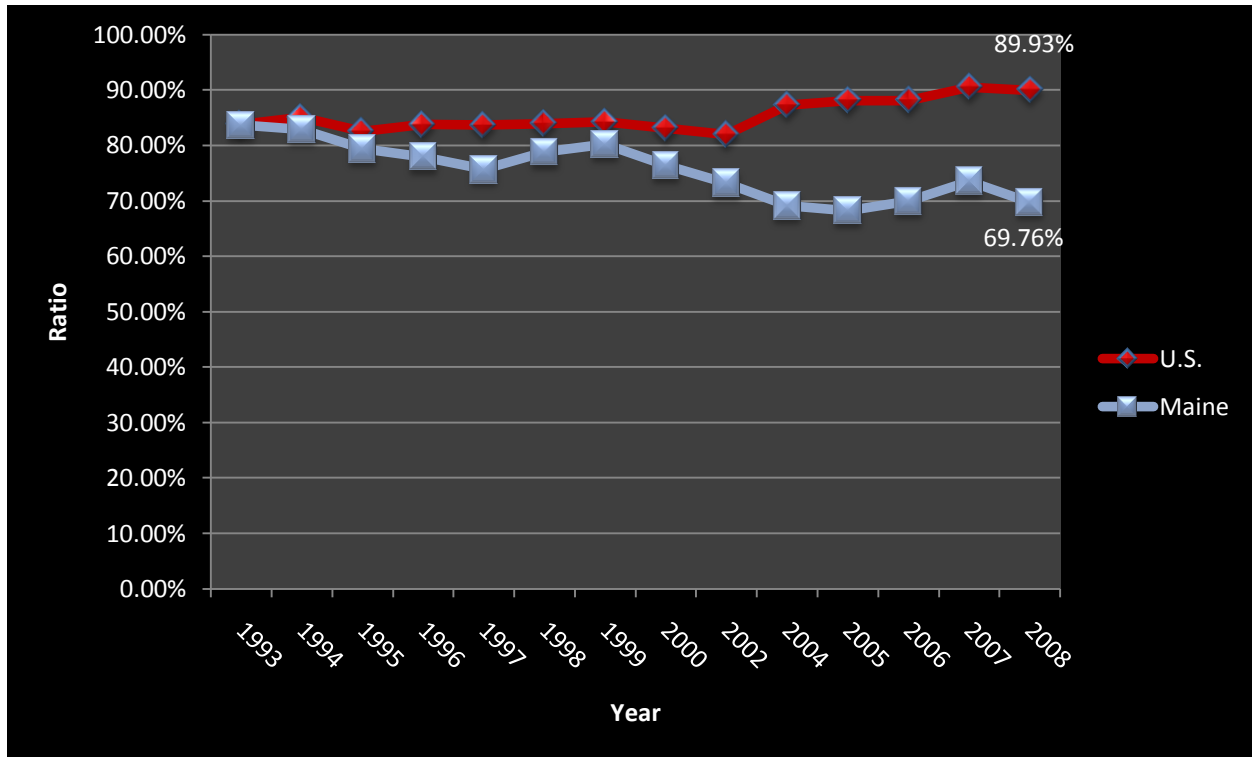
Source: (U.S. Census Bureau).

Ratio of debt outstanding to expenditure. Figure 4 below, which analyzes the ratio of debt outstanding to expenditure, solidifies the conclusions made from Figure 2 (again, noting that positive results are operationalized as smaller ratios). That conclusion is that: 1) a gap exists

⁸ As of 2008, the U.S. average was 3.98% while Maine was 3.20%.

between the U.S. average and Maine; and 2) that said gap is increasing.⁹ This conclusion also does not belie the fact that not only is Maine's debt burden lessening (a positive trend, as debt outstanding is an important indicator that thereof), but the U.S. average is increasing (a negative trend).

Figure 4. Ratio of Debt Outstanding to Expenditure



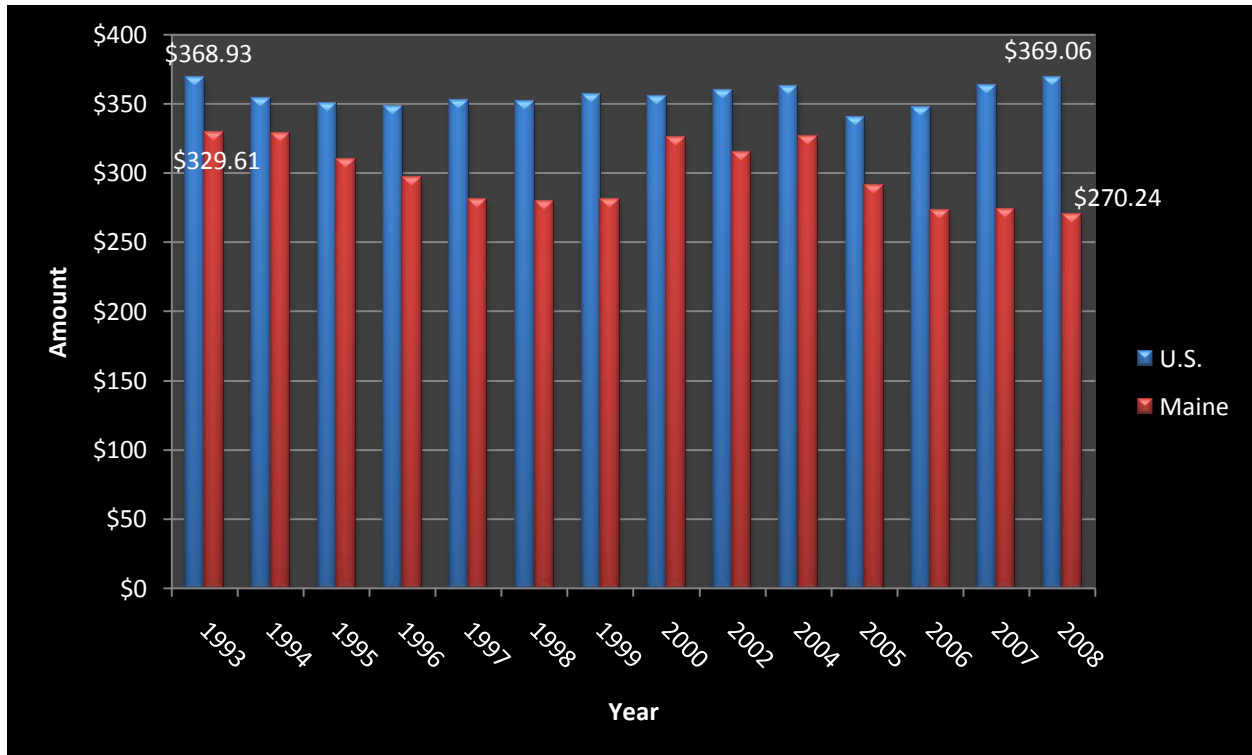
Source: (U.S. Census Bureau).

Per capita interest on debt. As interest on debt is an expenditure of both governmental entities being reviewed, it is necessary to review the per capita interest on debt. Positive results are operationalized as smaller dollar amounts. As Figure 5 below indicates, Maine has always had a lower per capita interest on debt than the U.S. average. This finding supports the conclusion made when analyzing Figures 1 and 3 in that it shows that Maine's debt burden (as interest on debt is an important indicator that thereof) is above average. Further inspection of

⁹ As of 2008, the U.S. average was 89.93% while Maine was 69.76%.

this figure shows that while the U.S. average has remained relatively static (between 1993 and 2008 it has only increased from \$368.93 to \$369.06, or 0.04%), Maine's position has strengthened. Between 1993 and 2008 Maine's per capita interest on debt lessened from \$329.61 to \$270.24, or by -18.01%.

Figure 5. Per Capita Interest on Debt



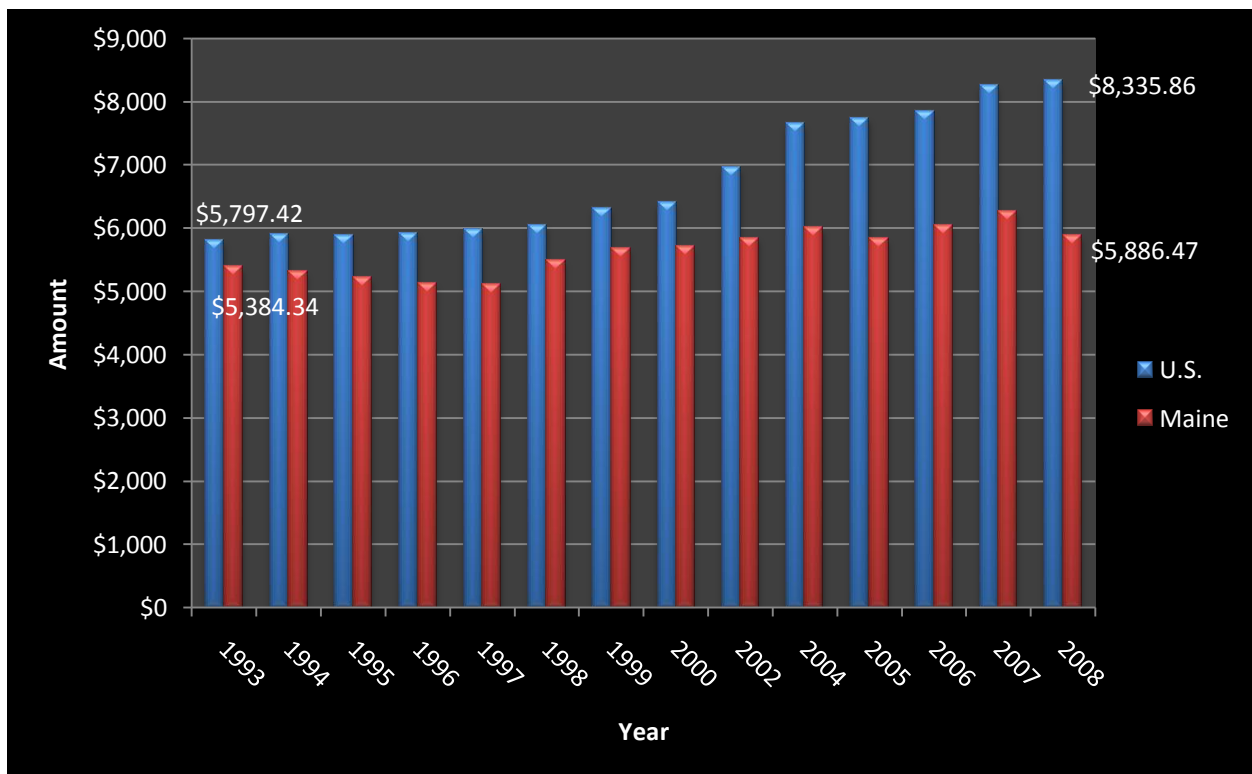
Sources: (U.S. Census Bureau).

Debt Outstanding.

Per capita debt outstanding. As debt is not an expenditure, it should be analyzed separately. That being said, following in Figure 5's footsteps is Figure 6 (below), which analyzes per capita debt outstanding. Positive results are again operationalized as smaller dollar amounts. As was the case in Figure 5, here it is again evident that Maine's per capita debt outstanding has historically been lower than the U.S. average. This supports the conclusion made while analyzing Figure 5 in that Maine's debt burden (as debt outstanding is an important indicator that

thereof) is above average. Where the analysis of Figure 6 differs from its predecessor is in the trends of the U.S. average and Maine. The U.S. average has increased since 1993 (through 2008) from \$5,797.42 to \$8,335.86, or by 43.79%. Conversely, Maine has increased since 1993 (through 2008) from \$5,384.34 to \$5,886.47, or by 9.33%. While these two trends indicate that Maine is increasingly doing better than the U.S. average in this area of analysis, of note is that both the U.S. (on average) and Maine are experiencing higher debt burdens (debt outstanding being an important indicator that thereof) when viewed from this vantage point.

Figure 6. Per Capita Debt Outstanding

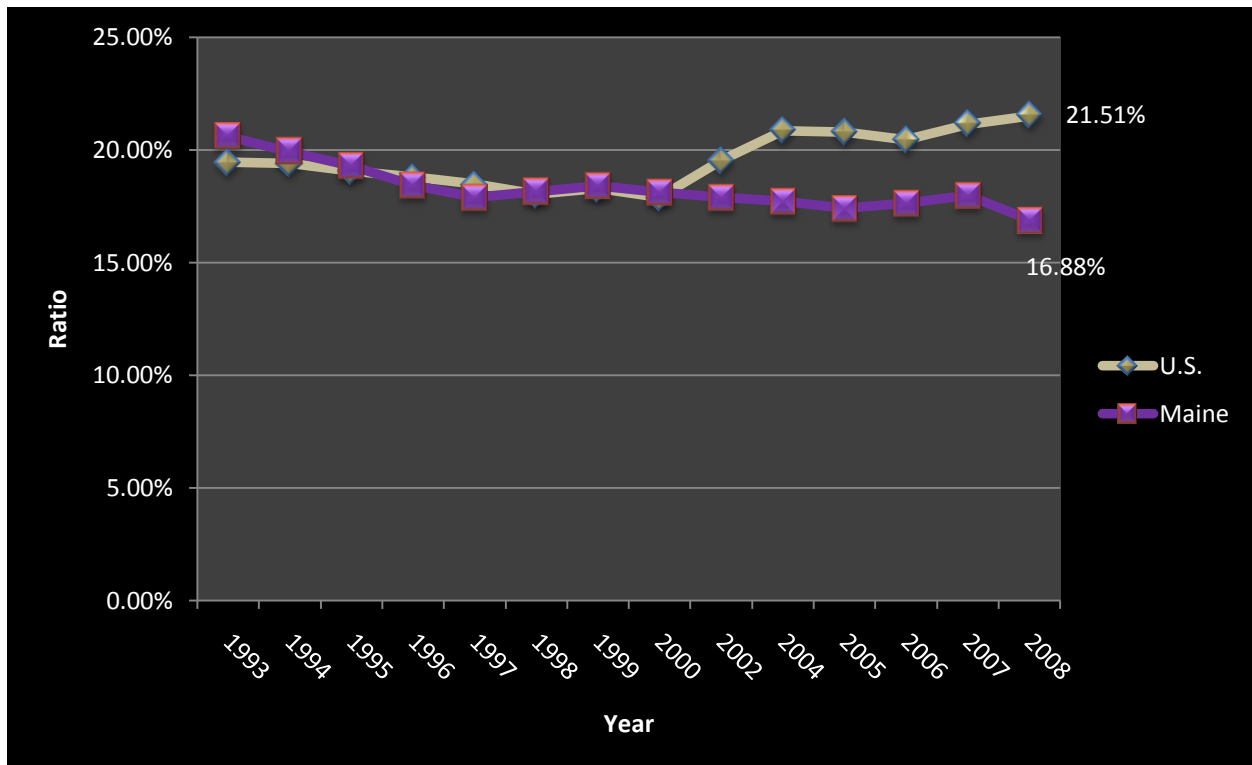


Source: (U.S. Census Bureau).

Ratio per capita interest on debt and debt outstanding to per capita income. Combining the previous findings on per capita interest on debt and per capita debt outstanding and comparing the results against the per capita income variable, a somewhat different image appears

(Figure 7 below).¹⁰ Up until 2000, the positions of the U.S. average and Maine were constantly in flux. Come the turn of the millennium, however, the U.S. average began to increase (in 2008 ending at 21.51%) while Maine began to decrease (in 2008 ending at 16.88%). These two important indicators of debt burden support the conclusion that Maine's position in terms of debt burden above average.

