

Alternative Strategies for Financing State Unemployment Trust Fund Deficits

State Experiences in the Aftermath of the 2007 Recession

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Executive Summary

The severity and duration of the 2007 Great Recession led to major increases in workers receiving unemployment insurance (UI) benefits (Carrington 2012). As a result, 35 states borrowed to address deficits in their UI trust funds, which finance UI benefits (Vroman et al. 2017). While most states borrowed from the US Treasury, eight states opted to finance trust fund deficits by issuing municipal bonds. This report presents findings from a study of alternative strategies for financing state trust fund deficits in the 2007 recession and its aftermath. The findings are based on interviews with federal officials, state officials, and bond market representatives and the results of a simulation model comparing the costs of the two borrowing options in four states. While the study is retrospective in nature, the report is designed to inform states' decisionmaking about UI-related borrowing activities in the future.

The tradeoffs between borrowing from the federal government through Title XII loans and accessing private capital markets to replenish trust funds are not well understood. Prior to this study, little research had examined or compared these methods. For example, there were no comprehensive analyses of cost differences between federal loans and municipal bonds for financing trust fund deficits.

As a result, state UI trust fund account administrators have had to make rapid decisions during economic downturns based on limited evidence or understanding of available options and cost implications for the state. They may have lacked information on how current and prospective economic conditions, legal constraints, and policy environments affect the tradeoffs between Title XII loans and financing through private capital markets.

To better understand states' UI-related borrowing activities, the Urban Institute and its partner Capital Research Corporation conducted a study of alternative strategies for financing state trust fund deficits in the Great Recession and its aftermath, sponsored by the US Department of Labor's (DOL) Chief Evaluation Office. The purpose of the study is to document, compare, and contrast major trust fund financing strategies and to assess conditions under which states may use various borrowing strategies to achieve their desired objectives. The research team based the findings on interviews with 44 state government officials—including representatives from four states that accessed Title XII loans and four that issued bonds in the Great Recession—in addition to nine federal officials and two bond market representatives. These interviews informed the development of a simulation model comparing the costs of the two borrowing methods for four of the eight states that issued bonds.

Borrowing Options for UI Trust Fund Deficits

In most years, state UI payroll taxes exceed benefits paid and states accumulate positive trust fund balances. Reflecting the program’s design and intent, UI trust fund reserves fall during recessions. States have three options to address trust fund deficits—reduce UI benefits, increase taxes on employers, or borrow.¹ This study examines two borrowing options available to states to fund UI trust fund deficits—Title XII loans and municipal bonds. This section summarizes these borrowing options.

Title XII Loans

When UI trust funds are depleted, states may obtain advances from the Federal Unemployment Account (FUA) under mechanisms in Title XII of the Social Security Act of 1935 and the Federal Unemployment Tax Act of 1939 (FUTA) (“Title XII loans”).² Features of Title XII loans are:

- Transfers from the FUA to a state trust fund are made “on a daily basis, as needed to meet requisitions for benefit payments.”
- The US Treasury charges interest “only on that portion of certified advances that the state actually draws down.”
- State governors or their delegates may request at any time that funds in the state trust fund be transferred to the FUA (i.e., initiate a voluntary repayment process).
- They may do so in a letter listing a specific amount or giving the Secretary of Labor permission to authorize any repayments over a specified period “up to the amount of the outstanding loan balance, subject to the availability of funds in the state accounts.”³

Together, these features imply considerable flexibility for states to minimize interest costs on Title XII loans by minimizing the principal outstanding on any given day. Moreover, states can delegate to DOL (which then coordinates with the US Treasury’s Bureau of the Fiscal Service) authority to transfer any positive balances from their trust funds to the FUA on a daily basis (i.e., “sweeping daily balances”).

States may repay long-term Title XII loans in two ways. Automatic FUTA tax credit reductions go into effect if a state has outstanding Title XII loans on January 1st of two or more consecutive calendar years and the debt is not fully repaid by November 10th of the second year. The first year FUTA tax credit reduction is

¹ “The essential idea in unemployment compensation is the creation of reserves during periods of employment from which compensation is paid to workmen (sic) who lose their positions when employment slackens and who cannot find other work.” Senate Report No. 628, 74th Cong., 1st Sess. (1935) at 11 as cited in McHugh (2004).

² A glossary of definitions and terms is provided in appendix A.

³ The April 24, 2002 Unemployment Insurance Program Letter (UIPL) notes: “When a state uses this process, there will be one letter from the Governor or designate to the Secretary of Labor and one letter from the Secretary of Labor to the Secretary of Treasury.” The IPL also notes that repayments occur on a last-in, first-out basis in contrast to repayment of other FUA advances (e.g., reductions in FUTA credits, which are made on a first-in, first-out basis).

0.3 percent of federal taxable wages (or \$21 per covered worker). Subsequent reductions increase with each year of state indebtedness, typically by increments of 0.3 percent. However, details depend on the circumstances of individual debtor states.⁴

Apart from FUTA tax credit reductions, states may repay Title XII loans through their own legislative appropriations or special taxes levied on employers (Vroman 2015). However, interest payments on Title XII loans must come from sources outside the state trust fund.⁵

Municipal Bonds

A municipal bond is a debt instrument issued by state and local governments to fund a capital project or an obligation and is financed by investors. In the 2007 recession and its aftermath, eight states took Title XII loans, then repaid the loans using proceeds from a municipal bond issuance, sometimes in combination with an interim bank loan. The number of states issuing UI bonds and the combined face value of these bonds (\$10.7 billion from December 2010 to November 2013) were much larger than in any prior recession.⁶

Compared with Title XII borrowing, UI bonds require states to engage in a more diverse set of activities involving a broader array of actors including state Treasurer's Offices or other finance agencies. The key activities include:

- Engaging outside experts such as a municipal financial adviser or underwriter to help design the bond issue and bond counsel to make sure the issuance conforms with state and federal law;
- Deciding on a method of sale, most of which are negotiated sales for UI bonds;
- Deciding on various bond features including size, duration or maturity, security pledge, "coupon" or interest rate, prepayment or "call" features, and whether to issue bonds at par, a premium, or a discount;
- Determining the size and maturity of a UI bond based on many factors but most notably projections of the trust fund shortfall and state's anticipated future economic performance;
- Securing the debt, which is typically an employer payroll tax or "obligation assessment" levied in addition to regular UI payroll taxes;⁷
- Deciding whether to obtain credit enhancements through bond insurance or letters of credit;

⁴ For more information, see "FUTA Credit Reductions" at https://oui.doleta.gov/unemploy/futa_credit.asp.

⁵ For more information, see IRC § 3304(a)(17) at <https://www.law.cornell.edu/uscode/text/26/3304>.

⁶ Prior to the Great Recession, only six states had issued UI bonds: Louisiana and West Virginia in the late 1980s, Connecticut in 1993, and Illinois, North Carolina and Texas from 2003 to 2005.

⁷ States may also secure bonds with their "full faith and credit" (i.e., a General Obligation or GO bond) or a legislative appropriation. The latter, also known as "moral obligation" bonds, are generally seen as less secure than either a revenue-backed or GO bond.

- Establishing an apparatus to administer the special tax securing the bonds and to pay debt service; and
- Conducting outreach to the employer community, which may be unfamiliar with the financing mechanism but may also perceive that automatic FUTA tax credit reductions are harmful to the business climate.

Taken together, issuing a municipal bond can be complicated and time-intensive, involving many stakeholders, knowledge of the bond market, and legislative action.

Summary of Findings from the Study

The research team based its findings on interviews with federal and state government officials and bond market representatives and the results from a simulation model comparing the costs of the two borrowing methods. On the whole, these findings indicate that states recognized and weighed several factors when navigating complicated borrowing decisions in addition to benefit changes or tax increases to replenish state trust funds. This section summarizes the study's findings by the research questions addressed.

What were the decisionmaking factors for selecting a method to finance deficits in UI programs?

State decisionmaking to address UI trust fund solvency was usually a collaborative process, with input from a range of organizations and agencies. The respondents from all states—from UI systems as well as financing agencies, legislative staff, and other parts of government—suggested that economic considerations were paramount in the choice among borrowing strategies. However, states pursuing borrowing with municipal bonds could encounter legal obstacles such as state constitutional or statutory limits on indebtedness along with case law or legal opinions interpreting these laws to apply to debts incurred by state UI systems.

The state respondents in five states cited interest rate differentials as a factor. There was a common perception that interest rates on loans from the US Treasury (Title XII loans) exceed those of municipal bonds. However, the analysis of historical patterns suggests that the difference is sensitive to the time period considered, with high-grade municipal bonds consistently paying a higher interest rate (115 basis points on average) than Title XII loans from 2014 to 2019. The simulation results further underscored that not only the interest rate but also the duration of indebtedness mattered, with Title XII loans often repaid faster because of the “ratcheting” effect of reductions in employer payroll tax (FUTA) credits, a year-over-year upward progression determined by federal law.

Another factor for respondents in five states was Title XII's option of “daily sweeping,” or automatic retiring of debt on days when revenues exceed benefit payments, without any additional borrowing costs.

This minimized average fund indebtedness and associated interest charges. All that was needed to initiate such a “voluntary repayment process” was for a state governor or an official designated by the governor to submit a written request to the Secretary of Labor. This transaction flexibility could not be exercised with municipal bond debt.

To what extent did available information about local economic conditions, states’ UI trust fund solvency, and/or prior experience with borrowing appear to influence states’ approaches?

Current and former state UI agency staff in both bonding and Title XII states said that Title XII process was relatively straightforward, simple, and well understood. DOL technical guidance, written guidelines on Title XII borrowing and repayment were helpful and “well communicated.” In contrast, there was no written guidance from DOL on UI bond issuances that these states could use for making borrowing decisions.

Instead, the four states that issued municipal bonds to fund their UI trust funds often received helpful information from other states that did so previously, such as Texas, and from bond market representatives such as municipal financial advisers, underwriters, and bond counsel. These personnel were perceived as critical because tax-exempt bonds in particular were subject to anti-arbitrage and yield restriction rules set by the US Treasury. The rules prevented the issuer from realizing a net financial gain from borrowing at a lower interest rate in one financial market and depositing the proceeds into a market that was paying a higher interest rate.

The involvement of multiple stakeholders and general unfamiliarity of states with the bonding option added to the transaction costs of bonds, according to respondents in bonding states. These were the costs of administering special taxes used to repay bonds (obligation assessments) and making debt service payments. However, these costs were small (about 0.5 percent of bond face value) following the 2007 recession.

Weighing against these costs, respondents in the four bonding states and the two bond market representatives cited the greater control states could exert over obligation assessments compared to FUTA credit reductions. Whereas FUTA credit offsets increased according to a schedule determined by federal law, state employer payroll tax surcharges could be more stable during debt repayment and were at state policymakers’ discretion. In addition, states could structure obligation assessments or other employer payroll tax surcharges to reflect employers’ actual benefit experiences, a practice known as experience rating, rather than applying just one rate for all covered employers as with FUTA credit reductions.

Beyond these economic factors, the four states that considered but rejected UI bonds cited various factors including familiarity with Title XII borrowing, no advocate or “champion” for bonds, and concerns

about the size of state indebtedness. Respondents in these states judged these experiences positively and would consider doing so again.

What were the estimated costs associated with different methods and configurations of borrowing instruments used for obtaining funds to finance deficits in UI programs?

The simulation results underscored the tradeoffs between high interest rates and shorter durations of indebtedness. Rising FUTA credit reductions meant that Title XII loans were often paid off more quickly. However, the bonding states also exercised call options to repay bonds early at a specified price. Further complicating these comparisons, municipal bonds were often sold above face or “par” value, meaning states recognized immediate proceeds or “bond premia” (averaging about 7.0 percent of face value from 2010 to 2013). Although the premium came at the cost of higher interest payments over time, respondents reported that their states accepted this tradeoff for much needed immediate funds.

State respondents in at least two states also appreciated the opportunity to address policy considerations such as Pennsylvania’s coupling of UI bonds with other solvency adjustments (increasing the taxable wage base and freezing the maximum weekly benefit). Colorado issued taxable bonds to satisfy a statutory trust fund solvency requirement.

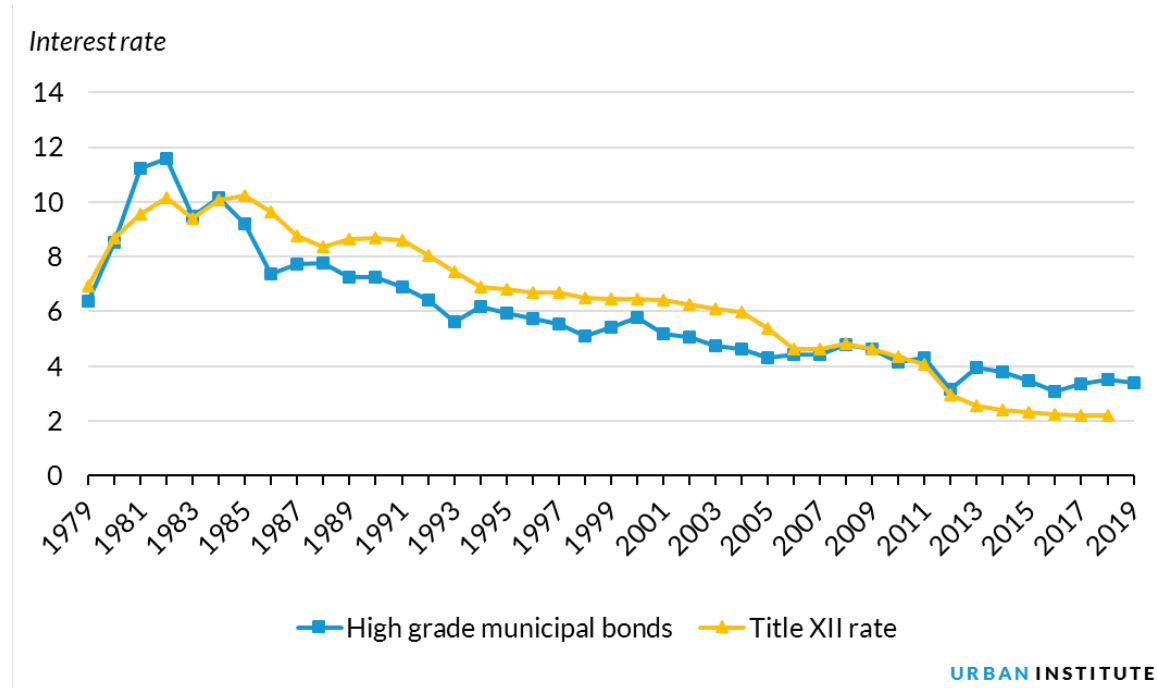
Considerations for State Officials

Because of the enormous strain the COVID-19 pandemic and ensuing recession are placing on the state UI systems, states may soon face deficits in their UI trust funds. As of January 1, 2020, 31 states or territories had trust funds that met minimum solvency standards outlined by the DOL, but 22 systems fell short of this threshold (US Department of Labor 2020). The findings from this study, although retrospective to the 2007 recession, suggest ways that states can recognize and weigh several other considerations as described below when navigating borrowing decisions as well as contemplating benefit reductions and/or tax increases. These considerations are:

- **Title XII loan interest rates do not always exceed those on high grade municipal bonds**, and in recent years, the municipal bond rate has been consistently higher (115 basis points on average from 2014 to 2019). See figure ES.1 for interest rates for municipal bonds and Title XII loans over time.

FIGURE ES.1

Interest Rates Over Time for High Grade Municipal Bonds and Title XII Loans



Source: Title XII interest rate from US Department of the Treasury, Treasury Direct Gov. Interest rates on high grade municipal bonds from the Economic Report of the President (CEA 2019, Table B42).

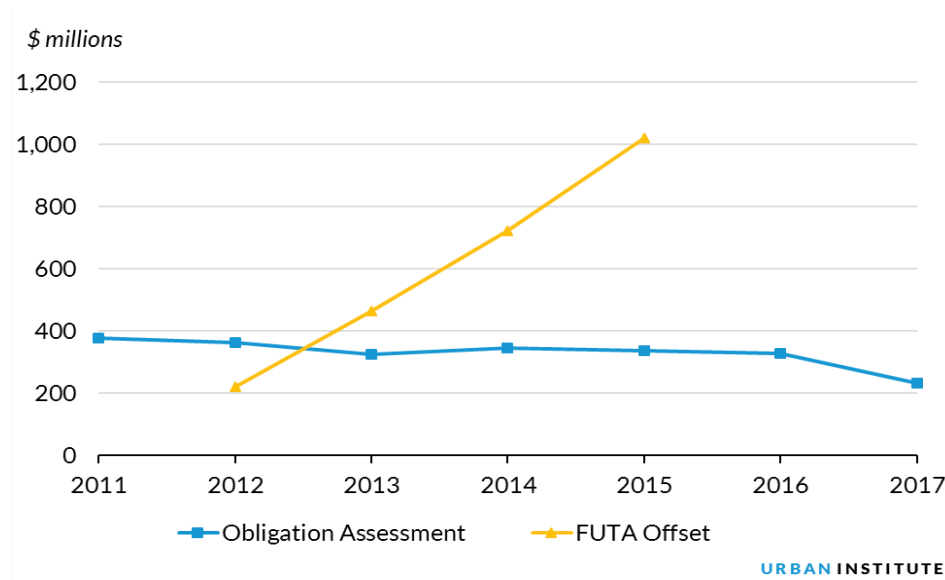
- **A benefit of Title XII loans not available from municipal bonds is daily sweeping** or automatic retiring of debt on days when revenues exceed benefit payments, without any additional borrowing costs. This minimizes average fund indebtedness and associated interest charges. All that is needed to initiate such a “voluntary repayment process” is for a state governor or official designated by the governor to submit a written request to the Secretary of Labor. This transaction flexibility cannot be exercised with municipal bond debt.
- **Under Title XII and related legislation, states with large trust funds also have access to interest-free short-term loans before employer payroll tax credit offsets take effect (Vroman et al. 2017).** In the 2007 recession, federal policymakers also waived interest rates temporarily on long-term loans. Thus, when most (36 of 53) trust funds became insolvent, states and territories that borrowed from the US Treasury did not start to pay interest charges until 2012 (related to their borrowing during 2011).
- **Municipal bonds offer other types of flexibility, especially when structured with “call options.”** At the time of UI municipal bond issuance, states face an uncertain economic future. Call options allow states to repay a bond early at a specified price, for example if revenues come in higher than expected. Callable bonds also carry higher interest rates than fixed maturity bonds, all else being equal. Call options also mean the duration of municipal bonds can be short. To illustrate, maximum UI bond maturities have ranged from four years (Idaho’s 2011 issuance) to 12 years (Michigan’s and Pennsylvania’s 2012 issuances). However, call features and strong economic recoveries have meant that the longest actual bond maturities have not exceeded eight years.
- **States issuing municipal bonds also have discretion over the structure of “obligation assessments” rather than employer payroll tax credit offsets (FUTA credit offsets).** Whereas

FUTA credit offsets are applied with just one rate for all covered employers, states can structure obligation assessments or other employer payroll tax surcharges to reflect employer’s actual benefit experiences, a practice known as experience rating.

- **FUTA credit offsets also “ratchet up,” or exhibit a strong year-over-year upward progression determined by federal law.** By contrast, annual state employer payroll tax surcharges can be more stable and are at state policymakers’ discretion. Figure ES.2 illustrates the contrast.

FIGURE ES.2

Texas, Comparison of Revenue Streams



Source: Actual UI bond repayments from Texas (from the Texas Workforce Commission) compared to Urban Institute simulated debt repayment streams based on the standard progression under Title XII. Annual revenue in millions of dollars.

- **Municipal bonds are often sold above face or “par” value, meaning states can recognize immediate proceeds or “bond premia.”** Although the premium comes at the cost of higher interest payments over time, states may accept this tradeoff for much needed immediate funds. Bond premia averaged about 7.0 percent of face value from 2010 to 2013.
- **States issuing UI bonds must decide between tax-exempt and taxable bonds.** Tax-exempt bonds are subject to anti-arbitrage and yield restriction rules set by the US Treasury.⁸ The rules prevent the issuer from realizing a net financial gain from borrowing at a lower interest rate in one financial market and depositing the proceeds into a market that is paying a higher interest rate.
- **Municipal bonds involve issuance costs and other transaction costs.** Issuance costs include insurance, the underwriter’s discount (a fee for overseeing the transaction), document reproduction and other issuance costs. Other costs include the costs of administering obligation assessments and making debt service payments. Issuance costs were small (about 0.5 percent of bond face value) in the last recession.

⁸ For more information on the US Code on arbitrage, see “26 U.S. Code § 148.Arbitrage” at <https://www.law.cornell.edu/uscode/text/26/148>.

- **State policy decisions affect both Title XII and municipal bond options.** Each state must decide how to make appropriate borrowing decisions when its trust fund is in debt. Beyond UI benefits and taxes, states exercise some discretion over the pace of Title XII debt repayments (although not the imposition of mandatory Title XII credit offset rates), reliance on “sweeping” actions to minimize average daily Title XII indebtedness, the use of call options for bonds, and the duration of bonds at issuance.

Based on the findings from this study, there is an opportunity for federal officials and other organizations to offer assistance to state officials who lack information and internal capacity to fully vet their borrowing options. States may need guidance, analytical tools to compare the costs of various borrowing options in real-time, and resources to be able to communicate complicated issues about borrowing options to stakeholders such as employers or state legislators. State officials may also benefit from connecting with other state officials with experience in considering and using municipal bonds who can serve as resources to fill information gaps.

Chapter I: Introduction

Prior to the COVID-19 pandemic and ensuing economic recession, the Great Recession was the worst economic downturn since the Great Depression. The US economy shrank by more than 4 percent (5.5 percent on a real, per capita basis) and unemployment peaked at 10 percent. Long-term unemployment, or the share of workers unemployed for more than 27 weeks, reached an all-time high of 4.4 percent of all spells.⁹

The severity and duration of the Great Recession led to major increases in workers receiving unemployment insurance (UI) benefits. UI benefit outlays exceeded UI trust fund reserves and revenues available from employer payroll taxes in most states and US territories (36 out of 53 programs). These states and territories therefore borrowed a record \$41 billion from the federal government under mechanisms in Title XII of the Social Security Act of 1935 and the Federal Unemployment Tax Act of 1939 (FUTA) (“Title XII loans”).¹⁰

In addition to Title XII loans, eight states (Arizona, Colorado, Idaho, Illinois, Michigan, Nevada, Pennsylvania, and Texas) opted to finance trust fund deficits by issuing municipal bonds.¹¹ Although states had previously issued bonds to finance these deficits, the number and volume (\$11 billion) of issuances during the Great Recession were much larger than in any prior recession. Moreover, two of the eight states that issued UI bonds (Illinois and Texas) had also borrowed privately after the much milder recession of the early 2000s, suggesting a trend towards relying on private capital markets to finance trust fund deficits.

To better understand states’ UI-related borrowing activities, the Urban Institute and its partner Capital Research Corporation conducted a study of alternative strategies for financing state trust fund deficits in the Great Recession and its aftermath, sponsored by the US Department of Labor (DOL) Chief Evaluation Office. The purpose of the study is to document, compare, and contrast major trust fund financing strategies and to assess conditions under which states may use various borrowing strategies to achieve their desired objectives. The research team based the findings on interviews with state government officials—including

⁹ Authors calculated statistics using labor force statistics data from the Current Population Survey via the Bureau of Labor Statistics. The data can be accessed using BLS series ID numbers LNS13008636 and LNS11000000.

¹⁰ A glossary of definitions and terms is provided in appendix A.

¹¹ In addition to “direct purchases” or “private placements” of municipal securities (as discussed in chapter 2) commercial banks provide conventional loans to state and local governments. These loans have been on the rise in recent years as described in SEC (2012) and <https://www.brookings.edu/wp-content/uploads/2018/08/WP45.pdf>. The Municipal Standards Rulemaking Board (MSRB), which promulgates rules governing the sale of municipal securities by broker-dealers and municipal securities dealers, notes that certain financings referred to as “bank loans” may, in fact, be municipal securities. See MSRB Notice 2011-52, “Potential Applicability of MSRB Rules to Certain “Direct Purchases” and “Bank Loans” (Sept. 12, 2011), available at <http://www.msrb.org/Rules-andInterpretations/Regulatory-Notices/2011/2011-52.aspx>.

representatives from four states that accessed Title XII loans and four that issued bonds in the Great Recession—in addition to federal officials and bond market representatives. These interviews informed the development of a simulation model comparing the costs of the two borrowing methods for the four states in the team’s data collection that issued bonds.

This report presents findings from the study. While the study is retrospective in nature, the report is designed to inform states’ decisionmaking about UI-related borrowing activities in the future. The remainder of this chapter discusses the rationale for the study, the research questions addressed and methods used, and a roadmap for the report.

Rationale for the Study

The tradeoffs between borrowing from the federal government through Title XII loans and accessing private capital markets to replenish trust funds are not well understood. Prior to this study, very little research had examined or compared these methods. For example, there were no comprehensive analyses of cost differences between federal loans and municipal bonds for financing trust fund deficits.

As a result, state UI trust fund account administrators have had to make rapid decisions during economic downturns based on limited evidence or understanding of available options and cost implications for the state. They may have lacked information on how current and prospective economic conditions, legal constraints, and policy environments affect the tradeoffs between Title XII loans and financing through private capital markets.

States may have been attracted to the private borrowing option for several reasons. It allowed them to spread repayment costs over a longer period than Title XII loans. States may have also perceived that automatic payroll tax increases (or FUTA tax credit reductions, as explained below) to repay federal loans were harmful to their economy and business climate.¹² They may also have viewed municipal bonds as cheaper than federal Title XII loans because of lower interest rates in the private market than offered by the US Department of the Treasury.¹³

However, states may have had to consider factors that could make private borrowing costlier than Title XII loans. For example, interest rate comparisons are sensitive to the period considered. From 1979 to 2017, the federal government charged an interest rate that was on average 48 basis points higher than the

¹² For an example of the argument that UI bonds are preferable to FUTA tax credit reductions because of potential effects on the business climate, see Hitchcock and Prunty (2012).

¹³ Title XII loan interest charges are based on the interest rate the federal government paid on state trust fund positive balances during the preceding October to December.

average yield for high grade municipal bonds.¹⁴ Between 1985 and 2005, this difference was even larger, averaging 124 basis points. Nevertheless, from 1981 to 1982 and again from 2014 to 2019, the federal government charged considerably *less* interest on Title XII loans than the average yield on high grade municipal bonds (115 basis points).¹⁵

Moreover, when states issue a municipal bond, they incur certain upfront costs, including: underwriting fees, costs of retaining bond counsel, costs of bond insurance or other credit enhancements, and costs of administering the bond including collecting special bond taxes and paying debt service (principal plus interest payments). Taken together, Vroman (2005) previously estimated that these costs could add 25 to 75 basis points to the costs of municipal bond issuance relative to Title XII loans. This study updates and refines these estimates.

Borrowing from the federal government also has certain features that complicate direct cost comparisons with UI bonds. Because borrowing and repaying under Title XII can be executed on a daily basis, states can minimize average daily balances of outstanding loans by simply retiring debt on days when revenues exceed benefit payments and borrowing on days when payments exceed revenues (also known as “sweeping daily balances”).

Beyond the factors described above, a thorough comparison of borrowing costs under a UI bond versus a Title XII loan must account for various bond features, such as whether they are taxable or tax-exempt; issued at a discount or premium (price below or above par value); and with or without repayment flexibility (call provisions). These features are described further in chapter 2.

To inform states’ decisionmaking in future recessions, this study examines the complicated tradeoffs that states must consider in choosing one borrowing option over another to finance their trust fund deficits based on states’ experiences in the Great Recession. The next section provides an overview of the study.

Research Questions, Methods, and Limitations

The goal of the study is to document, compare, and contrast major UI trust fund financing strategies and to assess conditions under which states may use various borrowing strategies to achieve their desired objectives. Three research questions developed in consultation with DOL guided the study. They are:

¹⁴ There are 100 basis points per each one percentage point in an interest rate. Data on high grade municipal bonds come from Standard & Poor’s via CEA (2019) Table B-25. Title XII interest rates are from the Treasury from 1990 to 2017. Title XII interest rates for earlier years are simple averages of yields realized by the UI programs in Kansas, Mississippi, and Nebraska.

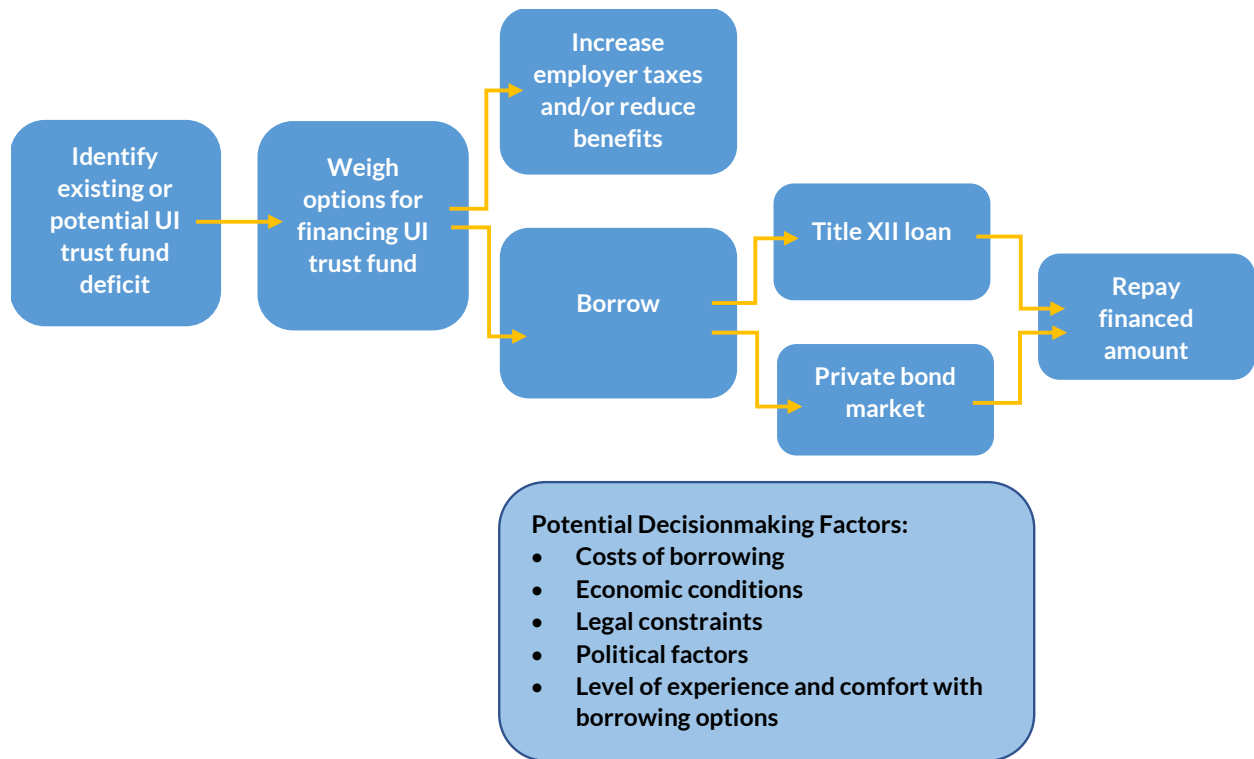
¹⁵ Note that several other interest rates may be relevant to our analysis, including long term (AAA corporate bonds and ten-year Treasury bonds) and short-term (three-month Treasury bills and short-term commercial paper) rates.

- What were state decisionmaking factors for selecting a method to finance deficits in UI programs?
- To what extent did available information about local economic conditions, states' UI trust fund solvency, and/or prior experience with borrowing appear to influence states' approaches?
- What were the estimated costs associated with different methods and configurations of borrowing instruments used for obtaining funds to finance deficits in UI programs?

The first question concerns state decisionmaking processes, including how states decide to address deficits through borrowing versus raising employer taxes and cutting UI benefits to claimants (figure 1.1). The second question includes legal and institutional constraints on state actions and how conditions in financial markets and the larger economy affect the tradeoffs between major strategies for financing trust fund deficits. The third question directly compares costs and outcomes under each major borrowing strategy and various economic and financial market conditions.

FIGURE 1.1

Conceptual Framework for Understanding How State Make Decisions about Financing Unemployment Insurance Trust Fund Deficits



Source: The authors' conceptual framework for the study.

To address these questions, the research team first reviewed the available literature related to borrowing to address trust fund deficits, which is summarized in chapter 2. The literature then informed the study design, which called for a mix of qualitative and quantitative methods. Methods used were:

1. An analysis of qualitative data collected through semi-structured interviews with:
 - nine federal staff with authority to obtain or manage borrowed funds to identify important statutes, guidance, and other considerations for each strategy (conducted by phone and in person in early 2018);
 - 44 current and former state government officials in eight purposively selected states to understand their perspectives on opportunities and constraints associated with each borrowing strategy in the Great Recession (conducted by phone between August 2019 and February 2020). These interviews involved collecting data that are not easily available on indirect and administrative costs; and
 - two national experts from the municipal bond market community to gain insight on how various strategies have worked in the past and any current impediments to states making informed borrowing decisions (conducted by phone and in person in late summer and early fall of 2019).
2. Development of a simulation model that compares and contrasts costs and outcomes under the two major UI trust fund deficit financing strategies and discusses the sensitivity of results to alternative economic conditions, programmatic variables, and bond characteristics.

The interviews with federal and state officials and bond market representatives address the first two questions but also inform the development of the simulation model, which addresses the third question.¹⁶

There are several important considerations to keep in mind when interpreting the findings from the study. For example:

- The study included only eight of 35 states that borrowed in the last recession. While the selection of states attempted to capture a range of experiences and decisionmaking processes by focusing on Title XII states which the team learned had considered but ultimately decided not to use bonds. However, the data collection may have not covered some experiences relevant to states considering their trust fund borrowing options, limiting the generalizability of the findings.
- The level of detail available from interviews was dependent on the quality of respondents' recollections. The Great Recession ended over a decade ago, and several respondents noted that their recollections were limited. Some states also did not pursue bonding options for long and thus have less involved experiences to share about their activities and processes.
- The study may not have captured all perspectives, as some state officials have retired or moved to other jobs. The team was able to contact some former employees, but not all relevant former staff were available.

¹⁶ A more detailed explanation of the study methods can be found in appendix B. Profiles of the eight states included in the data collection are provided in appendix C.

- The research team conducted the interviews before the economic recession caused by the COVID-19 pandemic so there is a chance that the perspectives of the respondents may have changed since the interviews as they are making decisions about their borrowing options during this time.

As discussed in chapter 5, the simulation model is retrospective, looking at trust fund borrowing that occurred in the aftermath of the 2007 recession. The model is purely an economic one; it does not include qualitative factors that may have influenced borrowing decisions such as the political and policy climate during the study period. However, the report discusses how those factors may have played a role in states' decisionmaking processes in chapter 4.

Organization of the Report

The remainder of this report presents the findings from the study. It is organized as follows:

- Chapter 2 describes the UI program, the two major strategies used to finance state trust fund deficits, and how states used these strategies in recent recessions.
- Chapter 3 presents an overview of rules and processes governing state trust fund borrowing under Title XII and related legislation or through municipal bond markets
- Chapter 4 presents findings on the perspectives of state officials and bond market representatives on the state decisionmaking process on strategies to finance trust fund deficits.
- Chapter 5 presents simulation findings for four states that issued municipal bonds. For each state, there is a simulation of the costs of bonding and Title XII loans.
- Chapter 6 concludes with a summary of potential advantages and disadvantages to both major borrowing methods and considerations for future trust fund borrowing.

Chapter 2: State Unemployment Insurance Trust Funds and Historical Borrowing

This chapter provides an overview of how UI is funded, major strategies to finance state UI trust fund deficits, and a brief history of how states have used these strategies in recent recessions, based on a review of existing data and literature. The literature highlights factors that states may consider when deciding which borrowing options are optimal. These factors include current and expected interest rate differentials, the size of the loan, expected future state economic performance, the size of muni bond premia, state constitutional constraints, and the receptivity of key interested parties to a bond issuance.

Unemployment Insurance Financing

Unemployment Insurance (UI) is a joint federal-state program.¹⁷ States pay benefits to all eligible claimants, while the federal government pays program administration costs, half of the federal-state Extended Benefits program, any supplemental or emergency programs, and loans to state UI programs as described below.¹⁸

The federal government funds its portion of UI by levying a 6 percent employer payroll tax, known as the FUTA tax, on the first \$7,000 of covered workers' earnings.¹⁹ Employers can claim credits against 90 percent (5.4 percentage points) of FUTA taxes if they operate in states where UI programs meet federal standards. This reduces the effective FUTA tax rate to 0.6 percent, or a maximum of \$42 per worker.

Federal standards for state UI programs are broad. States must levy their own UI payroll taxes, and their maximum tax rate must be at least 5.4 percent on a base of at least \$7,000 per covered worker. They must use experience rating to impose higher tax rates on firms that lay off more workers, while firms with lower experience ratings pay lower UI tax rates. In addition, states must deposit UI payroll tax proceeds into a

¹⁷ For more information on UI, see the "Unemployment Insurance" factsheet from DOL at https://oui.doleta.gov/unemploy/docs/factsheet/UI_Program_FactSheet.pdf.

¹⁸ For more information, see "Unemployment Insurance Extended Benefits" at <https://oui.doleta.gov/unemploy/extenben.asp>.

¹⁹ For more information on the Federal Unemployment Tax Act of 1939 (FUTA), see <https://www.law.cornell.edu/uscode/text/26/subtitle-C/chapter-23>.

state UI trust fund held by the US Treasury and used solely to pay UI benefits (Vroman and Woodbury 2014: 254).

State UI programs vary widely within federal parameters. As of January 2020, Arizona, Arkansas, California, Florida, and Tennessee set taxable wages at the federal minimum of \$7,000 per covered worker, while half of all states had thresholds of at least double that amount (see table 2.1). Maximum employer tax rates varied from the federally required maximum of 5.4 percent in 13 states to a high of 14.37 percent in Massachusetts.²⁰

TABLE 2.1

State Unemployment Tax Rates, 2020

State	Wages Subject to Tax	Minimum Rate [1]	Maximum Rate [1]	New Employer Rate [2]
Alabama	\$8,000	0.65%	6.8%	2.7%
Alaska	\$41,500	1%	5.4%	1.09%
Arizona	\$7,000	0.05%	12.85%	2.0%
Arkansas	\$7,000	0.1%	6.0%	2.9%
California	\$7,000	1.5%	6.2%	3.4%
Colorado	\$13,600	0.58%	7.4%	1.7%
Connecticut	\$15,000	0.5%	5.4%	3.2%
Delaware	\$16,500	0.1%	8.0%	1.6%
District of Columbia	\$9,000	1.6%	7.0%	2.7%
Florida	\$7,000	0.1%	5.4%	2.7%
Georgia	\$9,500	0.04%	7.56%	2.7%
Hawaii	\$48,100	0.0%	5.6%	2.4%
Idaho	\$41,600	0.24735%	5.4%	0.97%
Illinois	\$12,740	0.2%	6.4%	3.125%
Indiana	\$9,500	0.5%	7.4%	2.5%
Iowa	\$31,600	0.0%	7.5%	1.0%
Kansas	\$14,000	0.0%	7.1%	2.7%
Kentucky	\$10,800	0.3%	9.0%	2.7%
Louisiana	\$7,700	0.09%	6.0%	Industry Avg
Maine	\$12,000	0.06%	5.46%	1.86%
Maryland	\$8,500	0.3%	7.5%	2.6%
Massachusetts	\$15,000	0.94%	14.37%	2.42%
Michigan	\$9,000	0.0%	6.3%	2.7%
Minnesota	\$35,000	0.1%	9.0%	Industry Avg
Mississippi	\$14,000	0.0%	5.4%	1.0%
Missouri	\$11,500	0.0%	5.4%	2.376%
Montana	\$34,100	0.0%	6.12%	Industry Avg

²⁰ State UI taxes also include a flat rate to cover costs that cannot be traced to a specific employer—such as benefits paid to workers who have quit with good cause, dependents’ allowances, and emergency extended benefits—as well as costs attributable to employers no longer in business or already at their maximum tax rate (Vroman and Woodbury 2014: 256-257).

State	Wages Subject to Tax	Minimum Rate [1]	Maximum Rate [1]	New Employer Rate [2]
Nebraska	\$9,000 or \$24,000 for high tax group employers	0.0%	5.4%	1.25%
Nevada	\$32,500	0.25%	5.4%	2.95%
New Hampshire	\$14,000	0.1%	7.5%	1.7%
New Jersey	\$35,300	0.4%	5.4%	2.8%
New Mexico	\$25,800	0.33%	5.4%	Industry Avg
New York	\$11,600	0.0%	6.9%	2.5%
North Carolina	\$25,200	0.06%	5.76%	1.0%
North Dakota	\$37,900	0.08%	9.69%	1.02%
Ohio	\$9,000	0.3%	9.4%	2.7%
Oklahoma	\$18,700	0.1%	5.5%	1.5%
Oregon	\$42,100	0.7%	5.4%	2.1%
Pennsylvania	\$10,000	1.2905%	9.9333%	3.689%
Rhode Island	\$24,000 or \$25,500 for high tax group employers	0.9%	9.4%	1.27%
South Carolina	\$14,000	0.0%	5.4%	0.81%
South Dakota	\$15,000	0.0%	9.3%	1.2%
Tennessee	\$7,000	0.01%	10.0%	2.7%
Texas	\$9,000	0.0%	6.0%	2.7%
Utah	\$36,600	0.0%	7.0%	Industry Avg
Vermont	\$16,100	0.8%	6.5%	1.0%
Virginia	\$8,000	0.1%	6.2%	2.5%
Washington	\$52,700	0.0%	5.4%	Industry Avg
West Virginia	\$12,000	1.5%	7.5%	2.7%
Wisconsin	\$14,000	0.0%	10.7%	2.5%
Wyoming	\$26,400	0.0%	8.5%	Industry Avg

Source: U.S. Department of Labor, Employment and Training Administration, January 2020.

<https://oui.doleta.gov/unemploy/content/sigpros/2020-2029/January2020.pdf>

Notes: 1. Rates apply only to experience rated employers and do not include applicable non-UI taxes, surtaxes, penalties, or surcharges.

2. New employer rate shown is the base rate. Higher rates may apply depending on industry classification and/or other factors.

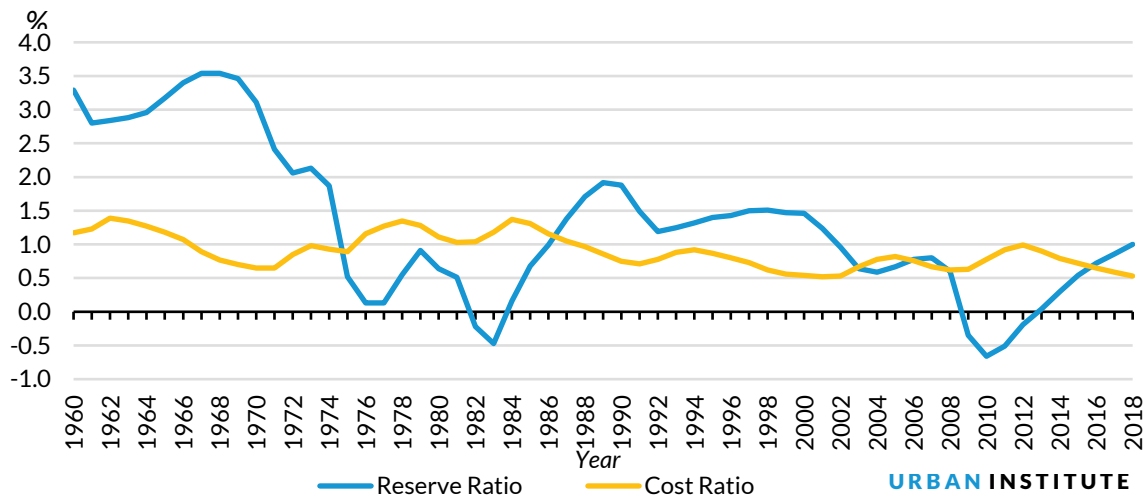
States also differ in whether they index taxable wages and maximum weekly benefits to increase automatically with the economy. In the 2019 comparison of state UI laws, 19 states linked the growth of their tax bases with average UI-covered wages, while 23 states linked their maximum weekly benefit to this measure. On average, states with indexing had higher tax bases and higher maximum weekly benefit amounts (Vroman 2016).

State Options for Addressing Unemployment Insurance Trust Fund Deficits

In most years, state UI payroll taxes exceed benefits paid and states accumulate positive trust fund balances. The federal government pays interest on these balances and states can draw down reserve funds when claims are elevated, unemployment spells are longer than usual, or taxable wages are falling. This forward financing allows states to avoid raising taxes on employers or cutting benefits to workers in a recession. UI thus functions an automatic stabilizer, or a program that helps dampen the effects of recessions.

Reflecting the program’s design and intent, UI trust fund reserves fall during recessions (figure 2.1).²¹ However, since 1970 there has been a downward trend in trust fund balances as a share of covered payroll, often referred to as the UI reserve ratio. There has also been a decline in the cost ratio, or state UI taxes as a share of covered payroll. Inadequate reserves may leave states less able to cover additional UI costs in a recession and undermine UI’s role as an automatic stabilizer, especially if states cut benefits to replenish their trust funds (e.g., Vroman and Woodbury, 2014).²²

FIGURE 2.1
Aggregate UI Reserve and Cost Ratios, 1960-2018



Source: US Department of Labor Employment and Training Administration ET Financial Data Handbook, columns 15 and 19.

²¹ “The essential idea in unemployment compensation is the creation of reserves during periods of employment from which compensation is paid to workmen (sic) who lose their positions when employment slackens and who cannot find other work.” Senate Report No. 628, 74th Cong., 1st Sess. (1935) at 11 as cited in McHugh (2004).

²² Vroman (2017) notes that reductions in potential benefit duration were likely a factor in a 25 percent decline in UI reciprocity rates (or weekly beneficiaries as a share of weekly unemployment) in the wake of the 2007 recession.

Title XII Borrowing

When UI trust funds are depleted, states may obtain advances from the Federal Unemployment Account (FUA) under procedures outlined in the FUTA legislation. Two types of loans are available. Interest-free cash flow advances must be repaid by September 30th of the same calendar year, with states incurring no new borrowing from October to December in that year (US Department of Labor 2019). Loans that are not fully repaid by September 30th start incurring interest charges based on the interest rate states receive on their positive trust fund balances, the interest rate from the fourth quarter of the preceding year.²³

To obtain a FUA advance, a state governor or official designated by the governor must submit a written request to the Secretary of the Labor sent to the attention of the Administrator of the Office of Unemployment Insurance. The request must cover a three-month period; if a state does not need FUA advances for all three months in this period, it can indicate a \$0 request for those months. These procedures are outlined in an Unemployment Insurance Program Letter (US Department of Labor 2002).

When the administrator is satisfied that the state request meets mandatory requirements, they certify to the US Secretary of the Treasury the monthly amounts to be transferred from the FUA to the state trust fund. If circumstances change and the state no longer requires the full amount requested, previously certified amounts are no longer available. States may not carry unused balances forward from one month to another.

Although Title XII loans are granted in three-month increments, they are renewable for multiple periods as long as the state meets loan eligibility conditions. The conditions relate mainly to the timing of deposits, withdrawals from federal accounts, and other reporting requirements. (US Department of Labor 2019).

The features of Title XII loans include:

- Transfers from the FUA to a state trust fund are made “on a daily basis, as needed to meet requisitions for benefit payments.”
- The US Treasury charges interest “only on that portion of certified advances that the state actually draws down.”
- State governors or their delegates may request at any time that funds in the state trust fund be transferred to the FUA (i.e., initiate a voluntary repayment process).

²³ Previously, the federal government allowed states to borrow for the UI trust funds without paying interest. However, that policy changed in 1982, after which loan repayments accelerated considerably (Vroman, 2015: 1-2, 7). The American Recovery and Reinvestment Act of 2009 temporarily waived interest charges due in September 2009 and 2010 but those provisions expired at the end of 2010.

- They may do so in a letter listing a specific amount or giving the Secretary of Labor permission to authorize any repayments over a specified period “up to the amount of the outstanding loan balance, subject to the availability of funds in the state accounts.”²⁴

Together, these features imply considerable flexibility for states to minimize interest costs on Title XII loans by minimizing the principal outstanding on any given day. Moreover, states can delegate to DOL (which then coordinates with the US Treasury’s Bureau of the Fiscal Service) authority to transfer any positive balances from their trust funds to the FUA on a daily basis (i.e., “sweeping daily balances”).

States may repay long-term Title XII loans in two ways. Automatic FUTA tax credit reductions go into effect if a state has outstanding Title XII loans on January 1st of two or more consecutive calendar years and the debt is not fully repaid by November 10th of the second year. The first year FUTA tax credit reduction is 0.3 percent of federal taxable wages (or \$21 per covered worker). Subsequent reductions increase with each year of state indebtedness, typically by increments of 0.3 percent. However, details depend on the circumstances of individual debtor states.²⁵

Apart from FUTA tax credit reductions, states may repay Title XII loans through their own legislative appropriations or special taxes levied on employers (Vroman 2015). However, interest payments on Title XII loans must come from sources outside the state trust fund.²⁶

Municipal Bonds and Other Options

A municipal bond is a debt instrument issued by state and local governments to fund a capital project or an obligation and is financed by investors. In the 2007 recession and its aftermath, eight states took Title XII loans, then repaid the loans using proceeds from a municipal bond issuance, sometimes in combination with an interim bank loan. The number of states issuing UI bonds and the combined face value of these bonds (\$10.7 billion from December 2010 to November 2013) were much larger than in any prior recession.²⁷

Compared with Title XII borrowing, UI bonds require states to engage in a more diverse set of activities involving a broader array of actors including state treasurer’s offices or other finance agencies as well as

²⁴ The April 24, 2002 Unemployment Insurance Program Letter (UIPL) notes: “When a state uses this process, there will be one letter from the Governor or designate to the Secretary of Labor and one letter from the Secretary of Labor to the Secretary of Treasury.” The UIPL also notes that repayments occur on a last-in, first-out basis in contrast to repayment of other FUA advances (e.g., reductions in FUTA credits, which are made on a first-in, first-out basis).

²⁵ For more information, see “FUTA Credit Reductions” at https://oui.doleta.gov/unemploy/futa_credit.asp.

²⁶ For more information, see IRC § 3304(a)(17) at <https://www.law.cornell.edu/uscode/text/26/3304>.

²⁷ Prior to the Great Recession, only six states had issued UI bonds: Louisiana and West Virginia in the late 1980s, Connecticut in 1993, and Illinois, North Carolina and Texas from 2003 to 2005 as discussed below.

outside experts such as a municipal financial adviser or underwriter to help design the bond issue.²⁸ The issuer must also retain outside bond counsel to make sure the issuance conforms with state and federal law.²⁹

Next, the issuer must decide on a method of sale. In a competitive sale, the issuer publishes terms and conditions of the offering (including auction rules) and invites underwriters to submit sealed bids to buy the entire offering at a specific price. The winning bidder typically is the underwriter that offers the lowest interest cost for the securities.

In a negotiated sale, the issuer publishes a request for proposals (RFP) and interested underwriters submit plans detailing how they would approach the deal.³⁰ The issuer selects an underwriter, who works with the issuer to design the bond issue and serves as “senior manager.” Underwriters may work individually or together in groups known as “syndicates.” The senior manager determines the size and composition of the syndicate.³¹

Underwriters purchase the bond and then reoffer it to investors at a markup (also known as the underwriter’s discount or gross underwriting spread) (US Securities and Exchange Commission 2012). Issuers may also sell bonds via private placement, usually to a bank or depository institution. Given their complexity, nearly all UI bonds are negotiated sales, as discussed further in chapter 4.

Working with state finance agency staff or external advisers, the issuer must then decide on various bond features including size, duration or maturity, security pledge, “coupon” or interest rate, prepayment or “call” features, and whether to issue bonds at par, a premium, or a discount. These decisions are described below.

An issuer will determine the size and maturity of a UI bond based on many factors but most notably projections of the trust fund shortfall and state’s anticipated future economic performance. Both projections are subject to upside and downside risks. Issuers typically address upside risks using call

²⁸ Underwriter and municipal financial adviser roles are distinct. One of our interviewees, co-head of a credit strategy group, described the underwriter’s role in structuring a bond as “an added service that the firm... brings to clients drawing on experience of team that includes traders, underwriters, credit analysts.” Municipal financial advisers are also regulated by the Securities and Exchange Commission as a result of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. See <https://www.sec.gov/rules/final/2013/34-70462.pdf>.

²⁹ This is especially important for tax-exempt bonds under federal law as discussed in chapter 4. However, state law may also set voter approval requirements in addition to limiting the duration of bond, revenue sources that may be pledged as debt service, and the method of sale (i.e., competitive versus negotiated).

³⁰ Not all negotiated sales include RFPs although this is an industry recognized best practice. See Government Finance Officers Association (2008).

³¹ In 2018, negotiated sales accounted for roughly half of bond sales by issuances (51 percent) and a higher proportion by dollar value (70 percent). See SIFMA (2019: 11-12).

features as discussed below. They address downside risks by obtaining legislative or voter authorization for a larger total issuance than needed, leaving room to issue another bond without new statutory authorization.³²

The security of a UI bond is typically an employer payroll tax or “obligation assessment” levied in addition to regular UI payroll taxes.³³ UI bonds often include rate covenants or requirements that UI administrators monitor revenue collections and adjust payroll tax rates if needed to repay investors. In addition, issuers may set up reserve funds to be used to repay debt service.

Whether to obtain credit enhancements through bond insurance or letters of credit is another decision point. Bond insurance has become much less common following widespread financial distress among most insurers during the 2008 financial crisis.³⁴

The coupon is the interest rate paid to the bond investor. A 5 percent coupon on a \$100 bond pays \$5 a year, for example. Coupon rates may be fixed, as in the example above, or variable to fluctuate with market conditions.³⁵ States issuing UI bonds often rely on a combination of structures in a “serial bond,” or series of issuances as opposed to a single issuance or “term bond.”³⁶

Issuers then decide on coupon rates based on their and their advisers’ reading of investor demand and the projected course of future interest rates. Regardless of coupon rate, states typically make fixed rate payments twice a year. They may structure the amortization schedule or repayment of principal versus interest over time in various ways (Taylor and Hillman 2009).

³² As described further in Section IV, most states that issued bonds following the Great Recession addressed both upside and downside risks. For example, Texas addressed the downside risk by authorizing \$3.5 billion in bonds while issuing only \$1.96 billion in December 2000. For Pennsylvania, the two amounts were a \$4.5 billion authorization and an October 2012 issuance of \$2.83 billion. Both states addressed the upside risk by having bonds with a large callable share, 0.43 of face value in Texas and 0.49 in Pennsylvania.

³³ States may also secure bonds with their “full faith and credit” (i.e., a General Obligation or GO bond) or a legislative appropriation. The latter, also known as “moral obligation” bonds, are generally seen as less secure than either a revenue-backed or GO bond.

³⁴ See, for example, Cornaggia, Hund, and Nguyen (2019).

³⁵ Variable rate bonds may also involve separate derivative “swap” contracts (US Securities and Exchange Commission 2012: 9; 91).

³⁶ For example, as discussed in chapter 4, of the eight states that issued UI bonds in the Great Recession, four states followed a similar structure using three bond series: Series A – fixed interest rate, fixed duration; Series B – fixed rate, callable and Series C – variable rate, callable. These four issuances also shared other common characteristics. Series C bonds had the longest maturities and were the first ones to be called. The Series C bonds also had the smallest face value of the three series in each state.

Related to the choice of coupon rate is whether to issue bonds at par, a premium, or a discount. A par bond is a bond that can be purchased at 100 percent of its face or principal value. A premium bond can be purchased at a price greater than its face value, and a discount bond at a price below its face value.

To see why this is so requires understanding the relationship between bond prices and yields. The price of a bond is the discounted value of all future debt service payments, including principal plus interest payments. Interest payments are calculated by multiplying the bond's principal or face value by the coupon rate. The discount rate is the prevailing market interest rate or yield.

Yields and prices move in opposite directions from one another. If the market yield exceeds a bond's coupon rate, the price of the bond will exceed its face value—that is, it will sell at a premium because investors are willing to pay more for higher coupon payments over time. If the market yield is below the coupon rate, the bond will conversely sell at a discount. If the market interest rate equals the bond coupon, the bond's price will equal its par or face value.³⁷

At issuance, a bond issuer works with an underwriter, municipal financial adviser, or other team of advisers to decide on the most advantageous combination of premiums or discounts and coupon rates given market conditions. As in the municipal bond market as a whole, UI bonds are often issued at a premium and with a 5 percent coupon rate (Landioni 2013). This is largely because institutional investors tend to prefer the lower volatility that comes with premium bonds.³⁸

Call options gives issuers the right, but not the obligation, to repurchase a bond from investors at a specified price ("strike price") and after a specified date ("strike date").³⁹ All else being equal, bonds issued with call features require issuers to compensate investors for this added uncertainty by paying higher interest rates. The market preference for premium bonds comes despite the added uncertainty from call options, which are often attached to these bonds.

³⁷ This discussion assumes a fixed rather than variable rate bond. See <https://www.treasurer.ca.gov/cdiac/seminars/2009/20091001/1.pdf>

³⁸ For example: "If interest rates rise after you purchase the bond the value of the bond will fall...but not as quickly as a lower coupon bond would. This is because more of the value of the bond is in the stream of early coupon payments to be received in the near future rather than the final maturity amount. The present value of payments to be received earlier (in this case, the coupon payments) doesn't change as much as payments received later (like the principal amount at maturity) for a given change in interest rates." See <https://www.treasurer.ca.gov/CDIAC/seminars/2011/20111007/presentation.pdf>

The tax treatment of bond discounts or premiums at issuance may also be a factor in structuring and marketing municipal bonds. See <https://www.treasury.gov/resource-center/tax-policy/Documents/General-Explanations-FY2017.pdf>

³⁹ The period preceding the strike date is the "lockout."

Beyond deciding on bond structure, states issuing UI bonds must establish an apparatus to administer the special tax securing the bonds and to pay debt service. They also typically conduct outreach to the employer community, which may be unfamiliar with the new financing mechanism but may also perceive that automatic FUTA tax credit reductions are harmful to the business climate.⁴⁰

Historical Borrowing to Finance Unemployment Insurance Trust Fund Deficits

State UI programs have a long history of borrowing when recessions cause a sharp drawdown of state trust fund balances. The first state to borrow from the US Treasury was Alaska in 1954, and widespread borrowing first occurred in the mid-1970s when 25 different programs needed loans between 1974 and 1979 (Vroman et al. 2017). Borrowing was even more widespread from 1980 to 1987 because of back-to-back recessions in 1980 and 1982; ultimately 32 programs needed loans. The mild recessions of 1991 and 2002 also caused some UI programs to borrow, but only five programs did so from 1991 to 1996 and five from 2001 to 2006.

Following the Great Recession of 2007-2009, 36 of 53 UI programs secured loans to help finance benefit payments. Year-end indebtedness peaked at \$40.2 billion in 2010. California was the last state program to fully repay its Title XII loans in 2017, but the Virgin Islands continued to be in debt into 2020.

As noted above, UI bonds reached a peak in the Great Recession both in the number of issuances and total par value. However, state UI programs have issued municipal bonds on 14 separate occasions since Louisiana pioneered the practice in 1987 (table 2.2). This history is reviewed below.

UI Bonds prior to the 2007 Recession

Decreases in energy output in 1986 and 1987 interrupted state economic recoveries from back-to-back recessions of 1980 and 1982. Louisiana and West Virginia were especially hard hit due to their reliance on energy production (petroleum in Louisiana, and coal in West Virginia). Net state trust fund balances (gross reserves less Title XII loans) in these states remained negative through the end of 1986. Both states issued municipal bonds as part of a strategy to restore their trust funds.

⁴⁰ For an example of the argument that UI bonds are preferable to FUTA tax credit reductions because of potential effects on the business climate, see Hitchcock and Prunty (2012).

TABLE 2.2

State UI Municipal Bond Issuances, 1987 to 2013

	Year of issuance (1)	Loan authorized ^a (2)	Loan amount ^a (3)	Loan divided by payroll ^b (4)	Final bond maturity (5)	Bonds fully repaid (6)	Premium at issuance (7)	Premium, percent of par value (8)	Issuance costs (9)	Issuance costs, percent of par value (10)
Louisiana	1987	1,315	1,315	6.3%	2002	1994	INA	INA	INA	INA
West Virginia	1987	258	258	3.2%	1993	1991	INA	INA	INA	INA
Connecticut	1993	1,142	1,021	2.6%	2001	2001	INA	INA	INA	INA
Texas	2003 ^c	2,000	1,400	0.5%	2009	2007	23.2	1.66%	INA	INA
North Carolina	2003 ^d	173	173	0.2%	2006	2006	INA	INA	INA	INA
Illinois	2004	1,400	712	0.4%	2013	2006	18.3	2.57%	INA	INA
Texas	2010	3,500	1,960	0.5%	2020	2017	150.5	7.68%	10.39	0.53%
Idaho	2011	188	188	1.1%	2015	2015	16.0	8.51%	1.16	0.62%
Michigan	2011	3,323	3,278	2.4%	2023	2019	395.0	12.05%	10.73	0.33%
Colorado	2012	INA ^e	625	0.7%	2017	2017	9.2	1.47%	2.33	0.37%
Illinois	2012	2,400	1,470	0.6%	2020	2017	157.0	10.68%	7.25	0.49%
Pennsylvania	2012	4,500	2,829	1.4%	2024	2019	416.5	14.72%	15.25	0.54%
Arizona	2013	200	200	0.2%	2014	2014	1.7	0.84%	0.31	0.16%
Nevada	2013	INA ^e	549	1.3%	2018	2017	59.4	10.82%	3.06	0.56%

Source: Information supplied to the Urban Institute by individual states.

Notes: ^a Millions of dollars.

^b Loan amount as a percent of total state payroll of taxable covered employers in the year of issuance.

^c Pennsylvania and Missouri considered issuing bonds but ultimately did not.

^d North Carolina borrowed with tax anticipation notes issued in September of three consecutive years, 2003, 2004, and 2005. Loan amounts were \$172, \$270, and \$77 million respectively, an average of 0.2 percent of payroll. Repayments occurred in the following years using first quarter UI tax accruals.

^e Additional authorization but amount not specified in the issuance document. INA – Information not available.

Several features of these two states' initial bonding initiatives are noteworthy. First, they were large. Loan amounts—6.3 and 3.2 percent of UI covered payroll, respectively (table 2.2 column 4)—were the largest of all 14 muni bond issuances. Second, both sets of bonds were repaid early: Louisiana in 1994 although the final maturity date was 2002 and West Virginia in 1991 compared to 1993. Third, these were the only bond issuances that did not closely follow a national recession as measured by the National Bureau of Economic Research (NBER). All later bond issuances closely followed the start of a recession: July 1990 (Connecticut), March 2001 (Texas, North Carolina and Illinois) and December 2007 (the eight states in the bottom rows of table 2.2). Fourth, states issuing bonds have usually not issued the full amount of the underlying legislative authorizations. For example, Texas in 2003 issued only \$1.4 billion of its full authorization of \$2 billion (columns 2 and 3).

UI Bonds after the 2007 Recession

The Great Recession was deep and followed by a prolonged, slow recovery. Consequently, state trust fund drawdowns were especially large in 2009, 2010, and 2011, even though two federally financed extended benefit programs (Extended Benefits and Emergency Unemployment Compensation were also activated, with Emergency Unemployment Compensation being especially large during these years).⁴¹

Table 2.2 displays several details of the municipal bonds issued by the eight states that availed themselves of this option between 2010 and 2013. States are listed roughly according to issuance dates with Texas first (December 2010) and Nevada and Arizona last (fall 2013). Except for Arizona, which issued tax anticipation notes, all states issued bonds. The details of these issuances are further explored in chapter 4.

⁴¹ Extended Benefits and Emergency Unemployment Compensation programs were fully federally financed (Burtless 2009).

Chapter 3: Federal Policy that Governs State Unemployment Trust Funds Management

State borrowing to replenish state UI trust fund deficits is subject to various rules, procedures, and constraints. This chapter describes federal laws, policies, and processes governing state UI trust fund borrowing based mainly on interviews with federal officials.⁴² The research team interviewed staff representing the following federal agencies and offices:

- US Department of Labor’s Office of Unemployment Insurance;
- US Department of the Treasury, specifically the US Internal Revenue Service and the Bureau of the Fiscal Service; and
- US Securities and Exchange Commission’s Office of Municipal Securities.

Overall, these interviews highlighted that states make a complex set of tradeoffs when evaluating whether to borrow using Title XII loans or municipal bonds. Key issues included knowledge about the timing and flexibility of federal loan repayment and compliance with anti-arbitrage regulations and with rebate and yield restrictions associated with tax-exempt debt.

Federal Agencies and the Roles They Play in Title XII Borrowing

As discussed in chapter 2, states seeking to obtain Title XII loans start the process by submitting a written request to the Secretary of Labor sent to the attention of the Administrator of the Office of Unemployment Insurance. When the administrator is satisfied, the planned borrowing satisfies requirements of the Social Security Act and FUTA, they certify to the US Secretary of the Treasury the maximum amounts to be transferred from the FUA to the state trust fund.

DOL staff then coordinate with the Bureau of the Fiscal Service to transfer funds between the FUA and state trust funds using Automated Standard Application for Payments software. Office of Unemployment Insurance staff are available to answer questions from state UI agencies, while Bureau

⁴² A list of questions for the federal officials interviewed is provided in appendix D.

of the Fiscal Service staff have limited to no interactions with states. As one the Bureau of the Fiscal Service respondent summarized:

We manage the investments for the fund, allocate earnings, and process activity into the state UI accounts when states withdraw from and make deposits to their accounts.

And as another Bureau of the Fiscal Service respondent noted:

We have some state interaction, but largely for any kind of policy-related things...we would always involve DOL. Direct interactions with the state are normally just questions about activity that they're seeing associated with their UI account, or about a specific transaction. Things like that. We virtually never have any direct dialogue with them without [the US Department of] Labor.

Federal Statutes, Rules and Regulations, and Guidance that Govern Borrowing and How They Are Implemented

As noted earlier, states seeking to borrow to meet their benefit payment obligations have two broad options: borrowing from the US Treasury (Title XII loans) or issuing debt instruments in the municipal bond market. This section discusses both of these options in the context of the federal statutes, rules and regulations, and guidance that govern these options and how federal staff implement them.

Title XII Borrowing

Interviews with federal officials suggested that state UI administrators were well versed in the Title XII borrowing process, including the option to sweep daily trust fund balances. A DOL official cited Unemployment Insurance Program Letters (DOL 2002), in addition to seminars and presentations to the National Association of State Workforce Agencies and Strategic Services on Unemployment and Workers' Compensation as resources that states could easily access. A Treasury official concurred:

I think the states are pretty-well versed in the Title XII borrowing program. Most of this is well filled out in the Title XII/Social Security Act. They probably have the rules and regulations right in front of them. Or they can communicate with the Department of Labor.

Representatives from the Office of Unemployment Insurance and the Bureau of the Fiscal Service thought that most states accessing Title XII loans initiated daily sweeping in their voluntary repayment letters and that California and the US Virgin Islands (the only two jurisdictions with outstanding Title XII

debts at the time) were actively using it. Subsequent interviews with state officials confirmed that state UI agency staff were familiar with the sweeping process and used it effectively when borrowing via Title XII (see chapter 4).

Municipal Bonds

In contrast to the Title XII borrowing process, little literature or documentation exists on how states may use municipal bonds to finance UI trust fund deficits. This dearth may be due to UI bonds' relative rarity, as they are used infrequently. They also comprise a very small share of total municipal bond issuances, which average roughly \$400 billion each year (US Securities and Exchange Commission 2012).

One federal official with extensive private sector bond counsel experience noted that they rarely came across UI bonds in their practice. All federal officials interviewed—who included some of the country's top experts on tax-exempt bond law—indicated they were very interested in this study, with one official calling the lack of systematic research in this area a “notable liability.”

As several federal officials indicated, the exemption of municipal bond interest payments from federal income taxes is a subsidy to encourage state and local government borrowing for capital investment.⁴³ If states and localities are borrowing for purposes other than capital investment, they are subject to additional accounting requirements. As one federal official summarized:

Yes, you can issue tax-exempt bonds to finance these [UI] obligations. The tricky part about it is that this [financing] is not to build a bridge or to build a building. The use of proceeds is not a capital project.

More specifically, UI bonds fall under the category of working capital financings.⁴⁴ Working capital financings must follow an accounting rule known as “proceeds spent last.” As noted in an industry

⁴³ In addition to traditional tax-exempt bonds, state and local governments may issue “conduit bonds,” also known as public debt for private purposes or qualified private activity bonds. As their name indicates, qualified private activity bonds may only be issued for certain types of permitted activities, and they are not always eligible for the full federal income tax exemption because their interest is not always exempt from the Alternative Minimum Tax. Some qualified private activity bonds are also subject to national or state volume caps and the average length of maturity. For more information, see Congressional Budget Office, “Subsidizing Infrastructure Investment with Tax-Preferred Bonds,” CBO Blog, Congressional Budget Office, October 26, 2009, <https://www.cbo.gov/publication/24982>.

⁴⁴ These are distinct from short-term bonds or notes issued for a period of less than 13 months. Short-term bonds are used to bridge gaps in cash flow, for example, when tax payments are received on a quarterly basis (especially in the second quarter of the calendar year) but expenses occur monthly. Some borrowers (e.g., Illinois and Puerto Rico) have rolled over short-term debt for longer periods of time to finance the ongoing operations of government.

resource, *The ABCs of Arbitrage*, “the heart of the proceeds-spent-last rule is the idea that available amounts must be spent first” (Tsilas and Ciccone Betterton 2018).

Available amounts are amounts that the issuing entity could access and use for working capital expenditures without taking legislative or judicial action. These include “rainy day” funds or budget stabilization accounts. However, an entity does not have to spend down all funds on hand. Issuers may keep a “reasonable working capital reserve” equivalent to 5 percent or less of the previous year’s actual working capital expenses.

There is also a question of how often the issuer must check to make sure there are no available amounts that they need to spend down to conform to proceeds spent last. Prior to 2016, the Internal Revenue Code held no specific guidelines. Issuers had to rely on Internal Revenue Service private letter rulings, which apply only to some circumstances and are not precedent.

However, in 2016, the Internal Revenue Service updated its arbitrage regulations to include guidance for long-term working capital financings. The 2016 safe harbor sets rules about when an issuer must check for the existence of “available amounts,” what are appropriate investment vehicles for working capital bond proceeds, and when it is appropriate to sell other tax-exempt bonds.⁴⁵

The 2016 safe harbor regulations were not written with UI bonding in mind but rather as a response to an increase in fiscally distressed jurisdictions borrowing on the tax-exempt market to finance working capital expenditures. More broadly, the tax-exempt arbitrage experts interviewed regarded the proceeds spent last rule as so restrictive that only states in dire financial straits would be able to meet its requirements.

In addition to anti-arbitrage regulations, states issuing tax-exempt debt must abide by yield and rebate restrictions. These restrictions limit investments of bond proceeds to yields less than that of the issued bond. If an issuer earns more on investments of tax-exempt bond proceeds, they must rebate additional earnings to the Treasury (Tsilas and Ciccone Betterton 2018).

Enforcement of anti-arbitrage regulations is completed through post-issuance Internal Revenue Service audits. The Securities and Exchange Commission may investigate claims of issuer fraud or unlawful municipal broker-dealer and financial adviser actions. However, a rule known as the Tower Amendment prohibits the Securities and Exchange Commission from directly regulating state and local

However, this practice risks triggering Internal Revenue Service scrutiny. Investors also typically demand risk premiums for bonds used to finance operating deficits.

⁴⁵ Internal Revenue Code, *Id.* §1.148-1(b)(4)(ii)

bond issuers although its Office of Compliance, Inspections, and Examinations does have authority to investigate claims of fraud and to regulate municipal broker dealers and financial advisers (US Securities and Exchange Commission 2012, 27-28).

Bond counsel, therefore, plays an important role as a pre-issuance gatekeeper, along with guidance from Internal Revenue Service private letter rulings and bond counsel opinions on previous issuances. States may also avoid these regulations by issuing taxable bonds to finance trust fund deficits.

Overall, Title XII borrowing is a well-understood process by many states, according to federal officials. States taking Title XII loans have to consider the timing and flexibility of federal loan repayment. Issuing bonds for UI trust fund deficits comes with complicated federal rules and regulations that states must adhere to, especially compliance with anti-arbitrage regulations and with rebate and yield restrictions associated with tax-exempt debt. Unlike for Title XII loans, there is no federal guidance or information specifically on UI bond issuances. The next chapter explores how states make decisions about their borrowing options.

Chapter 4: State Decisionmaking Process When Considering Borrowing Options

This chapter presents findings from interviews with state officials from eight states and bond representatives on the processes that states used in making borrowing decisions to finance their UI trust fund deficits in the last recession.⁴⁶ This chapter first provides summaries of the borrowing experiences of the eight study states after the 2007 recession. It presents findings from these interviews that describe the factors that states consider as they make borrowing decisions. It also explores how bonds in the Great Recession were structured and how bond market representatives engaged states in issuing bonds. The state officials' level of satisfaction with the borrowing option they chose after the 2007 recession is then discussed. The chapter concludes with key takeaways on state decisionmaking on their borrowing options.

Summaries of Eight States' Experiences

This section summarizes the experiences of each of the eight states included in this study. It first presents the experiences of the four states that used municipal bonds and then the four states that used Title XII loans.

Table 4.1 summarizes the methods used by the eight states in this study to finance their UI trust fund debts. All eight borrowed from the US Treasury some time following the Great Recession. For the four states that issued municipal bonds the Title XII loans lasted from one to three years whereas the four states that relied exclusively on Treasury loans had Title XII debts of five or more years. Most states enacted UI tax increases and benefit reduction as part of their financing strategies. Loans from other parts of state government and from banks were short term, lasting one year or less. The table clearly shows that all eight states used multiple (two or more) sources to repay their trust fund debts.

⁴⁶ A description of the selection of the eight states, four of which used municipal bonds and four of which used Title XII loans, and of the interviews of 44 officials from these states and the two bond market representatives is provided in appendix B. Copies of the interview guides for the state officials and bond market representatives can be found in appendices E and F, respectively.