Figure 7. Ratio of Per Capita Interest on Debt and Debt Outstanding to Per Capita Income



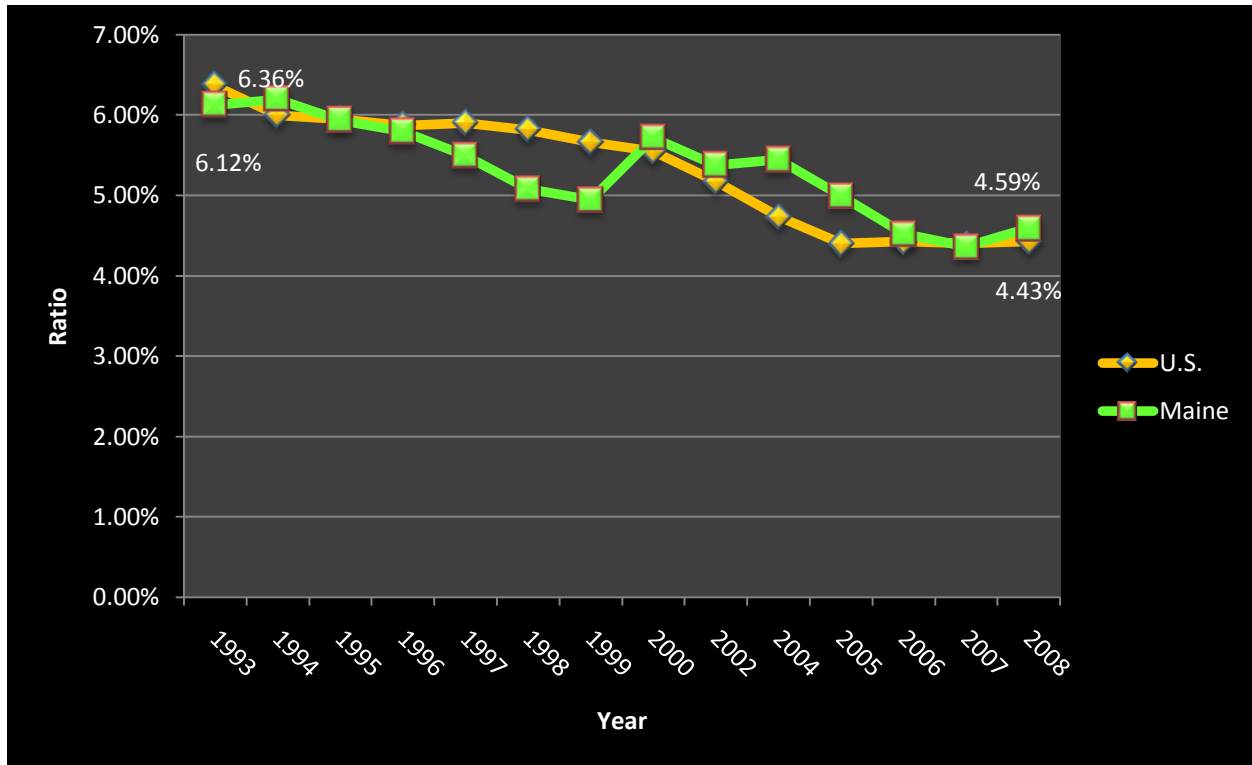
Source: (U.S. Census Bureau; U.S. Bureau of Economic Analysis).

Ratio of per capita interest on debt to per capita debt outstanding. Figure 8 (below) is highly pertinent in that it presents the reviewer with the ratio of per capita interest on debt to per capita debt outstanding. In other words, it provides the average cost of borrowing. Positive results are operationalized as smaller ratios. In analyzing this figure, the problem that arises is that there is no clear indication as to whether or not Maine is above average. This is due to said

¹⁰ Positive results operationalized as smaller ratios.

positions being swapped at various points in history. Therefore results are inconclusive. The only information that can be gleaned from this figure is that borrowing rates have decreased between 1993 and 2008. For the U.S. average, they have decreased from 6.36% to 4.43%, or by 30.35%. For Maine, they have decreased from 6.12% to 4.59%, or by 25%.

Figure 8. Ratio of Per Capita Interest on Debt to Per Capita Debt Outstanding



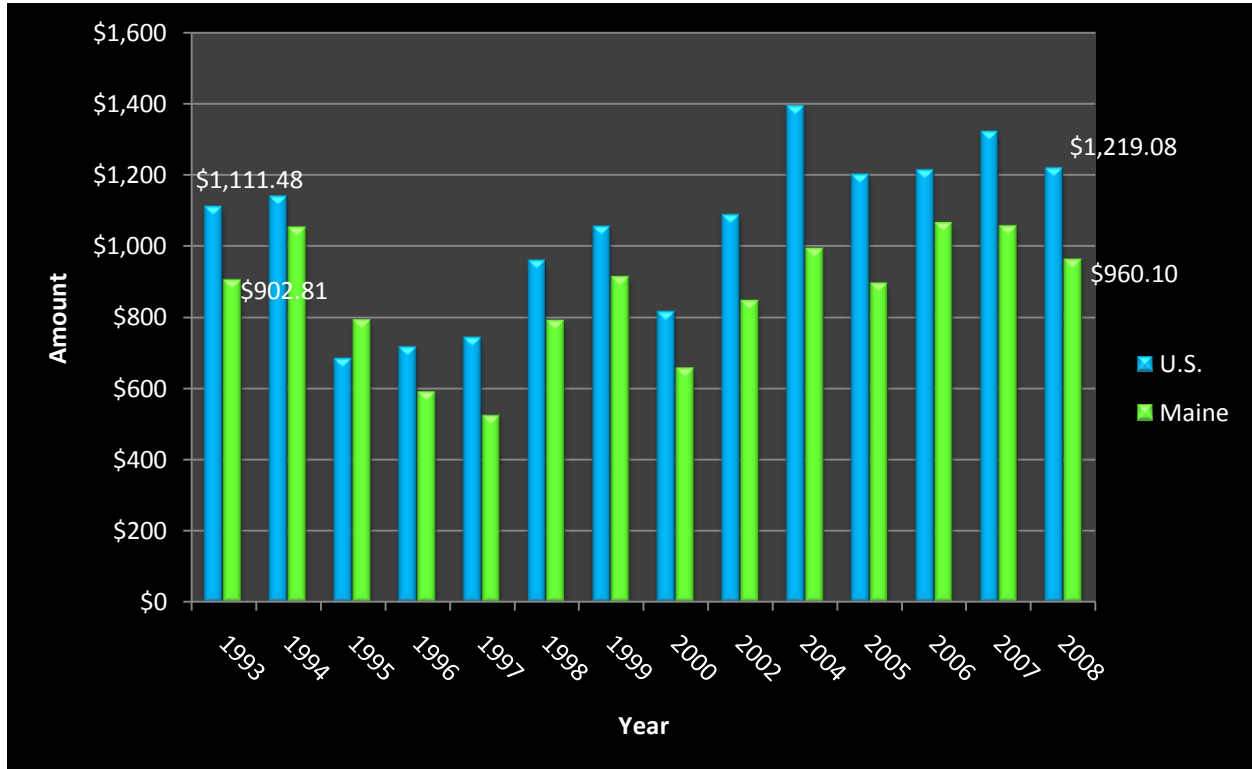
Source: (U.S. Census Bureau).

Per capita long-term debt issued. Figure 9 below depicts how much long-term debt is issued by each respective governmental entity.¹¹ Positive results are operationalized as smaller dollar values. Of particular note is that the U.S. average is not always larger than Maine (the only exception being in 1995). Besides that one particular instance, between the years of 1993 and 2008 Maine's per capita long-term debt issued has always been above average. Since 1993, the U.S. average has grown from \$1,111.48 to \$1,219.08, or by 9.68%. Conversely, Maine has

¹¹ Note that due to Maine's extremely small amount of short-term debt issued, this variable will not be addressed.

grown from \$902.81 to \$960.10, or by 6.35%. This growth, while a negative sign for both levels of government, was not incremental. During the years between 1993 and 2008 per capita rates for this variable rose and fell by varying degrees. This dynamic history should be noted, as it is indicative of a variable that is not highly reliable.

Figure 9. Per Capita Long-Term Debt Issued

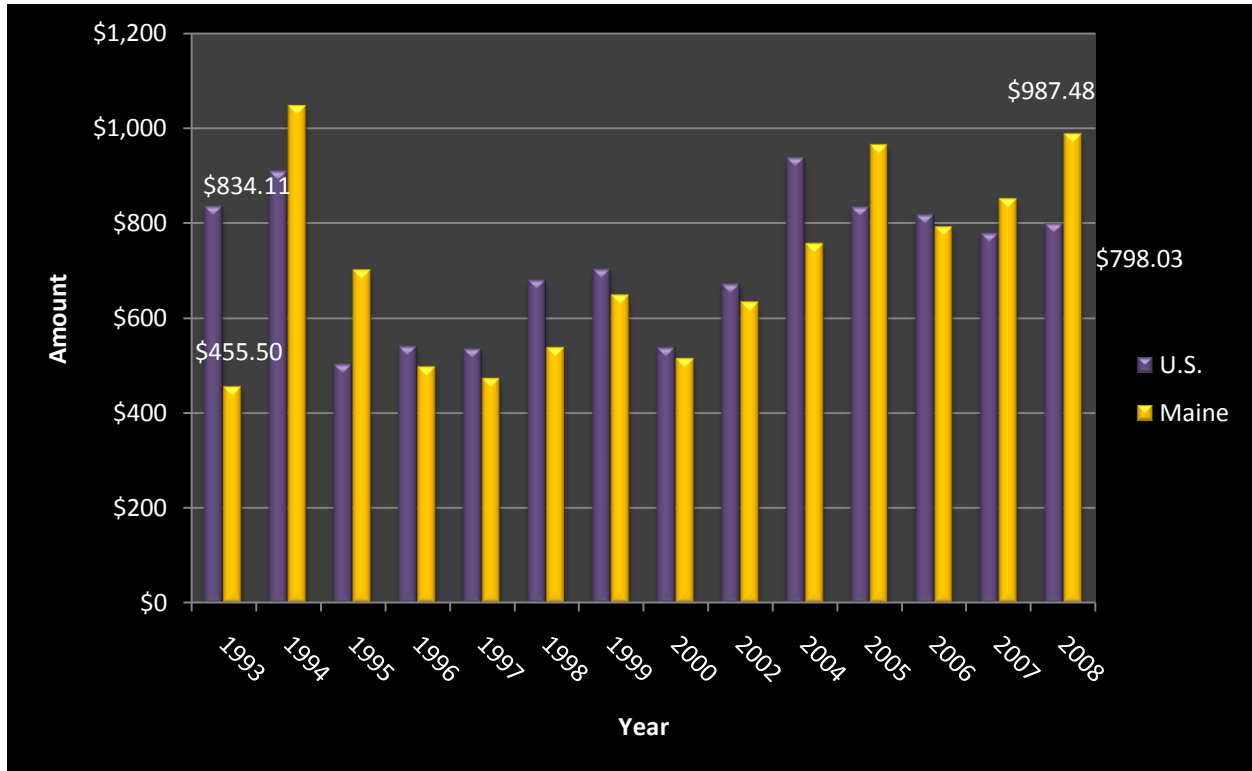


Source: (U.S. Census Bureau).

Per capita long-term debt retired. Following in suit with the previous analysis is that of the analysis concerning per capita long-term debt retired (Figure 10 below). Positive results are operationalized as larger dollar amounts. This variable indicates how much debt is paid off each year and a positive sign is operationalized as higher dollar values. As was the case with the previous analysis, the relationship between the U.S. average and Maine varies from year to year; some years have Maine in an above-average position and some years have had Maine in a below-average position. Between 1993 and 2008 the U.S. average went from \$834.11 to \$798.03 (-

4.33%, a negative sign). Maine, on the other hand, went from \$455.50 to \$987.48 (116.79%, a positive sign).

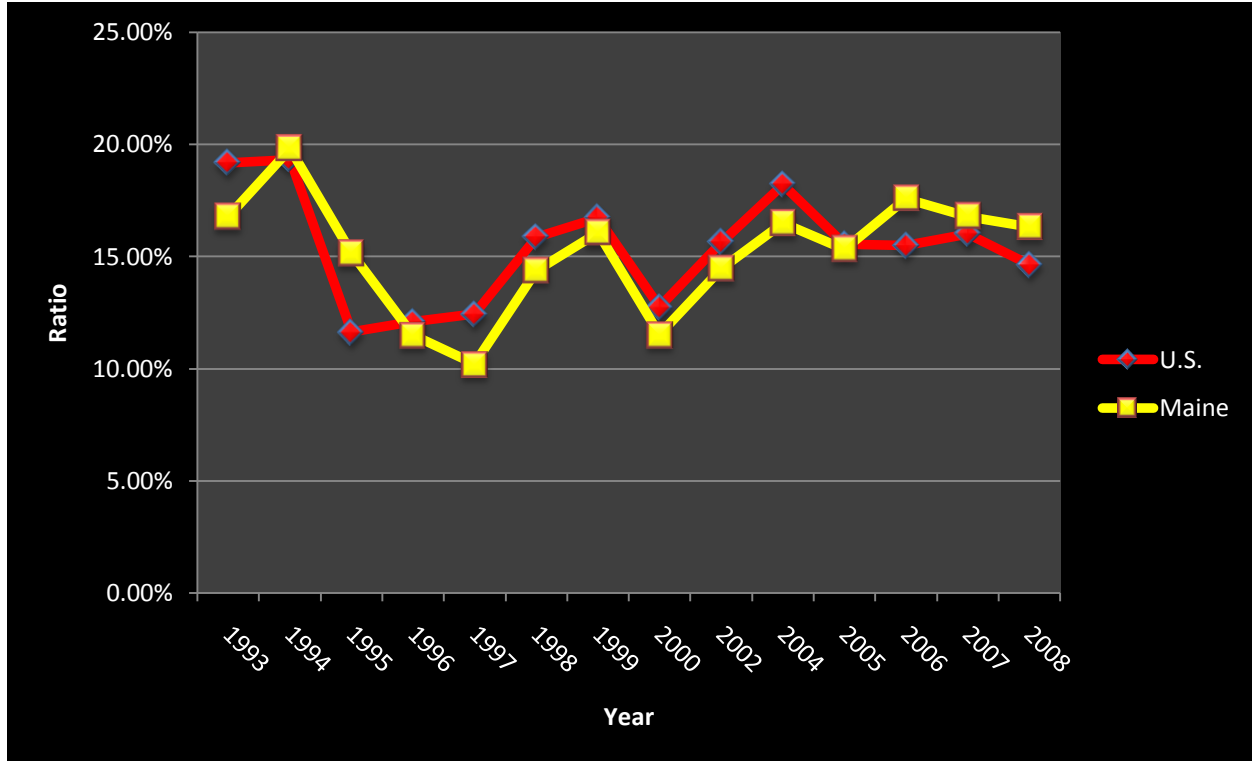
Figure 10. Per Capita Long-Term Debt Retired



Source: (U.S. Census Bureau) (U.S. Bureau of Economic Analysis).

Ratio of long-term debt issued to debt outstanding. Debt outstanding represents total debt accumulated for that year. Long-term debt issued represents that which is issued for that year. The ratio of long-term debt issued to debt outstanding shows long-term debt issued as a percent of debt outstanding and allows the analyst to see how much of the end-year debt outstanding was due to newly-issued long-term debt. In this case, positive results are operationalized as smaller ratios. This is because smaller ratios are indicative of smaller annual increases in debt burden. Analyzing Figure 11 (below) in this manner, results are inconclusive.

Figure 11. Ratio of Long-Term Debt Issued to Debt Outstanding

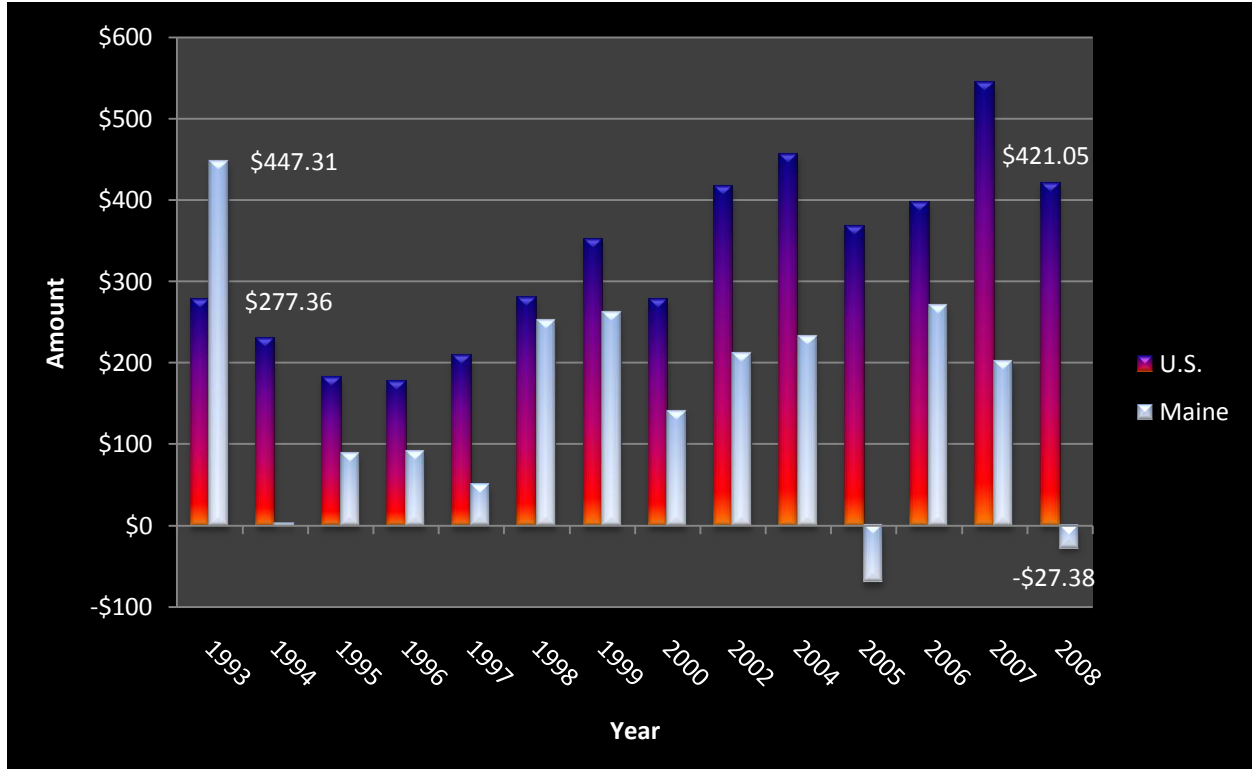


Source: (U.S. Census Bureau).