TABLE 4.1

Financing Responses of Eight UI Programs

State	Title XII Loans	Muni Bonds	Tax Increases ^a	Benefit Reductions	State Loan	Bank Loan
Colorado	✓	✓	✓			
Michigan	✓	✓	✓	✓	✓ ^b	✓
Pennsylvania	✓	✓	✓	✓		✓
Texas	✓	✓				
Indiana	✓		✓	✓	✓ ^b	
North Carolina	✓			✓		
Ohio	✓		✓	✓	✓ ^c	
Vermont	✓		✓	✓		
8 States	8	4	6	6	3	2

Source: Table developed at the Urban Institute with information from DOL's Office of Unemployment Insurance and the individual states.

Notes: a – Changes in tax base and/or tax schedules. b – Loan from the general fund. c – Loan from the unclaimed funds reserve.

Bonding States

Texas is particularly important in the UI trust fund financing discussion because it was the first state to issue bonds for their trust fund following the 2007 recession and had previous experience with UI bonds in the 2003 recession. Respondents in the three other states that issued bonds looked to Texas for guidance—often using the same financial advisers and underwriting firms. For that reason, this section presents the summary of Texas's experiences first. It then discusses Pennsylvania, which relied heavily on Texas, followed by Michigan and Colorado.

TEXAS

Texas's decision to issue bonds during the Great Recession followed an earlier bond issuance in 2003, when the state issued and repaid municipal bonds to finance a small trust fund deficit during the economic downturn that began in 2001.⁴⁷ Respondents who were staff from the Texas Workforce Commission (TWC) referred to the 2003 issuance as an important training ground for the larger 2010 issuance and 2014 refinancing.

During the lead-up to the Great Recession, respondents indicated that the TWC performed day-to-day monitoring and maintenance activities for the state's trust fund. By 2009, their internal analyses (which tracked the trust fund's level, state unemployment, claims rates, and UI tax revenue) indicated

⁴⁷ For details on Texas's borrowing activities and decisionmaking process, see the state summary in appendix C.1.

that the state was heading toward a deficit. Immediately, the state began exploring the possibility of issuing bonds.

Meanwhile, the trust fund became insolvent in late 2009 and the state began Title XII borrowing activities, taking advantage of the interest-free borrowing option available through the American Recovery and Reinvestment Act in 2009 and 2010. Respondents who reported familiarity with the mechanics of Title XII borrowing described the process as straightforward; they utilized daily sweeping and felt that there were adequate resources available from DOL to assist with Title XII transactions. However, they viewed this borrowing strategy as a temporary solution to remain solvent and make payments while preparing the bond issuance.

Respondents reported considering bonding at the first sign of a downturn. They noted that TWC accounting staff prepared a comparison of the anticipated costs of borrowing via Title XII and issuing municipal bonds. Their analysis indicated that issuing municipal bonds would be the cost-saving option, so TWC staff took their findings to several stakeholders, including the Texas governor's office, and TWC leadership—a three-person commission representing employers, labor, and the public—which has the authority to formally begin the bond issuance process.

Respondents described the factors that they presented to the commissioners on using UI bonds. They thought the most important factor was their internal cost analysis, which indicated that issuing municipal bonds would generate significant savings to the employer community. They described FUTA credit offsets as an “unsustainable” way to finance the UI debt, especially for the employer community, and expressed concern about the spikes in interest rates associated with annual federal interest rate adjustments. By contrast, respondents noted that the interest rate on municipal bonds was smoother. They also invoked a fairness argument, noting that while FUTA credit reductions affect all employers equally, the proposed special assessment to finance the UI bonds would be experience rated, whereby employers that laid off more employees would face a higher tax rate. According to the respondents, the Texas Commissioner Representing Employers, one of the three commissioners of the TWC, was instrumental in getting support from the employer community for the UI bond.

In addition, respondents indicated that the barriers to bonding were relatively low in Texas, thanks to the recent 2003 issuance. The state did not have to pass new legislation authorizing the issuance of debt; instead, staff were able to extend a previous debt authorization bill. Respondents reported that staff had a recent working relationship with the Texas Public Finance Authority, which according to Texas statute structures all of the state's public debt issuances. They also had working relationships with the financial advisers and underwriters that worked on the 2003 issuance. Respondents cited the

importance of its own institutional memory and technical expertise, emphasizing that having staff who were familiar with bond financings expedited the process.

After hearing the analysis, soliciting input from the employer and labor communities, and weighing the administrative barriers to issuing bonds, respondents said that the three commissioners passed a resolution requesting that the Texas Public Finance Authority begin the issuance process. The agency chose independent financial advisers for the state and issued a request for proposals for bond underwriters. TWC staff worked with Texas Public Finance Authority to ensure that the request for proposals included rough estimates of the expected issuance. After selecting a financial adviser and bond underwriter, all parties collaborated to structure a revenue bond issuance, which included three series of bonds with varying maturities, call features, and interest rates. The bond deal required the state to pass a new tax on employers, called an obligation assessment, which was funneled into an account reserved for making bond interest payments. The obligation assessment was added to the existing employer UI tax forms, so TWC staff, at the time, estimated that the cost to the agency of assessing this new tax was negligible—not significantly higher than the usual annual cost of updating and reprinting the employer tax forms and collecting UI tax revenue.

PENNSYLVANIA

Pennsylvania began borrowing federal Title XII funds in 2009, ending the year with \$1.9 billion in debt; that amount had increased to over \$3 billion by the end of 2011.⁴⁸ In 2012, the legislature authorized \$4.5 billion for issuance of municipal bonds for the purposes of repaying the federal Title XII debt. This measure was part of a larger legislative package that also addressed trust fund solvency by raising employer taxes and reducing benefits for claimants.

In July of 2012, during the discussions among the state decisionmakers, financial advisers, and investment banks on the mechanics of the bond issuance process, respondents reported that Citi offered the state a short-term, low-interest bank loan for over \$3 billion. This loan, according to respondents, enabled the state to fully repay its remaining Title XII debt before the end of that year, thereby avoiding additional interest payments and imposition of FUTA credit reductions, until they could issue UI bonds.

In October, the state issued \$2.8 billion in tax-exempt municipal bonds, with three series (one with entirely fixed duration bonds and two that included bonds with call features). Using the funds from this

⁴⁸ For more details on Pennsylvania's borrowing activities and decisionmaking process, see the state summary in appendix C.2.

issuance, the state repaid the bank loan. The state used a flat “interest” tax levied on employers as the source of revenue for repayment of all costs of the bonds. By October 2019, the bond debt had been reduced to \$162 million and the state repaid all debt by January 1, 2020.

Respondents, who were UI agency staff responsible for Title XII loans at the time, were positive about their borrowing experiences, with one respondent noting that “it went smoothly—we didn’t have any issues or problems.” They felt that the technical guidance on Title XII operations available on the DOL website and through the Unemployment Insurance Program Letters was helpful, although they noted that they had reached out to the DOL regional office for clarifications and to confirm details.

Although respondents had previously engaged in hypothetical discussions on the possibility of issuing municipal bonds to replenish the trust fund, they had not seriously considered bonding as an option until 2011, when the likelihood of FUTA credit reductions for employers was looming. Respondents felt that staff in the UI agency’s policy office were the likely source of the first serious proposal to issue municipal bonds to repay Title XII debt. Legislators, representatives of the governor’s office and the state’s Department of Labor and Industry’s Secretary and Deputy Secretary made the final decision to issue bonds, according to respondents. Other key UI agency staff, including the agency’s legal team, provided input during discussions after the decision to move forward with the bond issuance had been made. Respondents felt there was strong bipartisan support for UI bonds in the legislature, with one member facilitating the legislation process required for the state to incur this debt.

Respondents indicated that among the factors for the decision to issue UI bonds was the large interest rate differential between what the state was offered on the bonds (1.29 percent) versus the projections for Title XII (2.94 percent) at the time. They said they looked to the decisions made and strategies employed by Michigan in their earlier bond issuance for guidance because Pennsylvania had not previously issued bonds to address trust fund solvency. In addition, they noted their critical reliance on the skills and knowledge of the large team of experts from outside of the UI agency that they brought together to implement the issuance process. Overall, the respondents considered their experience with bonding a “real success story,” estimating that they saved over \$50 million by issuing UI bonds, an alternate debt repayment method.

MICHIGAN

The state began borrowing federal Title XII funds in 2007, earlier than most states. By the end of 2008, the debt had increased to \$770 million, and with significant drawdowns in 2009 and 2010, outstanding

debt had increased to over \$3 billion by 2011.⁴⁹ Since the state UI agency could not continue borrowing from the general fund to repay the Title XII interest shortfall, UI agency staff began exploring other trust fund financing options.

Respondents, who were current and former UI agency staff, noted that the state decided to issue municipal bonds after much discussion, employing a two-step process. In December 2011, respondents recalled that the state obtained a short-term, low-interest loan from Citi to enable them to repay the remaining Title XII debt and avoid additional FUTA credit reductions. The loan period also gave the state UI staff the necessary time to work through the details and to complete the UI bond issuance process. The state also repaid the money borrowed from the state general fund with the bank loan.

Respondents discussed that the legislature passed several bills in 2011 that allowed the state to issue bonds to address the trust fund deficit and to impose an obligation assessment tax on employers to repay the bonds. This legislation was part of larger UI reform package that reduced the benefit period and raised the tax base, albeit modestly. In June 2012, Michigan issued \$3.4 billion in municipal bonds, which they used to repay the bank loan and to finance a reserve fund. Using revenue from the obligation assessment tax added to the regular employer tax proportionally (i.e., employers with lower tax rates paid a lower obligation assessment), the state continued to pay down its debt and completed repayments by the end of 2019.

Respondents who were former UI agency staff responsible for borrowing and repaying through Title XII loans indicated that they were satisfied with the process, noting that they had relied on the DOL's Unemployment Insurance Program Letters for guidance and found them useful. The only challenge noted was the need to double check to ensure that they had "covered every detail." Respondents felt that an advantage of the Title XII borrowing and repayment option was that it was well understood; they described it as "comfortable" and "tried and true." They also thought that little action on the part was needed to borrow and repay funds, and, in particular, no legislation was required for accessing Title XII loans. However, a respondent noted that it would be helpful to have projected Title XII interest rates more than a few months in advance, especially for making comparison of interest rates during the deliberations on possible bonding.

Although respondents were not certain, they recalled that the bonding option was initially proposed by staff from within the UI agency. Others involved in the deliberations on the merits of bonding included administrators and staff from the state Department of Licensing and Regulatory

⁴⁹ For more details on Michigan's borrowing activities and decisionmaking process, see the state summary in appendix C.3.

Affairs (the umbrella organization with oversight responsibility for the UI agency) and the state Department of the Treasury, staff from the governor's office, legislators, the Michigan Manufacturers Association, the Small Business Association, the Chamber of Commerce, and other employer representatives.

According to respondents, one challenge faced during the bonding deliberations was that many of the participants did not fully understand the bond market and the bonding process. The state hired two financial advisers to provide technical guidance on the advantages and disadvantages of issuing bonds under different scenarios, as well as the long-term costs of the interest rate differentials between Title XII borrowing and bonding. One of the two financial advisers had worked with Texas on its earlier bond issuance process. Consequently, respondents indicated that they learned from Texas's experiences and many of decisions made were variations on earlier actions taken in Texas.

All respondents felt that Michigan's decision to issue UI bonds was a good one, particularly because they were able to increase the balance in their trust fund. They also praised the fairness of making the obligation assessment experience rated, rather than using FUTA credit reductions, which affect all employers equally. Looking back, they concluded that a successful bonding experience requires "a lot of buy in" from many partners. One respondent also suggested that most state UI agencies will not have the in-house expertise to carry out the complicated municipal bond issuance process and thought it was critical to seek out and bring in experts and to take advantage of their knowledge.

COLORADO

Respondents, who were UI agency staff, indicated that Colorado state UI agency administrators anticipated the state's trust fund insolvency about six months prior to the start of their federal Title XII borrowing in early 2010 based on their internal economic forecasts and projections.⁵⁰ Although no benefit reductions were enacted, the legislature made statutory changes to the UI financial structure that increased the wage base and reduced the number of tax rate schedules in 2011. Respondents noted that the state was able to quickly reduce their outstanding debt from over \$400 million to under \$320 million that same year with their first quarter payroll revenues. By early 2012, the outstanding balance was less than \$100 million.

Respondents reported that, in May 2012, the state decided to move forward with two municipal bond issuances to address the outstanding Title XII balance. Unlike the other states that issued UI

⁵⁰ For more details on Colorado's borrowing activities and decisionmaking process, see the state summary in appendix C.4.

bonds to address trust fund deficits during this period, Colorado borrowed more through its bond issuance than was necessary to repay its existing Title XII debt. Respondents indicated that they chose to also improve trust fund solvency and build up their balance at the same time, issuing UI bonds totaling \$625 million. The first of the two issuances, Series A (which was nontaxable), was for \$85 million and the second, Series B (which was taxable), was for \$540 million. Because Colorado had a solvency statute that required that the trust fund balance at the end of June of each year equal at least 0.5 percent of covered payroll, the state needed to obtain at least \$420 million to replenish their trust fund so that it could turn off their solvency surcharge tax. The terms of the bond issuance required that the state repay \$125 million each year from 2013 to 2017 so all debt was repaid through an obligation assessment that increased the employer tax rate.

State UI agency staff responsible for borrowing and repaying federal Title XII funds reported having positive experiences with the process, noting that the costs of this method were minimal because the state was able to borrow only what was needed on a given day. One respondent likened it to “transferring from your savings account to your checking account with no additional costs.” They felt that the written guidelines and technical guidance were helpful and quite clear.

Although respondents could not definitively identify the source of the initial consideration of the bonding option, they felt that it was likely lobbyists and bond sellers aware of other states’ bonding activities who first introduced the idea to members of the business community. The individuals involved in the discussions and decisionmaking were the director of the state UI agency, lobbying groups representing businesses, and organizations including the Colorado Council for Law and Policy, which represents workers.

According to respondents, many decisionmakers at the time did not view the decision to issue bonds and take on debt favorably, so there were “months of discussion” and continued efforts to develop trust and “get the employers on board.” They indicated that the biggest challenge faced by the Colorado officials was determining how much to borrow—i.e., whether to borrow only enough to pay off the outstanding debt or to borrow an additional amount that would enable the state to end the solvency surcharge tax. Respondents felt that the lower interest rates available in the bond market made it clear that it would be advantageous to issue bonds to cover the additional amount.

All respondents were generally satisfied with their experience with UI bonds. They noted that, if were faced with a similar trust fund deficit in the future, they would likely use the same approach to making borrowing decisions and would strongly consider using UI bonds again.

Title XII States

As described in chapter 2, states can borrow from the federal government under Title XII of the Social Security Act and Chapter 26, Sections 3302-3304 of the Internal Revenue Code, as amended by the FUTA if trust funds are depleted. In the 2007 recession and its aftermath, states and territories borrowed a record \$41 billion from the federal government to replenish their trust funds. This section describes how these experiences unfolded in four states—Indiana, North Carolina, Ohio, and Vermont.

INDIANA

Indiana began borrowing federal Title XII funds from the US Treasury to replenish their trust fund in late 2008, drawing down advances totaling almost \$2 billion by end of 2010.⁵¹ In March 2011, the state passed legislation designed to address its trust fund deficit, increasing employer taxes and reducing benefits for UI claimants. By 2012, revenues from employer payroll taxes finally started to exceed UI benefit payments; however, there was still \$860 million in outstanding Title XII debt at the end of 2014.

Respondents who were state UI agency staff reported implementing an additional strategy for repayment of Title XII funds in 2015, borrowing \$250 million from the state's general fund with guidance from national DOL staff. The loan was interest-free, with a promissory note stipulating that it would be repaid with 2016 trust fund revenue (first quarter payments made by employers.) The loan allowed the state to fully repay its remaining Title XII debt in 2015. The state has continued to add to its trust fund reserves (with no additional Title XII borrowing) since 2015. Respondents, both current and former state UI agency staff, were positive about their Title XII borrowing and repayment experiences, with one respondent describing the operation as a “fairly easy process to initiate and a fairly easy process for the dollars to flow” with “no big hiccups.”

Respondents noted that a team of state stakeholders made decisions on actions required to maintain trust fund solvency collaboratively. Stakeholders included UI agency senior administrators, the governor's office, state legislators, the state Office of Management and Budget, and other employer organizations such as the Indiana Manufacturers' Association and the Chamber of Commerce. This team discussed the possibility of issuing municipal bonds to finance their trust fund deficits but these conversations “did not get very far,” according to respondents. They did not begin exploring the bonding option until information became available about other states with similar economic circumstances (for example, Michigan, Illinois, and Pennsylvania) that had made the decision to move forward with

⁵¹ For more details on Indiana's borrowing activities and decisionmaking process, see the state summary in appendix C.5.

issuance of bonds. In 2010 and 2011, representatives from two investment banks that had successfully managed the bond issuance process for a few states met with Indiana state legislators, staff in the governor's office, and state UI staff to present information on the benefits of issuing municipal bonds to replenish the trust fund. However, respondents noted, a champion for the bonding option never emerged within the legislature and respondents could not recall any legislation ever drafted regarding issuance of municipal bonds for the trust fund during that time.

Respondents identified various factors that contributed to the decision not to move forward with issuance of municipal bonds for repayment of Title XII debt as:

- the state's constitutional prohibition against taking on debt and concern about the potential effect of new debt on the state's high credit rating;
- more favorable interest rates with federal Title XII borrowing;
- possible forgiveness of Title XII debt by the federal government;
- concern about additional transactional costs associated with bonding; and
- concern about the possible need to implement additional later bond issuances.

In addition, because Title XII debt was adjusted through automatic FUTA credit reductions that increased taxes to employers, respondents recalled that state legislators felt that they could blame those tax increases on the federal government, thereby making the Title XII option potentially more appealing. Overall, they determined that the "known" process (i.e., Title XII) was preferable to the comparatively "unknown" bonding process. Respondents noted that they were satisfied with the federal Title XII borrowing process because they felt it was easier, knew how it worked, and were confident of their ability to administer it. Despite the decision not to issue municipal bonds at the time, respondents were open to considering the option in the future under different circumstances.

NORTH CAROLINA

North Carolina's UI trust fund first experienced a deficit in 2009, and by 2010, the state had \$2.5 billion in outstanding debt.⁵² The state addressed its trust fund deficit through a combination of Title XII loans, which they utilized from 2012 to 2015, and legislative changes to the UI program, including substantial benefit reductions. The state's cut to its maximum benefit was the largest of any state, and it also implemented a strict maximum duration, currently 12 weeks, which is the least generous in the country.

⁵² For more details on North Carolina's borrowing activities and decisionmaking process, see the state summary in appendix C.6.

Compared to the benefits paid prior to the recession, the program paid about 20–30 percent as much as of the fall of 2019.

The state did not issue municipal bonds, choosing instead to finance its trust fund deficit solely through the Title XII loans. To initiate Title XII borrowing, respondents reported that the UI staff within North Carolina’s Department of Commerce analyzed the state of the trust fund and provided a report to the governor’s office noting the need to borrow. The governor then submitted a formal letter to DOL containing an estimate of the needed loan. The team of stakeholders involved included internal UI staff, the Assistant Secretary of Commerce, and representatives from the governor’s office.

Respondents, who were state UI agency staff, described some interest in issuing municipal bonds, but the discussions did not progress very far. According to respondents’ recollections, the agency began conversations with the state Treasury Department and governor’s office about the possibility of issuing bonds and set up meetings with several investment banks to get a sense of how a bond issuance might work. However, the state government officials, including people within the state treasurer’s office, reportedly put an end to the bonding discussions due to concerns over the state’s bond rating. Thus, the state did not seriously pursue the bonding option. Respondents also cited political concerns, comparing the optics of issuing debt to “giving oneself a raise,” and noting a general aversion to debt after the mortgage crisis. Despite the consensus not to issue municipal bonds during the last recession, all respondents reported that they would consider the option in the future as part of a holistic discussion regarding trust fund solvency.

OHIO

Ohio’s trust fund was strained by 2008, but respondents indicated that they worked hard to keep the fund solvent until after January 1, 2009 so they could delay the onset of Title XII borrowing and the future loss of FUTA credits by a calendar year.⁵³ By successfully convincing several large companies in the state to prepay UI payroll taxes for the upcoming year, the state ended 2008 with a trust fund balance of \$63 million, before beginning to borrow in 2009. After the onset of borrowing, respondents reported that Ohio addressed its outstanding debt entirely through Title XII loans, except for the final amount of repayment, when they took out a short-term loan from the state’s unclaimed funds reserve at the end of 2015 to pay the outstanding amount and avoid incurring FUTA credit reductions in 2016.

⁵³ For more details on Ohio’s borrowing activities and decisionmaking process, see the state summary in appendix C.7.

According to respondents, the Office of Budget and Management was instrumental in advising on the state's short-term loan from the unclaimed reserve fund.

According to respondents, there was significant interest among UI administrators in issuing municipal bonds as a UI financing strategy, but the state abandoned the strategy due to constitutional and legal concerns. Like many other states, Ohio has a constitutional prohibition against incurring debt. However, while other states found legal workarounds that allowed them to issue bonds, an Ohio Supreme Court decision from the 1980s set a precedent that the use of municipal bonds for financing UI debt was not permissible under the state's constitution. Respondents indicated that decisionmakers, which included UI administrators, the governor's office, and the state Office of Budget and Management determined that contesting this legal precedent with a new state supreme court case would pose an insurmountable legal barrier within the time frame necessary to address the trust fund insolvency. Thus, they abandoned the idea of issuing UI bonds without preparing a rigorous cost comparison of the two borrowing options or drafting legislation to authorize a bond issuance.

Respondents expressed frustration with the barriers to issuing bonds, saying that it is possible that they would have preferred to issue municipal bonds. They described municipal bonds as more flexible than Title XII borrowing, because it is easier to dictate the repayment period of a bond issuance, rather than being subject to the escalating structure of FUTA credit losses. According to respondents, bonding has become even more attractive since the Great Recession because of the increasingly strict restrictions on interest-free borrowing from Title XII. Eligibility for interest-free short-term loans now requires a large trust fund balance, which the state would find difficult to satisfy.

Respondents noted that in order to use bonding in a future recession, they would need to work early and hard to start legal proceedings that would overturn the state supreme court precedent. They said that decisionmakers had solicited limited help from attorneys and bond houses before they ruled out bonding as a viable option. If they had moved forward with bonding, respondents thought it was likely that other stakeholders would have gotten involved.

VERMONT

Between 2008 and 2011, Vermont borrowed almost \$80 million in federal funds through the Title XII program.⁵⁴ The state addressed the trust fund deficit through a combination of borrowing and nonborrowing strategies, including solvency legislation passed in 2009 that affected both employers

⁵⁴ For more details on Vermont's borrowing activities and decisionmaking process, see the state summary in appendix C.8.

and claimants, raising employer taxes and reducing UI benefits. Employer-related changes included increases in the taxable wage base, starting in 2010, with an increase to \$10,000. In subsequent years, the tax base increased again to \$13,000, and then to \$16,000, before the state adopted an indexation metric that continued to increase the tax base until it reached \$17,600 in 2018 (more than double its prerecession level). Claimant-related changes included the implementation of a “waiting week” before receiving benefits and freezing the maximum weekly benefit at \$425. The state eliminated all Title XII debt in 2013, and gradually raised benefits and lowered taxes as the trust fund had reaccumulated a large positive balance.

Because current UI agency administrators and staff interviewed were not employed by the state government during the last period of Title XII borrowing, they did not have any first-hand experience with the borrowing and repayment process. However, these respondents were not aware of any negative feedback or identification of challenges associated with that process from the individuals responsible for those activities at the time.

Respondents did not have knowledge of any discussions regarding the possible issuance of municipal bonds as an alternate financing strategy to Title XII borrowing during the last recession. Regarding the potential need to address trust fund solvency the future, state administrators and staff reported that they would consider all financing options, including different borrowing options, such as Title XII and municipal bonds, as well as further changes to program structure.

Perceived Factors in State Decisionmaking

This section presents findings from across the eight states. It first discusses the perceived factors in states’ decisionmaking—economic, legal, political, and previous experiences. Then, as it is less understood by states, federal officials, and others that support state decisionmaking, the section provides a detailed description of the bond issuance process for addressing trust fund deficits.

Emerging from interviews with state respondents, the research team organized the factors respondents perceived as important for making decisions in borrowing into four areas, including:

1. economic conditions within the state and UI trust fund;
2. legal constraints present in the state;
3. political factors within the state government; and
4. the state’s preexisting level of experience and comfort in financing public programs using municipal bonds.

Table 4.2 below summarizes state officials' perspectives on these factors. This section then discusses these perceived factors in more detail.

TABLE 4.2

A Summary of Factors in State Decisionmaking, as Identified by Respondents

Factors	Title XII States	Bonding States
Economic Factors	<p>Indiana</p> <ul style="list-style-type: none"> Internal analysis revealed that interest rates available through Title XII would be more favorable for the state <p>Vermont</p> <ul style="list-style-type: none"> Chose to raise taxes and cut benefits, while financing via Title XII 	<p>Colorado</p> <ul style="list-style-type: none"> Eliminated extra solvency tax on employers by creating a bond issuance greater than the amount of outstanding debt <p>Pennsylvania</p> <ul style="list-style-type: none"> Reported that bonding saved the state over \$50 million
Legal Factors	<p>Ohio</p> <ul style="list-style-type: none"> Bonding conversations curbed by 1980s state Supreme Court precedent, which prohibited the use of municipal bonds to finance UI debt <p>Indiana</p> <ul style="list-style-type: none"> Faced state constitutional prohibition against debt; state decisionmakers did not attempt to waive the prohibition 	<p>Michigan</p> <ul style="list-style-type: none"> Waived constitutional prohibition against debt by authorizing the debt issuance within the bond deal's legislative package <p>Pennsylvania</p> <ul style="list-style-type: none"> Authorized debt issuance with a special, standalone piece of legislation <p>Texas</p> <ul style="list-style-type: none"> Legislation authorizing bond issuances to fund the UI trust fund already existed from an earlier bond issuance in 2003
Political Factors	<p>North Carolina</p> <ul style="list-style-type: none"> Anti-debt sentiment and concern over the political optics of issuing debt meant that an advocate for bonding never emerged <p>Indiana</p> <ul style="list-style-type: none"> State decisionmakers thought there was a chance that the federal government would forgive outstanding Title XII loans during the Great Recession; they did not want to miss out on that option if available 	<p>Colorado</p> <ul style="list-style-type: none"> State decisionmakers were reluctant to issue bonds due to prevalent anti-debt sentiment; however, the ability to end the solvency surcharge tax and the lower interest rates available on the bond market allowed the state to overcome these political concerns
Previous Experience	<p>Ohio</p> <ul style="list-style-type: none"> Had attempted to issue municipal bonds to finance UI in the 1980s, but the attempt was ruled unconstitutional by the state supreme court <p>Indiana</p> <ul style="list-style-type: none"> State decisionmakers determined that the "known" Title XII process was better for the state than the comparatively "unknown" process of issuing municipal bonds 	<p>Texas</p> <ul style="list-style-type: none"> Prior experience with bonding in 2003 paved the way for the 2010 issuance by increasing political familiarity and creating a legislative foundation to allow the debt issuance

Source: Urban Institute interviews with current and former state officials, 2019-2020.

Economic Factors

Respondents suggested that economic considerations were the most important consideration in determining which borrowing strategy to pursue, and that their decisions hinged on internal cost comparisons. The cost factors varied considerably from state to state, depending on the financial condition of each state's trust fund.

In Colorado, for example, state law required employers in 2012 to pay a solvency surcharge tax if the trust fund balance on June 30th was less than five percent of covered payroll. Borrowing more than the amount of outstanding debt and depositing the excess as a positive balance in the trust fund would allow Colorado to eliminate its solvency surtax. However, when using Title XII, states do not have the option to borrow more than they estimate they will need make UI payments, while they could make a municipal bond issuance as large as they needed. The savings from eliminating the solvency tax contributed to the cost calculation that lead Colorado decisionmakers to issue bonds instead.

Respondents in all bonding states discussed the importance of the interest rate differential between what the state had to pay on municipal bonds versus the projections for Title XII loans. In Pennsylvania, state UI staff estimated that their decision to issue bonds rather than borrowing via Title XII saved the state over \$50 million. By contrast, Indiana (which opted not to issue bonds) determined that the interest rates available through Title XII were more favorable.

The timing and duration of indebtedness was an important consideration for at least four states—both those that did and did not issue UI bonds. The Title XII borrowing program stipulates that if states have an outstanding Title XII balance on January 1 of two or more consecutive calendar years, they will be subject to a reduction in FUTA credits unless they can repay the outstanding advances by November 10, losing more credits each calendar year they have an outstanding balance. According to respondents, this repayment mechanism motivated states to adjust the timing of their borrowing activities to delay indebtedness for as long as possible, and to repay their outstanding loans quickly.

In Ohio, for example, the state delayed the onset of borrowing until after January 1, 2012, by convincing several local businesses to prepay their state UI taxes, allowing them to delay the loss of FUTA credits until 2014. They also shortened their period of indebtedness by taking out an interest-free loan from Ohio's unclaimed funds reserve at the end of 2015 to finish paying the outstanding amount and avoid incurring FUTA credit losses for 2016. Indiana similarly borrowed a small amount from the state general fund at the end of 2015 to avoid having a balance at the beginning of 2016. Bank loans in Michigan and Pennsylvania allowed states to retire their Title XII debt before the end of the calendar year, while waiting for their UI bond issuance to be ready.

On average, states that issued municipal bonds had longer periods of indebtedness. All seven states that issued multi-year bonds issued serial bonds with typically two repayment dates per year, usually on or near January 1 and July 1.⁵⁵ Nearly all the repayments of bond principal were financed by an obligation assessment levied on state UI taxable wages. Interest payments to bondholders were also made twice per year. All these payments were made on-time and in-full. State officials did not report any problems in making debt service payments.

Legal Factors

Although economic factors and internal cost comparisons loomed large, some states like Indiana and Ohio were unable to finance trust fund deficits using municipal bonds because of legal constraints. Most states (40 of 50 states in 2015) operate under a limit on the amount of debt the state can incur (Rueben and Randall 2017). Debt limits can take various forms, including a dollar-amount cap on permissible debt, a requirement that new debt must be approved by voters, or some other restriction. The strictness of state debt limits also varies. Some are constitutional, while others are statutory and thus may be overridden by legislative vote rather than going directly to state voters.

State debt limits played varying roles in the decisionmaking process among the study states. All eight states have had a limit on debt or debt service (Rueben and Randall 2017). Of the four states that chose not to issue bonds, three (Indiana, Ohio, and North Carolina) cited debt restrictions as a key factor in their decisionmaking processes.

Indiana and Ohio explicitly cited constitutional debt restrictions as a deterrent to issuing municipal bonds. Ohio faced a particularly inflexible legal barrier due to a state Supreme Court ruling against the use of municipal bonds to finance trust fund debt in the 1980s. Decisionmakers in Ohio determined that the long legal process needed to contest this precedent would not be a feasible way to address its trust fund insolvency. Because bonding was not a viable option in the state, agency staff did not produce a thorough cost comparison.

Regardless of whether states have debt limits in place, respondents indicated that they would likely need to pass new legislation to issue new debt.⁵⁶ For example, among the bond states studied, Michigan

⁵⁵ Colorado and Idaho had one repayment of bond principal per year.

⁵⁶ Some government entities pass a "General Resolution" to cover multiple bond issuances. The general resolution covers bond funds and accounts, trustee's duties and obligations, and default provisions. However, even with a general resolution in place, entities typically must enact a "series resolution" with specific provisions regarding a given series of bonds. See <https://www.irs.gov/pub/irs-tege/eotopick96.pdf>

and Pennsylvania both passed new debt authorizations. In contrast, because of its prior experience issuing bonds, Texas had previously passed legislation in 2003 authorizing the issuance of municipal bonds to fund trust fund debt, as well as the creation of a special tax used to repay the revenue bonds through a statute passed in 1993 and amended in 2003.

Political Factors

According to the respondents, having a politically influential advocate was an important force in states that issued municipal bonds, and respondents these states could identify one or more figures who championed the process. In Texas, respondents recalled that the executive director and deputy director of the state UI agency initiated the conversation, and the governor-appointed Texas Workforce Commissioner representing employers played a large role in moving the process forward in 2014.

By contrast, two states that did not issue bonds reported lacking a champion for bonding. In North Carolina, for example, decisionmakers and their constituents reportedly held strong anti-debt feelings. A group within the state Treasury Department raised concerns that a bond issuance would hurt the state's bond rating. Respondents indicated that some stakeholders at the time also believed the optics of issuing debt would suggest fiscal irresponsibility. They said there was concern that incurring debt would be seen as putting a "band-aid" on the problem, while the combination of FUTA credit reductions and legislative cuts to UI benefits would show an ability to make hard choices and address the root of the problem. No influential champion for bonding emerged, and the state never seriously considered bonds as an option.

Respondents in Indiana told a similar story, although the state did explore the option of issuing UI bonds seriously. Top decisionmakers in the state, including Indiana state legislators, staff from the governor's office, and officials from the UI agency, met with representatives from two investment banks that had successfully managed the bond issuance process in other states. However, after those initial meetings, respondents indicated that no decisionmaker came forward as a champion for borrowing due to other concerns within the state (including economic and legal factors discussed above). There were other political considerations in Indiana as well. Decisionmakers thought there was a chance that the federal government might forgive state Title XII debt, and if they chose to issue municipal bonds they might miss the potential opportunity to have their debt forgiven.

According to respondents, another political calculation that encouraged Texas, Michigan and Colorado to issue bonds was the ability to make the special revenue repayment source (obligation assessment) experience rated, whereby employers that laid off more employees would face a higher tax

rate. FUTA credit offsets, by contrast, were levied on all employers equally. Respondents said decisionmakers in their state were eager to make their special “obligation assessments” to fund the revenue bonds experience rated because they viewed it as more equitable.

Previous Experience with Borrowing Options

Texas had extensive prior experience with bonding thanks to an issuance in 2003, when the state issued UI bonds to fund a deficit incurred during the economic downturn that began in 2001. According to respondents, that experience served as a blueprint that facilitated the state’s 2010 issuance. Texas’s experiences in 2003 and 2010 also inspired and informed the experiences of nearly all other bonding states, according to respondents in other states.

Indeed, respondents in all states described the Title XII borrowing process as relatively straightforward, with few noteworthy challenges. By contrast, states that issued UI bonds reported that bonding was a more complex financing strategy, requiring extensive forecasting expertise to get the size of the issuance correct, as well as extensive collaboration with outside actors, including staff from various government agencies and representatives from the financial institutions acting as underwriters.

Knowledge and relationships built during the 2003 issuance proved useful for Texas, according to respondents, as they relied on preexisting relationships with the Texas Public Finance Authority (which structured the state’s 2003 and 2010 issuances and 2014 refinancing) and various investment banks. Furthermore, institutional memory from longstanding employees within the Texas Workforce Commission, including the respondents, some of whom had worked on the 2003 issuance, proved crucial as forecasters worked to construct an appropriate bond issuance and accompanying source of revenue.

By contrast, respondents in Title XII states like Indiana indicated that one of the reasons they chose not to pursue municipal bonds as a financing strategy was because they preferred the comfort of using the “known” Title XII process, rather than the “unknown” bonding process. The success of the 2003 issuance in Texas meant that bonding champions could point to a successful use of the strategy, holding it up as proof that the process could work. Another perceived factor in the successful use of municipal bonds is the existence of a “champion” for the strategy—someone in the UI agency, state legislature, governor’s office, or employment community—who was willing to stand up and advocate for the exploration of this financing strategy. Respondents indicated that the 2003 experience meant that there were more people willing to stand up and advocate for another bond issuance.

States' Experiences Issuing Municipal Bonds for Trust Fund Deficits

This section discusses how states issued municipal bonds for trust fund deficits in the Great Recession. First, it presents the structure and features of the bonds for the eight states that issued bonds in the Great Recession. These states were Arizona, Colorado, Idaho, Illinois, Michigan, Nevada, Pennsylvania, and Texas. Next, it discusses how bond market representatives engaged with state officials making decisions about financing.

Bond Structures and Features

The purpose of issuing municipal bonds was to fully repay each state's Title XII indebtedness to the US Treasury. Among the favorable features mentioned by states when comparing the use of municipal bonds versus Title XII loans from the Treasury were lower interest rates, greater stability of the obligation assessment taxes used to repay the bonds, and greater reliance on experience rated taxes in making loan repayments. Table 4.3 displays several details of the municipal bonds issued by the eight states that availed themselves of this option between 2010 and 2013. States are listed roughly by issuance date, with Texas first (December 2010) and Nevada and Arizona last (fall 2013). Except for Arizona, which issued tax anticipation notes, all states issued bonds.

TABLE 4.3

Important Features of Recent UI Municipal Bond Issuances

States	Debt type	Series A	Series B	Series C	Bond repayment and interest payment dates	Maturity at issuance	Primary underwriters
Arizona	Notes	Fixed maturity; Fixed rate	Fixed maturity; Fixed rate	NA	Series A May 7; Series B May 21	May 2014	RBC Capital Markets
Colorado	Bonds	Fixed maturity; Fixed rate	Fixed maturity; Fixed rate ²	NA	May 15; Nov. 15 ¹	May 2014 (Series A) May 2017 (Series B)	Goldman Sachs; JP Morgan; RBC Capital Markets
Idaho	Bonds	Fixed maturity; Fixed rate	NA	NA	Feb. 15; Aug. 15 ¹	Aug. 2015	Goldman Sachs
Illinois	Bonds	Fixed maturity; Fixed rate	Callable; Fixed rate	Callable; Variable rate	June 15; Dec. 15	Dec. 2016 (Series A) June 2020 (Series B) June 2021 (Series C)	JP Morgan; Loop Capital; Bank of America Merrill; Citi
Michigan	Bonds	Fixed maturity; Fixed rate	Callable; Fixed rate	Callable; Variable rate	Jan. 1; July 1	July 2019 (Series A) Dec. 2019 (Series B) July 2014 (Series C)	Citi; Bank of America Merrill
Nevada	Bonds	Fixed maturity; Fixed rate	NA	NA	June 1; Dec. 1	June 2018	Goldman Sachs; RBC Capital Markets
Penn.	Bonds	Fixed maturity; Fixed rate	Callable; Fixed rate	Callable; Variable rate	Jan. 1; July 1	July 2019	Citi; Bank of America Merrill
Texas	Bonds	Fixed maturity; Fixed rate	Callable; Fixed rate	Callable; Variable rate	Jan. 1; July 1	July 2017 (Series A) Jan. 2020 (Series B, C)	Bank of America Merrill; Citi

Source: Data gathered from state bond issuance documents.

Note: ¹ Bond repayment and interest payment dates are semiannually in all states except Idaho (where bond principal is repaid annually on August 15) and Colorado (where bond principal is repaid annually on May 15).

² Bond interest is exempt from federal income taxes except for Colorado's Series B.

Four of the eight states that bonded during 2010-2013 (Texas, Michigan, Illinois and Pennsylvania) included callable bonds in their issuances. These same four states issued bonds with variable interest rates. The four states had three bond series:

1. Series A – fixed interest rate, fixed duration;
2. Series B – fixed rate, callable; and
3. Series C – variable rate, callable.

Table 4.4 shows the breakdown of these issuances into the three series. Callable bonds (Series B and Series C) constituted a substantial share (about half) of each of these four issuances.

TABLE 4.4

Breakdown of Recent UI Municipal Bond Issuances by Three Series (in millions of dollars)

State	Issuance year	Fixed rate; Fixed maturity	Fixed rate; Callable	Variable rate; Callable	Taxable interest
Arizona	2013	200	0	0	0
Colorado	2012	625	0	0	540
Idaho	2011	188	0	0	0
Illinois	2012	652	708	110	0
Michigan	2011	1,462	1,205	250	0
Nevada	2013	549	0	0	0
Pennsylvania	2012	1,430	1,097	300	0
Texas	2010	1,000	549	300	0

Source: Information supplied to the Urban Institute by individual states. Amounts in millions of dollars.

These four issuances also shared other common characteristics. Series C bonds had the longest maturities and were the first ones to be called. The Series C bonds also had the smallest face value of the three series in each state. Four states (Idaho, Colorado, Arizona and Nevada) issued only fixed duration instruments. Arizona issued notes with maturities of less than a year while the other three issuances with only fixed maturities had maximum maturities of from four years (Idaho) to six years (Nevada).

As noted previously, Colorado issued both taxable and tax-exempt bonds, with taxable bonds making up \$540 million or 86 percent of its total issuance of \$625 million. A 2003 Texas issuance included taxable bonds that had a similar underlying motivation to Colorado's 2012 issuance: namely to bring the trust fund balance up to a statutorily required minimum without triggering anti-arbitrage and yield restrictions on tax-exempt municipal bonds (see chapter 3).

Interest rates during the recovery from the Great Recession were low and with unusual structural features. Table 4.5 displays financial data from the past three recessions and 2019 interest rates important in state UI bonding decisions: the Title XII interest rate and the rate on high grade municipal bonds. The bond rate was the lower of the two with a differential of at least 100 basis points (one full percentage point) prior to the 2007 recession, specifically in the downturns beginning in 1990 and 2003. Then, the interest rate differential changed sign during the past decade, with the muni bond rate being the higher of the two. In 2019, the spread was 107 basis points.

TABLE 4.5

Interest Rates in Selected Recent Recession-Recovery Periods

Year	Title XII loan interest rate	High grade muni interest rate	Title XII - muni interest rate
1990	8.65%	7.25%	1.40%
1991	8.60%	6.89%	1.71%
2001	6.42%	5.19%	1.23%
2007	4.64%	4.42%	0.22%
2009	4.64%	4.64%	0.00%
2019	2.31%	3.38%	-1.07%

Source: Title XII rates from the UI Service of the US Department of Labor. High grade municipal bond interest rates from Table 42 of the Economic Report of the President 2020.

Despite the large recent change in the differential between these two interest rates, eight UI programs issued municipal bonds between 2010 and 2013. Had the more traditional differential prevailed during 2010-2013, the volume of municipal bond issuances might have been even larger.

The eight UI bond issuances of 2010-2013 all sold at a premium. Table 4.6 also shows bond premia for seven bonding states that issued multi-year bonds. While bond issuance costs were measurable, they were much smaller than the premia from selling the bonds at prices above their par value. As a percentage of par value, bond issuance costs ranged from a low of 0.16 percent in Arizona to a high of 0.62 percent in Idaho. The simple average of the seven premia percentages (column 4) was 8.99 percent, compared to 0.45 percent for the corresponding seven issuance cost percentages (not in this table).

TABLE 4.6

Seven-State Summary, Net Cost of Borrowing (in millions of dollars)

State	Principal (1)	Interest due (2)	Issuance premia (3)	Premia divided by principal (4) = (3)/(1)	Interest divided by principal (5) = (2)/(1)	Net interest divided by principal (6) = (2-3)/(1)
Colorado ¹	84.8	8.0	7.2	0.085	0.094	0.009
Idaho	188.0	19.9	16.0	0.085	0.106	0.021
Illinois	1,469.9	186.6	157.0	0.107	0.127	0.020
Michigan	2,917.2	615.2	305.0	0.105	0.211	0.106
Nevada	548.9	72.9	59.4	0.108	0.133	0.025
Pennsylvania	2,827.4	566.1	416.5	0.147	0.200	0.053
Texas	1,959.9	314.9	150.1	0.077	0.161	0.084

Source: Issuance documents from the states and data requests from the bond states. Values in millions of dollars.

Notes: 1 Colorado data refer just to \$84.8 million of tax-free bonds and do not include \$540 million of taxable bonds. As discussed in chapter 2, the choice of a bond's interest, or coupon, rate and premium at issuance are intertwined. Bonds issued at a coupon rate higher than the prevailing market interest rate will automatically sell at a premium. This is a strategic choice issuers make in consultation with underwriters and other advisers along with decisions about call features, maturities, and other bond features selected to maximize attractiveness to investors. Premium bonds also have the advantage of providing more proceeds up front, at the cost of higher interest costs over time compared to a bond issued at par or face value.

Two bonding states (Illinois and Texas) also provided data on premia associated with their bond issuances following the 2001-2002 recession. For Illinois, the premium of 2003 was 2.57 percent of bond principal (compared to 10.7 percent in 2012). For Texas, the premium in 2003 was 1.66 percent compared to 7.7 percent in 2010. For these two states the premia from their earlier issuances were only 22 to 24 percent of the premia from the Great Recession. Since Illinois and Texas were the only two states to issue multi-year bonds during the 2001-2002 recession, the inference based on two data points is that bond premia associated with the Great Recession were much larger than for the recession of 2001-2002.

Four of the eight states that issued bonds included call features that allowed early redemptions for a part of their issuances. The share of bonds with call features ranged from 0.43 to 0.56 across the four states (Texas, Michigan, Illinois and Pennsylvania) whose debt service obligations at issuance totaled \$11,635 million, including \$2,460 million of interest charges.

All four states fully utilized their call options. Table 4.7 summarizes their experiences. Calling bonds reduced interest charges from \$2,460 million to \$1,683 or by \$777 million. The reduction was 31.6 percent of interest originally due at issuance. However, the cost of having call features is incorporated into the interest charges included in the original bond contract.

TABLE 4.7

Bond Interest and Savings from Early Calls (in millions of dollars)

	Bond principal (1)	Interest at issuance (2)	Original debt service (3) = (1 + 2)	Interest after calls (4)	Savings from calls (5) = (2 - 4)
Illinois	1,469.9	292.4	1,762.3	186.6	105.7
Michigan	2,917.2	884.3	3,801.5	615.2	269.1
Pennsylvania	2,827.4	804.6	3,632.0	566.1	238.5
Texas	1,959.9	478.9	2,438.7	314.9	163.9
Total	9,174.4	2,460.2	11,634.6	1,682.9	777.3

Source: Issuance documents from the states and data requests from the states. Values in millions of dollars.

Note: Savings do not include higher interest costs from including a call provision.

Interest rates from 2014 to 2016 were generally lower than from 2010 to 2012. Texas recalled a substantial part of the original series in 2014 and reissued bonds with lower coupon rates. Respondents indicated that they undertook this reissuance because of the decline in interest rates between 2010 and 2014. A Texas Workforce Commission analysis concluded that about \$25 million of interest costs had been saved.

It was previously noted that Series B and Series C combined accounted for about half of the total issuances in the four large states that issued series A, B and C. The Series B and C bonds were issued in anticipation of exercising calls prior to their original redemption dates. The series differed by original maturity dates with Series C having the latest maturity dates. All four states with Series C bonds completed the redemption of these bonds first. Michigan and Pennsylvania completed their bond redemptions at the very end of 2019.

Several other bond features were similar across the eight states. Six of eight states had two redemption dates per year. All eight states made two interest payments per year to bondholders. Finally, while eight states had issuances (either bonds or notes), observe there were only six primary underwriters (Bank of America Merrill, Citi, Goldman Sachs, JP Morgan, Loop Capital Markets and RBC Capital Markets). Bank of America Merrill and Citi both participated in four of the eight issuances while Goldman Sachs and RBC Capital Markets participated in three. The primary underwriters were from a small number of investment banks.

Nearly all the proceeds from issuing municipal bonds were used for a single purpose, to fully repay each state's Title XII indebtedness to the US Treasury. Table 4.8 summarizes the short-run state repayment activities for the eight states that issued municipal debt instruments (hereafter bonds)

during 2010-2013. Columns 1 and 2 show the bond issuance dates and the face values of the bonds. Columns 3 and 4 display the gross trust fund balances and state Title XII debt at the start of the issuance month. At the start of December 2010, for example, Texas had a gross fund balance of \$39.5 million and a debt to the Treasury of \$1,616.0 million. Columns 5 and 6 then show gross fund balances and each state's Title XII debt at the end of the issuance month. For Texas and the other seven states the bond issuance was used to fully repay their Title XII debts.

Except for Colorado, all the bonds were tax-free. For Colorado, \$540 million were taxable under the federal personal income tax, while interest on the remaining \$85 million was not subject to federal income taxes. Across all eight states one common pattern was the complete elimination of Treasury loans in the month of the bond issuance (column 6). A second pattern for seven states was that the increase in the gross fund balance was just a fraction of the face value of the bonds. This is hardly surprising as most issuance proceeds were used to repay state Title XII debt. Column 8 shows the increase in the gross fund balance as a fraction of the face value of the bonds. For seven states these fractions fall consistently below 0.30. The states fully repaid their Treasury loans and deposited the remainder into state-administered trust accounts or other state accounts for later state uses.

The exceptional state among these eight was Colorado. It placed the principal of its taxable bonds directly into its trust fund account at the Treasury. At the time of the issuance it had only a modest debt to the Treasury (\$60.2 million at the end of May 2012, column 4), which was covered by the tax-free bonds of its June 2012 issuance (\$85 million). The change in the gross trust fund balance was 83 percent of the total face value of the bonds (column 8). Rather than using the bonds mainly to pay off its debt to the Treasury, Colorado used the bonds mainly to restore its trust fund balance to a level required to avoid the solvency tax.

This different objective in Colorado is illustrated in column 9. The ratio of the change (reduction) in debt to the face value of the bond issuance exceeded 0.75 for six states and it was 0.55 for Arizona but it was only 0.096 for Colorado. The bond issuance in Colorado addressed a different primary need (gross trust fund building) required by its solvency tax requirement. In 2012, Colorado had a solvency requirement that the trust fund balance had to equal at least 0.5 percent of total payroll on June 30th. Otherwise, its employers would be subject to a continuation of solvency tax. For the other seven states the objective the bond issuance was eliminating the debt owed the Treasury, not to build the trust fund account at the Treasury to a target positive threshold level.

TABLE 4.8

Bond Issuances and Trust Fund Balances (in millions of dollars)

	Issuance Date (1)	Bond Face Value (2)	Fund Balance at Start of Month (3)	State Debt to Treasury at Start of Month (4)	Fund Balance at End of Month (5)	State Debt to Treasury at End of Month (6)	Change in Fund Balance Over Month (7) = (5 - 3)	Change in Balance Divided by Bond Face (8) = (7 / 2)	Change in Debt Divided by Bond Face (9) = (4 / 2)
Arizona	Sept. 2013	200.0	3.2	110.5	61.3	0	58.1	0.290	0.552
Colorado	June 2012	624.8	6.2	60.2	526.8	0	520.6	0.833	0.096
Idaho	Aug. 2011	187.6	98.7	202.4	148.3	0	42.6	0.265	1.079
Illinois	July 2012	1,469.9	0.0	1,138.7	387.5	0	387.5	0.264	0.775
Michigan	Dec. 2011	3,278	109.5	3,144.7	112.8	0	3.3	0.001	0.959
Nevada	Nov. 2013	548.9	11.3	536.3	137.0	0	125.6	0.552	0.977
Pennsylvania	July 2012	2,827.4	25.9	2,603.5	400.3	0	374.4	0.132	0.921
Texas	Dec. 2010	1,959.9	39.5	1,616.0	138.1	0	98.6	0.050	0.824

Source: Issuance documents from the states and data requests from the states. All data are in millions of dollars.

Bond Market Representative Engagement with States

Interviews with two bond market industry experts illuminated the process that unfolded in states that issued municipal bonds. Both individuals work at large investment banks that serve as underwriters in municipal bond deals.⁵⁷ One respondent is a senior vice president and cohead of the bank's credit strategy group. The other is managing director of the bank's public finance group, which they described as the "grab bag group of generalists" in contrast to more specialized advisers in housing and other areas where bond financings occur more frequently.

One of these bond market respondents reported that they were involved in UI bond deals in four states: Idaho, Illinois, Pennsylvania, Texas. They also took part in discussions about UI bonds in states (California, Indiana, and North Carolina) that considered, but ultimately did not pursue bond financing. A second respondent indicated that they served as the lead on UI bond issuances in Illinois, Michigan, and Pennsylvania, and co-lead in Texas while also having meetings in states such as California that ultimately did not pursue UI bonds.⁵⁸

Respondents described their role as helping issuers structure bonds, including selecting terms and provisions to get the best possible credit ratings and investor receptions.⁵⁹ They both explicitly referenced "solving policy problems" as part of the service they provide in addition to underwriting. As one interviewee summarized: "I'd describe our role as winning, retaining, and executing bond business."

⁵⁷ Underwriters (also known as dealers, brokers, or broker-dealers) purchase municipal securities from issuers and resell them to investors. Their fee (also known as the underwriter's discount or spread) is the difference between the "bid" price paid to issuers and the "ask" price offered to investors.

⁵⁸ The respondent did not elaborate on other states where their team pitched UI bonds. However, they did say they monitored DOL's website of outstanding loans for guidance on where states might be receptive to alternative financing strategies.

⁵⁹ Although this role overlaps somewhat with that of a municipal financial adviser, the two are distinct. As one respondent said, "I'm an investment banker at an investment bank... the rules require that we provide banking advice only pursuant to certain exceptions that would turn us into a financial adviser." As the SEC (2012) notes, despite its size and importance, the municipal securities market has not generally been subject to the same regulatory scrutiny as other sectors of US capital markets. Since the early 20th century, the Securities Act of 1933 and Securities Exchange Act of 1934 have prohibited fraud in the sale of municipal securities. However, it was not until 1975 in response to various market abuses that Congress amended the Acts to require broker-dealers and municipal securities dealers to register with the SEC. The 1975 Amendments also gave the SEC broad rulemaking and enforcement authority over these market participants and created the Municipal Securities Rulemaking Board (MSRB), but provisions known as the "Tower Amendment" explicitly limited the Commission's and MSRB's ability to regulate issuers directly or indirectly. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 required the US Comptroller General to study repealing Tower Amendment. It also clarified that municipal financial advisers have a fiduciary responsibility to issuers and expanded the MSRB's authority over them to "protect municipal entities and obligated persons." See SEC (2012: 27-38).

Both respondents suggested the UI bond teams were larger than a typical municipal bond financing because of the complexity and relative infrequency of these transactions as well as issuers' desire to complete the transactions before FUTA credit offsets took effect. The first respondent indicated the average team included roughly half a dozen key people including:

- 1 credit specialist
- 1 UI expert (who regularly attended industry events, e.g., National Association of State Workforce Agency meetings)
- 1 quantitative analyst (“the quantitative whiz who figured out how to model the payment streams taking into account the uncertainty in the tax base, or in the future interest rate environment... this was like falling off a log for him.”)
- 2–3 regional bankers with knowledge of and relationships in the state doing the issuance
- 3–4 junior analysts managing models and paper flow

The second respondent described a team of 12–15 people including:

- 2–3 upper-level staff
- 2–3 regional bankers with relationships with the state doing the issuance
- 2 quantitative analysts
- 5–7 junior analysts, including those involved in marketing the bonds to investors

The Bond Market Procedure

All UI bond issuances that respondents discussed were “negotiated sales,” as described in chapter 2. States issued requests for proposals (RFPs) and interested underwriters submitted plans detailing how they would do the deal.⁶⁰ Overall, respondents estimated the underwriter selection process took about six weeks.

Both bond market respondents described the overall UI bonding process as lasting at least 10 weeks, which is longer than the typical municipal bond financing, because of the size, complexity, and rarity of these transactions. As one respondent summarized, “a typical muni finance issuance is a pretty regular event, and the people who do it do it routinely. They have an established credit... with preexisting disclosure documents that just have to be updated. With a UI deal you start with a piece of legislation authorizing you to issue bonds (in some cases it creates the legislative charge used to repay the bonds).”

⁶⁰ Not all negotiated sales include RFPs although this is an industry recognized best practice. See GFOA (2008).

The bond market representatives interviewed described how their underwriting firms advised on state authorizing legislation, “not on the politics or policy, but on whether the legislation had the provisions in it to enable it to be the highest-quality credit,” as one respondent put it. They had multiple points of contact in state government including UI administrators, finance staff, budget and other policy staff. They also contacted groups outside government including chambers of commerce and taxpayer groups, telling them “this won’t happen unless you make a pitch for it.”

The bond market representatives described one a specific type of analysis states used to decide on a trust fund financing strategy as a total interest cost “all in” method, which compares the present value of interest payments over time under bond and loan options. The representatives stressed effects of FUTA credit offsets on employer labor costs and state economies.

Both respondents identified constraints to issuing UI bonds, such as Indiana’s constitutional prohibition against debt. They noted states like California may not have had the time and personnel available to structure UI bond deals when dealing with other fiscal and economic effects of the 2007 recession. Respondents also noted anti-debt sentiment in states like North Carolina. Some states overcame political opposition to bonding by coupling borrowing with institutional reforms. Pennsylvania, for example, passed a legislative package that also addressed trust fund solvency by raising employer taxes and reducing benefits for claimants.

Structuring Municipal Bond Issuances

There are similarities across state UI bond issuances. For example, the larger bonds issued from 2010 to 2012 (in Texas, Michigan, Illinois, and Pennsylvania) were each divided into three series (A, B, and C). Series A typically bonds had fixed maturity dates and fixed interest rates determined at the time of issuance. Series B typically had callable bonds with fixed interest rates, and Series C typically had callable bonds with variable and/or convertible interest rates. Series C bonds had the longest final maturities when issued (2020 for both Texas and Illinois, 2023 for Michigan, and 2024 for Pennsylvania), but they were the first bonds to be called.

The respondents provided some insights as to the reasons for these similarities:

- **Maturity date:** Both respondents stressed the desire to keep maturities short (i.e., a ten-year maturity compared to 20 to 30 years for more typical municipal bond financings). As one respondent said, “they don’t want to still be paying it off during the next recession.” The other respondent explicitly referenced a federal benchmark: “you don’t want to have the bonds outstanding for way longer than the federal loans would have been.”

- **Mix of callable and noncallable bonds:** Respondents also emphasized that call options, allowing issuers to prepay bonds before their final maturity date, allowed for additional flexibility if, for example, the state economy improved, and budgetary resources became available sooner than expected. However, they noted that call features come at a cost in terms of higher yield and “you don’t want to pay more costs than you have to associated with the call flexibility,”
- **Timing of interest payments:** All eight states that issued bonds chose to make semiannual rather than annual interest payments to allow for more rapid payment when resources become available. In addition, six of eight states made semiannual debt retirements.⁶¹
- **Security:** Both respondents noted the relative security of the employer payroll tax infrastructure and its attractiveness to investors even if additional “special obligation charges” were required to pay interest under federal law. Like regular UI payroll taxes, the special charges were also experience rated, meaning that employers with more layoffs paid higher rates. Some states added rate covenants meaning that if charges did not generate sufficient revenue, the UI administrator already had authority to increase the charge to repay the bonds. To make the bonds more attractive to investors, charges were sometimes set at more than the required revenue (125–150 percent). In addition, states have structured UI bonds as “closed loop,” meaning that revenue pledged to the bonds is held in reserve and not used for other purposes (such as paying benefits).
- **Mix of taxable and tax-exempt bonds:** Colorado’s UI bonds were weighted more heavily to taxable bonds, in part because of a requirement to maintain a five-percent trust fund balance and concerns that investing bond proceeds could trigger federal anti-arbitrage regulations and yield restrictions. As one respondent put it: “if you’re issuing debt to pay off a loan or to pay benefits, you’ll want to issue tax-exempt. If you’re going to invest, you have to consider using taxable debt. Unless you can show there’s some spend-down over an accelerated period.”⁶²
- **A five-percent coupon rate:** Because of preferences among institutional investors, most municipal bond issuances pay a five-percent coupon or interest rate, according to the respondents. When market interest rates are less than five percent, this means that investors will pay a premium for the bond, or more than the bond’s face or par value. Issuers thus get more money up front in exchange for higher interest payments over time. One respondent also mentioned the possibility of “bifurcated structure coupons” or four- and five-percent coupons in different series of the same bond.

States’ Satisfaction with Borrowing Methods Used

Whether they issued municipal bonds or borrowed via Title XII, state respondents generally reported satisfaction with the borrowing choices they made. This section discusses state officials’ perspectives on their level of satisfaction with the borrowing options they chose in the last recession.

⁶¹ Idaho and Colorado made annual retirements.

⁶² Our March 9, 2018 “Memo synthesizing findings from federal interviews” discusses the accounting requirements associated with taxable and tax-exempt bond proceeds used to finance working capital expenditures.

Satisfaction with Title XII Loans

All eight states in the study sample used Title XII borrowing during the last recession—even those that also used alternative borrowing strategies like bonds. Respondents described the Title XII process as familiar and generally easy to navigate. For all states, initiating Title XII borrowing was one of the first actions taken to address imminent trust fund insolvency. It was an especially attractive option early during the economic crisis thanks to the American Recovery and Reinvestment Act, which allowed states to borrow interest-free via Title XII. Thus, when it became clear that trust funds would turn insolvent, states submitted a FUA request for Title XII funds, regardless of whether they planned to issue bonds later.

All states reported that the Title XII process was easy to use. Respondents in North Carolina said that after they got over the initial hurdle of having to address a trust fund deficit, the borrowing process went “quite smoothly.” In Indiana, respondents praised the usefulness of technical support products from DOL, including Unemployment Insurance Program Letters and Training and Employment Guidance Letters, which allowed UI staff to navigate the borrowing process. According to respondents in Indiana, the lack of similar technical guidance about the municipal bonding process was a factor in the state’s decision not to bond, as they felt far more comfortable using the “known” Title XII process, compared to the “unknown” bonding process.

Even states that chose to issue UI bonds reported satisfaction with the role Title XII served in their overall borrowing strategies. In Texas, one of the states that chose to issue UI bonds, early interest-free loans from Title XII served as a stop-gap source of funding to keep the trust fund solvent between 2009 (when the trust fund went into deficit) and 2010 (when the state completed its bond issuance). During its short period of Title XII indebtedness, Texas reported that the borrowing procedure worked relatively seamlessly, and that they utilized the daily sweeping option that allowed them to minimize their outstanding debt. They reported that at times they found it difficult to provide an accurate estimate of need three months in advance (a requirement of the FUA request), especially during times of acute fiscal stress. However, they noted that estimation errors were easy to recovery from, and Title XII worked well as a temporary borrowing measure. Other bonding states—Colorado, Michigan, and Pennsylvania—reported similar experiences, though their periods of Title XII indebtedness were longer than Texas’s.

Satisfaction with Municipal Bonds

Respondents in states that issued UI bonds emphasized the complexity and steep learning curve associated with the bonding process but concluded that the added complexity was worth the effort. UI officials explained how they relied on technical expertise from many sources, including within the UI agency (trust fund analysts) and outside the agency (staff and analysts in other state government offices, bond agencies and investment banks that worked on the deal, and UI agencies in other states with bonding experience).

The process involved trust fund analysis to determine the appropriate borrowing amount and consultation with bond experts over structuring the specific elements of the issuance (which often involved multiple series with different features). In Michigan and Pennsylvania, the states needed to pass legislation to facilitate the bond issuance. In Texas, the state's positive experience with its 2003 bond issuance primed the state for its 2010 issuance in a way that no other state experienced. However, the lessons that Texas learned as an early adopter of the municipal bond financing strategy informed the approaches of other states.

Despite the added layers of complexity, respondents from all four bonding states reported positive experiences with bonding. Pennsylvania called its UI bond issuance a "real success story," and internal analysis indicated that their choice to issue municipal bonds saved the state over \$50 million. Other states did not give a bottom-line number, but all felt confident that bonding was the right decision and reported that they would be open to bonding again in a future recession.

Key Takeaways from Interviews with State Officials and Bond Market Representatives

For states that utilized Title XII loans to effect debt repayment, almost all used well-understood repayment procedures that they had used in the past. While some entertained issuing municipal bonds, considerations related to familiarity with Title XII, perceived constitutional constraints and fiscal conservatism were paramount in their decisions to utilize Title XII loans.

Six of the eight states that issued UI bonds were doing it for the first time. Many specifics of their issuances were similar. Almost all the bonds were tax-free serial bonds. Call features were present for four states. Tables 4.6, 4.7 and 4.8 show other similarities such as premiums across all eight issuances.

Unlike the Title XII states, most of the bonding states were exploring new territory in trust fund financing. Texas and Illinois, especially Texas, provided experiential information on UI bond issuances which the other states used in varying degrees. The similarity in structure of these issuances indicates that the investment banks had substantial input in structuring their bond issuances. Some UI bond provisions revealed state preferences for repayment provisions not available from Title XII loans such as experience rating for obligation assessment taxes (Pennsylvania is an exception in this regard) and stable tax rates across years. Their revealed preference was for greater control over the terms of repayment than offered by Title XII. For the four bonding states, there was also a preference for some control over the pace of debt repayment, hence choosing to include call features in part of the issuance.

There are also questions about the comparative costs of the two types of borrowing. This question is addressed in the next chapter.

Several themes emerged from the interviews with state officials and bond market representatives. They are:

- **According to current and former state UI agency staff, the process for borrowing federal funds through Title XII to replenish their trust fund was a relatively straightforward, simple process that was well understood by the states.** When states used Title XII loans, the process had few glitches or challenges. The states described it as a “fairly easy process to initiate and a fairly easy process for the dollars to flow” with “no big hiccups.” No respondents were able to identify any aspects of the process that could be improved.
- **Technical guidance and written guidelines provided by DOL on the Title XII borrowing and re-payment process were helpful and “well communicated.”** Respondents reported that the DOL’s Unemployment Insurance Program Letters, webinars and other information available on the DOL website provided fully adequate instruction on the mechanics of the Title XII operations. While staff noted that the information on the Title XII borrowing and repayment mechanisms was good, they felt that guidance on trust fund financing using municipal bonds was lacking.
- **Decisionmaking on strategies for addressing the solvency of the trust fund at the time the states borrowed funds during the last recession was usually a collaborative process, with input from a range of organizations and agencies.** Decisionmakers typically included administrators and staff from the state UI agency (including the staff members responsible for managing and overseeing the trust fund), members of state legislatures, representatives from the governor’s offices, state office of management and budget staff, and business stakeholders, such as industry associations and chambers of commerce.
- **Instead of (and in some cases, in addition to) issuing municipal bonds, at least six states employed alternate strategies for repaying Title XII debt.** For example, Indiana secured an interest-free, \$250 million loan from the state’s general fund to pay off its outstanding Title XII debt and prevent the imposition of FUTA tax credit reductions for employers. The loan was quickly repaid with the next year’s trust fund revenue (first quarter payments made by employers). Pennsylvania and Michigan obtained a short-term, low-interest bank loans to pay off Title XII debt to avoid additional interest costs and FUTA credit reductions prior to issuing municipal bonds. At least six of the eight states (Vermont, Indiana, Michigan, Pennsylvania,

Colorado, and North Carolina) passed solvency legislation that made structural changes to the UI program, such as increasing employer taxes and/or reduced benefits to limit Title XII borrowing in the future. The details of these changes and their size varied from state to state.

- **States that issued municipal bonds to repay Title XII debt and to replenish their trust funds received helpful guidance on the process from the experiences of states that issued bonds before them.** For example, UI agency staff in Pennsylvania reported that some of their bonding decisions benefited from information on the steps taken by Michigan during their prior bond issuance process. Similarly, staff in Michigan noted that guidance was provided by their counterparts in Texas, who had issued bonds earlier. As a result, states that issued bonds for this purpose usually structured their bond issuances similarly (e.g., Series A, Series B and Series C, where Series B and C had call features that were utilized in repaying the bonds). Generally, all bonding states paid interest to bond holders twice a year and repaid maturing bonds either once or twice a year.
- **States that considered issuing municipal bonds to replenish trust fund funds but chose not to cited various factors for that decision.** The factors cited by state officials were:
 - constitutional prohibitions against taking on debt;
 - the potential effect of new debt on the state’s credit rating;
 - more favorable interest rates available through federal Title XII borrowing;
 - additional transactional costs associated with bonding (insurance, underwriter discounts);
 - the possibility of needing to implement later bond issuances;
 - comfort level with a proven and familiar process (i.e., Title XII) versus uncertainty about the less understood bonding process;
 - the ability to place responsibility for tax increases on the federal government, thereby making the Title XII option potentially more appealing to stakeholders.
- **The process of issuing bonds was complicated and involved collaboration among several groups from state government and the financial sector.** Many groups with diverse technical experience, both from state government and private firms, were involved in issuing the bonds. Staff from multiple offices in the state UI “agency, the state budget office, other state financial authorities, and legislators and their staff often played a role in the bond issuance and decisionmaking process. The teams representing the bond market also included at least a dozen people. States sometimes had to use staff from another agency, for example, the state housing authority, as they had more experience in issuing bonds. Because the process was complicated, it took time (two months or more) to prepare and accomplish a municipal bond issuance. More than one bonding state indicated it would have been helpful if written federal guidance had been available, perhaps a document that identified the “do’s” and “don’ts” of issuing bonds.
- **Overall, state respondents judged their experiences in issuing bonds positively and would consider issuing bonds in a future recession.** Nevertheless, there was a steep learning curve and interviews with bond market consultants suggest the answer to whether to bond or not often depends on idiosyncratic state features. In North Carolina, for example, state leadership exhibited an aversion to debt that was far more severe than in any other state in this study. In Texas, the state’s positive experience with its 2003 bond issuance primed the state for its 2010 issuance in a way that no other state experienced. Indiana’s constitutional debt limit was

stricter than in many other states, imposing a larger barrier to bonding than any of the other Title XII states in this study.

Chapter 5: Modeling Borrowing Options and Selected Simulation Results

This chapter first describes a simulation model developed to compare two methods for financing trust fund borrowing and debt repayments when reserves are inadequate: Title XII loans from the US Treasury and issuing municipal bonds. Full versions of the model were created for four of the eight states that issued municipal debt instruments following the Great Recession of 2007-2009 (Texas, Michigan, Pennsylvania and Colorado). Detailed results using the models are presented in this chapter and then summarized across the four states. Key takeaways from the model results conclude the chapter.

Overview of the Simulation Model

Each model has three leafs (or sections) that allow the user to compare results from using the two borrowing strategies.

- **Leaf A** of the model simulates borrowing and repaying using Title XII advances (loans) from the US Treasury.
- **Leaf B** simulates borrowing and repaying using municipal bonds.
- Using simulated values from Leaf A and Leaf B, **Leaf C** generates parallel time paths of key variables such as state unemployment, annual benefits, annual taxes, trust fund interest costs, annual borrowing and loan repayments and trust fund balances as well as multiperiod repayment summaries. These summaries include total interest charges incurred, the time path of repayments, the length of repayment periods, total revenues over the lives of the loans and the time path of trust fund balances. The multiperiod summaries can be shown both as undiscounted annual totals and as present values over the period of indebtedness. A detailed description of the model follows.

Two features of the models merit explicit descriptions. First, besides having behavioral relations that characterize linkages between important variables, model equations also include add factors that cause the baseline values of the endogenous variables to match their actual historic values. This means the point of departure for each endogenous variable is its actual historic value, and any simulated changes in variables will show deviations from historic values. Second, for important variables, the model shows actual historic values with no connection to other variables in the model. When an

endogenous variable in a behavioral relation is altered, the model user can directly observe how much it has changed from its historic value because the historic value is present in an adjacent line (displayed in italic script to signal that it is the actual historic value, not a simulated value). Leafs A and B display several historic series in italic fonts.

Leaf A. The Title XII Borrowing Model

Leaf A determines the important control variables that strongly influence the UI trust fund balance, including benefit payments, state UI payroll taxes, and trust fund interest earnings. Additionally, when Title XII loans extend for two or more years, this leaf determines the time path of FUTA credit offsets, which automatically activate loan repayments starting with the oldest outstanding loans. Because Title XII loans were received interest-free by debtor state programs during 2009 and 2010, debt-related interest charges only started to accrue during 2011 with the associated interest payments due in 2012.

Leaf A has six modules, which respectively determine:

1. the labor market and key exogenous (control) variables,
2. UI benefit payments,
3. UI taxes,
4. interest income,
5. the UI trust fund balance, and
6. FUTA credit offsets and debt repayment.

Table 5.1 below summarizes each of these modules.

TABLE 5.1

Model Specifications for Leaf A – Title XII Borrowing Model

Module	Description
<p>Module 1. The Labor Market and Key Exogenous (Control) Variables</p>	<p>Five types of exogenous variables are set in Module 1—the labor force; employment; the state unemployment rate; the Title XII interest rate; and wage inflation. For both UI covered employment and wage inflation the model distinguishes taxable from reimbursable employers.</p> <p>Historic values of the various exogenous variables for the years from 2000 to 2019 are Module 1’s default settings. Data on unemployment and wage inflation from earlier historic periods are also accessible in Module 1. Thus, users can simulate using unemployment and/or inflation from other periods such as the back-to-back recessions of the early 1980s, the sharp recession of 1974-75 or either of the mild recessions of 1991 or 2002. While the model carries historic time series from 2000 to 2019 and projections can routinely be extended to 2021, primary interest will typically focus upon shorter periods. The Colorado unemployment rate, for example, started increasing in 2008 (moving from 3.7 percent in 2007 to 4.8 percent in 2008 and then to 7.4 percent in 2009) while its municipal bonds were fully repaid by mid-2017. Thus, the years 2008 to 2017 will typically constitute the main analytic focus of analysis with the Colorado model. Changes in weekly wages are the indicator of inflation in the model.</p> <p>The research team created a separate document for each of the four state models. Each document shows the individual model equations for all modules of Leafs A, B and C. The relationships in Module 1 (the Labor Market) include growth rates and levels of the labor force, (total and covered) employment, covered wages and the Title XII interest rate. The real Title XII interest rate is measured as the nominal Title XII interest rate less the rate of growth of weekly wages of taxable covered employers.</p>
<p>Module 2. UI Benefit Payments</p>	<p>Module 2 has relationships that determine total regular UI benefit payments, the product of weeks compensated times average weekly benefits. Weeks compensated is determined by two variables: weekly claims (insured unemployment) multiplied by the ratio of weeks compensated to weeks claimed, both determined by regression equations. Insured unemployment is positively linked to total unemployment in the same year and negatively linked to total unemployment lagged one year.</p> <p>Weekly benefits are the product of weekly wages multiplied by the replacement rate, i.e., the ratio of weekly benefits to weekly wages. The replacement rate in turn depends upon the ratio of the maximum weekly benefit to average weekly wages.</p> <p>The benefits module includes a benefit adjustment that reconciles the product of weeks compensated multiplied by the weekly benefit to annual benefit outflows from the trust fund. The adjustment arises from the way the weekly benefit is traditionally measured in the benefit reporting system (i.e., as the weekly benefit for full weeks of unemployment). Partial weekly benefits are accounted for through the benefit adjustment.</p>
<p>Module 3. UI Taxes</p>	<p>Tax receipts are determined as the product of three factors: total payroll of taxable covered employers; the taxable wage proportion (the ratio of taxable payroll to total payroll); and the average tax rate on taxable payroll. Total payroll is determined in the labor market module. The taxable wage proportion in each state is determined primarily by the ratio of the annual taxable wage base to average statewide wages. Over most of their histories, these states have operated with fixed taxable wage bases that change only occasionally through state legislation. Colorado is an exception in that it adopted tax base indexation in 2012.</p> <p>Three of the four state models determine employer tax rates using benefit ratio experience rating (Michigan, Pennsylvania and Texas)⁶³ while the fourth (Colorado) uses reserve ratio experience rating. Lagged benefit ratios are the principal</p>

⁶³ Michigan and Pennsylvania also use reserve ratios in their experience rating systems.