Net per capita debt difference (retired - issued). Combining the results of Figures 9 and 10, Figure 12 (below) provides a net analysis of the difference between how much long-term debt was issued and how much was retired. Positive results are operationalized as smaller dollar amounts, indicating more debt was paid off. Excluding 1993, Maine has always paid off more long-term debt per capita every year than the U.S. average. Furthermore, in 2005 and 2008 it even went so far as to have a net gain by retiring more long-term debt than it issued. While these gains in no way wipe away the net costs incurred by the issuance of long-term debt between 1993 and 2008, it is worth noting due to its highly unusual (and favorable) occurrence.

Another point of interest is that between 1993 and 2008, the U.S. average decreased (a negative sign) from \$277.36 to \$421.05, or by 51.80%. Conversely, Maine increased (a positive sign) from \$447.31 to -\$27.38, or by -106.12%.

Figure 12. Net Per Capita Debt Difference (Retired - Issued)



Source: (U.S. Census Bureau).

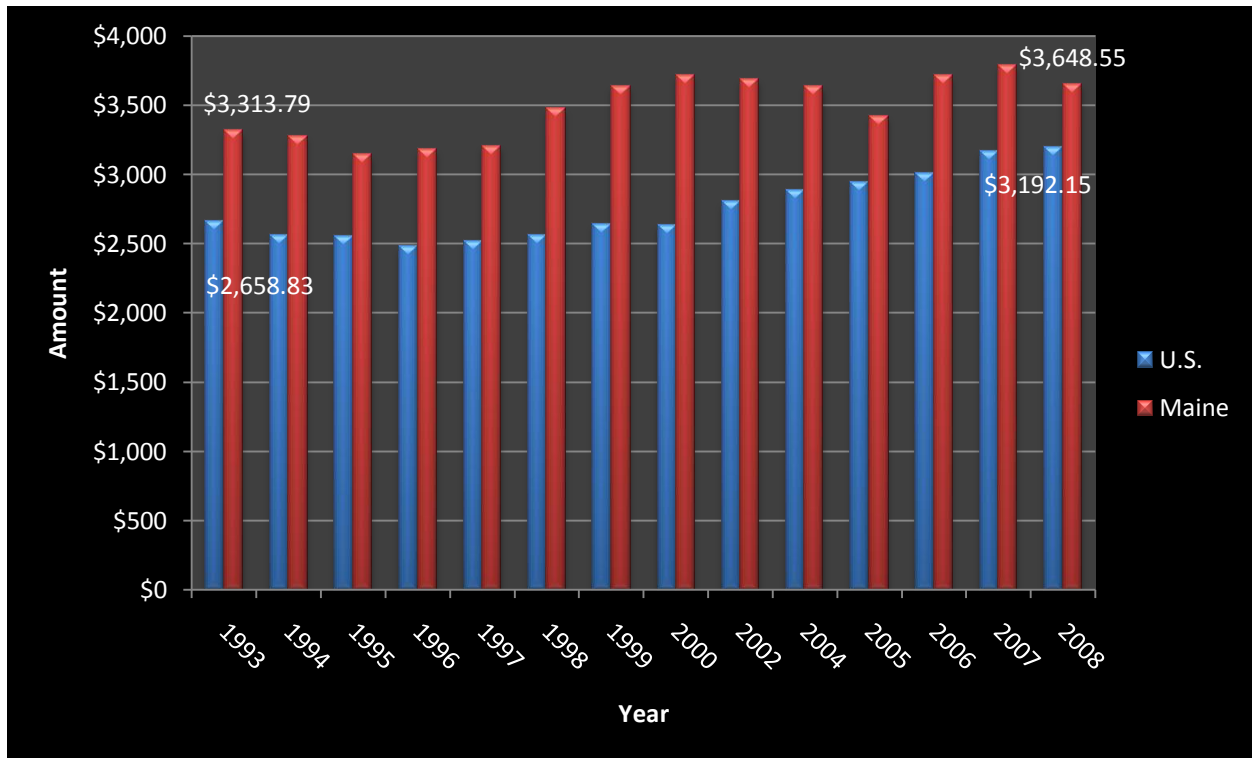
Holdings.

Per capita offsets to debt and bond funds. Offsets to debt and bond funds represent the security and holdings that governments have as collateral for debt outstanding. Positive results are operationalized as larger dollar amounts.¹² As shown in Figure 13 below, Maine has consistently held more security and holdings in these two areas than the U.S. average. Furthermore, between 1993 and 2008 the U.S. average grew from \$2,658.83 to \$3,192.15, or by 20.06%. Maine, on the other hand, grew from \$3,313.79 to \$3,648.55, or by 10.10%. While these figures do indicate a general rise in savings overall, the U.S. average is growing faster than Maine. However, this may be due in part to the U.S. average's increase in long-term debt issued.

¹² Higher per capita offsets to debt and bond funds means a higher degree of liquidity. This decreases the cost of borrowing for governments and serves as a shield between the borrowers and the borrowees.

Therefore, whether or not these results are due to policy changes or due to a requirement to keep increased amounts of collateral on-hand remains to be seen; results are inconclusive even though the overarching results are positive.

Figure 13. Per Capita Offsets to Debt and Bond Funds



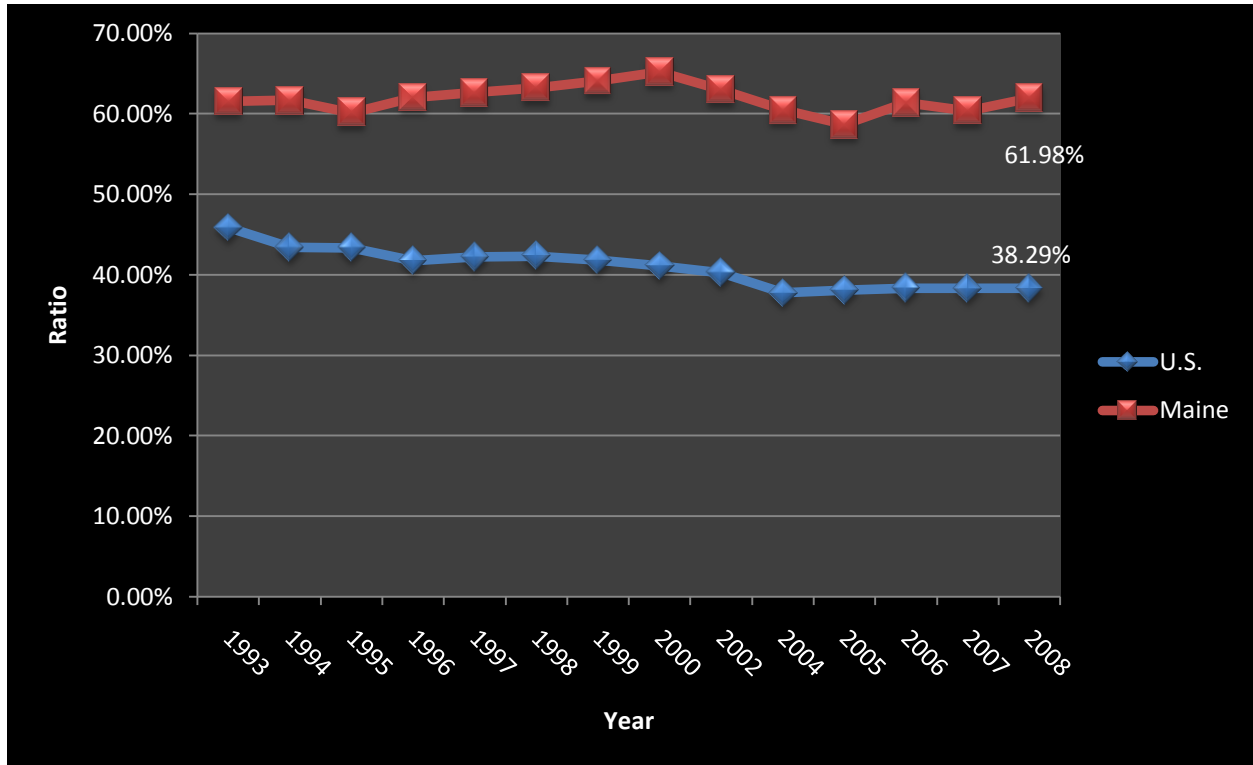
Source: (U.S. Census Bureau).

Ratio of offsets to debt and bond funds to debt outstanding. Taking the analysis of Figure 13 to its final conclusion, the analysis of Figure 14 (below) reviews the ratio of offsets to debt and bond funds to debt outstanding. Positive results are operationalized as larger ratios, thereby indicating that the respective governmental entity has a higher percentage of collateral. Historically, Maine has always had a significantly larger amount of collateral than the U.S. average.¹³ This supports the conclusion from Figure 13 that Maine has a higher degree of

¹³ As of 2008, the U.S. average was 38.29% while Maine was 61.98%.

liquidity than the U.S. average and that, overall, Maine is in a much better position than the average U.S. state with respect to collateral.

Figure 14. Ratio of Offsets to Debt and Bond Funds to Debt Outstanding



Source: (U.S. Census Bureau).

Conclusion.

Revenue and expenditure. The analyses of revenue and expenditure indicate that Maine's debt burden (interest on debt and debt outstanding being an important indicator that thereof) is above average.

Debt outstanding. The results from the analyses performed on 'debt outstanding' was highly positive. Except when analyzing the ratio of per capita interest on debt to per capita debt outstanding (inconclusive results), per capita long-term debt issued (inconclusive results), per capita long-term debt retired (inconclusive results), and ratio of long-term debt issued to debt

outstanding (inconclusive results), all other indications gave way to Maine possessing an above average position in the domain of public debt management.

Holdings. The results from the analyses performed on 'holdings' were also relatively positive. The analysis of per capita offsets to debt and bond funds did not provide clear indications as to whether Maine had an above average position with respect to public debt management. However, an analysis of the ratio of per capita offsets to debt and bond funds to debt outstanding indicated Maine held an above average position.

Overall. When analyzing the U.S. Census Bureau's findings concerning revenue, expenditure, debt outstanding, and holdings as they relate to the U.S. average and Maine both individually and in conjunction with each other, the findings indicate that Maine has a better position in terms of public debt management than does the average U.S. state.

Moody's Analysis Of Maine's General Bond History.

The second of the two data sets to be analyzed with regards to comparing U.S. averages to Maine is the data acquired from a somewhat recently drafted analysis of Maine's rating history from one of the two largest bond-rating companies in the world (Moody's). This report is highly pertinent as ratings have a direct affect on the cost of borrowing.¹⁴ The time period analyzed will be from 1993 to 2010.¹⁵ The pertinent factors to be reviewed will be: 1) history of net tax-supported debt; 2) net tax-supported debt as a percentage of income; and 3) net tax-supported debt per capita. All figures have been adjusted to 2009 dollar amounts.

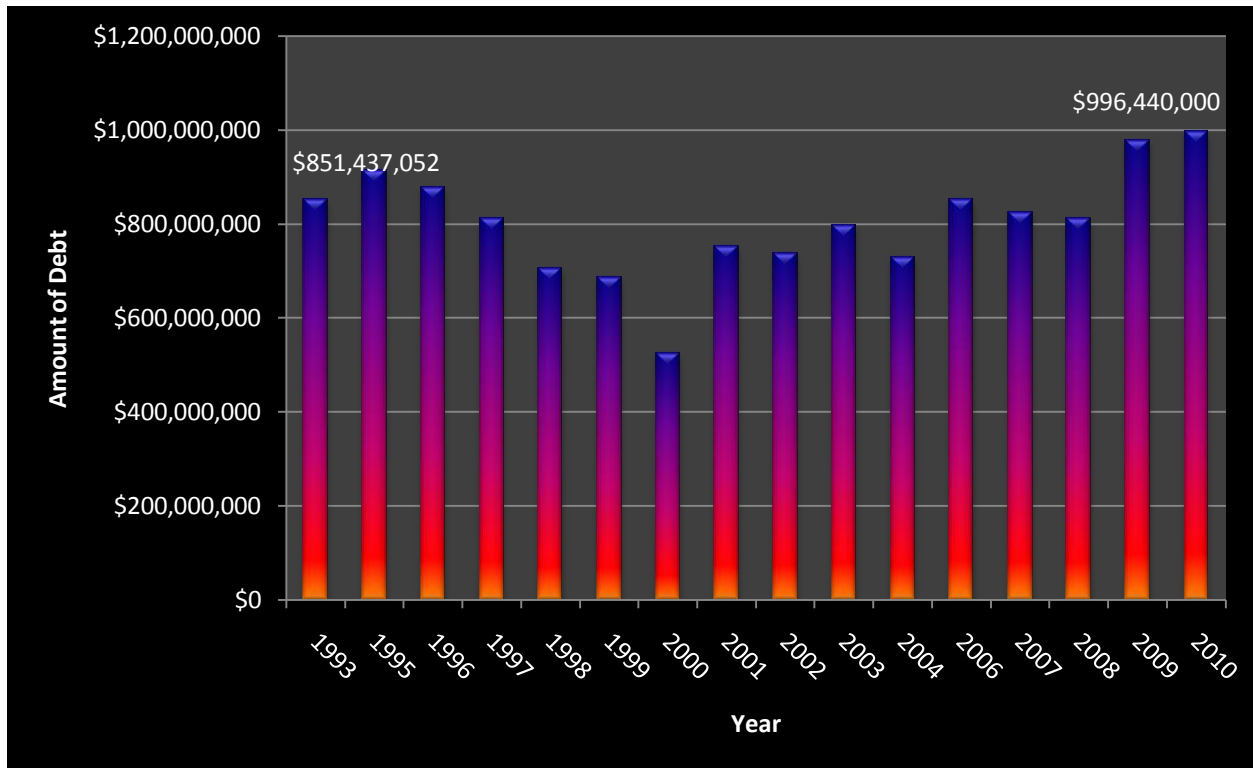
¹⁴ Better ratings by bond-rating companies equates to lower interest rates. Furthermore, lower interest rates equate to smaller costs on behalf of the borrower.

¹⁵ For years 1994 and 2005, data was unavailable. Therefore, those years were skipped during the course of this comparison.

History Of Net Tax-Supported Debt.

A review of Figure 15 (below), which shows Maine's history of net tax-supported debt, indicates negative results (positive results operationalized as smaller dollar amounts). Unlike the findings of the U.S. Census Bureau with respect to debt outstanding, this analysis indicates that between 1993 and 2000 the net tax-supported debt was generally decreasing. After 2000, this figure began to rise. While this chart does not provide any comparative data (as the U.S. average was not provided in the document in question), it does provide another useful piece of information. That useful piece of information is that between 1993 and 2010, Maine's net tax-supported debt increased from \$851,437,052 to \$996,440,000, or by 17.03%. This is indicative of a generally negative trend in Maine's public debt management history.

Figure 15. History of Net Tax-Supported Debt In \$1,000's

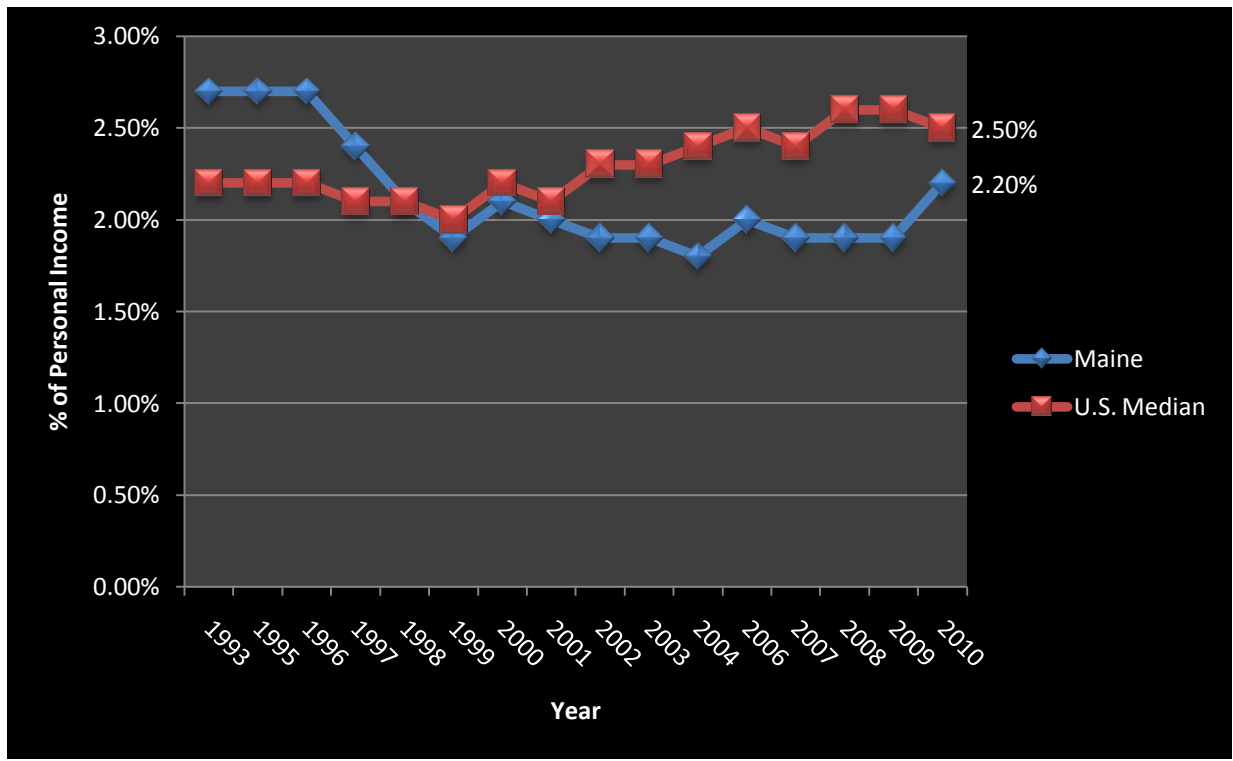


Source: (Moody's Investors Services).