Module	Description
	determinant of the average tax rate (as a percent of taxable payroll) in the three benefit ratio states. The tax rate in Colorado is determined by the relevant tax schedule applicable for each year. Colorado operated with one set of tax rate schedules through 2012 and a second set starting in 2013.
Module 4. Interest Income	The interest income module generates estimates of interest earnings for each state's trust fund. The average annual fund balance in the model is the average of the year's starting and ending balances with the annual change reflecting mainly the net difference between annual tax receipts and annual benefit outlays. The interest rate in this module is the Title XII interest rate.
Module 5. UI Trust Fund Balance	Module 5 summarizes annual flows that determine the end-of-year trust fund balance at the U.S. Treasury. This module tracks the flows of taxes, benefits, interest payments and other factors that combine to yield the end-of-year net trust fund balance. There are two standard inflows (tax receipts and interest earnings from Modules 3 and 4 respectively) and one standard outflow (regular UI benefit payments from Module 2). There are additional flows that reflect debt-related transactions. Two debt-related revenue sources are mandatory FUTA tax credit offsets and voluntary debt repayments (both determined in Module 6, below). Module 5 summarizes both gross and net (of outstanding loans) annual trust fund balances.
Module 6. FUTA Tax Credit Offsets and Debt Repayment	<p>This module summarizes state transactions when it borrows from the US Treasury and repays its Title XII loans. A key feature of this module is that the debt-related financial flows take place on the base of federal taxable payroll not state taxable payroll. The tax base for the federal UI tax is \$7,000 per covered worker (unchanged since 1983) while the base for all four state UI taxes is consistently higher.</p> <p>Because there are no readily available data on taxable payroll for federal UI taxes, each model uses an assumed relationship between federal UI taxable payroll and state UI taxable payroll. This ratio is important for determining federal tax which in turn is a key determinant of Title XII FUTA credit offsets.</p> <p>State UI programs that borrow from the Treasury are subject to mandatory repayment provisions starting in the second year of indebtedness if there is outstanding debt in early November of the second year. The repayment is due in the third year starting at a rate of 0.3 percent of federal taxable payroll and increasing each year by at least 0.3 percent until the loan is fully repaid.⁶⁴ Module 6 tracks annual state indebtedness to the Treasury by adding to lagged indebtedness new loans and subtracting mandatory and voluntary FUTA tax credit offsets. This module estimates annual Title XII interest charges as the product of the Title XII interest rate times the annual average stock of Title XII debt.</p> <p>Interest accruals from Title XII loans cannot be paid from the state's account at the Treasury. The model estimates the size these obligatory payments and assumes they are financed from a state source other than the state's Treasury account.</p>

Source: Authors' specifications for the simulation model. See appendix B for more detail.

Leaf B. The Municipal Bond Model

The municipal bond model in Leaf B has nine modules that determine both the revenues and outlays associated with issuing and repaying municipal bonds and the flows that combine to determine the

⁶⁴ The progression of FUTA tax credit offset rates can be faster or slower than an annual increment of 0.3 percent depending upon state-specific circumstances.

balance in the state’s trust fund account held at the U.S. Treasury. Many relationships in Leaf B determine variables linked to municipal bond financing of UI debt. The final two modules in Leaf B summarize stocks and flows related to the state’s trust fund balance held at the U.S. Treasury. Table 5.2 summarizes the modules in Leaf B.

TABLE 5.2

Model Specifications for Leaf B – Municipal Bond Model

Module	Description
Module 1. The Labor Market	This module simply reproduces the variables determined in Module 1 of Leaf A. The list of variables includes the labor force, unemployment and the unemployment rate, total employment, taxable and reimbursable covered employment, weekly wages and total annual wages for both taxable and reimbursable employment.
Module 2. Interest Rates	This module displays several interest rates relevant for municipal bond financing. Prominent among these are the interest rate for high grade municipal bonds and the interest rate for Title XII loans. These two series are in adjacent rows for easy comparison. Other interest rates in this module include the interest rates on three-month commercial paper and rates on three-month Treasury bills. Also displayed are the actual six-month interest rates for UI municipal bonds issued by each state for periods when their UI municipal bonds were outstanding.
Module 3. UI Benefit Payments	As part of a municipal bond financing package a state could alter statutes related to benefit payments and/or statutes related to UI taxes. In each model, it was initially assumed that benefit payment provisions and UI tax provisions were not altered. Thus, benefit payments in Module 3 of Leaf B exactly match benefit payments from Leaf A.
Module 4. Bond Fund Revenue	Nearly all revenue into each state’s municipal bond fund is derived from special bond fund taxes (obligation assessments). Bond fund revenue has the same taxable wage base as the state’s regular UI taxes (\$13,100 in Colorado in 2019). The average bond fund tax rate yields annual revenue sufficient to cover the costs of redeeming maturing bonds, pay interest to bondholders and cover Bond Fund administrative expenses.
Module 5. Bond Fund Debt Service	Module 5 traces UI bond repayments over each state’s full period of indebtedness. The repayments followed the actual timing of repayments, i.e., including the actual timing of calls on bonds with flexible maturities. This module also tracks payments of interest to bondholders. The half-year interest payments are recorded along with the associated six-month interest rates. Details of debt service costs for each state were taken from original bond issuance documents and materials supplied by the states.
Module 6. Bond Fund Administrative Costs	<p>Module 6 was developed to estimate three components of bond fund administrative costs: bond issuance costs; the costs of administering special bond fund taxes (assessments); and administrative costs associated with bond debt servicing. The latter include both the administrative costs associated with retiring maturing bonds and the costs of administering interest payments to bondholders. This third component of administrative costs is thought to be very small.</p> <p>Bond issuance costs were available for each state from their bond issuance documents. In each state the total included an underwriting fee along with costs of insurance, reproduction, rating agency fees, trustee fees and related issuance costs. Explicit data on the latter two of these administrative costs have proven difficult to obtain. At each UI agency, the staff did not have detailed data on the latter two types of administrative costs.</p>
Module 7. Bond Fund Summary	This module draws together all elements of bond fund costs and administration. It shows the par value of the bonds plus the issuance premia realized by each state. All eight states that issued multi-year muni bonds and/or notes between 2010 and 2013 realized an issuance premium. In practice, the states that issued municipal bonds had

Module	Description
	<p>differing bond trust fund structures. The models for Texas, Michigan, Pennsylvania and Colorado combine the sub-funds into a single composite bond fund.</p> <p>The main use of bond issuance proceeds was to retire existing Title XII loans from the Treasury. All four states retired their Title XII loans almost immediately following their bond issuances. Module 7 traces all inflows and outflows from the bond fund from the issuance date until all bonds were fully repaid.</p>
<p>Module 8. Fund Balance at the U.S. Treasury</p>	<p>This module simulates each state's trust fund balance at the Treasury following its issuance of municipal bonds. It uses the same paths for all exogenous variables as in Leaf A. As noted above, the research team initially assume that benefit payments are the same as in Leaf A, i.e., the bond issuance has no effect on benefit payments. Trust fund tax revenue is also assumed to be the same as in Leaf A.</p> <p>Because the bond issuances fully repaid all borrowing from the Treasury in that year, there are no required or voluntary FUTA credit offsets in Module 8. The simulated values of all variables in this module closely track the state's historical experience with Title XII loans and with municipal bond repayments after issuance.</p>
<p>Module 9. Interest Earnings on the Balance at the U.S. Treasury</p>	<p>This module computes annual interest earnings for the state's account at the US Treasury. The interest rate in this module is the Title XII interest rate.</p>

Source: Authors' specifications for the simulation model. See appendix B for more detail.

Leaf C. Comparison of Alternative Borrowing Strategies

Leaf C brings together and displays important variables needed to compare the costs of the two ways of borrowing. This leaf also compares other key variables from Leafs A and B which may or may not have identical values in the two leaves. These are the six summary variables from Leafs A and B:

1. the overall unemployment rate (or TUR),
2. total benefits,
3. total UI-related taxes,
4. interest income,
5. end-of-year trust fund balances and debts, and
6. the interest costs of debt.

Since the time profiles of interest costs and UI taxes under the two methods of borrowing can differ, this leaf can also make comparisons of the present values of these variables. For Colorado, which issued its municipal bonds in mid-2012, the present value calculations bring post-issuance taxes and interest costs back to 2012. Initially, the discount rate used is the Title XII discount rate. Because this interest

rate has been unusually low since 2012 (always less than 3.0 percent), other (higher) discount rates could also be used in the present value calculations.⁶⁵

Modules 1 and 2 of Leaf C summarize the main variables needed to make comparisons of the two methods of borrowing. Table 5.3 describes the modules in Leaf C.

TABLE 5.3

Model Specifications for Leaf C – Comparison of Alternative Borrowing Strategies

Module	Description
Module 1. Annual Levels of Key Summary Variables	Module 1 displays annual time series of six key variables determined in Leafs A and B. These variables are: the labor market unemployment rate (TUR), total regular UI benefits, total UI taxes, interest income to the trust fund, end-of-year trust fund debts, and annual interest costs of debt. Each of these variables is displayed as annual time series for the period 2000 to 2019, but with summaries that highlight periods of indebtedness related to the Great Recession and the post-recession recovery. Model users can examine both annual detail and multiyear summaries of these variables.
Module 2. Present Values	Module 2 focuses upon present values of two variables: UI taxes and the interest costs of UI debt. Users can select a preferred interest (discount) rate and the time period for summaries. The taxes for Title XII borrowing include regular UI taxes plus FUTA credit offsets. The taxes for municipal bond borrowing include regular UI taxes and bond taxes to repay principal and interest on the municipal bonds. The time periods for present value calculations will span all years when the state has either Title XII loans or municipal bonds outstanding. These calculations can be made using interest (discount) rates chosen by the model user.

Source: Authors' specifications for the simulation model. See appendix B for more detail.

Summary Results by State

Among the key analytic questions linked to state decisions to issue municipal bonds is the question of costs. While several other questions can also be identified, the comparative costs of bonds vis-à-vis Title XII borrowing is paramount, as highlighted in the study's third research question (see chapter 1). The state respondents indicated that decisionmakers responsible for issuing municipal bonds between 2010 and 2013 believed bonds reduced employer UI taxes when compared to exclusive reliance on Title XII loans. The initial part of the analysis makes cost comparisons for four states that issued municipal bonds and were the subject of detailed interviews in the course of the study: Texas, Michigan, Pennsylvania and Colorado.⁶⁶ The final section focuses upon interest rate comparisons and incorporates information on bond premia (i.e., bond prices at issuance higher than bond face values).

⁶⁵ See table 4.5 in chapter 4 for details on the Title XII interest rates.

⁶⁶ See appendix B for detailed profiles of these states' experiences with issuing UI bonds.

The cost comparisons focus upon three cost factors:

1. the size of the loan;
2. length of indebtedness; and
3. interest rates.

For all four states the bonds were issued between 2010 and 2012 with maximum maturities at issuance of 2017 (Colorado), 2020 (Texas) and 2024 (Michigan and Pennsylvania). Because the issuances for three of these states (all but Colorado) included bonds with early call features, their actual periods of indebtedness were shorter than at issuance with Texas completing repayments in 2017 and Michigan and Pennsylvania both completing their repayments at the very end of 2019.⁶⁷

The actual periods of indebtedness lasted from six to eight years. If a recession had started in 2016 or 2017, all four states would have been at risk of needing to repay debts related to two recessions at the same time. Because the economic recovery extended through 2019, however, these states did not experience dual debt repayment situations.

Texas

Table 5.4 summarizes activities related to the actual Texas bond issuance and retirements (columns 1–4) and simulated debt repayment using FUTA credit offsets (columns 5–7). Both sides of table 5.4 show annual debt service (i.e., debt retirement plus interest costs). Also shown are the annual obligation assessments paid by employers to finance the bond retirements and related interest payments. Between 2011 and 2017, bond retirements totaled \$1,960 million while interest to bond holders totaled \$314.9 million and total debt service was \$2,275 million.

The two sets of data series in table 5.4 each represent only one possible time path of state debt service activities. The retirement of the municipal bonds occurred over seven years which included state decisions to retire some bonds early and to recall and reissue some 2010 series bonds in 2014. Annual bond retirements averaged \$280 million with six annual retirements of between \$273 million and \$330 million. In contrast, the FUTA credit offsets, which totaled \$2,429 million, completed the debt repayments in just four years (2012–2015), averaging \$523 million per year. The sharp increases in the annual FUTA credit offsets accomplished the debt repayment more quickly, compared to the municipal bond retirements.

⁶⁷ For more details on the early call features, see appendix C.1–C.3 for state summaries.

Because the FUTA credit offsets repaid the loans over a much shorter period (four years versus seven), the associated interest costs of the credit offsets were much lower than the bond-related interest costs, \$186.2 million versus \$314.9 million. This illustrates that low interest rates are an important element of borrowing costs, but the length of indebtedness is also important. Borrowing cost comparisons have to recognize both aspects of borrowing costs.

TABLE 5.4

Debt Financing Options in Texas: Bonds Versus Title XII (in millions of dollars)

Year	Obligation assessment (1)	Municipal bond retirement (2)	Interest to municipal bondholders (3)	Municipal bond debt service (4)	FUTA credit offsets (5)	Title XII interest (6)	Title XII debt service (7)
2011	377.5	288.6	87.9	376.5	--	--	--
2012	363.9	276.4	75.1	351.6	220.6	75.3	295.9
2013	324.3	273.5	64.1	337.7	464.7	51.0	515.7
2014	345.5	296.9	34.3	331.2	723.2	35.8	759.0
2015	337.8	300.5	31.9	332.4	1,020.5	19.0	1,039.5
2016	329.2	330.0	17.7	347.7	--	5.1	5.1
2017	233.8	193.9	3.9	197.8	--	--	--
2011-17	2,312.1	1,959.9	314.9	2,274.7	--	--	--
2011-15	--	--	--	--	2,429.0	186.2	2,615.2

Source: Projections made at the Urban Institute.

Notes: Data in columns 1-4 are from bond issuance documents and data supplied by the Texas Workforce commission (TWC). Columns 5-7 project annual Title XII debt retirement and interest charges during the years 2012 to 2016. All data in millions of dollars. Columns may not add up to the total due to rounding. -- = not applicable.

Other aspects of borrowing costs should also be noted. The states that issued municipal bonds used a specialized tax (commonly termed an obligation assessment) to finance the associated debt service costs (retirement of maturing bonds plus interest payments to bond holders). The tax rates for the obligation assessments in nearly all bonding states were set as a fixed proportion of the employer tax rates that finance regular UI benefits.⁶⁸ It can be argued that experience rated taxes are preferable to flat taxes since they assign costs more closely to the benefit charges incurred by individual employers. According to respondents in the three bonding states that used experience rated taxes, their

⁶⁸ Pennsylvania is an exception. The debt service costs of its bonds were financed by a flat rate tax of 1.1 percent of taxable payroll paid by all employers during each year between 2013 and 2019.

decisionmakers in their states believed it was more equitable to rely upon experience rated taxes rather than flat taxes.

Michigan

Michigan's strategy for repaying its Title XII debt involved two debt issuances. On December 1, 2011, the state issued \$3.323 billion of variable rate demand revenue bonds. Most of the issuance (\$3.278 billion) was used to fully repay its Title XII debt. Small amounts were used to make three other payments):

1. \$22.7 million to the State General Fund;
2. \$20.0 million to the Bond Proceeds Fund; and
3. \$2.1 million to cover issuance costs.

By repaying the entire Title XII debt in December 2011, Michigan employers avoided FUTA credit offsets in 2012. These were slated to be 1.2 percent of 2012 federal UI taxable payroll, due in 2013.

The second issuance in June 2012 totaled \$3.414 billion. Michigan used these funds mainly to repay \$3.323 billion from the December 2011 issuance. Additionally, \$75 million was paid into a Liquidity Reserve Fund (an emergency cushion for debt service to help ensure low interest rates on the bonds) and \$10.7 million covered issuance costs (legal fees, advisory fees, other costs as described in chapter 3).

Table 5.5 displays Michigan data on debt repayments and the associated costs of the June 2012 bond issuance. Column 1 shows annual obligation assessments to cover debt service on the bonds. Columns 2–4 display the elements of debt service (bond retirements, interest paid to bond holders and their sum). Columns 5–7 then show the simulated costs of using FUTA credit offsets to repay the Title XII debt. Debt service costs (column 7) add retiring Title XII debt repaid (with FUTA credit offsets) to the annual Title XII interest costs.

Because Michigan started to borrow from the Treasury earlier than most other states,⁶⁹ it was subject to FUTA credit offsets starting in 2009 (with credit reductions first payable in early 2010). Thus, by early 2012, when most states with Title XII debts were subject to a FUTA credit offset rate of 0.3 percent of federal taxable payroll, Michigan employers, in contrast, were subject to a FUTA offset rate

⁶⁹ Besides Michigan's borrowing in 2007 (with FUTA credit offset payments starting in early 2010), Indiana and South Carolina started to borrow in 2008 (with credit offsets due in early 2011). All other programs that borrowed because of the Great Recession started to borrow in 2009 or later.

of 0.9 percent. Due to their higher prospective FUTA offset rate in 2012, Michigan was under greater pressure to complete its Title XII debt repayments in 2011, hence its first debt issuance of December 2011.

TABLE 5.5

Debt Financing Options in Michigan: Bonds Versus Title XII (in millions of dollars)

Year	Obligation assessment (1)	Municipal bond retirement (2)	Interest to municipal bondholders (3)	Municipal bond debt service (4)	FUTA credit offsets (5)	Title XII interest (6)	Title XII debt service (7)
2012	257.7	94.1	3.2	97.3	179.3	148.8	328.1
2013	451.9	322.6	128.4	451.0	295.0	102.4	397.4
2014	460.1	342.2	122.8	465.0	420.7	83.5	504.2
2015	465.6	362.9	110.3	473.2	514.8	68.9	583.7
2016	493.0	402.7	92.6	495.3	616.8	56.5	673.3
2017	480.4	378.2	73.0	451.2	735.2	41.2	776.4
2018	473.9	486.4	54.8	541.1	847.6	26.0	873.6
2019	456.0	528.0	37.6	565.6	--	8.9	8.9
2012-19	3,538.5	2,917.1	622.6	3,544.6	--	--	--
2012-18	--	--	--	--	3,609.4	536.2	4,145.6

Source: Projections made at the Urban Institute.

Notes: Data in columns 1-4 are from bond issuance documents and data supplied by the Michigan UI agency. Columns 5-7 project annual Title XII debt retirement and interest charges during the years 2012 to 2019. Bond repayments completed at the end of 2019. All data in millions of dollars. Columns may not add up to the total due to rounding. -- = not applicable.

Three features of table 5.5 merit comments. First, Michigan completed the FUTA credit offsets in seven years (column 5), whereas the bond retirements occurred over eight years (column 2). Second, because Michigan repaid its debt more rapidly with FUTA credit offsets, the offsets had lower interest costs (\$536.2 million versus \$622.6 million, a differential of 14 percent).⁷⁰ This differential mainly reflects the higher annual average tax receipts with FUTA credit offsets. Annual tax receipts for the eight years of obligation assessments averaged \$442 million while annual FUTA credit offsets across seven years averaged \$516 million. Third, and most obvious, the annual progression of FUTA credit offsets was much steeper than for the bond retirements. Annual totals in their final years were \$456.0

⁷⁰ Note that the FUTA credit offsets paid in 2010 and 2011 are not included in these calculations. Under both methods of financing they were paid by Michigan and were equal under the two methods (bonds versus Title XII).

million for the obligation assessment compared \$847.6 million for the FUTA credit offset. FUTA credit offsets repaid the debt more rapidly and with lower total interest costs.

Pennsylvania

Pennsylvania has a long history of experiences with Title XII loans and trust fund indebtedness. The state had outstanding Title XII loans at the end every year between 1975 and 1987. It enacted legislation in 1988 intended to improve program solvency through improved responsiveness of both taxes and benefit payments to economic downturns. Employer taxes, employee taxes and weekly benefits for the upcoming year were all tied to the lagged midyear balance in the state's trust fund. In the Great Recession period, the state started to borrow in 2009, and its Title XII debt at the end of 2011 reached \$3.2 billion.

Pennsylvania accomplished its debt repayments using two issuance transactions. It secured a short-term bank loan of \$3.153 billion in in late July 2012. The loan was used mainly to repay the state's outstanding Title XII debt. The state then issued \$3.243 billion of municipal bonds in October 2012. Nearly all proceeds of the bond issuance were used to repay the earlier bank loan. The state started to repay the October 2012 bonds in 2013 and completed repayments on January 1, 2020.

Solvency legislation of 2012 also affected employer taxes and weekly benefits. The taxable wage base of \$8,000 in 2012 was raised in steps and reached \$10,000 in 2018. Automatic annual increases in the maximum weekly benefit were suspended, and it remained at \$573 during 2011-2016 and then at \$561 during 2017-2019. In sum, besides issuing municipal bonds, the state's response to the 2007-2009 recession included both the automatic solvency features from its 1988 legislation further changes to benefits and taxes enacted in 2012.

Table 5.6 displays summary data comparing the costs of the Pennsylvania October 2012 UI bond issuance with simulated costs of repayment under Title XII. The first line in the table is 2013, not 2012. As noted above, the state incurred Title XII interest costs in 2011, which were payable in 2012. Because the same \$82.1 million of 2012 interest costs was incurred under both methods of borrowing, there was no cost differential associated with the Title XII interest cost incurred in 2012. From 2013, Pennsylvania used its interest tax to finance the debt service costs of the bonds. The annual interest tax was levied at a uniform 1.1 percent of taxable payroll from 2013 to 2019. The debt service costs of the municipal bonds appear in columns 2-4, while the debt service costs of simulated Title XII repayments appear in columns 5-7.

TABLE 5.6

Debt Financing Options in Pennsylvania: Bonds Versus Title XII (in millions of dollars)

Year	Interest tax (1)	Municipal bond retirement (2)	Interest to municipal bondholders (3)	Municipal bond debt service (4)	FUTA credit offsets (5)	Title XII interest (6)	Title XII debt service (7)
2013	393.9	255.7	141.9	397.6	203.3	93.8	297.1
2014	448.1	331.9	113.5	445.4	314.8	78.3	393.1
2015	467.2	365.4	104.0	469.5	433.1	66.3	499.4
2016	497.0	404.3	86.1	490.4	560.4	56.2	616.6
2017	516.4	456.8	65.5	522.3	684.3	42.5	726.8
2018	542.2	501.9	42.3	544.2	943.2	28.4	971.6
2019	490.5	511.4	16.9	528.2	--	10.4	10.4
2013-19	3,355.2	2,827.4	570.2	3,397.6	--	376.0	3,515.1
2013-18	--	--	--	--	3,139.1	365.5	3,504.6

Source: Projections made at the Urban Institute.

Notes: Data in columns 1-4 are from bond issuance documents and data supplied by the Pennsylvania UI agency. Columns 5-7 project annual Title XII debt retirement and interest charges during the years 2013 to 2018. Title XII debt service in 2012 is actual interest on Title XII debt from January through July. Data in millions of dollars. Columns may not add up to the total due to rounding. -- = not applicable.

Several features of the results for Pennsylvania are noteworthy. First, the interest tax that financed the bonds was collected over seven years from 2013 to 2019, whereas the simulated FUTA credit offsets applied over six years from 2013 to 2018. The interest tax financed all muni bond debt service (column 4). Also, the FUTA credit offsets collect a slightly lower total during their six years of simulated operation (\$3.139 billion versus \$3.355 billion).⁷¹

Second, the interest costs of the Title XII repayments are considerably lower than for the muni bonds, \$376.0 million versus \$570.2 million. The contrast reflects two factors:

1. somewhat faster repayments of principal through FUTA offsets, and
2. lower interest rates for Title XII debt during 2013-2019.⁷²

Third, the level of annual tax revenue shows a faster rate of increase over the repayment period for the Title XII credit offsets compared to the annual interest tax receipts. This again reflects the faster

⁷¹ The simulation assumed there was a \$124 million voluntary FUTA repayment in 2018.

⁷² See table 5.7 and the related the discussion below.

rate of increase in the annual FUTA credit offset rate. The offset rate on federal taxable payroll increased from 0.3 percent in 2012 (paid in 2013) to 2.1 percent in 2017 (paid in 2018). The bonding states have control over the average obligation assessment tax rates paid through municipal bond financing. Pennsylvania and other bonding states reveal a strong preference for a stable pattern of annual debt service costs for their municipal bonds.

Colorado

As noted in Vroman (2020), Colorado differed from the other seven bonding states because the bulk of its bond issuance (83 percent) was used to increase its trust fund balance at the Treasury rather than simply to repay its outstanding Title XII debt. The reason for Colorado's action was a state solvency requirement that the fund balance at the end of June 2012 (and subsequent Junes) had to equal at least 0.5 percent of covered payroll. After 2012 the solvency tax was slated to remain active until the trust fund balance on June 30th exceeded 0.7 percent of covered payroll.

Colorado's UI bonds had fully articulated repayment provisions at the time of their issuance. Colorado issued fixed maturity, fixed interest rate bonds with a face value of \$625 million in May 2012. These were to be repaid in equal annual installments of \$125 million on May 15th of the next five consecutive years starting in 2013. Columns 2 and 3 of table 5.7 respectively display these annual bond retirements and associated bond interest payments. The tax-free bonds (\$85.0 million) were retired in May 2014 while all other retirements in column 2 involved taxable bonds. Their sum (column 4) is the state's annual municipal bond debt service obligations from 2012 to 2017. It is further assumed the state's debt service was fully covered by an annual obligation assessment tax shown in column 1. As the obligation assessment tax data were not separately available, the estimates in column 1 were derived at the Urban Institute, assuming the annual obligation assessments exceeded the annual debt service totals by 5.0 percent.

Because these bonds had fixed repayment parameters at issuance (e.g., fully known maturity dates and interest rates), their provisions could be accurately modeled to generate cost estimates. However, a key question is: What is the Title XII counterfactual? More than one answer to this question might be considered. Different repayment time paths would occur under different assumptions about the health of the state economy during recovery, the pace of Title XII repayments, the target trust fund balance and the speed of achieving that balance.

TABLE 5.7

Debt Financing Options in Colorado: Bonds Versus Title XII (in millions of dollars)

Year	Estimated obligation assessment (1)	Municipal bond retirement (2)	Interest to municipal bondholders (3)	Municipal bond debt service (4)	FUTA credit offsets (5)	Title XII interest (6)	Title XII debt service (7)
2012	--	--	4.2	4.2	51.9	17.6	69.5
2013	134.6	125.0	10.6	135.6	108.3	13.4	121.7
2014	132.1	125.0	8.1	133.0	173.5	9.0	182.5
2015	129.1	125.0	5.0	130.0	252.3	3.8	256.1
2016	127.4	125.0	3.3	128.3	329.8	0.4	330.2
2017	125.2	125.0	1.2	126.1	--	--	--
2012-17	648.3	624.8	32.3	657.1	915.8	44.2	960.0

Source: Projections made at the Urban Institute.

Notes: Columns 1-4 project the retirement of fixed-maturity, fixed-rate municipal bonds during the years 2013 to 2017. Data in columns 2-4 are from bond issuance documents. Column 1 estimated as described in the text, i.e., five percent higher than annual municipal bond debt service (column 4). Columns 5-7 project annual Title XII debt retirement during the years 2012 to 2016. Data in millions of dollars. Columns may not add up to the total due to rounding. -- = not applicable.

The present comparison of costs assumes that Colorado had a Title XII debt of \$625 million at the end of 2011 and started to make debt repayments in 2012 using Title XII credit offsets with the standard progression of offset tax rates. The offset rate was assumed to start at 0.3 percent of federal taxable wages and then to increase by 0.3 percentage points annually. It was also assumed the state paid its Title XII interest obligations in the usual manner, in the year following their accrual. Thus, Title XII interest accruals commenced in 2011 following the interest-free years 2009 and 2010. Columns 5 and 6 of table 5.7 respectively display annual FUTA credit offsets and Title XII interest payments. Column 7 shows the total simulated debt service costs.

The research team also examined a second Title XII repayment sequence, which completed Title XII repayments in 2015, one year sooner than shown in table 5.7. This was achieved by adding a voluntary Title XII repayment of \$39.1 million to the \$252.3 million required repayment shown for 2015 in column 5. This second repayment pattern would occur if the agency felt its fund balance was sufficient to support a voluntary additional payment to its 2015 required credit offset.

Three aspects of the Colorado experience are noteworthy. First, observe the comparative size of the two total debt service estimates, \$657.1 million for the muni bonds and \$960.0 million for the Title XII repayments. Because all employers pay at the same rate under Title XII, the credit offset in 2016 of

\$329.8 million exceeded what was needed to complete the Title XII loan repayments by about \$290 million. In effect, the repayment in 2016 had a much larger impact on the state's trust fund balance than on the volume of Title XII debt being repaid. Title XII repayments were completed in 2016 (column 5) and display the now-familiar annual contrast with muni bond repayments (column 2). The latter have similar annual totals from one year to the next while the FUTA credit offsets (column 5) exhibit sharp annual increases. The credit offset rate in 2016 (1.5 percent of federal taxable payroll) was five times the offset rate in 2012 (0.3 percent).

Second, note the contrast in interest charges for the two methods of debt repayment. Interest for the muni bonds of (\$32.3 million) was about one fourth smaller than the interest for Title XII repayments (\$44.2 million). Much of the contrast reflects the low interest rates charged on Colorado's muni bonds which carried low risk ratings (Aa2 – Moody's and AA – Fitch) and were issued with very low interest rates.⁷³

Third, at the level of payments by individual employers, the contrast (while not visible in table 5.7) is sharp. Every subject employer in each year of debt repayment paid the same Title XII tax rate while the muni bond tax rates each year were linked to each employer's tax rate in the regular UI program.

Four-State Summary

The four study states that issued municipal bonds during 2010-2013 exhibited several common features in their debt repayments but also some notable contrasts. In retiring their debts, the annual levels of bond retirements were quite stable across time, whereas retirements using FUTA credit offsets increased sharply from one year to the next reflecting the annual progression of FUTA credit offset rates. When the states controlled the annual obligation assessments that financed their bond retirements, the average tax rates were quite similar from one year to the next.

In three of the four bonding states (Texas, Michigan, and Colorado), the annual obligation assessments were experience rated (i.e., they were above-average for employers whose regular UI tax rates were above-average). Pennsylvania was exceptional in that its annual interest tax that financed the bond retirements was levied at a single annual flat rate on all employers, not experience rated. Also, in all four states, the repayment period was shorter when Title XII credit offsets were used.

⁷³ The annual interest rates on Colorado's bonds appear below in table 5.8.

Three of the four states (Michigan, Pennsylvania, and Texas) used the vast majority of the proceeds to repay their outstanding Title XII debts. Colorado was the exception in that most of the proceeds were placed into their trust fund account at the Treasury. This reflected a Colorado requirement that the trust fund balance at the end of June 2012 had to equal at least 0.5 percent of covered payroll. The other three states did not have a minimum trust fund balance requirement. They used the proceeds of the bond issuance to bring their negative net trust fund balance up to zero but not to a level substantially above zero. Compared to the other three states, Colorado had a substantial trust fund balance at the point in time when its Title XII debts were fully repaid.

In sum, the two methods of repaying trust fund debts (issuing municipal bonds versus using FUTA credit offsets) exhibited clearly contrasting patterns. Generally, when the states controlled the repayment provisions, they exhibited a preference for experience rated tax rates, similar year-to-year repayment rates, and longer repayment periods vis-à-vis federal UI debt repayment requirements.

Interest Rate Comparisons across Six States

An important element of state deliberations about their borrowing options is the interest rate on municipal bonds compared to the interest rate on Title XII loans. Table 5.8 shows summary interest rate data from the state municipal bond issuances of 2010-2013. The table spans the years 2010 to 2019 and displays annual interest rates for six states that issued municipal bonds along with interest rates for Title XII loans and high-grade municipal bonds.

The interest rates for the six states were calculated from debt servicing data. All six bonding states made two interest payments per year to their bondholders, typically around June 30th and December 31st. The interest rates in table 5.8 were calculated as the ratio of the interest payment for each six-month interval to the stock of outstanding debt at the start of each interval. The multi-year averages in the third data line from the table's bottom row pertain to the years where data appear in the top rows of the table.

Interest rate comparisons can be made in more than one way. The interest rates in table 5.8 were calculated using data from completed debt repayments. For the three states whose issuances included call features (Texas, Michigan and Pennsylvania), the timing of their debt retirements reflects the timing of calls when exercised. The interest rate averages are simple averages of interest rates for years between 2011 and 2019.

TABLE 5.8

Debt Financing Options: Interest Rates on Bonds Versus Title XII

Year	Title XII	High grade municipal bonds	Texas	Michigan	Pennsylvania	Colorado	Idaho ^b	Nevada ^b
2010	4.36%	4.16%	--	--	--	--	--	--
2011	4.09%	4.29%	4.70%	--	--	--	--	--
2012	2.94%	3.14%	4.79%	--	--	1.34%	3.65%	--
2013	2.58%	3.06%	4.94%	4.71%	5.23%	1.88%	4.35%	--
2014	2.39%	3.78%	3.35%	5.13%	4.62%	1.85%	4.56%	4.68%
2015	2.34%	3.48%	4.39%	5.39%	4.93%	1.60%	4.65%	4.47%
2016	2.23%	3.07%	4.30%	5.54%	4.95%	1.76%	--	4.46%
2017	2.21%	3.36%	4.00%	5.66%	4.83%	1.92%	--	4.63%
2018	2.22%	3.53%	--	6.29%	4.71%	--	--	--
2019	2.31%	3.38%	--	8.79%	4.40%	--	--	--
Average	2.59%	3.45%	4.35%	5.93%	4.81%	1.73%	4.30%	4.56%
Adjust ^a			0.523	0.504	0.264	0.100	0.196	0.185
Net Rate			2.28%	2.99%	1.27%	0.17%	0.84%	0.84%

Source: Interest rate data assembled at the Urban Institute. Title XII interest rates from US Treasury Direct reports. High grade municipal bond interest rates from Table B-42, Economic Report of the President 2020. Interest rates for UI state bond issuances from bond issuance documents and from UI staff in individual states.

Notes: ^a This adjustment is the ratio of bond interest payments less issuance premia to total bond interest payments. As discussed in chapter 2, the choice of a bond's interest, or coupon, rate and premium at issuance are intertwined. Bonds issued at a coupon rate higher than the prevailing market interest rate will automatically sell at a premium. This is a strategic choice issuers make in consultation with underwriters and other advisers along with decisions about call features, maturities, and other bond features selected to maximize attractiveness to investors. Premium bonds also have the advantage of providing more proceeds up front, at the cost of higher interest costs over time compared to a bond issued at par or face value.

^b This state was not part of the data collection or simulation modeling for the study.

In table 5.8, the repayment intervals were similar across the six states: seven years in three states, six years in one and four years in two. The repayment periods were influenced (shortened) by calls in three states.

Most of the individual year interest rates for the six states in the table fall between 4.0 and 6.0 percent (26 of 35). Nearly all the annual entries for these states exceed both the Title XII rate and the high grade muni rate for the same year. Michigan has the highest multiyear average (5.93) while Colorado's average (1.73) is the lowest.

All six states realized a premium (sales price above face value) when their bonds were issued. The “Adjust” line in table 5.8 was calculated by subtracting each state’s premium from its total bond interest payments and computing the difference as a proportion of total interest payments. As discussed in chapter 2, the choice of a bond’s interest, or coupon, rate and premium at issuance are intertwined. Bonds issued at a coupon rate higher than the prevailing market interest rate will automatically sell at a premium. This is a strategic choice issuers make in consultation with underwriters and other advisers along with decisions about call features, maturities, and other bond features selected to maximize attractiveness to investors. Premium bonds also have the advantage of providing more proceeds up front, at the cost of higher interest costs over time compared to a bond issued at par or face value.

Adjust ratios range between 0.523 (Texas) and 0.100 (Colorado). The bottom line of table 5.8 (Net Rate) then shows the average net interest rate after the multiyear average was multiplied by these adjustments. The six net rate averages all fall below 3.0 percent and three of six fall below 1.0 percent.

For three of these states (Colorado, Idaho, and Nevada), all bonds had fixed maturity dates. Among this trio, the average net interest rate (net of bond premia) fell below 1.0 percent. For these states, the average net interest rate paid on their municipal bonds, using the calculation described above, was lower than the average Title XII interest over their periods of muni bond indebtedness.

For the same trio of bonding states, one can also ask if they saved on total interest costs (i.e., interest costs over the full period of their bond indebtedness). Based on the net interest rates as described in the bottom line of table 5.8, all three multiyear averages for their bonds were below the comparable multiyear averages for the Title XII interest rates. The three multiyear averages for Title XII loans were 2.44 for Colorado, 2.56 for Idaho and 2.29 for Nevada (not shown in table 5.8). For these three states, the average net bond interest rates were substantially lower than Title XII average interest rates for the same years.

Pennsylvania probably also achieved interest rate savings with its multiyear net interest rate average of 1.27 percent (table 5.8), compared to a 2013-2019 average of 2.32 percent for Title XII loans. For Texas and Michigan, the multiyear averages were much closer: 2.28 versus 2.68 for Texas and 2.99 versus 2.32 for Michigan. Across all six bonding states, including bond premia in the calculations substantially lowered the net interest costs of issuing municipal bonds relative to Title XII loans.

Key Takeaways from the Simulation Model Results

If a state has a recession-related trust fund financing problem, it may consider borrowing in the municipal bond market rather than relying exclusively on Title XII loans from the US Treasury. This chapter introduced a simulation model developed to examine borrowing options and explored the experiences of states that issued municipal bonds during the 2010-2013 period. For four states detailed comparisons of borrowing experiences with municipal bonds versus Title XII loans were made. Three main conclusions can be drawn for the analysis of individual state experiences using the simulation model:

1. Debt repayments were faster when financed by Title XII credit offsets. The contrast was particularly large in Texas;
2. Total interest charges were lower when the states repaid with Title XII credit offsets; and
3. The issuance premia of 2010-2013 operated to make the interest costs of bond issuances lower than the interest costs of Title XII loans.

For a state contemplating issuing municipal bonds, five considerations are:

- **The decision of how to borrow occurs in an environment of macroeconomic uncertainty where upside and downside risks.** The upside risk (stronger than expected future state economic performance) can be addressed by issuing bonds with call features. The downside risk (weaker than expected economic performance) can be addressed by having a total bond authorization larger than the size of the initial issuance.
- **The borrowing decision is influenced by the current and expected future interest rate spread between Title XII loans and municipal bonds.** While Title XII interest rates have been the higher of the two during most of the past 40 years, the rates on high grade municipal bonds consistently averaged more than 100 basis points higher than Title XII rates during 2014-2019.
- **The net cost of issuing bonds is influenced by the size of issuance premia when bonds are issued.** These premia were much larger during 2010-2013 than during 2003-2005.
- **States may be able to achieve year-to-year stability in interest rates during its debt repayment period using obligation assessments.** Title XII credit offsets have built-in year-to-year increases in credit offset (repayment) rates.
- **States can repay its loans with experience rated taxes using experience rated obligation assessments.** Title XII credit offsets subject all employers to a single offset rate in a given repayment year regardless of experience.

These considerations indicate that a state's decision is complicated. Overall, the decision to issue municipal bonds involves more considerations than the decision to repay loans secured from the US Treasury. While issuing bonds may be more complicated, it may better suit a state's needs and preferences than repayment with Title XII credit offsets.

Chapter 6: Conclusions

The COVID-19 pandemic and resulting economic recession have placed enormous pressures on state UI systems. Although most systems met DOL minimum solvency standards as of December 2019, many did not (US Department of Labor 2020). Moreover, these thresholds were developed based on past recessions and may not reflect the severity of the current crisis, with job losses concentrated in the service sector where many firms may be forced to permanently downsize or shut their doors because of weak demand.

Borrowing from the federal government using Title XII loans to address UI trust fund deficits is a well-understood process by states. However, states may avail themselves of alternate option used in Great Recession—accessing private capital markets by issuing bonds using the proceeds to repay any amounts owed to the federal government, and then repaying bondholders. Eight states—Arizona, Colorado, Idaho, Illinois, Michigan, Nevada, Pennsylvania, and Texas—borrowed an unprecedented nearly \$11 billion from private capital markets in the aftermath of the Great Recession. However, the tradeoffs between using Title XII loans exclusively and a combination of Title XII loans and municipal bonds are not well understood. This study sought to document, compare, and contrast major trust fund financing strategies and to assess conditions under which states may use various borrowing strategies to achieve their desired objectives.

The research team based the following conclusions on interviews with federal and state government officials and bond market representatives and the results from a simulation model comparing the costs of the two borrowing methods. These results indicate that states may need to recognize and weigh several factors when navigating borrowing decisions as well as benefit changes or tax increases to replenish state trust funds.

This final chapter first summarizes the findings across the study by the original research questions the study addressed. It then highlights considerations for state officials as they make decisions about borrowing to address their trust fund deficits.

Summary of Findings

Below is a summary the study findings, based on the three overarching research questions:

What were the decisionmaking factors for selecting a method to finance deficits in UI programs?

State decisionmaking to address UI trust fund solvency was usually a collaborative process, with input from a range of organizations and agencies. The respondents from all states—from UI systems as well as financing agencies, legislative staff, and other parts of government—suggested that economic considerations were paramount in the choice among borrowing strategies. However, states pursuing borrowing with municipal bonds could encounter legal obstacles such as state constitutional or statutory limits on indebtedness along with case law or legal opinions interpreting these laws to apply to debts incurred by state UI systems.

The state respondents in five states cited interest rate differentials as a factor. There was a common perception that interest rates on loans from the US Treasury (Title XII loans) exceed those of municipal bonds. However, the analysis of historical patterns suggests that the difference is sensitive to the time period considered, with high-grade municipal bonds consistently paying a higher interest rate (115 basis points on average) than Title XII loans from 2014 to 2019. The simulation results further underscored that not only the interest rate but also the duration of indebtedness mattered, with Title XII loans often repaid faster because of the “ratcheting” effect of reductions in employer payroll tax (FUTA) credits, a year-over-year upward progression determined by federal law.

Another factor for respondents in five states was Title XII’s option of “daily sweeping,” or automatic retiring of debt on days when revenues exceed benefit payments, without any additional borrowing costs. This minimized average fund indebtedness and associated interest charges. All that was needed to initiate such a “voluntary repayment process” was for a state governor or an official designated by the governor to submit a written request to the Secretary of Labor. This transaction flexibility could not be exercised with municipal bond debt.

To what extent did available information about local economic conditions, states' UI trust fund solvency, and/or prior experience with borrowing appear to influence states' approaches?

Current and former state UI agency staff in both bonding and Title XII states said that Title XII process was relatively straightforward, simple, and well understood. DOL technical guidance, written guidelines on Title XII borrowing and repayment were helpful and “well communicated.” In contrast, there was no written guidance from DOL on UI bond issuances that these states could use for making borrowing decisions.

Instead, the four states that issued municipal bonds to fund their UI trust funds often received helpful information from other states that did so previously, such as Texas, and from bond market representatives such as municipal financial advisers, underwriters, and bond counsel. These personnel were perceived as critical because tax-exempt bonds in particular were subject to anti-arbitrage and yield restriction rules set by the US Treasury. The rules prevented the issuer from realizing a net financial gain from borrowing at a lower interest rate in one financial market and depositing the proceeds into a market that was paying a higher interest rate.

The involvement of multiple stakeholders and general unfamiliarity of states with the bonding option added to the transaction costs of bonds, according to respondents in bonding states. These were the costs of administering special taxes used to repay bonds (obligation assessments) and making debt service payments. However, these costs were small (about 0.5 percent of bond face value) following the 2007 recession.

Weighing against these costs, respondents in the four bonding states and the two bond market representatives cited the greater control states could exert over obligation assessments compared to FUTA credit reductions. Whereas FUTA credit offsets increased according to a schedule determined by federal law, state employer payroll tax surcharges could be more stable during debt repayment and were at state policymakers' discretion. In addition, states could structure obligation assessments or other employer payroll tax surcharges to reflect employers' actual benefit experiences, a practice known as experience rating, rather than applying just one rate for all covered employers as with FUTA credit reductions.

Beyond these economic factors, the four states that considered but rejected UI bonds cited various factors including familiarity with Title XII borrowing, no advocate or “champion” for bonds, and concerns about the size of state indebtedness. Respondents in these states judged these experiences positively and would consider doing so again.

What were the estimated costs associated with different methods and configurations of borrowing instruments used for obtaining funds to finance deficits in UI programs?

The simulation results underscored the tradeoffs between high interest rates and shorter durations of indebtedness. Rising FUTA credit reductions meant that Title XII loans were often paid off more quickly. However, the bonding states also exercised call options to repay bonds early at a specified price. Further complicating these comparisons, municipal bonds were often sold above face or “par” value, meaning states can recognize immediate proceeds or “bond premia” (averaging about 7.0 percent of face value from 2010 to 2013). Although the premium came at the cost of higher interest payments over time, respondents reported that their states accepted this tradeoff for much needed immediate funds.

State respondents in at least two states also appreciated the opportunity to address policy considerations such as Pennsylvania’s coupling of UI bonds with other solvency adjustments (increasing the taxable wage base and freezing the maximum weekly benefit). Colorado issued taxable bonds to satisfy a statutory trust fund solvency requirement.

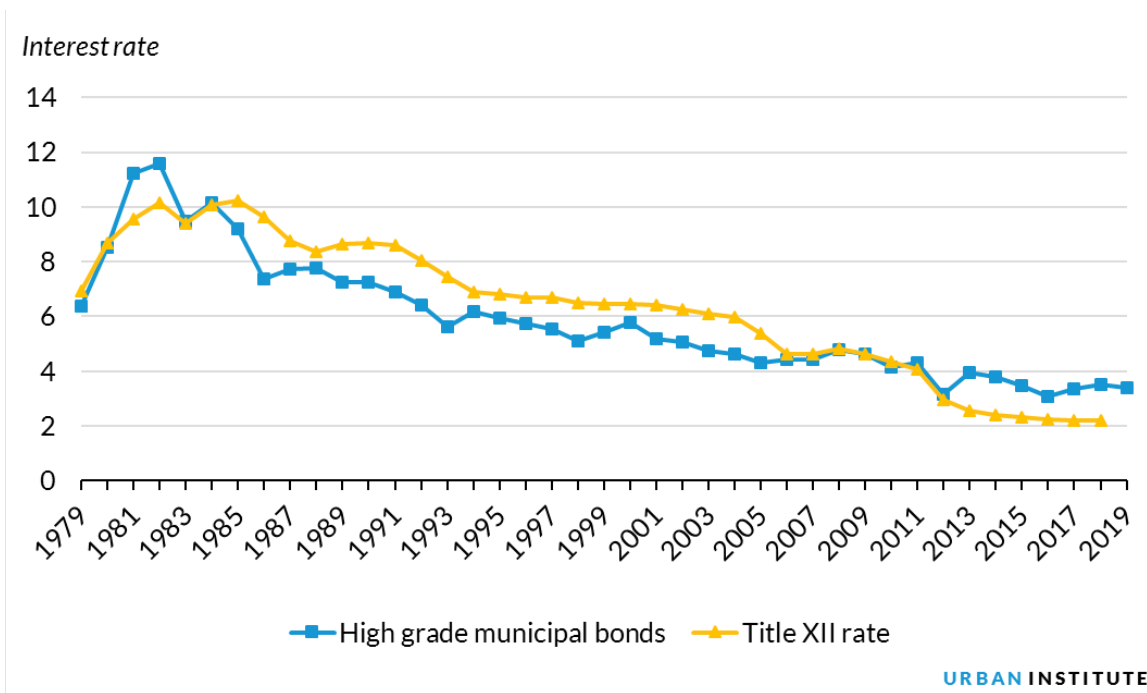
Considerations for State Officials

Because of the enormous strain the COVID-19 pandemic and ensuing recession are placing on the state UI systems, states in late 2020 are experiencing deficits in their UI trust funds. As of January 1, 2020, 31 states or territories had trust funds that met minimum solvency standards outlined by the DOL, but 22 systems fell short of this threshold (US Department of Labor 2020). By late December 2020, however, 22 states had borrowed from the US Treasury. The findings from this study, although retrospective to the 2007 recession, suggest ways that states can recognize and weigh several other considerations as described below when navigating borrowing decisions as well as contemplating benefit reductions and/or tax increases. These considerations are:

- **Title XII loan interest rates do not always exceed those on high grade municipal bonds**, and in recent years, the municipal bond rate has been consistently higher (115 basis points on average from 2014 to 2019). See figure 6.1 for interest rates for municipal bonds and Title XII loans over time.

FIGURE 6.1

Interest Rates Over Time for High Grade Municipal Bonds and Title XII Loans



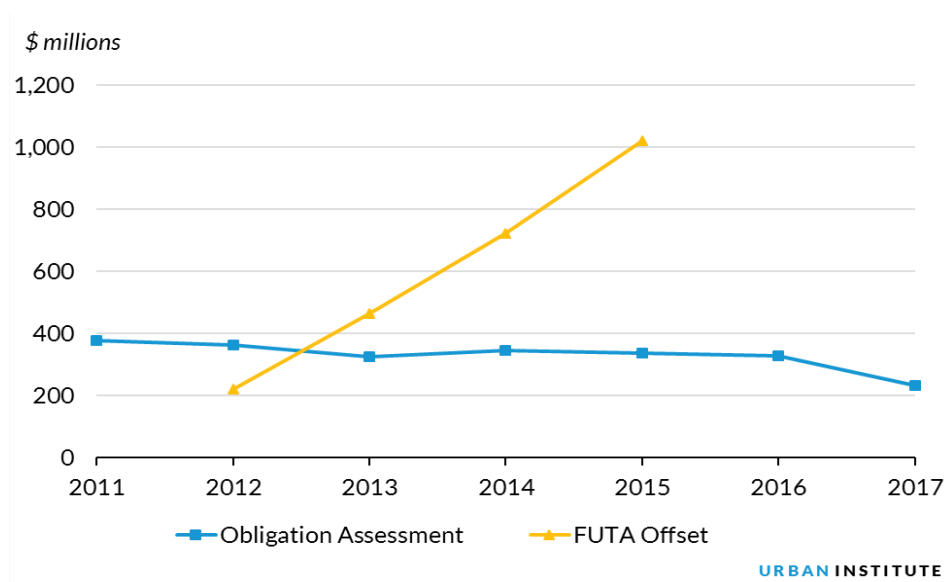
Source: Title XII interest rate from US Department of the Treasury, Treasury Direct Gov. Interest rates on high grade municipal bonds from the Economic Report of the President (CEA 2019, Table B42).

- A benefit of Title XII loans not available from municipal bonds is daily sweeping** or automatic retiring of debt on days when revenues exceed benefit payments, without any additional borrowing costs. This minimizes average fund indebtedness and associated interest charges. All that is needed to initiate such a “voluntary repayment process” is for a state governor or official designated by the governor to submit a written request to the Secretary of Labor. This transaction flexibility cannot be exercised with municipal bond debt.
- Under Title XII and related legislation, states with large trust funds also have access to interest-free short-term loans before employer payroll tax credit offsets take effect (Vroman et al. 2017).** In the 2007 recession, federal policymakers also waived interest rates temporarily on long-term loans. Thus, when most (36 of 53) trust funds became insolvent, states and territories that borrowed from the US Treasury did not start to pay interest charges until 2012 (related to their borrowing during 2011).
- Municipal bonds offer other types of flexibility, especially when structured with “call options.”** At the time of UI municipal bond issuance, states face an uncertain economic future. Call options allow states to repay a bond early at a specified price, for example if revenues come in higher than expected. Callable bonds also carry higher interest rates than fixed maturity bonds, all else being equal. Call options also mean the duration of municipal bonds can be short. To illustrate, maximum UI bond maturities have ranged from four years (Idaho’s 2011 issuance) to 12 years (Michigan’s and Pennsylvania’s 2012 issuances). However, call features and strong economic recoveries have meant that the longest actual bond maturities have not exceeded eight years.

- **States issuing municipal bonds also have discretion over the structure of “obligation assessments” rather than employer payroll tax credit offsets (FUTA credit offsets).** Whereas FUTA credit offsets are applied with just one rate for all covered employers, states can structure obligation assessments or other employer payroll tax surcharges to reflect employer’s actual benefit experiences, a practice known as experience rating.
- **FUTA credit offsets also “ratchet up,” or exhibit a strong year-over-year upward progression determined by federal law.** By contrast, annual state employer payroll tax surcharges can be more stable and are at state policymakers’ discretion. Figure 6.2 illustrates the contrast.

FIGURE 6.2

Texas, Comparison of Revenue Streams



Source: Actual UI bond repayments from Texas (from the Texas Workforce Commission) compared to Urban Institute simulated debt repayment streams based on the standard progression under Title XII. Annual revenue in millions of dollars.

- **Municipal bonds are often sold above face or “par” value, meaning states can recognize immediate proceeds or “bond premia.”** Although the premium comes at the cost of higher interest payments over time, states may accept this tradeoff for much needed immediate funds. Bond premia averaged about 7.0 percent of face value from 2010 to 2013.
- **States issuing UI bonds must decide between tax-exempt and taxable bonds.** Tax-exempt bonds are subject to anti-arbitrage and yield restriction rules set by the US Treasury.⁷⁴ The rules prevent the issuer from realizing a net financial gain from borrowing at a lower interest rate in one financial market and depositing the proceeds into a market that is paying a higher interest rate.

⁷⁴ For more information on the US Code on arbitrage, see “26 U.S. Code § 148.Arbitrage” at <https://www.law.cornell.edu/uscode/text/26/148>.

- **Municipal bonds involve issuance costs and other transaction costs.** Issuance costs include insurance, the underwriter's discount (a fee for overseeing the transaction), document reproduction and other issuance costs. Other costs include the costs of administering obligation assessments and making debt service payments. Issuance costs were small (about 0.5 percent of bond face value) in the last recession.
- **State policy decisions affect both Title XII and municipal bond options.** Each state must decide how to make appropriate borrowing decisions when its trust fund is in debt. Beyond UI benefits and taxes, states exercise some discretion over the pace of Title XII debt repayments (although not the imposition of mandatory Title XII credit offset rates), reliance on "sweeping" actions to minimize average daily Title XII indebtedness, the use of call options for bonds, and the duration of bonds at issuance.

Based on the findings from this study, there is an opportunity for federal officials and other organizations to offer assistance to state officials who lack information and internal capacity to fully vet their borrowing options. States may need guidance, analytical tools to compare the costs of various borrowing options in real-time, and resources to be able to communicate complicated issues about borrowing options to stakeholders such as employers or state legislators. State officials may also benefit from connecting with other state officials with experience in considering and using municipal bonds who can serve as resources to fill information gaps.

Appendix A. Glossary of Acronyms and Terms

American Recovery and Reinvestment Act: an economic stimulus package enacted in 2009, which included financial incentives for states to broaden access to the UI system and increase the generosity of benefits

arbitrage: the practice of buying bonds or securities in one market and selling them for a profit in another. Municipal bonds, particularly when they are tax-exempt, are subject to strict anti-arbitrage requirements in the IRC.

average high cost multiple: an actuarial measure of unemployment insurance trust fund adequacy, designed to measure how long a state's trust fund would last in a recession. The AHCM is calculated as the calendar year's **Reserve Ratio** divided by the **Average High Cost Rate (AHCR)**.

average high cost rate: the average of the three highest calendar benefit cost rates in the last 20 years (or a period including three recessions, if longer). Benefit cost rates are benefits paid (including the state's share of extended benefits but excluding reimbursable benefits) as a percent of total wages in taxable employment.

bond counsel: the legal team that provides an expert, objective legal opinion to municipal bond issuers. The bond opinion confirms that the bond is a legally binding obligation and may be legally offered for sale. It also attests to the tax treatment of the bond interest payments made by the issuer.

bond underwriter: the party, usually an investment bank, that evaluates risk, purchases municipal bonds from the issuing entity, and resells them for profit.

broker-dealer: an entity that handles orders to sell securities, commodities, or other property.

Bureau of the Fiscal Service: a division of the US Treasury that handles investments for the FUA, allocates earnings, and processes withdrawals or deposits into state UI accounts.

call features: also called call provisions; allow an issue to redeem a bond before its stated maturity date, allowing the issuer to pay off the bond debt early. Call features add expense to a bond issuance, to compensate investors for the potential that the issuer will call the bonds early.

community rating: a term from the insurance business referring to the practice of providing all individuals insurance at the same premium rate, spreading risk evenly across all insureds in the community. An alternative pricing mechanism to **experience rating**.

competitive sales: a municipal bond issuance during which the issuing entity provides an official notice of sale, and underwriters bid for the purchase of municipal securities. An alternative sale process to the **negotiated sales** process.

conduit revenue bonds: bonds issued by a municipality or an agency or instrumentality of a municipality on behalf of a third party (often called a "conduit borrower" or "obligated person").

coupon: the interest rate paid to the bond investor. A 5 percent coupon on a \$100 bond pays \$5 a year.

debt service: the total of the costs of the bond **principal** and **interest**.

discount bond: a par bond is a bond that can be purchased at 100 percent of its face or principal value. A premium bond can be purchased at a price greater than its face value, and a discount bond at a price below its face value.

Extended Benefits: the federal-state extended benefits program provides additional, extended benefits to workers who have exhausted regular unemployment insurance benefits during periods of high unemployment.

Emergency Unemployment Compensation: an **extended benefits** program enacted during the Great Recession.

experience rating: a term from the insurance business referring to the practice of basing insurance premiums on the amount and/or number of claims made in the previous year. In the UI system, the UI payroll tax is experience rated so as to impose higher tax rates on firms that have a history of laying off more workers. An alternative pricing mechanism to **community rating**.

daily sweeping: a feature of the Title XII borrowing program that allows borrowers to minimize fund indebtedness and associated interest charges by automatically retiring of outstanding Title XII debt on days when revenues exceed benefit payments, without additional borrowing costs.

DOL—United States Department of Labor.

Electronic Municipal Market Access: a service of the **MSRB, EMMA** is an online database that serves as the official repository for information on virtually all municipal bonds.

financial adviser: an intermediary in the bond issuance process that provides guidance to the issuing entity on the structure, timing, interest rate, marketing, and rating for the municipal bonds.

fixed-rate bond: a type of security which pays a fixed interest rate over the term of the security, with a periodic schedule of interest payments.

FUA—Federal Unemployment Account: a loan fund for state unemployment programs to ensure a continued flow of benefits during times of economic downturn.

FUTA—Federal Unemployment Tax Act of 1939: along with the Social Security Act of 1935, FUTA established the federal UI program.

FUTA Tax: a payroll tax levied on employers; set as a six percent payroll tax on the first \$7,000 of covered workers' earnings. Employers can claim credit against 5.4 percentage points of **FUTA** taxes if they operate in states where unemployment programs meet certain federal standards, thereby reducing the effective **FUTA** tax rate to 0.6 percent.

FUTA tax credit reduction: if a state has taken loans from the Federal government to meet its state unemployment benefits liabilities and has not repaid the loans within the allowable time frame, it is subject to reductions in the usual 5.4 percentage point **FUTA** tax credit.

general obligation bonds: bonds backed by the taxing power and/or "full faith and credit" of the issuing entity. An alternative financing structure to **revenue bonds**.

guaranteed investment contract: a contract that guarantees repayment of principal and a fixed or floating interest rate for a predetermined period of time.

interest: the cost of issuing bonds, calculated by multiplying the **coupon rate** by the principal, and paid on a set periodic schedule according to the terms of the issuance.

IRC—Internal Revenue Code: Title 26 of the U.S. Code, which contains nearly all of US federal tax laws.

IRS—Internal Revenue Service.

maturity: date on which principal payments are due; most issuances have multiple maturity dates, to be paid annually or semiannually, until the final maturity date of the issuance.

municipal adviser: a person that provides advice to or on behalf of a municipal entity or obligated person with respect to municipal financial products or the issuance of municipal securities, or a person who undertakes a solicitation of a municipal entity.

municipal bond: a debt instrument issued by state and local governments to fund a capital project or an obligation and is financed by investors.

MSRB—Municipal Securities Rulemaking Board: A self-regulatory organization with a mandate to regulate the activities of broker-dealers and banks that buy, sell, and underwrite municipal securities, and the

municipal advisers that provide advice to state and local governments and other municipal entities about the issuance of bonds and municipal financial products. The **MSRB** is under the oversight of Congress and the **SEC**.

negotiated sales: a municipal bond issuance during which the bond issuer selects a bond underwriter by issuing a request for proposals, and then works within an exclusive agreement with the chosen underwriter. An alternative sale process to the **competitive sales** process.

Office of Unemployment Insurance: an office within the US Department of Labor that provides leadership, direction, and assistance to state workforce agencies in the implementation and administration of state unemployment insurance programs, federal unemployment compensation programs, and other wage-loss, worker dislocation, and adjustment assistance compensation programs.

premium: A par bond is a bond that can be purchased at 100 percent of its face or principal value. A premium bond can be purchased at a price greater than its face value, and a discount bond at a price below its face value.

principal or par: the face value of a bond issuance.

proceeds spent last: an accounting rule that requires that for a working capital financing, proceeds from bonds must be spent after all other sources of funding have been exhausted (subject to some limitations).

qualified private activity bond: a tax-exempt bond issued by (or on behalf of) a local or state government to provide special financing benefits for qualified projects.

reserve fund: a feature included in some bond deals that requires the issuer to hold a minimum level of funds in reserve. The reserve fund can be used to service the debt in the event of temporary adversity, and may be free from some **arbitrage** restrictions in the **IRC**.

reserve ratio: a state's trust fund balance as a percent of estimated wages for the most recent 12 months. Estimated wages are based on the latest growth rate in the 12-month moving average.

reserve ratio multiple: a ratio of two ratios. The numerator ratio is net reserves (total reserves less outstanding loans) as a percentage of the payroll of covered employers. The denominator ratio is the highest past 12-month benefit payout rate as a percentage of covered payroll for the same earlier period.

revenue bonds: bonds for which payments on the interest and principle are made from a specific source of revenue pledged to the bond. An alternative financing structure to **general obligation bonds**.

SEC – Securities and Exchange Commission – a federal agency responsible for enforcing federal securities laws, proposing new rules, and regulating the securities industry.

SSA—Social Security Act: 1935 law, which authorizes the **Title XII** borrowing program for state **UI** programs.

sweeping daily balances: when borrowing using Title XII loans, a state's ability to transfer any positive balances from their **UI** trust funds to the **FUA**.

taxable bonds: bonds for which interest payments are subject to federal income tax.

tax-exempt bonds: bonds for which interest payments are not subject to federal income tax if certain **IRS** regulation requirements are met. The yield rates for tax-exempt bonds are typically lower than those for **taxable bonds**. Most municipal bonds are tax-exempt.

technical working group: group of experts who the research team consulted during the study.

Training and Employment Guidance Letter: technical guidance issued by the United States Department of Labor for state workforce agencies responsible for administration of the federal-state employment and training programs.

Title XII: of the Social Security Act (**SSA**), a federal loan program that permits the governor of a state to request repayable advances from the **FUA** for any period of three consecutive months, during which reserves in the state trust fund account are insufficient to pay benefits.

UI—Unemployment Insurance: the federal-state Unemployment Insurance program provides unemployment benefits to eligible workers who are unemployed through no fault of their own (as determined under state law), and meet other eligibility requirements of state law.

Unemployment Insurance Program Letter: technical guidance issued by the United States Department of Labor for state workforce agencies responsible for administration of the federal-state UI programs

Unemployment Insurance Trust Fund: finances the costs of administering unemployment insurance programs, loans made to state unemployment insurance funds, and half of extended benefits during periods of high unemployment.

variable rate bonds: securities which pay interest based on a rate that changes periodically as a result of changes in a reference rate, in an index, or regular resets by the issuer or a third party.

yield to maturity: the return that an investor realizes on a bond, calculated as the discount rate at which the present value of future debt service payments is equal to the proceeds of the issuance.

Appendix B: Study Methodology

Appendix B presents the methodology the research team use to conduct the study. The methods described are based on the study design report submitted to and approved by DOL prior to conducting interviews with state officials in eight states and bond market representatives or implementing the simulation model. A literature review and interviews with federal officials informed the study design. The methodology discusses the research questions, the interviews and qualitative data analysis, and the simulation model.

B.1 Research Questions

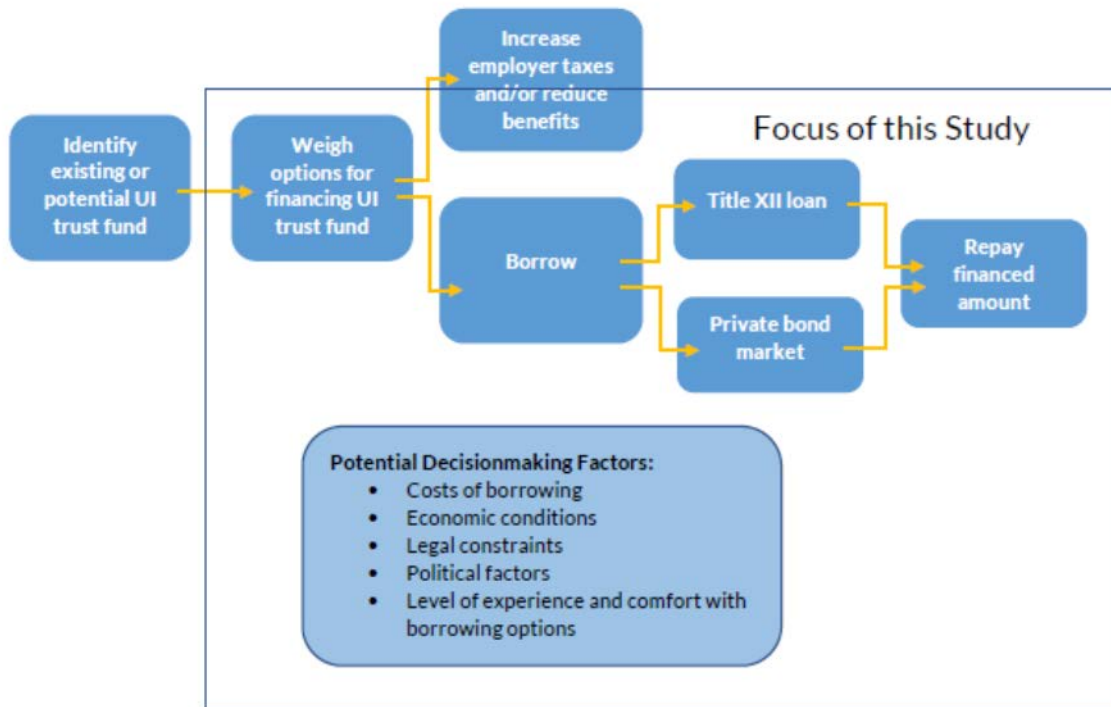
The goal of the study is to document, compare, and contrast major UI trust fund financing strategies and to assess conditions under which states may use various borrowing strategies to achieve their desired objectives. It is guided by three research questions developed in consultation with DOL. They are:

1. What were state decisionmaking factors for selecting a method to finance deficits in UI programs?
2. To what extent did available information about local economic conditions, states' UI trust fund solvency, and/or prior experience with borrowing appear to influence states' approaches?
3. What were the estimated costs associated with different methods and configurations of borrowing instruments used for obtaining funds to finance deficits in UI programs?

The first question concerns state decisionmaking processes, including how states decide to address deficits through borrowing versus raising employer taxes and cutting UI benefits to claimants (figure B.1). The second question includes legal and institutional constraints on state actions and how conditions in financial markets and the larger economy affect the tradeoffs between major strategies for financing trust fund deficits. The third question directly compares costs and outcomes under each major borrowing strategy and various economic and financial market conditions.

FIGURE B.1

Conceptual Framework for Understanding How State Make Decisions about Financing Unemployment Insurance Trust Fund Deficits



Source: The authors' conceptual framework for the study.

B.2 Qualitative Data Collection and Analysis

A key component of the study is the qualitative data collection and analysis to address the first two research questions and inform the third research question. The research team conducted semi-structured interviews with federal officials to better understand the federal policies and processes that govern borrowing for UI trust fund deficits and to inform the study design. They then selected eight states—four that used municipal bonds and four that used only Title XII loans—in which they would conduct semi-structured interviews with state officials. The team also identified bond market representatives who could provide insight into how they approach and work with states on bond issuances. The team analyzed qualitative data, using a thematic approach to identify trends and patterns across the data to develop the findings. The following section describes the data collection and analysis activities.

Interviews with Federal Officials

The research team identified officials in federal agencies and offices that potentially had a role in overseeing policy and processes that govern borrowing for trust fund deficits, mainly using a snowball sampling method. They team began their interviews with staff in DOL's Office of Unemployment Insurance, which has the most direct knowledge of states' borrowing strategies and the policies that govern Title XII loans. These staff helped identify the agencies and offices that may have a role in oversight. The team also identified potential interviewees through professional connections. In the end, the team identified the following federal agencies and offices for interviews:

- US Department of Labor's Office of Unemployment Insurance;
- US Department of the Treasury, specifically the US Internal Revenue Service and the Bureau of the Fiscal Service; and
- US Securities and Exchange Commission's Office of Municipal Securities.

The team interviewed nine federal staff with authority to obtain or manage borrowed funds to identify statutes, guidance, and other considerations for each strategy. They conducted interviews by phone and in person in early 2018. A list of the interview questions is provided in appendix D.

Interviews with State Officials

The research team, in consultation with DOL staff, selected eight states to include in the study. Four of the eight states chose to issue municipal bonds (Colorado, Michigan, Pennsylvania, and Texas) and four (Indiana, North Carolina, Ohio, and Vermont) exclusively relied on Title XII loans. The universe for the study was the 35 states and territories that experienced UI trust fund deficits in the 2007 recession and borrowed to address the shortfalls. Eight of these states used municipal bonds to finance their deficits and 27 states borrowed exclusively through the Title XII loan program.

To ensure the study captured a range of borrowing circumstances and illustrate different state contexts and economic factors that may influence borrowing decisions, the team purposively selected a sample of four states that issued municipal bonds and four states that took federal Title XII loans to finance their trust fund deficits. The initial selection criteria were:

- size of the state's payroll in the last recession;
- size of UI borrowing during the last recession;
- net reserve ratios in the UI trust fund in the last recession; and
- duration of indebtedness in the last recession and repayment status of all debts

The team first eliminated 16 of 51 states and the District of Columbia from consideration for the sample because they did not borrow. Other states took very short-term Title XII loans. The team determined these states' minimal borrowing would not be illustrative of the issues the study sought to examine.

The team then considered other factors that may have influenced state borrowing decisions. To understand these qualitative factors, they included Title XII states that they knew also considered bonding and, in some cases, developed full-fledged bonding proposals before opting to borrow through the Title XII program. They gleaned this information from the technical working group members, bond market representatives, and current and former state employees.

In addition, the team considered features of bond issuance, including tax-exempt versus taxable status and prepayment options or call features as well as fiscal and economic conditions in each state. They also considered professional relationships they could leverage to increase the odds of state participation and to ensure the data collected informed the study.

In the end, the team, in consultation with DOL, selected Colorado, Michigan, Pennsylvania, and Texas as the four bonding states and Indiana, North Carolina, Ohio, and Vermont as the four Title XII states. They then contacted the UI state administrators in each of these states and requested their participation in interviews for the study. The team also asked that they identify others in their state that played a role in the borrowing activities in the 2007 recession. For the study, the team conducted 16 interviews across the eight states, speaking with 44 state officials in total. A copy of the interview guide is provided in appendix E.

Interviews with Bond Market Representatives

In the 2007 recession and its aftermath, states issued an unprecedented \$11 billion in UI bonds. Although large by UI standards, this volume was a relatively small component of the municipal bond market, which sees roughly \$364 billion in issuances each year (SIFMA 2019). As in the federal interviews, the team learned that direct experience with UI bonds is concentrated among a less than a dozen individuals. The team contacted six firms listed as municipal financial advisers, bond counsel, and underwriters in UI bond offering statements, only to learn that their experts had moved on or were otherwise unavailable. They were able to gain access to and interview two individuals with direct experience in multiple states, including states that considered but ultimately did not pursue UI bonds. A copy of the interview guide is provided in appendix F.

Limitations of the Data Collection

There are four potential limitations to this study that are important for interpreting the findings. First, the team was only able to include eight of 35 states that borrowed in the last recession. The team attempted to capture a range of experiences and decisionmaking processes by focusing on Title XII states they knew had considered but ultimately decided not to use bonds. However, the team may have not covered some experiences relevant to states considering their trust fund borrowing options.

A second limitation is that the level of detail available from interviews was dependent on the quality of respondent recollections. The recession ended over a decade ago, and several respondents noted that their recollections were limited. Some states also did not pursue bonding options for long and thus have less involved experiences to share about their activities and processes.

Third, the team recognizes that they may not have captured all perspectives, as some state officials have retired or moved to other jobs. They were able to contact some former employees, but not all relevant former staff were available.

Finally, the research team conducted the interviews before the economic recession caused by the COVID-19 pandemic. There is a chance that the perspectives of the respondents may have changed since the interviews as they are making decisions about their borrowing options during this time.

Data Analysis

The research team analyzed the interview data in two stages, using a thematic analysis approach. The approach involved examining the data for common themes based on topics, ideas and patterns that emerge and can be transformed into findings of the study. The first stage involved analyzing the data from the interviews of federal officials to develop findings on the federal policies and processes that govern borrowing for trust fund deficits and to inform the remainder of the study. The second stage involved analyzing the interviews of the state officials and bond market representatives to understand the state decisionmaking processes in borrowing for trust fund deficits. The findings based on these analyses are presented in chapters 3 and 4 of this report.

B.3 Simulation Model

To address the third research question, the research team developed simulation model to compare two methods for financing trust fund borrowing and debt repayments when reserves are inadequate: Title XII loans from the Treasury and issuing municipal bonds. Full versions of the model were created for four of the eight states that issued municipal debt instruments following the Great Recession of 2007-2009. Each

model has three leafs (or sections) that allow the user to compare results from using the two borrowing strategies. Detailed simulation results using the model are presented in chapter 5.

The three leafs (or sections) accomplish the following. Leaf A has a model to simulate borrowing and repaying using Title XII loans (advances) from the U.S. Treasury. Leaf B simulates borrowing and repaying using municipal bonds to cover trust fund shortfalls. Leaf C makes explicit comparisons between the two methods of borrowing. Using simulated values from Leaf A and Leaf B, Leaf C generates parallel time paths of annual loan repayments and trust fund balances as well as multiperiod repayment summaries. These summaries include total interest charges incurred, trust fund balances, the length of repayment periods and total revenues over the lives of the loans. The multiperiod summaries can be shown both as time paths of undiscounted annual totals, multiyear totals and as present values.