Net Tax-Supported Debt As Percentage Of Personal Income.

Between 1993 and 1997, Maine's net tax supported debt as a percent of personal income was greater than the U.S. average. As positive results are operationalized as smaller ratios, this shows that the Maine's position was below average. However, post-1998 a new trend came into place. Maine has maintained an above average position in comparison to the U.S. average after 1998, although the gap between the two has been shrinking recently (see Figure 16, below). As of 2010, the U.S. average was 2.50% while Maine's was 2.20%, a difference of 0.30%.

Figure 16. Net Tax-Supported Debt as % of Personal Income



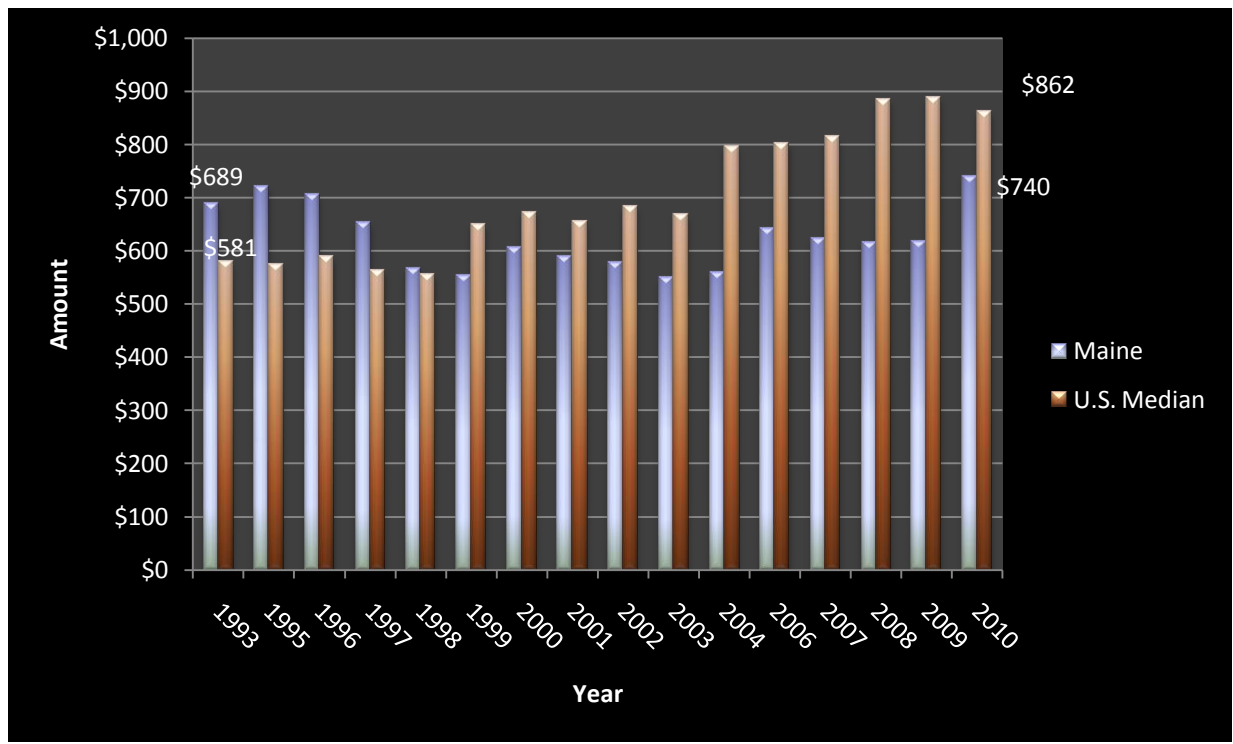
Source: (Moody's Investors Services).

Net Tax-Supported Debt Per Capita.

The final indicator to be reviewed in this section is that of net tax-supported debt per capita. Positive results are operationalized as smaller dollar amounts. Figure 17 below provides similar results as Figure 16 above in that it shows that prior to 1998, Maine was below average

and that post-1998 the opposite is true. Furthermore, during the second half of the below-cited history the differences between the two figures (the gap) began to widen (until 2010). Between 1993 and 2010 the difference between the U.S. average and Maine (\$581 and \$689, respectively) was 18.59% (as a percent of the U.S. average) (in favor of the U.S. average). By 2010 this relationship had reversed itself and the difference between the U.S. average and Maine (\$862 and \$740, respectively) was 14.15% (in favor of Maine). This represents a total gain (referring to the difference between the two) by Maine of 32.74% since 1993.

Figure 17. Net Tax-Supported Debt Per Capita



Source: (Moody's Investors Services).

Major Factors Guiding Decisions Found In Report.

Moody's cites four major factors when establishing a rating for a municipal bond. Those factors are: 1) economic strength; 2) financial strength; 3) management and governance; and 4) debt profile (Moody's Investors Services). Figures 15, 16, and 17 above relate to the fourth

major factor, debt profile. Despite the report's seemingly high reliance on quantitative data, qualitative data is also utilized to a fair extent and demands attention.

Economic strength is reviewed by looking at the state of the overall economy, the employment rates and types of jobs, and the types of industries found in the state (Moody's Investors Services). Financial strength is reviewed by looking at debt retirement, maturity length of bonds¹⁶, and fixed costs in the government (Moody's Investors Services). Management and governance is reviewed by looking at how financing and debt is managed, budget balancing techniques employed, the postponement of funding liabilities, the alignment of revenue and expenditure by government, citizen initiatives, and legislation (Moody's Investors Services). Lastly, on top of the three afore-mentioned indicators (Figures 15, 16, and 17 above), debt profile is reviewed by looking at what types of bonds are issued and how much of each bond is issued, the history of debt (including defaults, if applicable), pension liability, and moral obligation debt (Moody's Investors Services).

While some of these additional factors involved in the rating of municipal bonds are quantitative, it is important to note that many of them are not. Due to the nature of some of said factors being qualitative, the methods of analysis used when looking at the factors in Figures 15, 16, and 17 are not applicable. Analysis is therefore highly limited to judgment being made on behalf of individuals working for their respective bond-rating company. However, positive ratings (results) can be interpreted in a broad sense as a borrower (government entity) possessing a high degree of economic and financial strength, a manner of management/governing that buttresses said strengths, and a debt profile that elicits a sense of stability and improvement in the borrowee/bond-rating company. The overall result of the analysis of these qualitative and

¹⁶ Of note here is that Maine has historically kept its maturity length of bonds at 10 years, what Moody's considers to be a highly beneficial marketing point. Conversely, 35-year bonds are considered to be excessively long in terms of maturity length (Moody's Investors Services).

quantitative analyses are reflected in the ratings provided by the two primary bond-rating agencies in the world (S&P and Moody's; to be reviewed later).

Conclusion.

With the focus being primarily of the primary factor of debt profile and the quantitative information found therein, results indicate that while Maine has not always held an above-average position with respect to its U.S. average counterpart as of 1998 this position has reversed itself. Maine's above-average position has never faltered since.

Overarching Conclusion Regarding Comparison Of Maine To U.S. Average.

The overarching conclusion to be made when analyzing the factors (obtained from the data from the U.S. Census Bureau and from Moody's) that pertain directly to Maine's performance, as compared to that of the average U.S. state, is that Maine has tended to have possessed a better standing than the aforementioned unit of comparison. Furthermore, this situation has continued to exist for the better part of the latter portion of the period analyzed (1993 through 2008). This relative standing of Maine over the U.S. average also means that Maine generally pays comparatively lower borrowing costs when utilizing public debt instruments such as general obligation bonds, revenue bonds, and the like.

The discrepancy between the years analyzed using the two data sets (U.S. Census: 1993 to 2008; Moody's: 1993 to 2010) leaves the overall analysis with a limitation. That limitation is that there is no data available from the U.S. Census for years 2009 and 2010. Pursuant to the Moody's report reviewed, there has been a marked decrease in Maine's public debt above-average rating. Indicators from the U.S. Census used to support or reject these changes being unavailable, a comparison of Maine and the U.S. average for years 2009 and 2010 cannot effectively be made.

Analyzing Maine At The State Level

The second step to be undertaken in the review of Maine's public debt management is that of analyzing Maine's pertinent indicators. This will be done in order to determine Maine's performance (internal) in historic terms.

Analysis of Maine's General Obligation Bond Ratings.

The first of the two data sets to be analyzed in this regard are the bond ratings that Maine's general obligation bonds have received over the years. The time period analyzed will be from 1993 to 2010 from the two primary bond-rating companies, S&P and Moody's. Due to each of these two companies utilizing different numbering systems for rating bonds, a universal numbering system has been developed in order to properly analyze the ratings from both companies in question (see Appendix I).

Analysis Of Ratings Of Maine's General Obligation Bonds (S&P And Moody's).

Looking first at the ratings of S&P with respect to Maine's general obligation bonds, the overall impression is that S&P has downgraded said bonds since 1993 from a rating of 2 to a rating of 4. Conversely, Moody's has done the same, albeit to a different degree (from a 2 to a 3). Representing this is Figure 18 below. Positive results are operationalized as smaller number ratings.

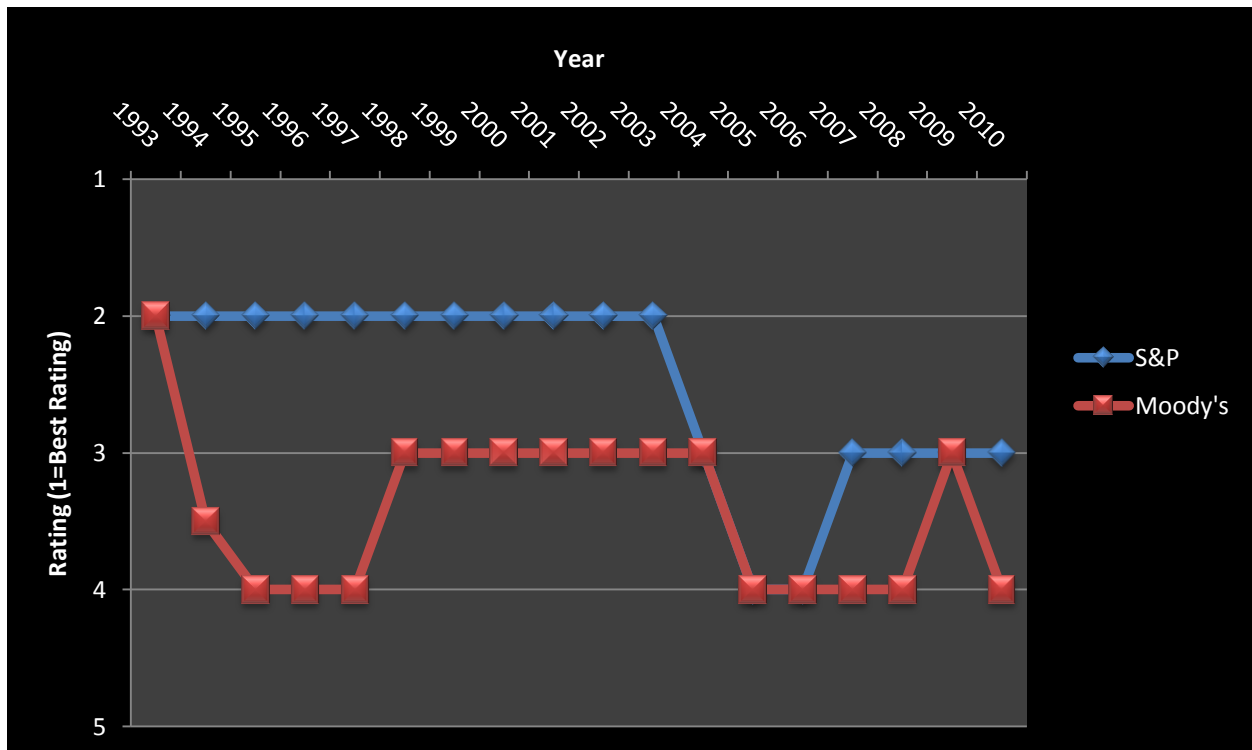
Looking specifically at the history of S&P's ratings, a decline began in 1993 and last until 1995. The rating then stabilized for a few years and was upgraded in 1998 to a 2, where it stayed until 2005. Between 2005 and 2008 S&P has rated Maine's general obligation bonds a 4.

Moody's, on the other hand, shows a somewhat different history. Between 1993 and 2003, the rating remained static at 2. Following 2003, Maine's general obligation bonds were downgraded to a 4. Two years later, however, Maine recouped some of its lost rating by having

its general obligation bonds upgraded to a 3. This is where the rating has remained up until 2008, when it was again rated higher (a rating that was lost in the subsequent year).

While the specific history of the bond ratings by each respective company have been somewhat different, the overall point to take from this analysis is that a general decline in the rating of Maine's general obligation bonds occurred between 1993 and 2010.

Figure 18. Analysis of Ratings of Maine's General Obligation Bonds (S&P and Moody's)



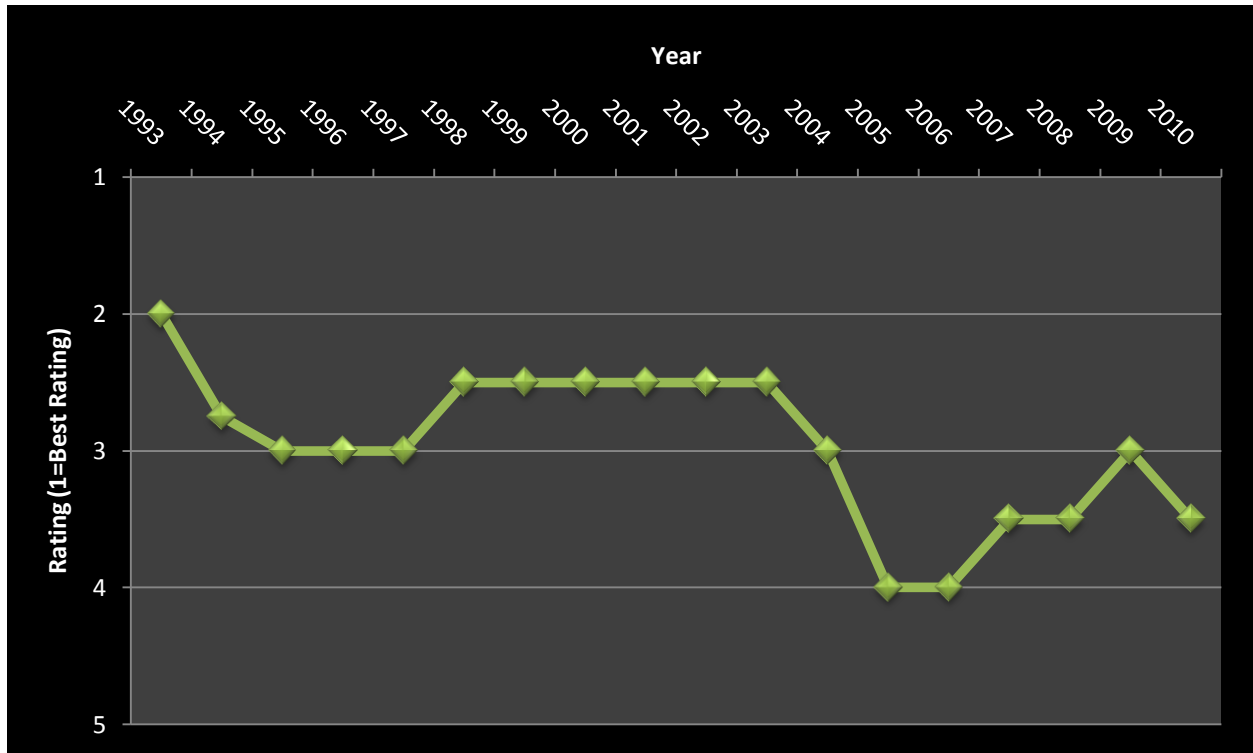
Source: (ME CAFR 2000-10) (Moody's Investors Services).