Two features of the models merit explicit descriptions. First, besides having behavioral relations that characterize linkages between important variables, model equations also include add factors that cause the baseline values of the endogenous variables to match their actual historic values. This means the point of departure for each endogenous variable is its actual historic value, and any simulated changes in variables will show deviations from historic values. Second, for important variables in each leaf and module, the model shows actual historic values with no connection to other variables in the model. When an endogenous variable in a behavioral relation is altered, the model user can directly observe how much it has changed from its historic value because the historic value is present in an adjacent line (displayed in italic script to signal that it is the actual historic value, not a simulated value). Leaf A and B display several historic series in italic fonts.

Using simulated values from Leaf A and Leaf B, Leaf C can generate time paths of annual loan repayments and trust fund balances as well as multiperiod repayment summaries. These summaries include total interest charges incurred, the time path of repayments, the length of repayment periods, total revenues over the lives of the loans and the time path of trust fund balances. The multiperiod summaries can be shown both as undiscounted annual totals and as present values over the period of indebtedness.

The following sections provide detailed descriptions of the three leafs.

Leaf A. The Title XII Borrowing Model

Leaf A determines the important control variables that strongly influence the UI trust fund balance, including benefit payments, state UI payroll taxes, and trust fund interest earnings. Additionally, when Title XII loans extend for two or more years this leaf determines the time path of FUTA credit offsets which automatically activate loan repayments starting with the oldest outstanding loans. Because Title XII loans

were received interest-free by debtor state programs during 2009 and 2010 debt-related interest charges only started to accrue during 2011 with the associated interest payments due in 2012.

Leaf A has six modules which respectively determine: i) the important exogenous (control) variables, ii) UI benefit payments, iii) UI taxes, iv) trust fund interest income, v) the trust fund balance and vi) FUTA credit offsets.

MODULE 1. THE LABOR MARKET AND KEY EXOGENOUS VARIABLES

Five types of exogenous variables are set in Module 1: the labor force, employment, the state unemployment rate, the Title XII interest rate and wage inflation. For both UI covered employment and wage inflation the model distinguishes taxable from reimbursable employers.

Historic values of the various exogenous variables for the years from 2000 to 2019 are Module 1's default settings. Data on unemployment and wage inflation from earlier historic periods are also accessible in Module 1. Thus, users can simulate using unemployment and/or inflation from other periods such as the back-to-back recessions of the early 1980s, the sharp recession of 1974-75 or either of the mild recessions of 1991 or 2002. Data from these earlier historical periods are carried in Module 1 below the behavioral relations so that they can easily replace these two exogenous control variables during parts or all of the 2000-2019 period.

While the model carries historic time series from 2000 to 2019 and projections can routinely be extended to 2021 or later years, primary interest will typically focus upon shorter periods. The Colorado unemployment rate, for example, started increasing in 2008 (moving from 3.7 percent in 2007 to 4.8 percent in 2008 and then to 7.4 percent in 2009) while its municipal bonds were fully repaid by mid-2017. Thus, 2008 to 2017 would typically constitute the main years of analytic focus with the Colorado model.

The relationships in Module 1 (the Labor Market) include growth rates and levels of the labor force, (total and covered) employment, covered wages and the Title XII interest rate. The real Title XII interest rate is measured as the nominal Title XII interest rate less the rate of growth of weekly wages of taxable covered employers.

Regression equations determine the linkage between total statewide employment (from BLS labor force data) and UI covered employment. The regressions separately determine taxable and reimbursable employment. Taxable employment, in turn, is assumed to be an important determinant of total UI covered payroll.

MODULE 2. UI BENEFIT PAYMENTS

Module 2 has relationships that determine total regular UI benefit payments, the product of weeks compensated (WEEKSR) times average weekly benefits (WBA). Weeks compensated is determined by two variables: weekly claims (insured unemployment) times the ratio of weeks compensated to weeks claimed, both determined by regression equations. Insured unemployment is positively linked to total unemployment (TU) in the same year and negatively linked to total unemployment lagged one year. Both unemployment variables are assumed to make significant contributions to explained variation in weeks claimed.

Weekly benefits (WBA) are the product of weekly wages time the replacement rate, i.e., the ratio of weekly benefits to weekly wages. The replacement rate in turn depends upon the ratio of the maximum weekly benefit to average weekly wages. The maximum weekly benefit is closely linked to statewide average weekly wages in states where the maximum is indexed or it changes through state legislation. The maximum weekly benefit, in turn, is a key determinant of the average weekly benefit. Besides the maximum there is an effect of the statewide unemployment rate. An increase in unemployment typically raises the weekly benefit in the short run but then exerts a negative effect in the following year.

The benefits module typically has a benefit adjustment that reconciles the product of weeks compensated times the weekly benefit to annual benefit outflows from the trust fund. The adjustment arises from the way the weekly benefit is traditionally measured in the benefit reporting system, i.e., as the weekly benefit for full weeks of unemployment. Partial weekly benefits are accounted for through the benefit adjustment.

MODULE 3. UI TAXES

Tax receipts are determined as the product of three factors: i) total payroll of taxable covered employers, ii) the taxable wage proportion (TWP, the ratio of taxable payroll to total payroll) and iii) the average tax rate on taxable payroll. Total payroll is determined in the labor market module. The TWP in each state is determined primarily by the ratio of the annual taxable wage base to average statewide wages. Over most of their histories these states have operated with fixed taxable wage bases that change only occasionally through state legislation. Colorado is an exception in that it adopted tax base indexation in 2012. Its tax base increases automatically when lagged statewide average wages increase.

Three of the four bond state models determine employer tax rates using benefit ratio experience rating (Michigan, Pennsylvania and Texas)⁷⁵ while the fourth (Colorado) uses reserve ratio experience rating. Lagged benefit ratios are the principal determinant of the average tax rate (as a percent of taxable payroll)

⁷⁵ Michigan and Pennsylvania also use reserve ratios in their experience rating systems.

in the three benefit ratio states. The tax rate in Colorado is determined by the relevant tax schedule applicable for each year. Colorado operated with one set of tax rate schedules through 2012 and a second set starting in 2013.

Prior to 2013 Colorado's tax statute had twelve schedules and the state often operated on the lowest schedule. The highest tax rate in all years between 2000 and 2011 was 5.4 percent of taxable payroll. In moving to the new schedules in 2013 the average effective tax rates were expected to yield more revenue compared to the previous schedules.

MODULE 4. INTEREST INCOME

The interest income module generates estimates of interest earnings for each state's trust fund. The average annual fund balance in the model is the average of the year's starting and ending balances with the annual change reflecting mainly the net difference between annual tax receipts and annual benefit outlays. The annual interest rate applied to the average trust fund balance is the Treasury interest rate from the fourth calendar quarter of the previous year.

MODULE 5. THE TRUST FUND BALANCE

Module 5 summarizes annual flows that determine the end-of-year trust fund balance at the U.S. Treasury. This module tracks the flows of taxes, benefits, interest and other factors that combine to yield the end-of-year net trust fund balance. There are two standard inflows (tax receipts and interest earnings from Modules 3 and 4 respectively) and one standard outflow (regular UI benefit payments from Module 2). There are additional flows that reflect debt-related transactions. Two debt-related revenue sources are mandatory FUTA tax credit offsets and voluntary debt repayments (both determined in Module 6, below). The various annual flows are added to the trust fund balance at the start of the year to yield the balance at the end of each year. Module 5 summarizes both gross and net (of outstanding loans) annual trust fund balances.

MODULE 6. FUTA TAX CREDIT OFFSETS AND DEBT REPAYMENT

This module summarizes state transactions when it borrows from the U.S. Treasury and repays its Treasury loans. A key feature of this module is that the debt-related financial flows take place on the base of federal taxable payroll not state taxable payroll. The tax base for the federal UI tax is \$7,000 per covered worker (unchanged since 1983) while the base for state UI taxes in all four states is consistently higher.

Because there are no readily available data on taxable payroll for federal UI taxes, the model uses an assumed relationship between federal UI taxable payroll and state UI taxable payroll. The ratio of the federal tax base to average annual statewide wages is known. This module assumes the regression relationship that links the state tax base to the taxable wage proportion (TWP) can be used to generate the

estimate of the TWP for federal taxable payroll (TWPFED). The principal variable in the relationship is the ratio of the federal tax base to average statewide wages. The estimate of TWPFED is then multiplied by total payroll to generate estimates of federal taxable wages (WSTXFED).

State UI programs that borrow from the Treasury are subject to mandatory repayment provisions starting in the second year of indebtedness if there is outstanding debt in early November of the second year. The repayment is due in the third year starting at a rate of 0.3 percent of federal taxable payroll and increasing each year by at least 0.3 percent until the loan is fully repaid.⁷⁶ FUTA credit offset tax rates are applied at the same rate to all employers regardless of their experience rated tax rate. Because this arrangement draws opposition from many employers, a state may make a voluntary debt repayment from its account at the Treasury (if the state deems its account balance to be sufficient) which implies repayment with experience rated UI taxes.

Module 6 tracks annual state indebtedness to the Treasury by adding to lagged indebtedness new loans and subtracting mandatory and voluntary FUTA tax credit offsets. This module estimates annual Title XII interest charges as the product of the Title XII interest rate times the annual average stock of Title XII debt.

Note that interest accruals from Title XII loans cannot be paid from the state's account at the Treasury. The model estimates the size these obligatory payments and assumes they are financed from a state source other than the state's account at the US Treasury.

Leaf B. The Municipal Bond Model

The municipal bond model in Leaf B has nine modules that determine both the revenues and outlays associated with issuing and repaying municipal bonds and the flows that combine to determine the balance in the state's trust fund account held at the U.S. Treasury. Many relationships in Leaf B determine variables linked to municipal bond financing of UI debt. The two final modules in Leaf B summarize stocks and flows related to the state's trust fund balance held at the U.S. Treasury.

MODULE 1. THE LABOR MARKET

This module simply reproduces the variables determined in Module 1 of Leaf A. The list of variables includes the labor force, unemployment and the unemployment rate, total employment, taxable and reimbursable covered employment, weekly wages and total annual wages for both taxable and reimbursable employment.

⁷⁶ The progression of FUTA tax credit offset rates can be faster or slower than an annual increment of 0.3 percent depending upon state-specific circumstances.

MODULE 2. INTEREST RATES

This module displays several interest rates relevant for municipal bond financing. Prominent among these are the interest rate for high grade municipal bonds and the interest rate for Title XII loans. These two series are located in adjacent rows so comparisons are easily made. In historic data related to the Great Recession and the subsequent recovery the relationship between these two interest rates was unusual. Usually the rates on high grade municipal bonds fall below Title XII interest rates with the differential averaging about 100 basis points (one percentage point) in earlier periods. In every year between 2011 and 2019, however, the Title XII rate was the lower of the two, and the differential averaged 115 basis points between 2014 and 2019.

Other interest rates in this module include the interest rates, on three-month commercial paper and rates on three-month Treasury bills. Also displayed are the actual six-month interest rates for UI municipal bonds issued by each state for periods when their UI municipal bonds were outstanding.

MODULE 3. UI BENEFIT PAYMENTS

As part of a municipal bond financing package a state could alter statutes related to benefit payments and/or statutes related to UI taxes. In each model, it was initially assumed that benefit payment provisions and UI tax provisions were not altered. Thus, benefit payments in Module 3 of Leaf B exactly match benefit payments from Module 2 of Leaf A.

MODULE 4. BOND FUND REVENUE

Nearly all revenue into each state's municipal Bond Fund is derived from special bond fund taxes (obligation assessments). Bond fund revenue has the same taxable wage base as the state's regular UI taxes (\$13,100 in Colorado in 2019). The average bond fund tax rate yields annual revenue sufficient to cover the costs of redeeming maturing bonds, pay interest to bondholders and cover Bond Fund administrative expenses.

Because Bond Fund revenue and payouts have different seasonal patterns, the balance in the Bond Fund varies across the year. These balances are invested in debt instruments yielding added revenue to the Bond Fund. The model estimates the yield on these investments and adds this yield to Bond Fund balances. Estimates of bond fund revenue and balances developed at the Urban Institute were small.

MODULE 5. BOND FUND DEBT SERVICE

Module 5 traces bond repayments over each state's full period of indebtedness. The repayments follow the actual timing of repayments, i.e., including the actual timing of calls on bonds with flexible maturities. This module also tracks payments of interest to bondholders. The half-year interest payments are recorded along with the associated six-month interest rates. Details of debt service costs for each state were taken from original bond issuance documents and from materials supplied by the states.

MODULE 6. BOND FUND ADMINISTRATIVE COSTS

Module 6 was developed to estimate three components of bond fund administrative costs: i) bond issuance costs, ii) the costs of administering special bond fund taxes (assessments) and iii) administrative costs associated with bond debt servicing. The latter include both the administrative costs associated with retiring maturing bonds and the costs of administering interest payments to bondholders. This third component of administrative costs is thought to be very small.

Bond issuance costs were available for each state from their bond issuance documents. In each state the total included an underwriting fee along with costs of insurance, reproduction, rating agency fees, trustee fees and related issuance costs. Explicit data on the latter two of these administrative costs have proven difficult to obtain. At each UI agency, the staff did not have detailed data on the latter two types of administrative costs.

MODULE 7. BOND FUND SUMMARY

This draws together all elements of bond fund costs and administration. Module 7 shows the par value of the bonds plus the issuance premia realized by each state. All eight states that issued muni bonds and notes between 2010 and 2013 realized an issuance premium. In practice, the states that issued municipal bonds had differing bond trust fund structures. The models for Texas, Michigan, Pennsylvania and Colorado combine the sub-funds into a single composite bond fund.

The main use of bond issuance proceeds was to retire existing Title XII loans from the Treasury. All four states retired their Title XII loans almost immediately following their bond issuances. Module 7 traces all inflows and outflows from the bond fund from the issuance date until all bonds were fully repaid. After the bonds were issued, later bond fund revenue included receipts from special bond fund taxes and interest earnings from assets held in the bond fund. Outflows included payment of Title XII debt, annual repayment of maturing bond principal, interest payments to bondholders and bond fund administrative costs, flows estimated in Modules 4, 5 and 6 respectively.

MODULE 8. FUND BALANCE AT THE U.S. TREASURY

This module simulates each state's trust fund balance at the Treasury following its issuance of municipal bonds. It uses the same paths for all exogenous variables as in Leaf A. As noted above, the research team initially assume that benefit payments are the same as in Leaf A, i.e., the bond issuance has no effect on benefit payments. Trust fund tax revenue is also assumed to be the same as in Leaf A.

Because the bond issuances fully repaid all borrowing from the Treasury in that year there are no required or voluntary FUTA credit offsets in Module 8. The simulated values of all variables in this module

closely track the state's historical experience with Title XII loans and with municipal bond repayments after issuance.

MODULE 9. INTEREST INCOME TO THE STATE'S ACCOUNT AT THE US TREASURY

This module estimates annual interest income to the state's account at the US Treasury.

Leaf C. Comparison of Alternative Borrowing Strategies

Leaf C brings together and displays important variables needed to compare the costs of the two ways of borrowing. This leaf also compares other key variables from Leafs A and B which may or may not have identical values in the two leaves. The initial drafts of the models highlight six summary variables from Leafs A and B:

1. the overall unemployment rate (or TUR),
2. total benefits,
3. total UI-related taxes,
4. interest income,
5. end-of-year trust fund balances and debts, and
6. the interest costs of debt.

Since the time profiles of interest costs and UI taxes under the two methods of borrowing can differ, this leaf can also make comparisons of the present values of these variables. For Colorado, which issued its municipal bonds in mid-2012, the present value calculations bring post-issuance taxes and interest costs back to 2012. Initially the discount rate used is the Title XII discount rate. Because this interest rate has been unusually low since 2012 (always less than 3.0 percent), other (higher) discount rates could also be used in the present value calculations.

MODULE 1. ANNUAL LEVELS OF KEY SUMMARY VARIABLES

Module 1 displays annual time series of six continuous variables determined in Leafs A and B. These variables are: the labor market unemployment rate (TUR), total regular UI benefits, total UI taxes, interest income to the trust fund, end-of-year trust fund debts, and annual interest costs of debt. Each of these variables is displayed as annual time series for the period 2000 to 2019, but with summaries that highlight periods of indebtedness related to the Great Recession and the post-recession recovery. Model users can examine both annual detail and multiyear summaries of these variables.

MODULE 2. PRESENT VALUES

Module 2 focuses upon present values of two variables: UI taxes and the interest costs of UI debt. Users can select a preferred interest (discount) rate and the time period for summaries. The taxes for Title XII borrowing include regular UI taxes plus FUTA credit offsets. The taxes for municipal bond borrowing include regular UI taxes and bond taxes to repay principal and interest on the municipal bonds. The time periods for present value calculations will span all years when the state has either Title XII loans or municipal bonds outstanding. These calculations can be made using differing interest (discount) rates chosen by the model user.

Modules 1 and 2 of Leaf C summarize the main variables needed to make comparisons of the two methods of borrowing.

Appendix C. State Profiles

The following profiles provide descriptions of the eight study states' experiences with borrowing to address UI trust fund deficits, especially after the 2007 recession. The states were:

- Bonding States:
 - » Texas
 - » Michigan
 - » Pennsylvania
 - » Colorado
- Title XII states:
 - » Indiana
 - » North Carolina
 - » Ohio
 - » Vermont

The profiles are as detailed as the recollections of the state officials interviewed for the study and documentation of their activities. The research team conducted interviews with state officials a decade or more after the borrowing activities commenced. Interviewees' recall of the events may not be as strong as if the interviews were held closer to the activities discussed. In addition, some officials who had knowledge of their state's borrowing activities at the time were not available for interview.

C.1 Texas Profile

This profile describes Texas's experience with borrowing to finance its trust fund in the aftermath of the 2007 recession. The profile is based on interviews with state officials in October 2019. Texas is one of four states featured in the study that issued municipal bonds to finance trust fund deficits.

Overview of State Unemployment Insurance Program

Texas's Unemployment Insurance (UI) program is housed within the Texas Workforce Commission (TWC), a large government agency that in addition to UI, administers Workforce Innovation and Opportunity Act programs, the Employment Service, Temporary Assistance for Needy Families, and adult education programs. It also houses a new vocational rehabilitation program, which had been a standalone agency during the last recession when bonds were issued. For that reason, while TWC currently staffs around 4,500 employees, the agency only staffed around 2,800 employees during the time period relevant to the study, with about half working in positions related to UI. TWC is headed by a three-person commission, with each commissioner representing a different stakeholder group:

- Commissioner Representing the Public
- Commissioner Representing Labor
- Commissioner Representing Employers

As in many other states, UI applicants in Texas file for benefits electronically through the state's online portal. The commission is relatively large compared to other state UI agencies. Specifically, TWC staff noted that the agency also operates a childcare program. Respondents indicated that the size and diverse responsibilities of TWC differentiate it from UI agencies in most other states.

State Unemployment Insurance Trust Fund Management

A small team of analysts within TWC is responsible for monitoring the state's Unemployment Insurance Trust Fund. Led by a long-time senior analyst, the team makes monthly status reports to upper management within the agency. Respondents spoke proudly of the high-quality forecasts produced internally by their technical staff. Major decisions related to management of the trust fund, including conversations about bonding, extend to other high-level agency administrators, including the executive director and deputy director of TWC, as well as the three commissioners that chair TWC and members of their staffs.

The interview revealed that many of the people working in the UI department during the Great Recession had also been with the agency in 2003, when the trust fund incurred a deficit during the economic downturn that began in 2001. In response, the state issued and repaid municipal bonds, an experience that

respondents described as an important training ground for the subsequent 2010 bond issuance and 2014 refinancing (see box C.1 for Texas’s Title XII borrowing history during the 2007 recession). The internal familiarity and expertise in assessing various financing options and structuring a bond deal, and the external contacts that the agency had developed during the 2003 experience, enabled the rapid action that Texas took to address the solvency challenges they faced during the Great Recession.

BOX C.1

Texas’s History of Title XII Borrowing During the 2007 Recession

- | | |
|----------------|---|
| 2007 | Trust fund balance nears two percent of taxable wages, a threshold at which by statute, the state would have to refund the excess trust fund balances to covered employers. |
| 2008 –
2009 | Trust fund declines quickly and incurs a deficit; state begins using interest-free Title XII borrowing thanks to the American Recovery and Reinvestment Act. |
| 2010 | The three-person commission heading TWC approves a \$2.0 billion bond issuance; the state uses the bond proceeds to repay all outstanding Title XII debt. |

Source: Bond issuance documents, interviews with Texas’s UI program officials.

Unemployment Insurance Trust Fund Title XII Borrowing and Repayment

In early 2008, the balance in Texas’s trust fund was quite robust, even approaching a statutory ceiling that, if met, would have required the state to make refund payments to taxpayers.⁷⁷ However, as the Great Recession deepened from 2008 to 2010, the rate of UI payments accelerated dramatically; several respondents recalled outlays peaking in 2009, when the program paid out \$93 million in a single week. By late 2010, the trust fund had accumulated a deficit of approximately \$2 billion.

To finance this deficit, the state used the option introduced by the American Recovery and Reinvestment Act to borrow interest-free via Title XII in 2009 and 2010. However, with the still-recent 2003 bond issuance fresh in the memories of several key agency staff, the option of issuing bonds again was proposed almost immediately after the trust fund balance began to decline in 2009. Respondents recalled that the executive director of TWC at the time, instructed his deputy executive director to contact key players from the 2003 issuance and alert them to the possibility of another issuance. The preexisting relationships and early outreach efforts ultimately allowed the state to issue bonds in December 2010

⁷⁷ At the time, the trust fund ceiling was set at 2 percent of taxable wages. Per Texas statute, a balance in excess of that ceiling would be refunded to taxpayers.

before the period of interest-free borrowing ended. Thus, Texas was able to service its debt without losing the FUTA credits or taking out a short-term bank loan (as Michigan and Pennsylvania did).

Reflecting on their experience using the Title XII borrowing process, respondents noted that Texas's period of Title XII indebtedness was quite short and ended relatively long ago. However, they were generally complimentary of Title XII, describing it as an uncomplicated and straightforward process that was initiated by the Governor, who would send a letter to the Secretary of Labor, requesting a specific amount of FUA funds for the upcoming three-month period.

TWC staff felt that the technical guidance, written guidelines, and webinars available from DOL provided adequate instruction on the mechanics of Title XII borrowing and said that the process was not particularly onerous. However, they did say that at times they found it difficult to provide an accurate estimate of need three months in advance, especially during times of acute fiscal stress, noting that they felt pressure "to estimate too high so [as to] set aside enough." In response to a follow-up inquiry as to whether making estimates more frequently—perhaps monthly rather than quarterly—would be preferable, respondents expressed indifference, saying that the added burden of providing additional estimates might not be worth the decrease in uncertainty. They also noted that estimation errors were easy to recover from.

Decisionmaking Process to Use Municipal Bonds

During the period of interest-free Title XII indebtedness, the forecasting and analysis team within TWC conducted an in-depth cost comparison between continuing to borrow via Title XII with interest and issuing municipal bonds. Ultimately, their analysis indicated that bonding would be the cost-saving option, and they brought their findings to financing discussions that included key stakeholders outside of TWC. Key decisionmakers included: UI agency senior administrators, the three commissioners of TWC and their staffs (particularly the former commissioner representing employers), representatives from their respective interest groups (especially the employer community), representatives from the Governor's office, and the Texas Public Finance Authority (TPFA).

Texas had preexisting relationships with bond issuing organizations and investment banks, but according to respondents, those groups had relatively little input on the decision to issue bonds. After TWC and TPFA finalized the decision to issue bonds, TPFA solicited presentations from investment bankers.

The decision to issue bonds hinged on several key considerations:

- **The interest rate difference between Title XII loans and municipal bonds.** The internal analysis from TWC that suggested that the interest rate differential between Title XII borrowing and

municipal bonds would be roughly 1.3 percentage points in favor of issuing bonds.⁷⁸ The respondents cited this differential (and the compounding effect of future FUTA credit reductions) as the most important factor in their decision.

- **Perception of FUTA credit offsets by stakeholders.** Actors within the Texas government viewed the threat of escalating FUTA credit offsets as an “unsustainable” way to finance the debt, especially for the employer community. They expressed displeasure with the spikes in the Title XII interest rate associated with annual federal interest rate adjustments. Analysts understood that the escalating Title XII interest rate would increase the gap between borrowing from the federal government and from the municipal bond market each year.
- **Experience rating as preferable to single flat rate under Title XII loans.** Issuing bonds would allow the state to experience rate the obligation assessment (the special tax assessed to repay the bond issuance), while the FUTA credit offsets associated with Title XII apply at a single flat rate to all employers. Respondents recalled that the equity of experience rating was another argument in favor of issuing bonds and structuring an appropriate obligation assessment.
- **No legal constraints to bonding.** There were no significant legislative barriers to bonding, as the state did not need to pass bills authorizing the issuance of new debt or approving the obligation assessment:
 - Texas did not have to authorize new debt for the 2010 bond issuance; the bill that authorized the previous 2003 issuance also authorized future issuances, provided each individual series did not exceed \$2 billion, and the sum total of all outstanding bonds did not exceed \$3.5 billion.⁷⁹ This preexisting debt allowance was more than adequate to cover the \$2.0 billion issued.⁸⁰
 - Likewise, the state did not have to pass new legislation approving the obligation assessment tax to fund the debt issuance. A Texas statute that was passed in 1993 and amended in 2003 permits TWC to set an obligation assessment sufficient to ensure timely repayment of bonds issued to fund the trust fund, based on a formula prescribed by commission rule that references employers’ experience ratings.⁸¹
- **Familiarity with bonding.** The state also had preexisting relationships with bond market experts, as well as internal familiarity with the bond issuance process thanks to the 2003 issuance. This preexisting expertise facilitated the new issuance.

⁷⁸ Respondents recalled the Title XII interest rate being 4.08 percent while they were making their decision to bond, and they expected to get an interest rate of 2.76 percent by issuing bonds. For reference, the interest rate differential during the 2003 issuance was much larger, around 3 percentage points.

⁷⁹ For more information, see Subchapter F to Chapter 203, Labor Code, as amended by Senate Bill 280, passed in 2003, at <https://statutes.capitol.texas.gov/Docs/LA/htm/LA.203.htm#203.203>.

⁸⁰ This contrasts with other states like Indiana, which did not issue bonds at least in part due to constitutional debt restrictions, and Pennsylvania, which did issue bonds but had to pass a special debt authorization as part of the bonding legislation.

⁸¹ For more information, see Texas statute Sec. 203.105 (b) at <https://statutes.capitol.texas.gov/Docs/LA/htm/LA.203.htm#203.105>.

After considering these factors, there seemed to be a clear consensus that bonding was the preferred financing method for the state of Texas. Authorizing power lay with the three-person TWC leadership commission. In a unanimous vote, the three commissioners approved a \$2.0 billion bond issuance and formally requested that the TPFA begin recruiting investment banks and structuring a bond deal. Meanwhile, the trust fund was approaching a statutory floor (1.5 percent of taxable payroll), which would have triggered an automatic tax increase in the following year. Since the trust fund would be stabilized after the bond issuance, the commissioners chose to lower the floor by roughly half to avoid triggering the automatic tax increase. The option to judiciously adjust the fund floor had been introduced after the bonding experience of 2003, another example of a lesson learned that facilitated the 2010 experience (see box C.2 for Texas’s history with bonding).

Unlike many other states, Texas did not cut benefits as part of its response to trust fund solvency challenges. It chose to finance its trust fund entirely through borrowing, first via Title XII, and then through the bond issuance and accompanying reliance on obligation assessment revenue.

BOX C.2

Texas’s History of Municipal Bond Borrowing During the Last Recession

- | | |
|------|---|
| 2003 | State issues \$1.4 billion in municipal bonds to fund deficits incurred during an economic downturn, scheduled to be fully repaid by 2009. |
| 2008 | Outstanding bonds from the 2003 issuance are repaid a year ahead of schedule through surplus trust fund dollars. |
| 2010 | After brief period of Title XII borrowing and approval from the three commissioners heading TWC, the state issues \$2.0 billion in municipal bonds. |
| 2014 | TWC refinances a portion of the outstanding debt to negotiate a lower interest rate in the bond market. |
| 2017 | Bond repayment completed in July. |

Source: Bond issuance documents, interviews with Texas’s UI program officials.

Municipal Bond Issuance and Repayment

As discussed above, responsibility for structuring and facilitating the bond issuance lay largely with TPFA, a standalone agency that has historically been responsible for structuring bond deals for many Texas state

agencies, including the housing agency.⁸² After TWC approved the bond issuance, TPFA developed a project plan to be executed over the next 2-3 months, which required significant collaboration with TWC. Together, the agencies put together an official bond issuance statement, which was a 150-page document detailing all facets of the planned issuance, including:

- the background and internal expertise of the UI agency;
- the reason for the bond issuance;
- the expected total size of the issuance; and
- the chosen accompanying revenue stream and structure for repayment.

TPFA secured a financial adviser for the bond deal, choosing First Southwest, an investment bank that had worked with the state on the 2003 issuance. TPFA also selected Bank of America Merrill Lynch (BAML) as the bond underwriter, likely through a request for proposals, although respondents were not involved in the early stages of the process and were not certain. However, respondents recalled listening to presentations from several investment banks and deciding which institution's plan aligned most closely with Texas's bond issuance statement.

Structuring the specifications of the bond deal was a collaborative process between TWC, TPFA, and financial adviser First Southwest, with occasional marketing input from BAML. TWC forecasting staff were primarily responsible for determining the size of the issuance. The financial adviser was familiar with how the cash would flow and how to determine an appropriate annual obligation assessment, using these insights to work backward to determine an appropriate bond duration, settling on a 10-year maximum duration. They also helped balance the flexibility of callable bonds with their added cost, structuring a bond deal where just under half of the bonds were callable.

The obligation assessment, the designated revenue source levied to pay for the bond issuance, was added to the existing UI forms and collected concurrently with the preexisting UI employer tax. Respondents estimated that the cost of adding the obligation assessment to the forms and collecting the tax was almost negligible, saying that the process was very straightforward. The revenue from the obligation assessment went to a special fund in the state treasury set up by TPFA, which executed semiannual debt obligation payments (interest and maturing principal) every January and July. The bond deal also required that Texas maintain a minimum balance in that fund of \$25 million, a provision included to ensure a high bond rating.

⁸² Both Idaho and Colorado also outsourced some of the bond issuance work to an agency more familiar with the bonding process; in both Idaho and Colorado, they chose to use the Housing Authority as an adviser, rather than a standalone agency like TPFA.

Like in Michigan and Pennsylvania, Texas’s bond issuance was structured in three series: A, B, and C, all with slightly different features. Table C.1 describes the structure of the bond issuance.

TABLE C.1

Description of Three-Part Texas Bond Issuance: Series A, B, and C

Bond issuance	Series A	Series B	Series C
Size of issuance	\$1.110 billion	\$549.465 million	\$300 million
Taxable vs. tax-exempt	Tax-exempt	Tax-exempt	Tax-exempt
Fixed vs. callable	Fixed maturity	Callable	Callable
Fixed vs. variable interest rate	Fixed interest rate	Fixed interest rate	Variable interest rate
Final payment date	Outstanding debt refinanced in 2014; final repayment made on July 1, 2017	Outstanding debt refinanced in 2014; final repayment made on July 1, 2017	--

Source: Bond issuance documents, interviews with Texas’s UI program officials.

In 2014, Texas called in all outstanding 2010 B series bonds and part of the 2010 A issuance, and they refinanced and reissued the debt. The driving force behind the refinancing was the then-commissioner representing employers. Someone in the business community had approached her and suggested that she consider refinancing the bond deals, because the bond market interest rates had fallen during the recovery from the Great Recession. Internal analysis revealed that there would be a financial benefit to refinancing, and TWC reported that they estimate the 2014 refinancing to have saved the employer community approximately \$25 million. The refinancing took place over a similar three-month window to the original issuance.

Respondents were not aware of any written federal guidance or guidelines on either the process for issuing municipal bonds for replenishing trust fund reserves and/or repaying Title XII loans or for determining the merits and drawbacks of that option. However, they felt that their own internal expertise and capacity to conduct analysis was sufficient to make the best choice for their state.

When asked for advice to states considering the bonding process, respondents stressed the need for development of financial models detailing revenue flows under multiple scenarios to inform the decisionmaking process. Also, they noted that sufficient time must be allocated to ensure that the bonding decision is carefully thought out. State agency staff also pointed out that decisionmakers must be aware that decisions regarding trust fund financing strategies are not typically based on financial analysis alone but that there are almost always political considerations as well.

Key Takeaways

- **Texas used multiple financing strategies for their trust fund deficit.** In 2009 and 2010, Texas used the interest-free borrowing option available through American Recovery and Reinvestment Act to finance its trust fund deficit, before issuing \$2.0 billion in municipal bonds in December 2010. Texas’s quick bond issuance allowed the state to pay off its Title XII debt before the interest-free borrowing period ended and avoid paying any increased FUTA tax. The state refinanced a portion of its outstanding municipal bond debt in 2014 and finished paying off the bond debts in 2017.
- **Title XII borrowing was a straightforward process but accurately estimating loan amounts three months in advance was challenging.** According to current and former state agency staff, the process for borrowing federal funds through Title XII to replenish their trust fund was straightforward with few glitches or challenges. Staff members felt that the guidance and written guidelines provided by the national DOL were adequate, helpful and “well-communicated.” However, they did express some frustration with the need to provide an accurate loan estimate three months in advance, especially during times of acute fiscal stress. They also did not view FUTA credit reductions as a “sustainable” strategy for financing long-term outstanding debts.
- **The involvement of various stakeholders, especially the employer community, was key to reaching consensus about borrowing decisions.** Decisionmaking for steps taken to address the solvency of the trust fund at the time the state borrowed funds during the last recession was a collaborative process, with input from key administrators from the state agency (particularly the commissioner representing employers), the Governor’s office, representatives from interest groups (especially the employer community), and TPFA. After considering many factors, especially the interest rate differential between Title XII borrowing and municipal bonds, the state chose to issue bonds as quickly as possible. The commissioner representing employers was a key advocate and contact person for getting the employer community on board.
- **Multiple factors – cost, stakeholder input, equity, lack of legal constraints, and previous experience with bonding – led to Texas choosing to use bonds during the last recession.** Current and former state agency staff identified various factors that contributed to the decision to issue municipal bonds, including:
 - » internal cost comparisons indicating that municipal bonds would be the cost-saving option;
 - » a perception that the escalating loss of FUTA credits would be an “unsustainable” way to finance the debt for the Texas employer community;
 - » the ability to experience rate the obligation assessment, which respondents noted felt like a more equitable way of raising revenue than imposing a flat tax on all employers;
 - » a lack of legislative, constitutional, or logistical hurdles to issuing bonds, largely thanks to the recent 2003 issuance; and
 - » preexisting relationships and expertise from the 2003 bond issuance that helped to facilitate the complicated process.

- **Prior experience with bonding made the process go smoothly.** Respondents noted that the process of issuing municipal bonds is far more complex than borrowing via Title XII, but since they had sufficient expertise both internal and external to TWC, they were able to execute the process very competently. However, they would encourage other states considering bonding to make sure they have appropriate contacts and resources if they are considering bonding in the future. Overall, the state had a very positive experience with bonding and they are open to the possibility of issuing bonds again in another recession.

C.2 Pennsylvania Profile

This profile describes Pennsylvania’s experience with borrowing to finance its trust fund in the aftermath of the 2007 recession. The profile is based on interviews with state officials in October 2019. Pennsylvania is one of four states featured in the study that issued municipal bonds to finance trust fund deficits.

Overview of State Unemployment Insurance Program

Pennsylvania’s Unemployment Compensation (UC) program is part of the state’s Department of Labor and Industry (L&I), which also administers other employment-related programs, including Wagner-Peyser, WIOA, Worker’s Compensation and Labor Management and Safety. Pennsylvania is one of only three states that imposes an employee tax. Since 2013, a portion of this employee tax has been used to finance an infrastructure improvement fund that the state draws from to supplement federal funds available for administrative costs of operating the UC program. The state also levies a flat interest tax on employers (referred to as the “interest factor”), which is typically used to pay interest due on any Title XII loans at the end of the federal fiscal year. From 2013 to 2019 the interest tax was repurposed to cover the costs of servicing its UC-related municipal bonds (principal repayments and interest costs).

The maximum benefit level for UC claimants, which had remained the same since 2011, was scheduled to increase in 2020, prior to the COVID-19 pandemic and subsequent economic downturn. State administrators and staff reported that the struggle to provide timely customer service through their call/service centers is one of the key challenges they face in operating their UC program. To address this challenge, Pennsylvania has launched a major information technology (IT) infrastructure modernization effort for their UC benefits system which is expected to go live in October 2020.

State Unemployment Insurance Trust Fund Management

The UC manager for Unemployment Insurance (UI) research and reports is responsible for overall management and ongoing monitoring of the UI trust fund balance; he is assisted by two other team members. This team produces actuarial reports and economic forecasts of future UI activity, using projections developed by IHS Global Insights and historical data to identify trends and to determine the need for future borrowing. These individuals are also responsible for preparing impact studies for all legislative proposals that affect the state’s UI system.