Analysis Of Ratings Of Maine's General Obligation Bonds (S&P And Moody's Averaged).

Taking the analysis of Figure 18 above a step further, Figure 19 (below) averages the ratings S&P and Moody's gave to Maine's general obligation bonds between 1993 and 2010. Positive results are again operationalized as smaller number values (smaller number values equating to a single rating, positive or negative).

The results of this secondary analysis mirror the results of Figure 18 in that the findings indicate a general decline in Maine's rating. While the most recent data (2010) gives the impression that this may be changing, such an assumption is supposition at best.

Figure 19. Analysis of Ratings of Maine's General Obligation Bonds (S&P and Moody's Averaged)



Source: (ME CAFR 2000-10) (Moody's Investors Services).

Conclusion.

Better ratings received (operationalized here as smaller number values) by bonds from bond-rating companies equates to lower borrowing costs (a benefit). Furthermore, the results found in Figure 18 above indicate how Moody's interpreted the qualitative factors involved in the process of rating Maine's general obligation bonds (previously discussed). Taken in tandem with the results of how S&P have rated Maine in the past and how the two have averaged overall, the conclusion (albeit generalized) to be drawn is that the cost of borrowing in Maine by the

government has increased between 1993 and 2008 (a cost). Worth noting is that the average rating during the course of these years has fallen by 1.5 and that as of 2008 the average rating was about a 3.5. This can be equated to a rating that is in the upper-medium investment range (a benefit) (Moody's Investors Services).

The cost of Maine's rating downgrade over the years, while a legitimate concern, is beyond the scope of this report and will not be addressed.

Analysis Of Maine's Annual Financial Reports.

The second of the two data sets to be analyzed regarding Maine's internal, historic performance in the field of public debt management are Maine's Comprehensive Annual Financial Reports from years 2000 thru 2010.¹⁷ The pertinent factors to be reviewed will be: 1) total debt; 2) net debt liability; and 3) total debt services. All figures have been adjusted to 2009 dollar amounts.

Total Debt.

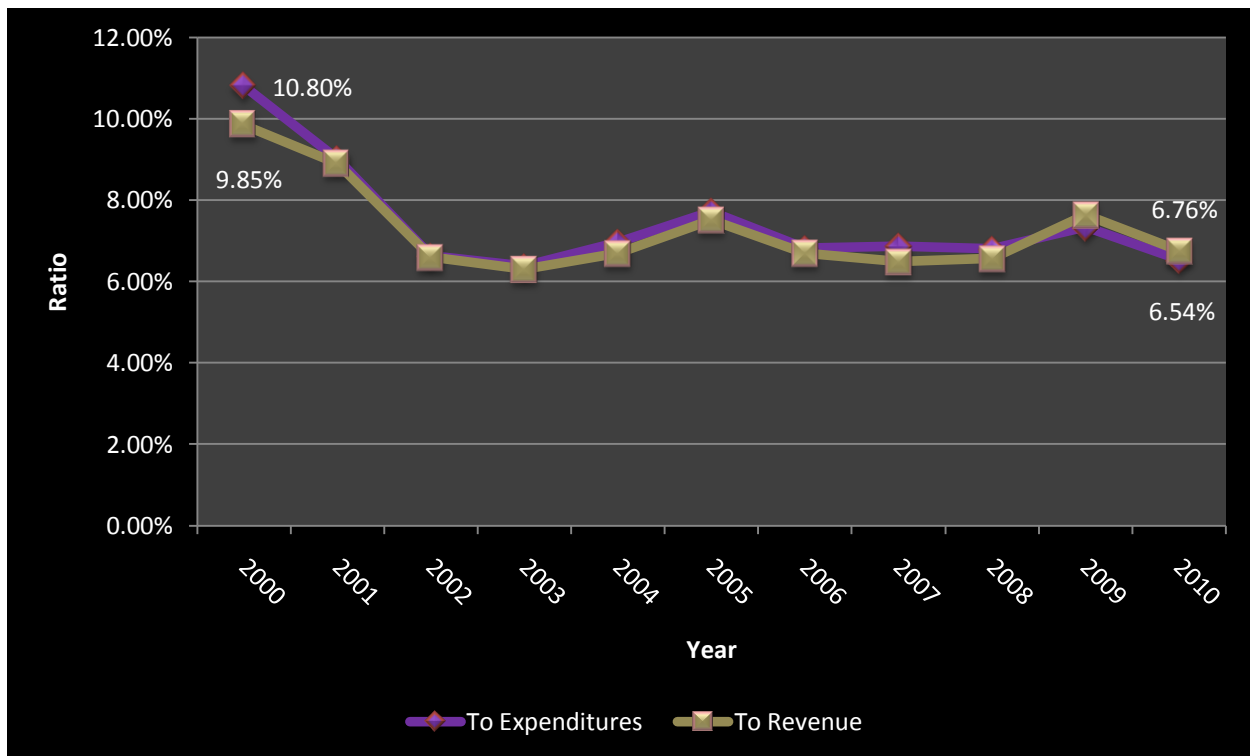
Total debt refers to the amount of debt incurred by the State from general obligation bonds, revenue bonds, and all other public debt instruments (e.g. lease agreements, letters of credit, notes, etc.), excluding moral obligation debt.

Ratio of bonded debt to expenditures/revenue. Bonded debt is debt accrued through the issuance of general obligation bonds (Department of Administrative & Financial Services, 2000). Figure 20 (below) illustrates how much debt has been accumulated via the use of bonded debt

¹⁷ Analyses have been limited to years 2000 through 2010 for two reasons. First, up until 1997 the Maine Court Facilities Authority (MCFA) was not included in the Comprehensive Annual Financial Reports of Maine, despite the fact that Maine had a legal obligation to pay for the debt of court facilities (LaPlante, 1993). In 1997 the MCFA was replaced by the Maine Governmental Facilities Authority and these debt service amounts began to be cited in Maine's Comprehensive Annual Financial Reports (Department of Administrative & Financial Services, 2000). Second, while Maine is not legally obligated to pay for the debt of its educational facilities, it is morally obligated to pay for a set amount of the debt of its educational facilities (LaPlante, 1993). These moral obligations are cited in Maine's Comprehensive Annual Financial Reports (Department of Administrative & Financial Services, 2000). However, copies of Maine's Comprehensive Annual Financial Reports were only readily available from years 2000 through 2010.

from 2000 through 2010 in relation to how much the State has spent each year (expenditures) and how much it has earned each year (revenue). These two variables are used in order to interpret the analysis from different perspectives. Positive results are operationalized as lower ratios. Since improving between years 2000 and 2002, the ratio of bonded debt to both respective variables has somewhat leveled. The rates of 2010 are significantly lower than the rates of 2000 (6.54% and 6.76% to 10.80% and 9.85%, respectively; changes of 39.44% and 31.37%). When viewed in isolation from other results (to be reviewed shortly), the results are slightly positive; the burden of bonded debt has generally decreased over time (despite the fact that 2010 levels are now greater than 2002 levels).

Figure 20. Ratio Of Bonded Debt To Expenditures/Revenue

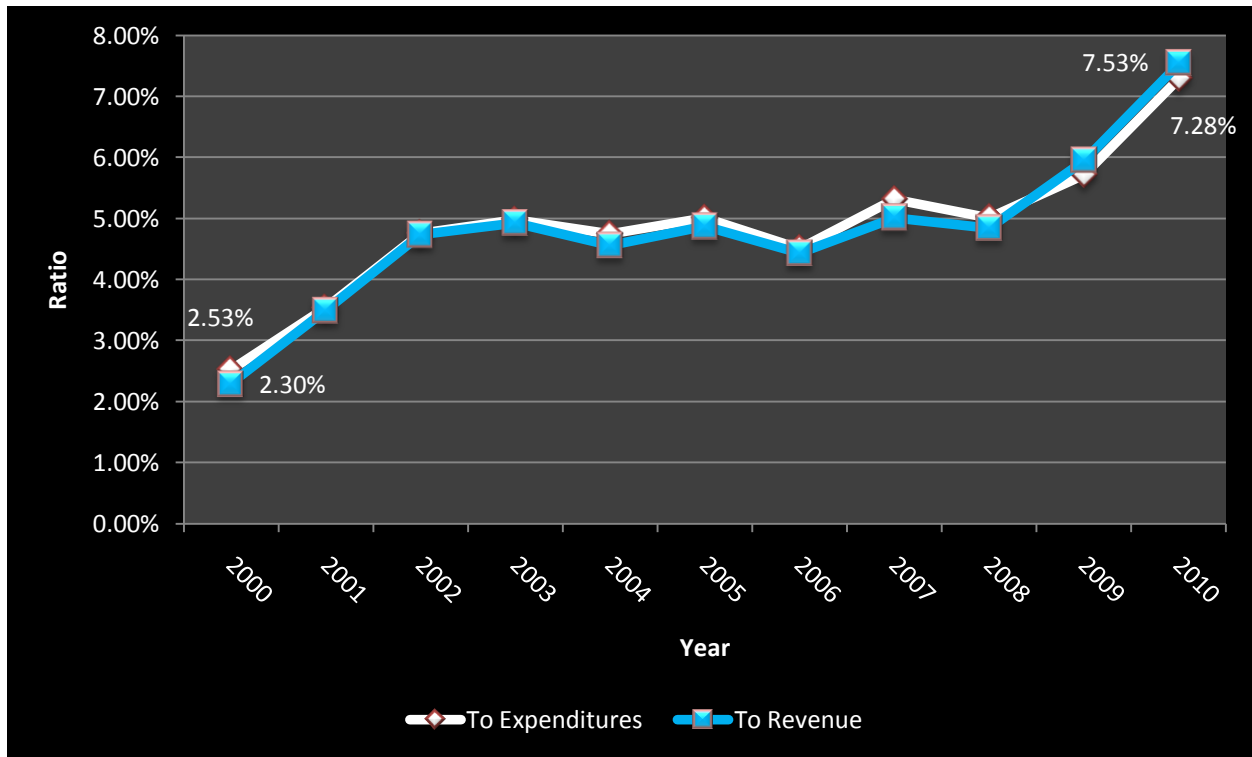


Source: (ME CAFR 2000-10).

Ratio of notes and other financing to expenditures/revenue. Notes and other financing is debt accrued through the issuance of revenue bonds and all other public debt instruments (e.g.

lease agreements, letters of credit, notes, etc.), excluding moral obligation debt (Department of Administrative & Financial Services, 2000). Figure 21 (below) illustrates how much debt has been accumulated via the use of this type of debt from 2000 through 2008 in relation to the States expenditures and revenue. Positive results are again operationalized as lower ratios. Since becoming significantly worse between years 2000 and 2002, the ratio of this type of debt to both respective variables has somewhat leveled. The rates of 2010 are significantly higher than the rates of 2000 (7.28% and 7.53% to 2.53% and 2.30%, respectively; changes of 187.75% and 227.39%). When viewed in isolation from other results (also to be reviewed shortly), the results are negative; notes and other financing are becoming an increasingly larger burden.

Figure 21. Ratio Of Notes & Other Financing To Expenditures/Revenue

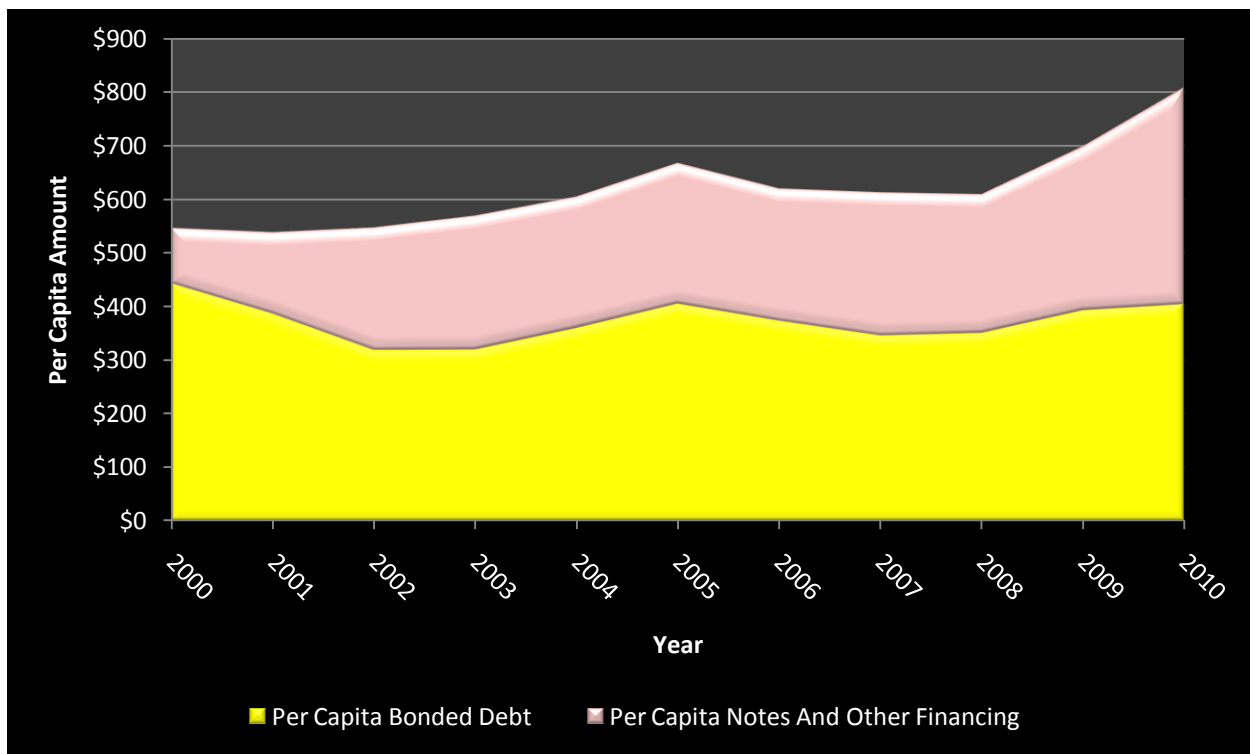


Source: (ME CAFR 2000-10).

Historical distribution of total debt. Figure 22 (below) charts the division of bonded debt and notes and other financing (when combined, these figures produce the variable 'total debt').

Positive results are operationalized as a greater amount of bonded debt than notes and other financing. It is important to note that the reason behind this operationalization, that being that bonded debt (general obligation bonds) has a lower borrowing cost for the State than do any other manner of incurring public debt. Therefore, that type of debt is preferred. The results of Figure 22 are negative; while the distribution of these two types of debt was quite positive in 2000 (\$443 to \$104, or 80.99% bonded debt), by 2010 the situation was a negative one (\$404 to \$404, or 50.00% bonded debt [a decrease of 30.99%]). The burden of public debt in Maine is therefore becoming much larger.

Figure 22. Historical Distribution Of Total Debt

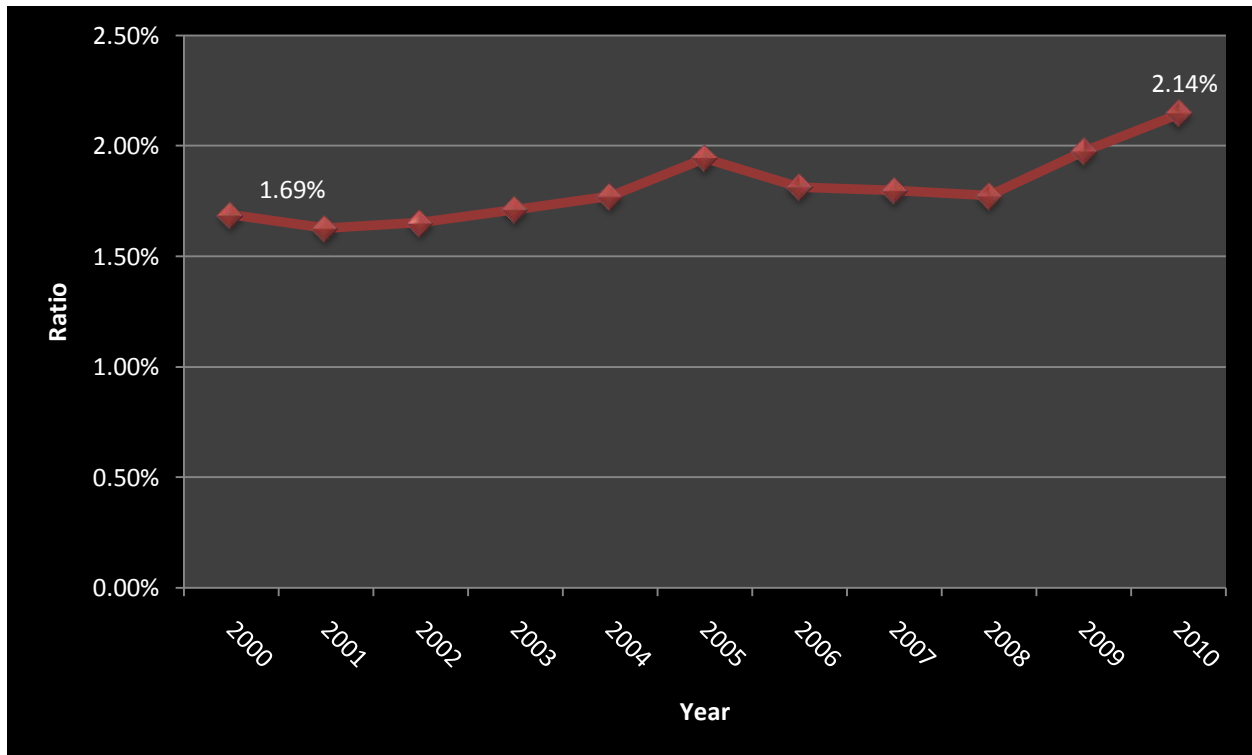


Source: (ME CAFR 2000-10).

Ratio of total debt per capita to personal income per capita. Figure 23 (below) represents total debt as a percentage of personal income per capita. A positive result is operationalized as a lower ratio. The results, however, indicate a negative history between 2000

and 2010 (from 1.69% to 2.14%, or a difference of 26.63%). Viewed by itself, the results are negative. When taken in tandem with the results of Figures 20, 21, and 22, Figure 23 provides another important piece of information; total debt has increased as well as the internal distribution of that debt.

Figure 23. Ratio Of Total Debt Per Capita To Personal Income Per Capita

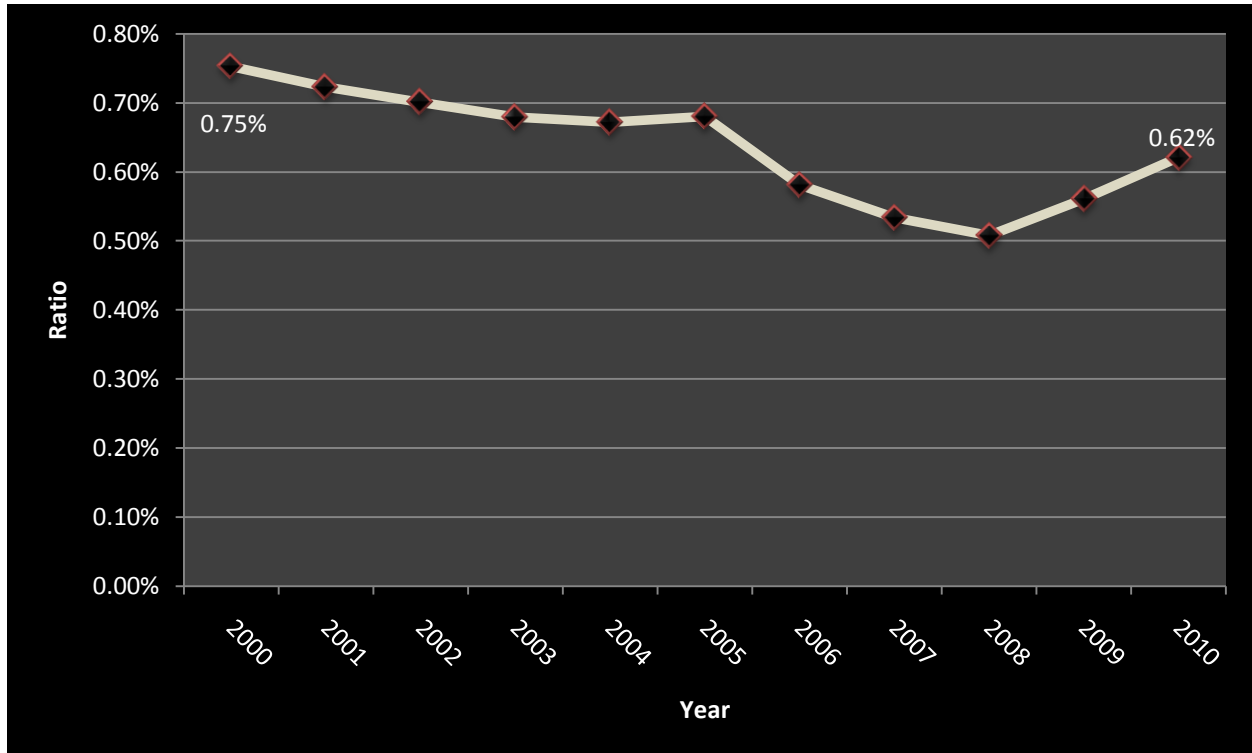


Source: (ME CAFR 2000-10).

Ratio of total debt to assessed value of taxable property. Figure 24 (below) analyzes total debt as a percentage of assessed value of taxable property. Positive results are again operationalized as lower ratios. It is important to note why assessed value of taxable property is used; assessed value of taxable property is used because it is another important, albeit different, manner of analyzing the performance of financial indicators in the field of public debt management (LaPlante, 1993). What the results indicate is a somewhat positive trend; between 2000 and 2010, the ratio decreased from 0.75% to 0.62% (a decrease of 17.33%). Within this

analysis, however, it must be noted that since 2008 this positive trend has been reversing (as of 2010, it had exceeded 2006 levels). These results, when taken in tandem with those found in the analysis of Figure 23, provide a questionable future for Maine's debt burden.

Figure 24. Ratio Of Total Debt To Assessed Value Of Taxable Property



Source: (ME CAFR 2000-10).

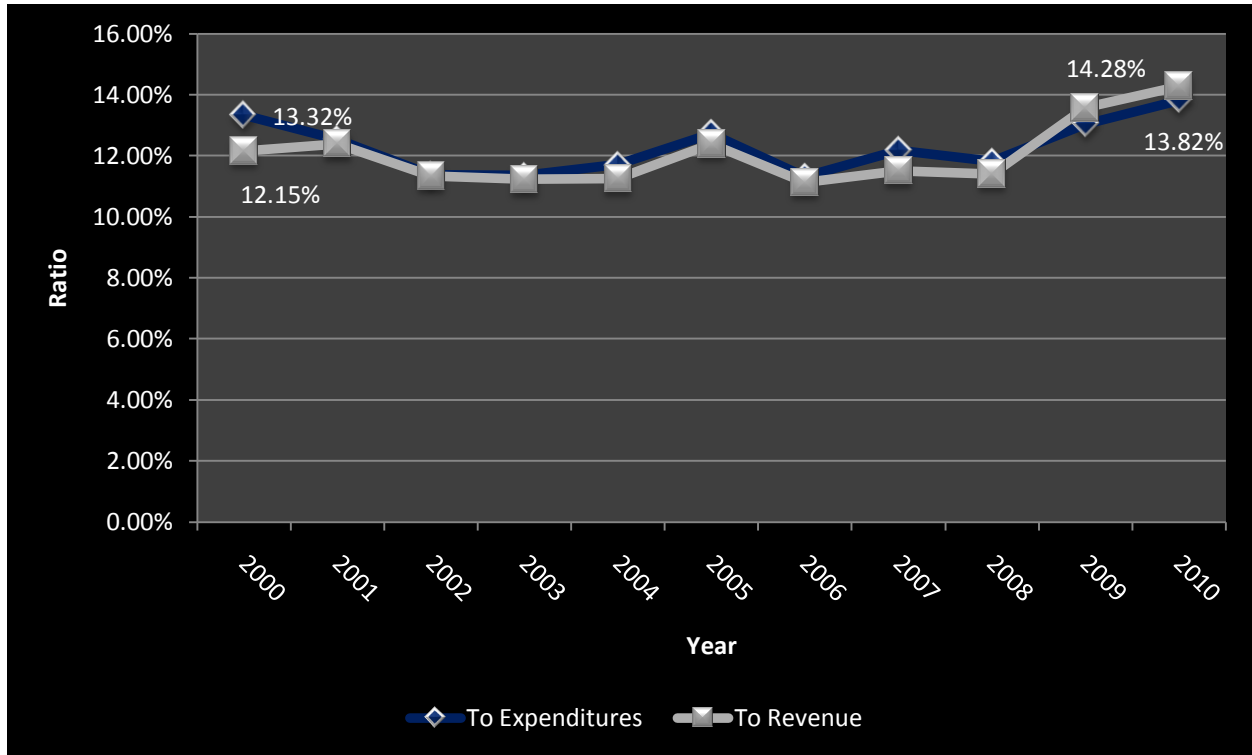
Net Debt Liability.

Net debt liability is operationalized as the sum of the State's total debt and the amount of debt that the State is morally obligated to pay in the event that the issuing [quasi-]governmental entity cannot afford to do so (should borrowers place a request for a refund).

Ratio of total debt to expenditures/revenue. Figure 25 (below) indicates the history of total debt as a percentage of expenditures and revenue of the State between 2000 and 2010. Positive results are operationalized as lower ratios. During the timeframe in question, these ratios have changed somewhat for the better (from 13.32% and 12.15% to 13.82% and 14.28%,

respectively; changes of 3.75% and 17.53%). The overall inclination is that debt is becoming moderately more burdensome in Maine, particularly since 2008 (prior to which it was becoming somewhat less burdensome).

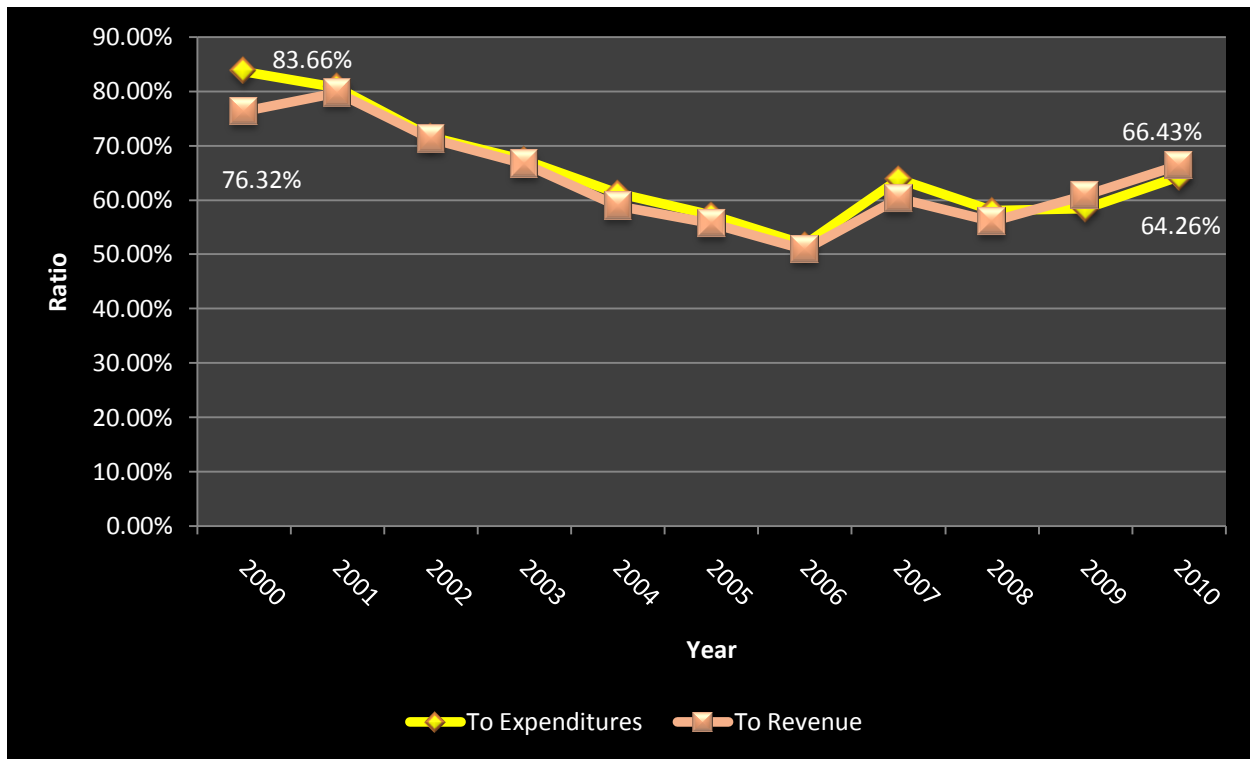
Figure 25. Ratio Of Total Debt To Expenditures/Revenue



Source: (ME CAFR 2000-10).

Ratio of moral obligation debt outstanding to expenditures/revenue. Figure 26 (below) analyzes the history of the amount of debt that Maine is morally obligated to pay between 2000 and 2010. Positive results are, again, operationalized as lower ratios. Between 2000 and 2010 the ratios of dropped from 83.66% and 76.32% to 64.26% and 66.43%, respectively (changes of 23.19% and 12.96%). These results are overall moderately positive in that they indicate that the burden of morally obligated debt has decreased since 2000. However, since 2006 this trend appears to have begun reversing itself and as of 2010 had surpassed 2004 levels.

Figure 26. Ratio Of Moral Obligation Debt Outstanding To Expenditures/Revenue

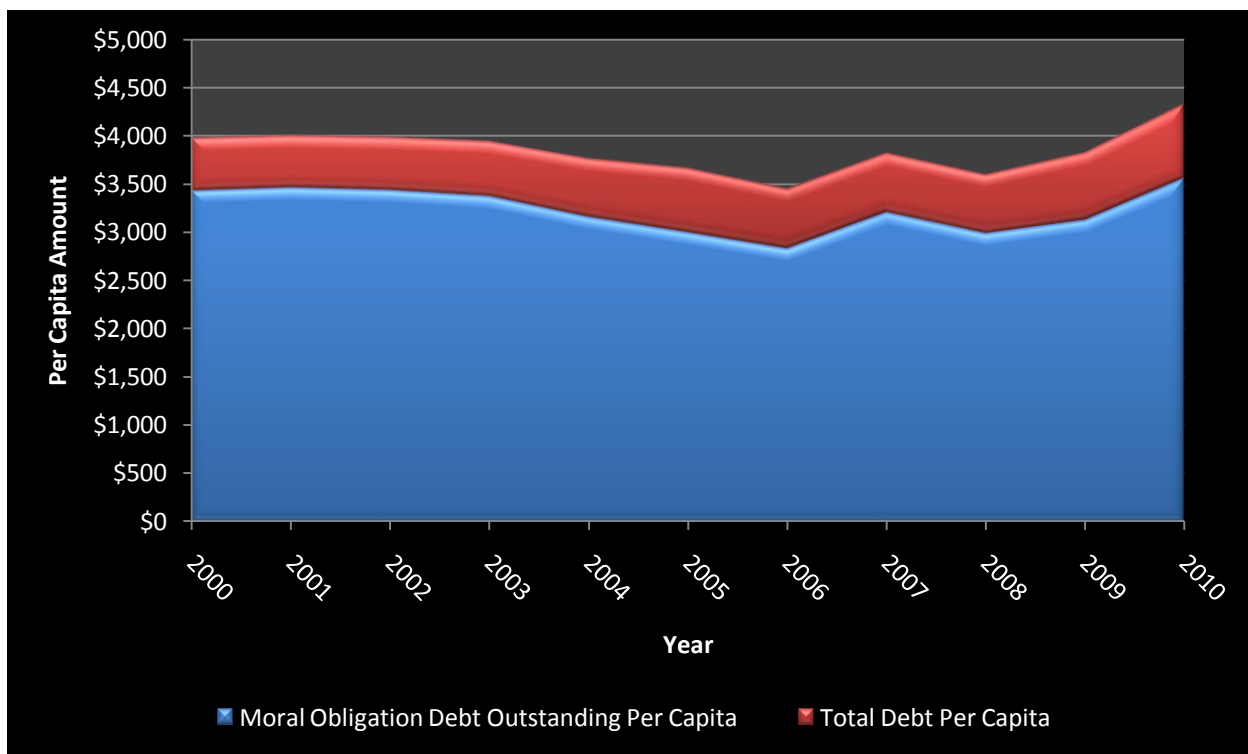


Source: (ME CAFR 2000-10) (Department of Administrative & Financial Services (Heidi McDonald), 2011).

Historical distribution of net debt liability. Figure 27 (below) combines the variables of total debt and morally obligated debt (the combination of which is defined as net debt liability) in order to review the distribution of both types of debt. Positive results are operationalized as a greater propensity for the existence of morally obligated debt than of total debt. This is because total debt places on the State a legal requirement to pay (in this case, principal and interest), thereby locking up governmental funding in order to pay for it. Morally obligated debt, however, does not have to do this; it is just expected to. Furthermore, before the State is meant to pay for the debt, it is first and foremost the originating [quasi-]governmental entity's responsibility to make said payments. Said originating entity therefore acts as a primary buffer for this burden.

The analysis of Figure 27 indicates that there appears to have been a fairly stable relationship between the two afore-referenced variables over time. In 2000 the percentage of net debt liability attributed to morally obligated debt was 86.27%, whereas in 2008 it was 82.31% (a slightly negative change of 3.96%). The overarching analysis, then, is that the composition of Maine's debt burden with respect to morally versus legally obligated debt has remained relatively stable over time.

Figure 27. Historical Distribution Of Net Debt Liability

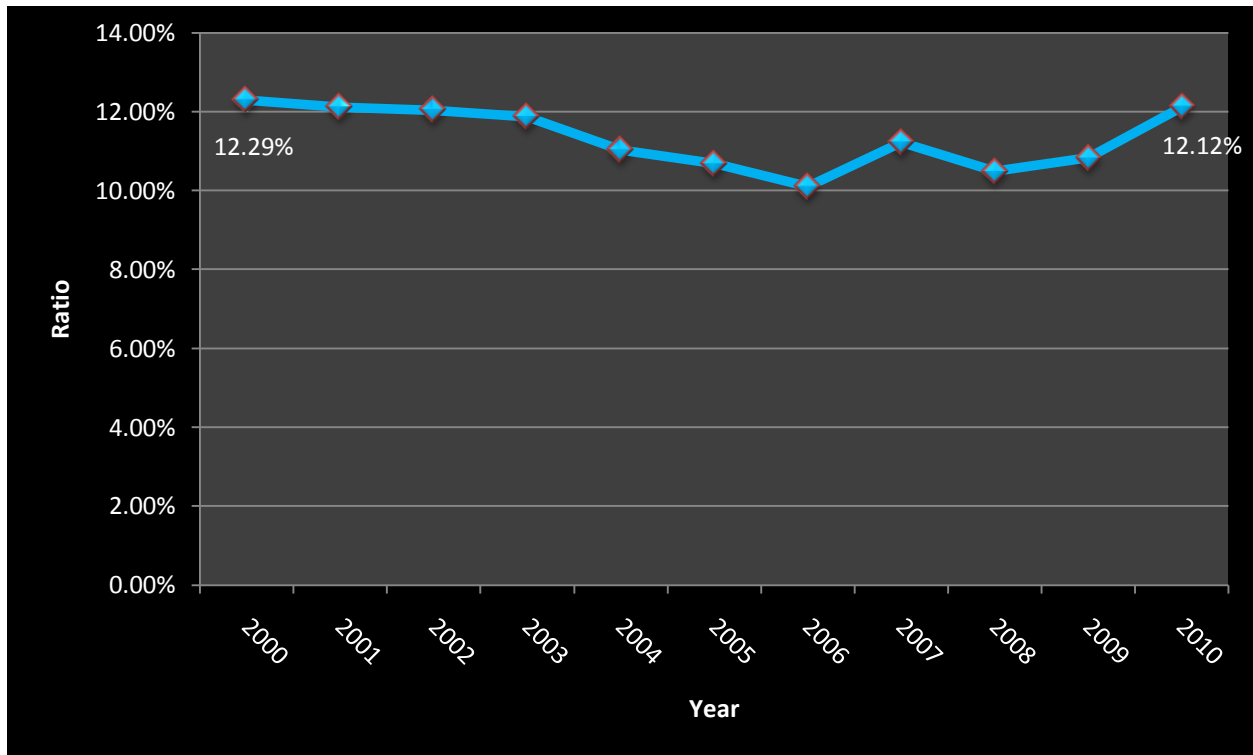


Source: (ME CAFR 2000-10) (Department of Administrative & Financial Services (Heidi McDonald), 2011).

Ratio of net debt liability per capita to personal income per capita. Figure 28 (below) compares net debt liability against personal income on a per capita basis in order to look to see if net debt liability has been increasing over time (thereby affecting the analyses of Figures 25, 26, and 27). Positive results are operationalized as lower ratios. In 2000 said ratio was 12.29%. By

2010, this ratio had dropped to 12.12%, representing a positive, albeit microscopic, change of 1.38%. It should be noted, however, between 2000 and 2006 there was a moderately positive trend that in 2006 began to reverse itself. This equates to the net debt liability of Maine, despite positive trends in the first half of the period reviewed, is increasing quickly.

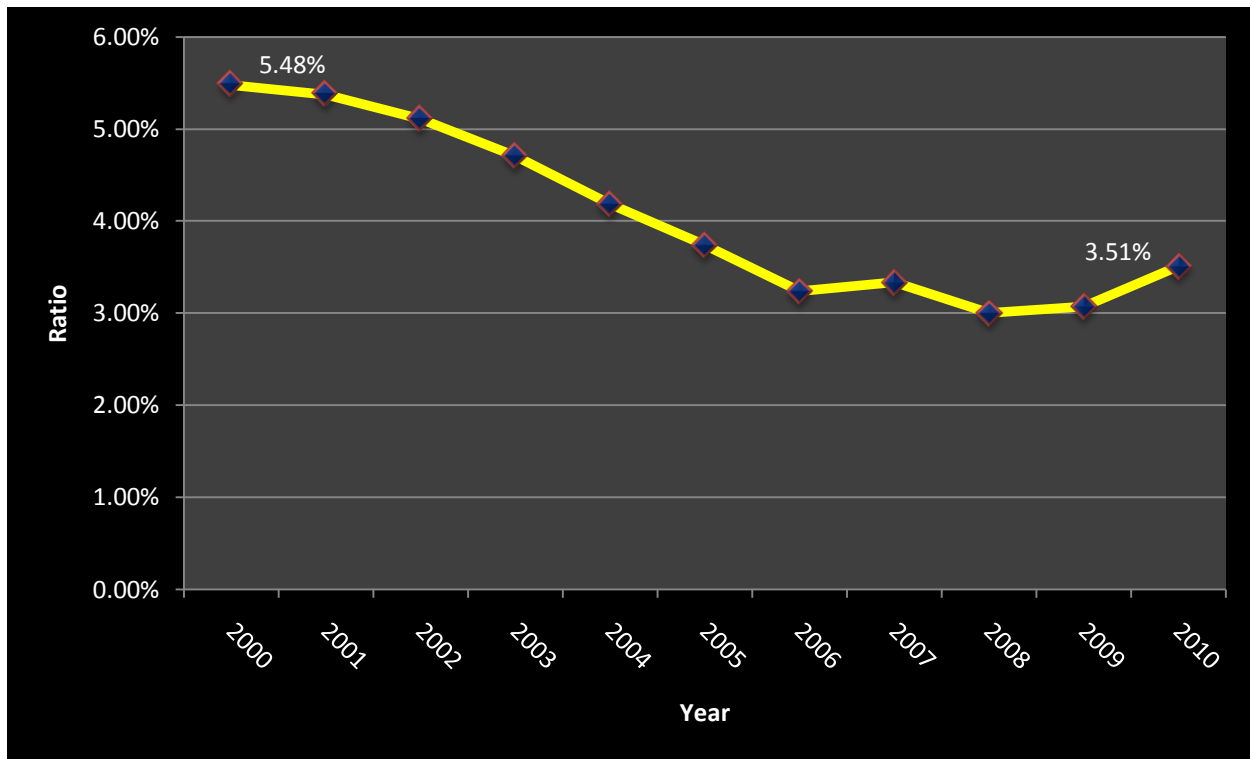
Figure 28. Ratio Of Net Debt Liability Per Capita To Personal Income Per Capita



Source: (ME CAFR 2000-10).

Ratio of net debt liability to assessed value of taxable property. Figure 28 (below) shows the ratio of net debt liability to assessed value of taxable property. Positive results are operationalized as lower ratios. While the trend was quite positive between 2000 and 2006, in 2006 that trend began to plateau and beginning in 2008 started to reverse itself. However, between 2000 and 2010 the ratio has changed for the better, from 5.48% to 3.51%, or a change of 35.95%. Despite the overall history being positive, with net debt liability in 2010 having exceeded 2005 levels, the outlook for Maine in the near future is, again, questionable.

Figure 29. Ratio Of Net Debt Liability To Assessed Value Of Taxable Property



Source: (ME CAFR 2000-10).

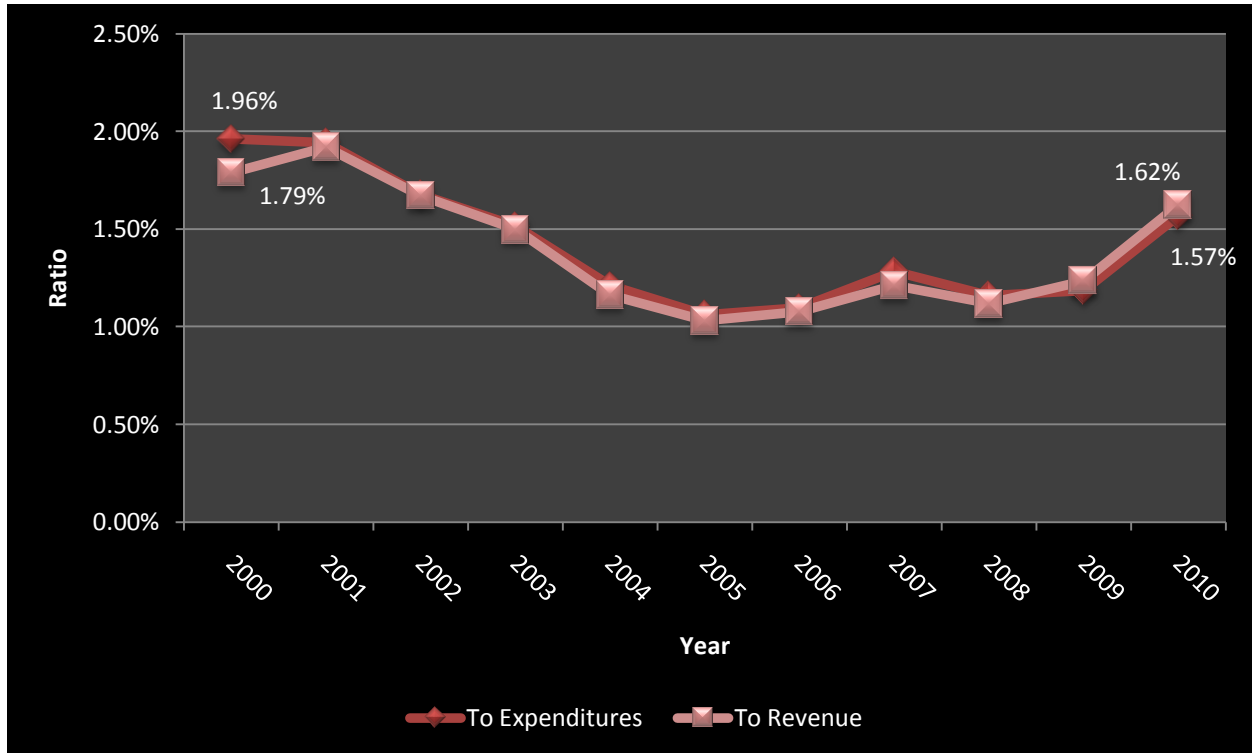
Total Debt Services.

Total debt services is operationalized as the sum of the principal payments made on debt by the State as well as the interest accrued that is due by the State, both of which are paid to borrowees.

Ratio of principal to expenditures/revenue. Figure 30 (below) analyzes the history of principal payments made on debt between 2000 and 2010 via the use of the variables 'expenditures' and 'revenue'. Positive results are operationalized as lower ratios. Between these two years, said ratio has decreased from 1.96% and 1.79% to 1.57% and 1.62%, respectively (changes of 19.90% and 9.50%). Within these results, however, are several points worth mentioning. The first is that between 2000 and 2005 there was a positive trend but that this trend reversed itself and has essentially been on the rise since. Furthermore, the ratios of 2010 have

almost overtaken their 2002-level predecessors. The immediate outlook for Maine's debt burden, from this vantage point, is therefore a pessimistic one (despite the overall decrease between 2000 and 2010).

Figure 30. Ratio Of Principal To Expenditures/Revenue

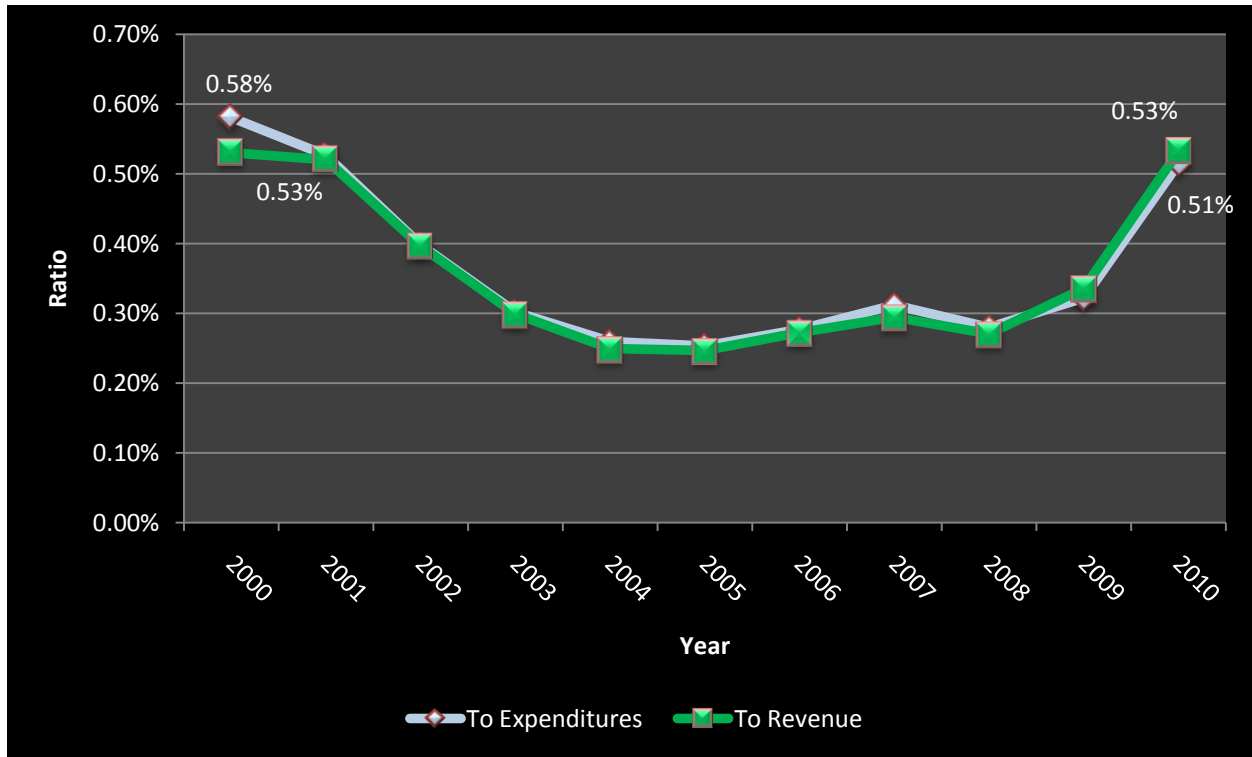


Source: (ME CAFR 2000-10).

Ratio of interest to expenditures/revenue. Looking next at interest payments made on public debt using the same variables, Figure 31 (below) very closely mirrors that of Figure 30 (above). Positive results are again operationalized as lower ratios. Between 2000 and 2010 these ratios have changed from 0.58% and 0.53% to 0.51% and 0.53%, respectively (changes of 12.07% and 0.00% [rounded]). The history, however, is slightly worse than in Figure 30 (above) in that there existed a positive trend since 2000. This trend ended in 2004 and began reversing itself. As of 2010, the ratio with respect to the variable 'expenditures' has almost reached 2001 levels while the ratio with respect to the variable 'revenue' has reached 2000 levels. The

immediate outlook for Maine's debt burden with respect to interest payments is therefore highly negative (particularly due to a large percentage increased between 2009 and 2010).

Figure 31. Ratio Of Interest To Expenditures/Revenue



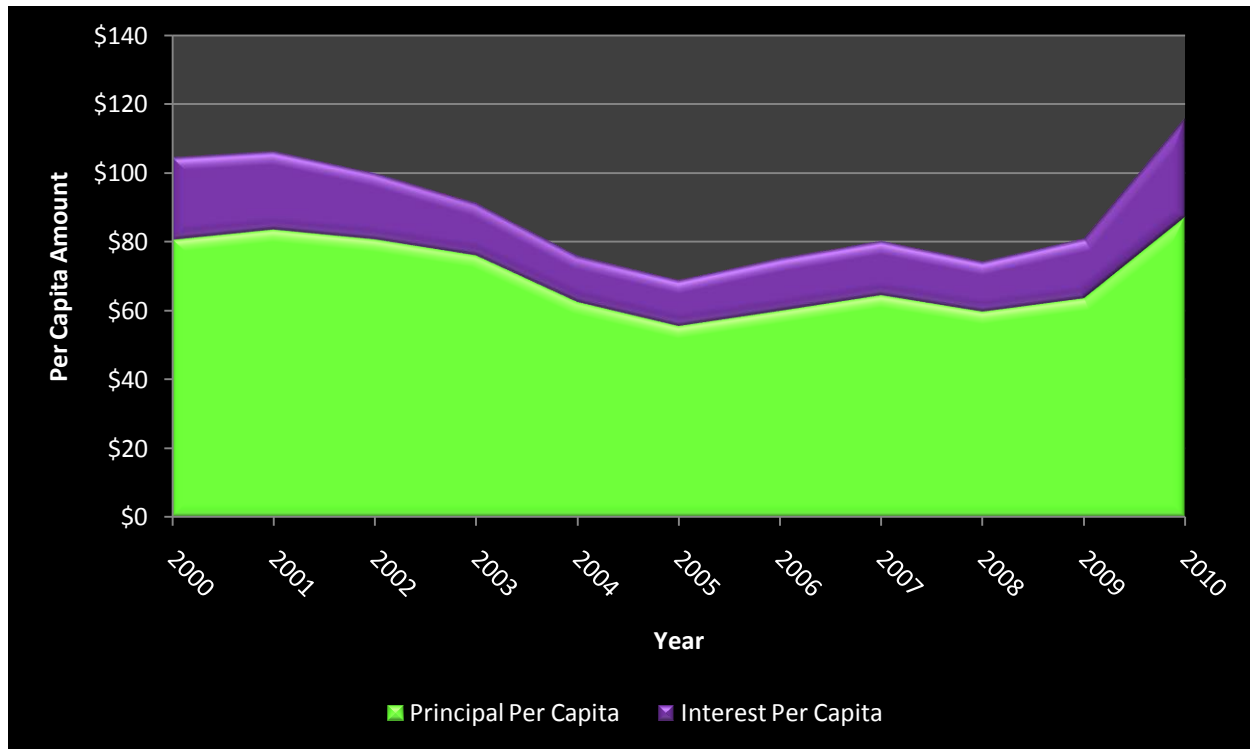
Source: (ME CAFR 2000-10).

Historic distribution of total debt services. Figure 32 (below) reviews the distribution of principal and interest payments made on outstanding public debt. Positive results are operationalized as a larger degree of principal payments being made, as opposed to interest payments. This is because principal payments pay down the base amount of the debt while interest payments are a function of said base amount. Therefore if the base amount is decreased, interest payments are decreased and the total debt services (defined as principal and interest payment made) for a particular base amount are decreased.

In 2000, principal payments composed 76.92% of total debt services. By 2010 principal payments composed 75.00% of total debt services. These results indicate a microscopically

negative result of a 1.62% change. With this analysis in mind and a quick glance having been taken of Figure 32, it becomes evident that the situation with respect to interest and principal payments has remained static between 2000 and 2010. A neutral finding is therefore derived from the review and analysis of this figure.

Figure 32. Historic Distribution Of Total Debt Services

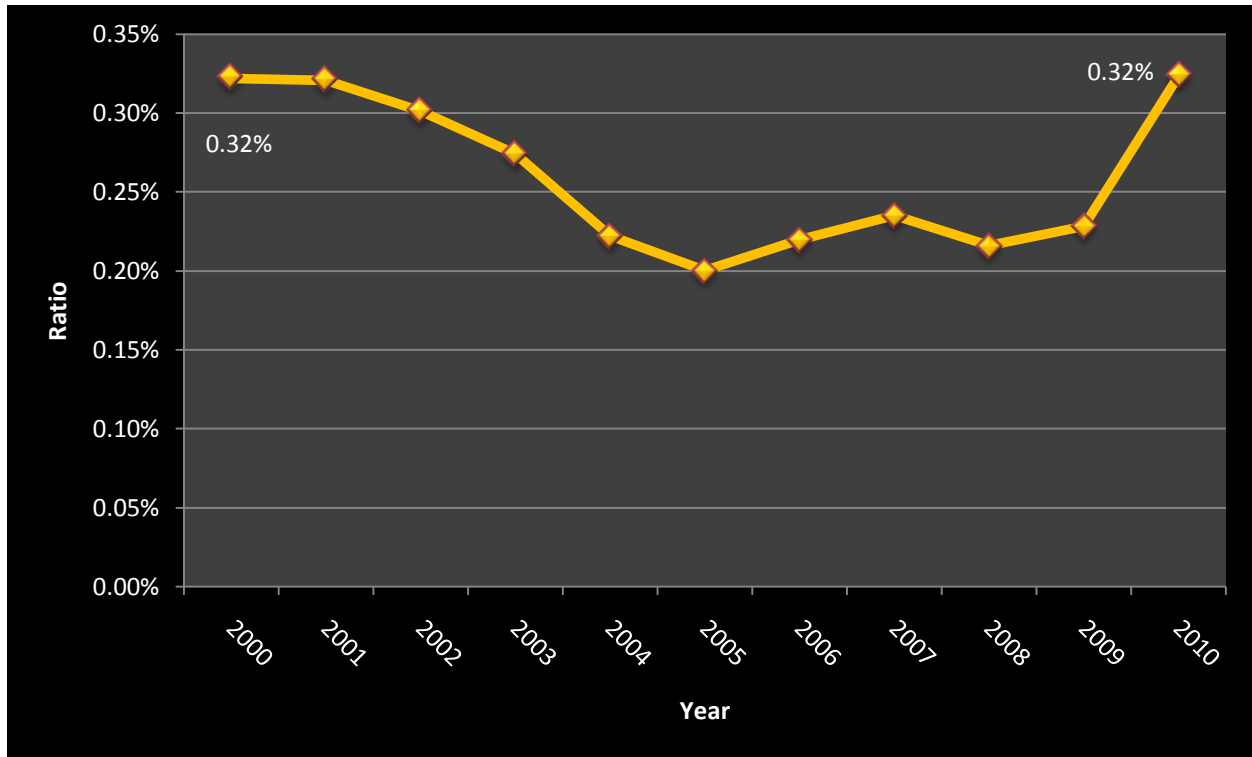


Source: (ME CAFR 2000-10).

Ratio of total debt services per capita to personal income per capita. Figure 33 (below) reviews total debt services in relation to personal income (adjusting for population). Positive results are operationalized as lower ratios. In 2000 this ratio was 0.32%. By 2010 this ratio was again 0.32% (rounded). The history of these intermingled variables, however, is by no means static. Between 2000 and 2005 there was a overly positive trend, which, by 2010, had completely reversed itself. It is also worth noting that between 2009 and 2010 there was an markedly high jump in the ratio between these two variables. These points having been taken

into consideration, the outlook for Maine's debt burden with respect to total debt services is highly negative.

Figure 33. Ratio Of Total Debt Services Per Capita To Personal Income Per Capita

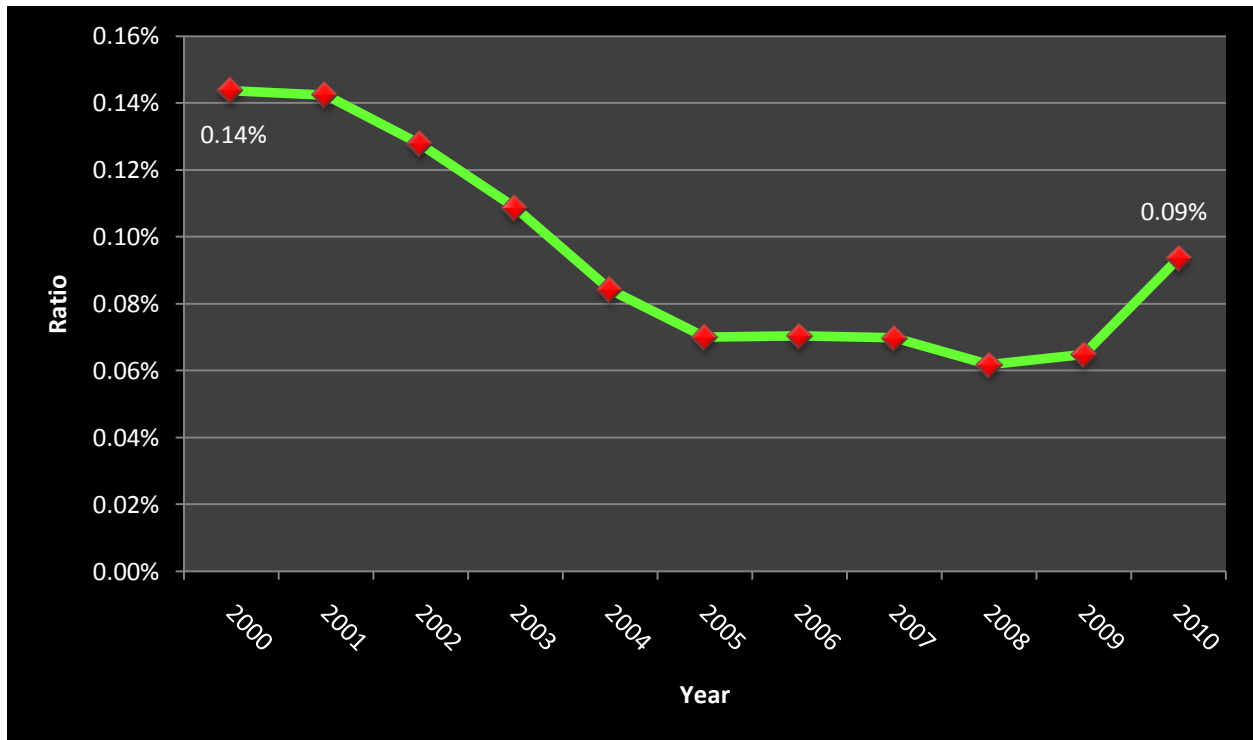


Source: (ME CAFR 2000-10).

Ratio of total debt services to assessed value of taxable property. The last of the figures to be reviewed, Figure 34 (below) analyzes total debt services with respect to the assessed value of taxable property. Positive results are operationalized as lower ratios. In 2000 said ratio was 0.14% while in 2010 it was 0.09%. This represents a change of 35.71%, a highly positive result. Worth noting, however, is the history of this change. Between 2000 and 2008, a highly positive trend occurred. The year 2008 marked a point in which this trend began to reverse itself and as of 2010, this ratio had exceeded 2004 levels (with a particularly negative jump having occurred between 2009 and 2010). Despite this markedly negative occurrence between 2009 and 2010,

the burden of total debt services in Maine have experienced a highly positive history between 2000 and 2010.

Figure 34. Ratio Of Total Debt Services To Assessed Value Of Taxable Property



Source: (ME CAFR 2000-10).

Conclusion.

An analysis of total debt indicates that general obligation bonds have decreased in use while notes and other types of financing (e.g. letter of credit, notes, etc.) have been increasing. This increase in notes and other types of financing has led to an even split between the use of these two types of public debt financing instruments, which equates to the burden of public debt in Maine becoming significantly larger (as general obligation bonds have lower borrowing costs than any other public financing instrument) with respect to the cost of said debt. When viewing total debt with respect to property values, however, a somewhat negative trend was found to

have developed in 2008. Furthermore, in 2010 said ratio had surpassed 2006 levels. The overall outlook for Maine's total debt is therefore negative, particularly due to events in recent years.

An analysis of net debt liability indicates that since 2005 total debt has started to become more burdensome in Maine (having surpassed its 2000 level in 2010). When reviewing morally obligated debt, a similar picture is painted; since 2006 morally obligated debt has begun to increase and in 2010 had almost surpassed its 2004 levels. During the period of 2000 through 2010, however, the distribution of total debt and morally obligated debt has remained stable, indicating a neutral finding. However, net debt liability has begun increasing since 2006 and as of 2010 has almost surpassed its 2000 level, a highly negative finding. Despite the history of total net debt liability with respect to property values being positive, with net debt liability in 2010 having exceeded 2005 levels another negative finding is announced. The overall outlook of Maine's net debt liability is also found to be negative, again due to events in recent years.

Lastly, an analysis of total debt services indicates that although the division of principal and interest payments having remained relatively static, since approximately 2005 total debt services have become markedly more burdensome on Maine, particularly since 2009. This finding is supported by the fact that total debt has been increasing. The overall outlook of Maine's total debt services, like the other factors reviewed (total debt and net debt liability), is found to be negative.

When gathering the outlooks on Maine's total debt, net debt liability, and total debt services into a single, cohesive thought, that thought is that while Maine had maintained a relatively positive trend in the early years of this past decade (2000s), that trend has reversed itself to the point that Maine's outlook is overly negative.

Overarching Conclusion Regarding The Analysis Of Maine At The State Level.

The overarching conclusion to be made when analyzing the factors (obtained from the report issued by Moody's regarding Maine's bond rating history as well as Maine's Comprehensive Annual Financial Reports from year 2000 through 2010) regarding the primary indicators¹⁸ of Maine's public debt performance is that the outlook is negative. Prior to approximately 2004 there was a positive trend found using the indicators in question. After that, the situation began to plateau and an negative trend became apparent, particularly between the years of 2009 and 2010. As of 2010, ratios were reminiscent of those found in the earlier years of the 2000s. Such findings lead to the conclusion that as of approximately 2008 the public debt position of the State of Maine has taken a turn for the worse. This conclusion is further supported by the fact that between 1993 and 2010 the average bond rating (derived from the S&P and Moody's ratings) has decreased and, as of 2010, remains at a level below that found in 1993. These decreased ratings equate to an increase in borrowing costs and, therefore, a larger debt burden.

Also, while there does exist a limitation between the years analyzed using the two data sets (Moody's: 1993 to 2010; Maine Comprehensive Annual Financial Reports 2000 to 2010) due to the fact that Maine Comprehensive Annual Financial Reports were not analyzed for years prior to 2000, that limitation is slight. A historical analysis of Maine's public debt position can still be traced back for approximately a decade and immediate-future positions can be hypothesized due to data being available up to the most recently-ending fiscal year (2010).

¹⁸ Those primary indicators being personal income, population, expenditures, and property valuation. These four indicators represent the most commonly used indicators when assessing public debt (LaPlante, 1993).

Concluding Analyses

When compared to the U.S. average, Maine's position with respect to public debt is positive and stable as of 2008. Despite the fact that the few indicators that were available for analysis for years 2009 and 2010 gave rise to the idea that Maine was losing its lead on the U.S. average, until all the pertinent indicators are able to be reviewed, conclusions for those years and immediate-future hypotheses are pending.

When analyzing Maine's historic public debt position from an internal vantage point, a different picture is painted. The State of Maine's position had been doing progressively better since around 2000. However, during the mid-portion of the past decade this trend began to reverse itself and Maine began finding its public debt position at levels not seen since much earlier in said decade. This negative trend is buttressed by the inability of Maine to regain its high bond rating in 1993, a rating that has continued to fall since 1993. Summarized, when Maine makes historical comparisons internally, a negative position with respect to public debt is found to exist.

Combining these two sets of analyses together, the conclusion that is reached is that Maine's position with respect to public debt, while deteriorating, is not deteriorating faster than the average U.S. state. Said deterioration appears to be occurring at about the same rate. Depending on how the reader wishes to view and/or describe the situation, positive, negative, and neutral findings can be said to have been determined. The positive findings are that Maine holds an above average public debt position with respect to the U.S. average and that said position is not deteriorating. The negative findings are that Maine's use of public debt, when compared to historic figures, is becoming worse and that its standing with respect to the U.S.

average is not advancing anymore. The neutral finding is that despite an increased burden of debt, Maine is doing comparatively better and that this position is not changing.

Once data becomes available on the indicators found in the U.S. Census for years 2009 and 2010, the indications found in the Moody's report showing that Maine's position with respect to public debt is becoming comparatively worse can be affirmed or denied. Pending the receipt of that data, however, results of Maine's public debt position remains mixed. It is therefore recommended that once said data becomes available, this report be updated in order to acquire a more accurate view of the past two years and to determine if Maine's position on public debt is positive, negative, *or* neutral, particularly as it relates to immediate-future hypotheses.

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Appendix I.

Rating	S&P	Moody's
1	AAA	Aaa
2	AA+	Aa1
3	AA	Aa2
4	AA-	Aa3
5	A+	A1
6	A	A2
7	A-	A3
8	BBB+	Baa1
9	BBB	Baa2
10	BBB-	Baa3
11	BB+	Ba1
12	BB	Ba2
13	BB-	Ba3
14	B+	B1
15	B	B2
16	B-	B3
17	CCC+	Caa1
18	CCC	Caa2
19	CCC-	Caa3
20	CC+	Ca1
21	CC	Ca2
22	CC-	Ca3
23	C+	C1
24	C	C2
25	C-	C3

Source: (ME CAFR 2000-10).