The manager typically confers with the executive team of the agency, including the UC Deputy Secretary and staff from the UC policy office, on major decisions regarding management of the trust fund;

most of these decisions are made within the UI agency. According to respondents, the only other state agency involved in the UC program is the Office of Budget and Controller, which is responsible for producing ETA 2112 reports for DOL.

Pennsylvania's method for calculating the solvency percentage⁸³ for the UI trust fund is unique among the states. When this percentage falls below a specified level, adjustments to four different assessments—two employer tax rates, employee taxes and benefit levels—are automatically triggered to make solvency adjustments.

Between 2003 and 2004, the balance in the state's trust fund fell to almost zero. To replenish funds, the UC agency borrowed from the motor license fund, a standard cash-flow adjustment strategy employed by the state for some funds when there is a "timing mismatch between revenue and payments." Those funds were borrowed at the start of the year and paid back in May with first quarter payroll tax receipts from employers.

Unemployment Insurance Trust Fund Title XII Borrowing and Repayment

As shown in box .3 below, the state began borrowing federal Title XII funds from the US Treasury in 2009, ending the year with \$1.9 billion in debt; that amount increased to over \$3 billion by the end of 2011. In 2012, while state decisionmakers, financial advisers and investment bank representatives were involved in discussions on issuing municipal bonds to repay their Title XII debt, Citi offered the state a short term (three-month), low-interest bank loan. This loan enabled the state to fully repay its remaining Title XII debt in July, thereby avoiding additional interest and imposition of FUTA credit reductions until they could issue municipal UI bonds.

In Pennsylvania, the governor has granted authority to the UC deputy secretary to make requests to the US Treasury and the DOL Secretary for FUA funds for the upcoming three-month period, with the specific amount determined by the UC agency manager responsible for oversight and management of the UI trust fund. As part of the debt management process, the state took advantage of the "sweeping" option during the repayment period, allowing for transfer of positive balances from the trust fund to the FUA when revenue exceeded payouts on a daily basis, and vice versa, thereby minimizing the average daily balance of Title XII debt and associated interest costs on the average outstanding loan principal. Staff responsible for working with the Title XII system were positive about their borrowing experiences, with one respondent noting that "I thought it went smoothly—we didn't have any issues or problems." They also highlighted the ease with which they conducted the transactions online without the need to "jump through hoops." UC staff felt that the technical guidance on Title XII operations available on the DOL website and through the Unemployment

⁸³ The trust fund balance on June 30 as a percentage of lagged payroll.

Insurance Program Letters (UIPLs) was helpful, although they noted that they had occasionally reached out to the DOL regional office for clarifications and to confirm details.

BOX C.3

Pennsylvania's History of Title XII Borrowing and Repayment During the 2007 Recession

- | | |
|------|--|
| 2009 | Title XII borrowing begins; \$1.9 billion borrowed by end of year. |
| 2011 | Over \$3 billion borrowed from Title XII. |
| 2012 | Legislature authorizes \$4.5 billion for issuance of UI bonds.
In July, Pennsylvania repays all Title XII debt with a short-term bank loan from Citi.
In December, the state issues municipal UI bonds to repay the bank loan from Citi. |

Source: Bond issuance documents, interviews with Pennsylvania's UC program officials.

Decisionmaking Process for Issuing Municipal Bonds

In 2009, the state convened a UI advisory council that included representatives from the state legislature, industry, and labor to discuss UI trust fund solvency; however, state UC agency staff did not believe that issuance of municipal bonds as a borrowing option was explored during those meetings. Although the UC deputy secretary and the manager of the trust fund had engaged in hypothetical discussions on the possibility of issuing municipal bonds to replenish the fund, serious consideration was not given to the option until mid-2011, when FUTA credit reductions for employers were looming. Respondents felt that staff in the UC policy office were likely the source of the first serious proposal to issue municipal bonds to repay Title XII debt. Once the discussions began, representatives from investment banks made presentations and provided documentation on the benefits of issuing bonds to members of the decisionmaking team. According to state staff, key legislators, representatives of the Governor's office and the Department of Labor and Industry's secretary and deputy secretary made the final decision to issue bonds. Other key UI agency staff, including the agency's legal team, provided input during discussions after the decision to move forward with the bond issuance was made.

One of the key issues weighed by the decisionmaking team was the interest rate spread between what the state was offered on municipal bonds versus the projections for Title XII and whether the differential was sufficient to cover the projected administrative and issuance costs associated with bonds. At the time, the total interest rate for the bonds (1.29 percent) was significantly lower than the projected rate for Title XII borrowing (2.94 percent). The team also considered the relative pros and cons of likely additional FUTA

credit reductions that would be imposed on employers versus the constant “interest factor” tax that the state would levy on them to service the bond debt. Because the state had not previously issued bonds to address trust fund solvency, state UC agency staff looked for guidance from research made available by DOL and from other national experts, in addition to conducting their own internal analyses. They also relied on information available from Michigan on their experiences with their earlier bond issuance, using their strategies and decisions as a model. Ultimately, Pennsylvania decided to issue bonds because they believed that it would reduce costs for employers and enable the state to refinance the Title XII debt at a lower rate.

Since Pennsylvania’s UI program has a dedicated state payroll tax, the state was able to issue revenue bonds to facilitate UI debt repayment. However, the state needed to pass legislation to allow the UI agency to request that the state’s financing authority, the Pennsylvania Economic Development Financing Authority (PEDFA), take on municipal revenue bond debt to address the trust fund deficit. During the deliberations regarding this new legislation, employers and employer associations (such as chambers of commerce) weighed in and provided feedback on the potential impacts of the bond issuance. According to state UI agency staff, the bonding option was very popular and had bipartisan support from members of the state legislature, with one representative (the head of the labor committee) leading the effort to pass the legislation. In 2012, the state passed the legislation that authorized PEDFA to issue a maximum of \$4.5 billion in municipal revenue bonds for the purposes of making Title XII repayments to the federal government. The legislation authorized significantly more than the state borrowed, but this was done so that reauthorization would not be required if the state needed to issue additional bonds. Passing legislation authorizing the bond issuance was just one component of a larger comprehensive package that aimed to address trust fund solvency by raising employer taxes and reducing benefits for claimants.

Municipal Bond Issuance and Repayment Process

As shown in box C.4, in October 2012, the state issued \$2.8 billion in tax-exempt municipal bonds in three series (one with fixed duration bonds and two that included bonds with call features); the proceeds from these bonds were used to repay the short-term loan from Citi that paid off the Title XII debt. By 2018, the bond debt had been reduced to about \$500 million; by late 2019, \$162 million remained, with the expectation that it would be paid off in its entirety by the start of 2020. Except for the Series A bonds, which were fixed duration instruments, all other bonds were paid off before their maturity dates.

BOX C.4

Pennsylvania's History of Municipal Bond Borrowing and Repayment During the 2007 Recession

- 2012 Pennsylvania legislature authorizes \$4.5 billion for the issuance of municipal bonds to repay federal Title XII debt.
In October, the state issues \$2.8 billion in municipal bonds to repay a short-term bank loan from Citi.
- 2018 By December, bond debt is reduced to \$500 million.
- 2019 By October, bond debt is reduced to \$162 million.
- 2020 By January 1, all debt is fully repaid.

Source: Bond issuance documents, interviews with Pennsylvania's UC program officials.

Table C.2 presents the details of the three-part bond issuance. The amount of the bond issuance was based on the amount (\$2.8 billion) of the state's short-term bank loan, which was used to pay off the Title XII debt at the time. The banks and bond experts working with the state calculated the required amount for the issuance that would enable the state to repay the short-term loan, as well as the issuance and administrative costs. According to UC agency staff, most decisions regarding the optimal structure and format of the bond issuance were made by PEDFA, the state financing authority and the bond issuer, in collaboration with staff from the state's Office of the Budget who had prior experience in bonding and debt financing.

TABLE C.2

Description of Three-Part Pennsylvania Bond Issuance: Series A, B, and C

Bond issuance features	Series A	Series B	Series C
Size of issuance	\$1.430 billion	\$ 1.096 billion	\$300 million
Taxable vs. tax-exempt	Tax-exempt	Tax-exempt	Tax-exempt
Fixed vs. callable	Fixed duration; maturity dates through July 1, 2019	Callable	Callable
Fixed vs. variable interest rate	Fixed rate	Fixed rate	Variable rate
Final payment date	July 1, 2019	January 1, 2020	July 1, 2022

Source: Bond issuance documents, interviews with Pennsylvania's UC program officials.

As described above, Pennsylvania uses a special flat interest tax levied on employers to pay interest on Title XII debt. That tax is paid by all employers, except for new employers who are exempt from the unemployment tax and held in a debt service fund. Following the issuance of the bonds, these taxes were redirected to service the bond debt. The state's 2012 solvency legislation increased the "interest factor" to a maximum of 1.1 percent of taxable payroll, starting in 2013. The increase was necessary as the funds were used as the revenue source for payment of both principal and interest on the bonds (as opposed to interest only on Title XII debt). The amount in the debt service fund had to reach 1.5 times the amount of the interest owed to bond holders. UC agency staff were responsible for redirecting monies from the debt service fund to the state's trustee for the bond issuance, Bank of NY Mellon; they, in turn, were responsible for making the bond payments on January 1 and July 1 of each year and for paying interest. Interest accrued on the funds held by the trustee was used to pay administrative costs of the bond issuance and structuring.

In order to receive its AAA credit rating, the state was also required to establish a state-level UI reserve fund, with a \$75 million balance; that fund, which was also held by the trustee, is in addition to the debt service fund.

Key Takeaways

- **Pennsylvania began borrowing federal Title XII funds in 2009 and by the end of 2011, the state had over \$3 billion in debt.** This deficit was addressed through a two-step repayment process that included:
 1. a short-term, low interest bank loan that was used to pay off the Title XII debt by the end of 2012, thereby avoiding additional interest and FUTA credit reductions for employers; and
 2. a subsequent issuance of three series of tax-exempt municipal bonds totaling over \$2.8 billion, the proceeds from which were used pay off the bank loan. The state had reduced the bond debt to \$162 million by the end of October 2019, with the expectation that it would be and fully repaid the debt on January 1, 2020.
- **Because the state was required to pass legislation to issue municipal bonds for the purposes of addressing the UI trust fund deficit, the approval and implementation process for bonding was quite lengthy, taking about a year from start to finish.** The fact that the measures specifically related to bond issuance were only one part of a more comprehensive solvency package that also increased employer taxes and reduced benefits for claimants further complicated and delayed the proceedings.
- **Among the key issues weighed by the decisionmaking team was the interest rate differential between what the state was offered on municipal bonds (1.29 percent) and the projections for Title XII (2.94 percent).** The team needed to determine if the differential was sufficient to cover the projected administrative and issuance costs associated with bonds. Ultimately, the state decided to

issue bonds because they believed that it would reduce costs for employers and enable the state to refinance the Title XII debt at a lower rate.

- **UI agency staff responsible for working with the Title XII system were positive about their borrowing and repayment experiences, noting that it was an uncomplicated and straightforward process.** They also felt that the technical guidance on Title XII operations available on the DOL website and through the Unemployment Insurance Program Letters was helpful, although they noted that they had reached out to the DOL regional office for clarifications and to confirm details.
- **Because Pennsylvania had not previously issued bonds to address solvency, state staff looked to Michigan’s earlier bond issuance for guidance on decisions and financing strategies.** In addition, respondents noted the importance of taking advantage of the skills and knowledge of the wide range of experts from outside of the UI agency that they brought together to advise on and help implement their issuance process.
- **Pennsylvania used its existing “interest factor” tax on employers as the source of revenue for repayment of the bonds.** The state had previously relied on a flat tax on employers for payment of interest on Title XII loan debt. Since this tax was already in place, the legislation simply increased the tax rate so that it generated adequate funds to cover all costs (i.e. principal and interest) associated with repayment of the municipal bonds, eliminating any additional administrative costs.
- **Overall, UI agency staff considered their experience with bonding a “real success story.”** They estimated that they saved over \$50 million by issuing municipal bonds as an alternate repayment method.

C.3 Michigan Profile

This profile describes Michigan's experience with borrowing to finance its trust fund in the aftermath of the 2007 recession. The profile is based on interviews with state officials in July 2019. Michigan is one of four states featured in the study that issued municipal bonds to finance trust fund deficits.

Overview of State Unemployment Insurance Program

When Title XII borrowing began in 2007, Michigan's Unemployment Insurance (UI) agency was housed in the state's Department of Licensing and Regulatory Affairs. In 2015, as part of a restructuring of state government, the UI agency was shifted to the Department of Talent and Economic Development, renamed in 2019 to the Department of Labor and Economic Opportunity (LEO). LEO also administers Wagner-Peyser, Workforce Innovation and Opportunity Act programs, and other workforce development activities, as well as other programs such as housing and economic development. According to current UI agency staff, one noteworthy feature of Michigan's UI program is its work search requirement. While the requirement for two searches per week is not overly burdensome, new claimants must complete work search activities during the first week of the claim period; however, they have up to four weeks to report the activities. This unusually early work search requirement often results in a significant number of overpayments to ineligible claimants.

State Unemployment Insurance Trust Fund Management

Prior to and during the period of Title XII borrowing, the Treasurer of the Unemployment Insurance trust fund, with the assistance of a small team of accountants, was responsible for managing the trust fund and monitoring its solvency. The team conducted all trust fund accounting activities and required financial reporting and developed cash-flow projections and analyses related to the trust fund. Initially, these projections were done simply for the agency's internal planning purposes, but with the economic downturn, these tools enabled the team to anticipate the timing of insolvency and to project the size of Title XII loans needed to replenish the fund. According to respondents, most decisions related to day-to-day management of the trust fund were made by administrators and staff in the UI agency. However, the Governor's office was involved in Title XII borrowing in terms of making requests for specific amounts of FUA funds for the upcoming three-month period. Staff from the state Department of Treasury's office were also involved in decisions regarding the structure, issuance and repayment of the municipal revenue bonds.

Because Michigan's economy was so reliant on the manufacturing and auto industries, the state was hit particularly hard by the Great Recession. Consequently, the state began borrowing federal Title XII funds in 2007, earlier than almost all states. As shown box C.5, by the end of 2008, the debt had increased to \$770

million, and, with significant drawdowns in 2009 and 2010, the outstanding debt had increased to over \$3 billion by late 2011.

BOX C.5

Michigan's History of Title XII Borrowing and Repayment During the 2007 Recession

- 2007 Title XII borrowing begins; December loan balance is \$135 million.
- 2008 Outstanding Title XII debt increases to \$770 million.
- 2011 Outstanding Title XII debt increases to over \$3 billion.
In December, all Title XII debt is repaid through a \$3.3 billion bank loan from Citi.

Source: Bond issuance documents, interviews with Michigan's UI program officials.

Unemployment Insurance Trust Fund Title XII Borrowing and Repayment

Since the UI trust fund management team regularly developed and updated projections and forecasts on the health of the trust fund, they were able to predict the upcoming deficit “a few years prior” to its occurrence and to identify the need for borrowing. As a result, they “brushed up” on all of the available guidance on the Title XII borrowing process in advance. According to respondents, there was initially little interest among key decisionmakers in making structural changes to UI benefits or in raising taxes on employers during a recession to address trust fund solvency. Consequently, the state used Title XII loans, which were interest-free during 2009 and 2010. Typically, the trust fund would run out of funds before the end of the year and the state would borrow Title XII monies to make up the shortfall, repaying much of the debt with first quarter payroll accruals received in April and May. These interest-free loans were viewed as a key factor in the decision to continue with Title XII borrowing. (According to one respondent, the bonding option was briefly considered during that time but quickly rejected because of the availability of interest-free borrowing.) However, in 2011, the state was required to pay interest on Title XII loans because the American Recovery and Reinvestment Act provisions that had temporarily eliminated Title XII interest expired.

By 2011, the state had a large Title XII debt, and interest was starting to accrue. Michigan was using a flat solvency tax levied on negative balance employees to pay Title XII interest. However, only \$60 million was collected through this tax while the interest due was \$106 million. Although it was “a struggle,” the UI agency was able to secure a \$38 million loan from the state's general fund that enabled them to cover the shortfall. However, the trust fund deficit continued to grow. Additional borrowing from the state's general

fund during a recession was not a feasible option, from a political standpoint. In addition, employers were facing a third year of FUTA credit reductions. Because Title XII borrowing was becoming less attractive, state decisionmakers started to consider other strategies for addressing the deficit. During the early stages of the discussions on issuing bonds, Citi, hoping to be selected as the underwriter for the bond issuance, offered Michigan a short-term, low-interest (i.e., 0.23 percent) \$3.38 billion bank loan. These funds were used to repay the outstanding Title XII debt before the end of the year, thereby avoiding further FUTA credit reductions and imposition of the solvency tax in 2012. In addition, the bank loan enabled the state to repay the loan from the general fund.

Former UI agency staff responsible for borrowing and repaying through the Title XII system were satisfied with the process. One respondent felt that an advantage of the option was that it was well understood; they described it as “comfortable” and “tried and true.” Respondents also noted that no action on the part of the state staff was needed to borrow and repay funds, or for the adjustments made through FUTA credit reductions. In particular, no new legislation was required to use Title XII loans. The only challenge identified was the need to double check to ensure that they had “covered every detail” and done what was in the best interest of the state. Former staff noted that they had relied on the DOL’s Unemployment Insurance Program Letters for guidance and found them useful. One respondent noted that it would be helpful to have access to projected Title XII interest rates, especially for making comparison of interest rates during the deliberations on possible bonding.

Decisionmaking Process for Issuing Municipal Bonds

Because continued borrowing from the state’s general fund to address the UI trust fund deficit was not feasible and because the state wanted to avoid additional FUTA credit reductions, decisionmakers began exploring other financing options. The team quickly honed in on the bonding option; other options were not considered seriously. Although all respondents were not in agreement on the origin of the idea, many recalled that the bonding option was initially proposed in 2010 by the UI agency director and his trust fund team, who likely heard about the bonding experiences of other states such as Texas. Other respondents felt that the underwriters who had assisted states that had already issued bonds may have introduced the bonding option to decisionmakers in the state.

Key decisionmakers involved in the discussions on the merits of bonding as an alternative to Title XII borrowing and repayment included administrators and staff from the state Department of Licensing and Regulatory Affairs (the umbrella organization with oversight responsibility for the UI agency at the time) and the state Department of Treasury, staff from the governor’s office, legislators, the Michigan Manufacturers Association, the Small Business Association, the Chamber of Commerce and members of the

employer community. The state’s financial advisers—R. W. Baird and First Southwest (which had worked with Texas on their bond issuance)—also participated in these deliberations.

One of the challenges faced during the bonding discussions was that many of the decisionmakers did not fully understand the bond market and the bonding process. UI agency staff, as well as the state’s two financial advisers, gave presentations for the decisionmakers that included analyses and data under a range of scenarios, describing the long-term impacts of potential interest rate differentials under both Title XII borrowing and bond issuance. They provided information about the effects of continued FUTA credit reductions, the solvency tax on employers, the unfunded Title XII interest and the costs and benefits of triggering of an additional federal UI tax penalty, which was 2.7 percent of taxable payroll. (UI agency staff estimated that the penalty would cost the business community \$730 million per year.) In addition, a team from the UI agency traveled across the state to meet with employers to educate them on the pros and cons of the bonding option and how it would affect them. In general, employers were concerned about the possibility of higher taxes associated with municipal bonds and were not initially supportive of the option. Some respondents felt that their biggest challenge was convincing employers that the bonding option would benefit them, as their support was critical not only from a financial standpoint but also for passage of the legislation required to issue bonds.

The primary goals that guided these discussions were: eliminate the current Title XII debt; avoid additional unfunded Title XII interest; prevent the imposition of another year of FUTA credit reductions; avoid imposing the existing solvency tax (which was not generating enough to cover the Title XII interest); save employers money; and rebuild the trust fund. Interest rate differentials for Title XII borrowing versus issuing bonds were a key consideration in the final decision to issue bonds. In the words of one respondent, the decision was primarily a “math question”—i.e., which option would save the state’s employers the most money. In addition, the certainty of knowing what future interest rates would be with bonding versus the uncertainty associated with changing Title XII rates was a critical factor. Decisionmakers felt that borrowing with Title XII was “just too risky; with bonds, you were locked in” on payment amounts and dates.

Municipal Bond Issuance and Repayment Process

In 2011, after lengthy deliberations, the state decisionmakers agreed that issuing municipal revenue bonds to address the UI trust fund deficit was in the best interests of the state. As described in box C.6, soon after this decision was made, Citi offered the state a short-term bridge loan which was then used to pay off all Title XII debt, as well as the associated loan from the state’s general fund. These payments, made in December 2011, allowed the state to avoid an additional year of FUTA credit reductions and interest on the Title XII debt. In addition, the Citi loan provided the state with some time to determine the structure of the bonds and to complete the issuance process.

BOX C.6

Michigan's History of Municipal Bond Borrowing and Repayment During the 2007 Recession

- 2011 Citi provides state with short-term, low-interest bank loan that is used to repay Title XII debt as well as a loan from state general fund.
- 2012 Michigan issues \$2.9 billion in municipal revenue bonds, using proceeds from the bond issuance to repay the loan from Citi.
- 2019 All bond debt repaid by the end of the year.

Source: Bond issuance documents, interviews with Michigan's UI program officials.

During that same year, the legislature passed several bills that allowed the state and the UI agency to issue bonds to address the trust fund deficit and to impose an obligation assessment tax (described below) on employers to be used to repay the bonds. This legislation was part of a broader UI compromise reform package that reduced the maximum benefit period from 26 to 20 weeks and raised the tax base modestly, from \$9,000 to \$9,500.

In June 2012, Michigan issued \$2.9 billion in municipal revenue bonds, which they used to repay the short-term bank loan and to finance a \$75.0 million reserve fund. Using revenue from the obligation assessment tax added to the regular employer tax, the state made early repayments on the bonds, eliminating all debt by December 31, 2019. The issuance was structured into three series, which are described in table C.3.

TABLE C.3

Description of Three-Part Michigan Bond Issuance: Series A, B, and C

Bond issuance features	Series A	Series B	Series C
Size of issuance	\$1.462 billion	\$ 1.205 billion	\$250 million
Taxable vs. tax-exempt	Tax-exempt	Tax-exempt	Tax-exempt
Fixed vs. callable	Fixed maturity; final maturity July 2019	Callable	Callable
Fixed vs. variable interest rate	Fixed interest rate	Fixed interest rate	Variable interest rate
Final payment date	July 31, 2019	December 31, 2019	July 31, 2024

Source: Bond issuance documents, interviews with Michigan's UI program officials.

The decisionmaking regarding the structure of the bond issuance was a collaborative effort, primarily determined by staff in the state Treasury office, the UI agency team, the state's financial advisers and the

underwriters. The underwriters (selected through a six-week request for proposals), led by Citi and Bank of America, made recommendations on the general structure and timing of the bonds, with the financial advisers then weighing in on behalf of the state's interests. Other key members of the bonding team included the Michigan Finance Authority, a separate entity housed within Treasury, which was responsible for issuing the bonds for the state; this organization also paid the principal to bondholders. US Bank, the trustee for the bond issuance, paid the interest due to the bond holders. According to respondents, these bonds were unique and considered to be a "one and done," only for UI financing at that particular time.

The revenue source for repayment of the municipal bonds was an add-on to UI employment tax, referred to as the obligation assessment. This tax, collected from employers annually, is experience rated. It is assessed proportionally (i.e., employers with lower tax rates paid a lower obligation assessment). The funds collected through the obligation assessment (approximately \$450 million per year) are kept in an account separate from the regular UI tax.

The amount of the bond issuance was based on the principal due for the short-term bank loan (\$3.3 billion) plus an additional amount that included \$2.6 million for issuance costs (which includes payments to the legal team and financial advisers) as well as \$75 million for the reserve fund, required for the bonds to receive a bond rating of AAA.

According to former UI agency staff, very little guidance from DOL or the US Treasury is available on the mechanics of the bonding process. Although one respondent recalled that some helpful information was provided during financing seminars, there was general agreement that there is not much information available on trust fund financing options other than Title XII. One respondent noted that the state had reached out to DOL staff for information on repaying debt early.

Based on their experiences with the bonding process, respondents offered various suggestions for other states considering the strategy to address UI trust fund solvency.

- **Look to other states' experience.** Former UI agency staff stressed the importance of taking advantage of the guidance from states with prior experience with bond issuance. According to one respondent, "Texas cut the trail and we learned from that process.... we really looked to Texas. In the bond world that happens a lot, where a state will use a novel structure, and then other states do a variation on that same thing. You can learn and make tweaks." One former UI agency staff member also recalled learning about Illinois' bonding experiences at a professional conference.
- **Structure the revenue source appropriately.** Another former UI staff member stressed the importance of paying attention to the design and details of the obligation assessment, ensuring that the state is being fair to all employers and not overwhelming them financially.
- **Allocate resources for thorough bond research.** Multiple respondents noted the critical need for doing the "homework" and preparation prior to issuing bonds, including developing multiple models, projections, and analyses under different options. Some respondents also suggested the need for diversification in the structure of the bonds, building in provisions that allow the state to repay more quickly or slowly as need.

- **Utilize experts.** Because most state UI agencies will not have the in-house expertise to carry out the complicated municipal bond issuance process, respondents note that it is critical to seek out and bring in experts with bonding and financing experience and to take advantage of their knowledge.
- **Find resources (or ask for them if they don't yet exist).** One respondent noted that a step-by-step guide to the bonding process for the purposes of addressing trust fund solvency would be useful to states considering pursuing this strategy.

Overall, respondents who were both current and former UI agency staff felt that the decision to issue municipal bonds was a good one, in part because they were able to increase the balance in their UI trust fund. They noted that they currently (have a very robust trust fund balance (above \$4.5 billion, October 2019)) and feel that they are prepared for the next recession. Looking back, they noted that it took some time for everyone to “come around” to the bonding option and concluded that a successful bonding experience requires “a lot of buy-in” from many partners. In terms of issuing bonds again, they reported that “we learned that bonding can be a tool” and that they would “do the math” to determine if it made sense for the states to issue bonds again if faced with a similar situation.

Key Takeaways

- **Michigan's period of indebtedness began early in the 2007 downturn.** Because Michigan was hit hard by the Great Recession, the state began borrowing federal Title XII funds in 2007, earlier than most states. By the end of 2008, the debt had increased to \$770 million, and, with significant additional drawdowns in 2009 and 2010, the outstanding debt had increased to over \$3 billion by 2011. The UI agency secured a loan from the state's general fund that enabled them to cover the shortfall in Title XII interest costs.
- **The state used multiple borrowing strategies to finance its UI trust fund deficit, including municipal bonds.** After lengthy deliberations, the state decided to issue municipal bonds to address trust fund solvency, employing a two-step process. In December 2011, the state obtained a short-term, low-interest loan from Citi that enabled them to repay their Title XII debt, avoid additional FUTA credit reductions and repay the money borrowed from the state's general fund. The loan also gave the state needed time to complete the bond issuance process. The legislature also passed several bills in 2011 that allowed the state to issue bonds to address the deficit and to impose an obligation assessment tax on employers to repay the bonds. This legislation was part of a broader UI reform package that reduced the maximum benefit period from 26 to 20 weeks and raised the tax base, from \$9000 to \$9,500. In June 2012, Michigan issued \$3.4 billion in municipal bonds, which they used to repay the bank loan and to finance a reserve fund. All debt was repaid by December 31, 2019.
- **Title XII was a crucial part of the state's borrowing strategy, and respondents found the program easy to use.** Former UI agency staff responsible for borrowing and repaying through the Title XII system were satisfied with the process, particularly during the years when they used it to take advantage of “cash-flow” loans. One respondent reported that the option was well understood, describing it as “comfortable” and “tried and true.” Others noted the ease of use of the system.
- **Bonding was a less well-known process, and it required significant coordination of actors both inside and outside of the state UI agency to execute.** The lack of knowledge and understanding among the members of the decisionmaking team (including the employers) regarding the bonding process was a challenge during deliberations. UI agency staff, as well as the state's two financial advisers, gave detailed presentations for the decisionmakers that included analyses and data under

a range of scenarios, describing the long-term impacts of potential interest rate differentials under both Title XII borrowing and bond issuance. UI agency team members conducted similar outreach and education campaigns with employers across the state.

- **Respondents were satisfied with their overall borrowing strategy.** Current and former UI agency staff felt that their decision to issue municipal bonds was a good one, particularly because they were able to increase the balance in their UI trust fund. They also concluded that a successful bonding experience requires “a lot of buy in” from many partners, as well as the expertise of a diverse set of professional team members. Respondents would consider issuing bonds for this purpose in the future.
- **Respondents offered various suggestions for other states considering bonding to address trust fund solvency:**
 - » Take advantage of the guidance available from states such as Texas with prior experience with bond issuance.
 - » Pay attention to the design and details of the obligation assessment, ensuring that the state is being fair to all employers and not overwhelming them financially.
 - » Do exhaustive preparation prior to issuing bonds, including developing multiple models, projections, and analyses under different options.
 - » Seek out and bring in experts with bonding and financing experience to supplement in-house expertise and to take advantage of their knowledge.

C.4 Colorado Profile

This profile describes Colorado's experience with borrowing to finance its trust fund in the aftermath of the 2007 recession. The profile is based on interviews with state officials in October 2019. Colorado is one of four states featured in the study that issued municipal bonds to finance trust fund deficits.

Overview of State Unemployment Insurance Program

Colorado's Division of Unemployment Insurance (UI) is an agency within the state's Department of Labor and Employment (CDLE), which also administers other employment-related programs, including Wagner-Peyser, Workforce Innovation and Opportunity Act programs, Vocational Rehabilitation, Veterans' Employment and Training, and Labor Standards and Statistics. The state provides additional resources to supplement federal funds available for administrative costs associated with operating the UI program. In 2011, the state enacted legislation that made statutory changes to the UI financial structure, increasing the wage base and reducing the number of tax rate schedules for employers (from twenty to seven). However, no benefit reductions were included as part that legislation.

UI agency administrators reported that the countercyclical nature of the federal funding process is the most challenge aspect of program operations. According to respondents, the time lag associated with the adjustment of funding levels to accommodate an increased number of claims during economic downturns makes it difficult to meet the demand for UI benefits among the newly-unemployed population.

State Unemployment Insurance Trust Fund Management

The Chief Economist for CDLE is responsible for overall management and ongoing monitoring of the Unemployment Insurance trust fund's solvency; he is assisted by another CDLE economist. The team also manages and conducts analyses related to UI program financing and makes recommendations for any needed changes to UI program structure. During the borrowing period, the Chief Economist also oversaw and tracked that process, determining the specific amounts needed and the preferred strategies for repayment of debt.

Most forecasts, projections, and analyses required for monitoring solvency and determining the need for federal Title XII borrowing are produced within the agency. Although most of the decisions related to trust fund management are made by CLDE staff in the UI agency and the Budget Office, the Governor's office was also involved in Title XII borrowing as the requestor for specific amounts of FUA funds for the upcoming three-month period. The state Treasurer's office was also involved in the decision-making process during the time when municipal bonds were being structured and issued.

In 2012, Colorado modified its 2004 trust fund solvency requirement stipulating that the balance in the trust fund as of June 30, 2012 (and June 30th in subsequent years) had to equal at least 0.5 percent of total covered state payroll. The solvency surcharge tax levied on employers to meet this requirement had to remain active until the trust fund balance exceeded 0.7 percent of payroll. This solvency requirement was a major influence on borrowing determinations made by state decisionmakers.

Based on their internal economic forecasts and projections, Colorado state UI agency administrators anticipated the state's trust fund insolvency about six months prior to the start of their federal Title XII borrowing. Because none of the current staff members had been with the agency when the state last borrowed in the 1980s, agency staff began to prepare by developing new trust fund forecasts, conducting analyses and learning about the operational process for borrowing and addressing a deficit.

As shown in box C.7, the state began borrowing federal Title XII funds from the US Treasury to replenish the trust fund in early 2010, drawing down advances totaling \$400 million by December 31, 2010. They reduced their outstanding debt to \$320 million in 2011 with their first quarter payroll revenues. By mid-2012, the outstanding Title XII balance was less than \$100 million. All Title XII debt was fully repaid in 2012 using the proceeds from the issuance of two series of municipal revenue bonds. (See below for a more detailed discussion of the bond issuance and repayment process.)

BOX C.7

Colorado's History of Title XII Borrowing During the 2007 Recession

2010	Title XII borrowing begins; \$400 million borrowed
2011	Outstanding Title XII debt reduced to \$320 million through payroll revenues
2012	Outstanding Title XII debt reduced to under \$100 million. Title XII debt fully repaid with proceeds from municipal bond issuance.

Source: Bond issuance documents, interviews with Colorado's UI program officials.

As part of the Title XII borrowing process, the state successfully used the daily sweeping option during the repayment period. This option allowed for transfer of positive balances from the trust fund to the FUA on a daily basis on days when revenue exceeded payouts, and vice versa, thereby minimizing the average daily balance of Title XII debt and associated interest costs on the average outstanding loan principal. State UI agency staff responsible for borrowing and repaying federal Title XII funds had positive views about the process, noting that they "liked it" and found it "easy." They also felt that the costs of this method were

minimal because the state was able to borrow only what was needed on a given day. One respondent likened it to “transferring from your savings account to your checking account with no additional costs.” They felt that the written guidelines and technical guidance available from DOL were helpful and quite clear. (However, they noted that they had more questions for and conversations with DOL related to the bonding process, which is discussed in greater detail below.)

Decisionmaking Process to Use Municipal Bonds

Although respondents could not definitively identify the source of the initial consideration of the bonding option in early to mid-2011, some felt that it was likely that lobbyists and banks were aware of other states’ bonding activities (Texas had issued bonds in 2010 and Idaho had issued bonds in 2011), and they introduced the idea to members of the Colorado business community. According to UI administrators, some of the bankers involved had assisted other states with similar activities. Among the individuals participating in the discussions and decisionmaking were the director of the CDLE, key UI agency administrators, lobbying groups representing businesses, union representatives, investment banks, NFIB (an organization representing small businesses), Colorado Association of Commerce and Industry, and Colorado Council for Law and Policy, an organization that represents the interests of the low-income Coloradans.

UI administrators and staff appreciated the flexibility of debt repayment directly through the Title XII system; however, there were concerns about the FUTA credit reductions and the uncertainty around future federal Title XII interest rates. UI benefit reductions as an option to address trust fund solvency were reportedly “off the table.” There was some consideration of short-term borrowing options (e.g., tax anticipation notes) to repay the debt. However, decisionmakers did not feel that step would solve the problem of replenishing the trust fund in a time of economic uncertainty; it was considered “too risky.” According to state UI agency staff, several individuals did not initially view the option to issue bonds and take on debt favorably, in part because they felt it might be viewed because of “irresponsible management” of the trust fund. As a result, there were “months of discussion” about the bonding option and extensive efforts to develop trust with the employers and “get the employers on board.”

The biggest challenge faced by the decisionmakers was determining how much to borrow under the bonding option—i.e., whether to borrow enough to simply pay off the outstanding \$100 million in Title XII debt owed or to borrow additional funds that would enable the state to also address solvency and end the solvency surcharge tax.

One of the perceived factors in the decision to issue municipal bonds was the desire to end the solvency surcharge tax that had been in place since 2004. Title XII provisions only allowed for borrowing funds to pay benefits (as opposed to borrowing to build up the trust fund balance) so that was not an option for

borrowing additional monies to “turn off” the surcharge. Issuing municipal bonds in an amount in excess of the Title XII debt would allow the state to address the solvency requirements and suspend the solvency tax. Ultimately, the team decided to issue municipal bonds for that reason and because of the lower interest rates available through the bond market (a differential of between 1 and 1.5 percentage points).

Another question that the decisionmakers had to address was the method for repaying the bonds. The UI agency preferred that the special bond surcharge levied on employers be experience rated and simply added to their regular UI payroll tax. Their analyses showed that an increase of 20-25 percent of the base tax rate would be needed to cover the bond repayment amount due each year. The ability to benefit employers by having this surcharge be proportionate to their existing regular UI tax rate and be the same proportion for all employers (unlike Title XII credit reductions, which apply at a flat rather than proportional rate) helped overcome some of the lingering opposition to bonding.

Although the UI agency team conducted their own internal analyses to support decisionmaking on the bonding process, the state retained a local financial services firm after deciding to issue municipal bonds. The financial services firm worked with agency staff for several months, developing various bonding scenarios that included alternate terms and borrowing amounts to provide costs estimates and benefits under different plans.

Municipal Bond Issuance and Repayment Process

As shown in box C.8, Colorado reduced their outstanding Title XII debt from \$400 million to less than \$100 million by mid-2012. In May 2012, the state decided to move forward with two municipal bond issuances to address this outstanding Title XII balance. However, unlike the other states that issued bonds to address UI trust fund deficits during this period, Colorado borrowed more through its bond issuance than was necessary to just repay the existing Title XII debt. They chose to also improve trust fund solvency and build up their balance at the same time, issuing bonds totaling \$625 million. This issuance eliminated the remaining Title XII debt, and the state added the remaining \$525 million to the trust fund, allowing the state to discontinue its solvency surcharge tax. The terms of the bond issuance required that the state repay \$125 million each year from 2013 to 2017; all bond debt was repaid by May 2017.

BOX C.8

Colorado's History of Municipal Bond Borrowing and Repayment During the 2007 Recession

- 2012 Outstanding Title XII debt reduced to under \$100 million through employer payroll revenue.
Issued \$625 million in municipal revenue bonds; \$100 million Title XII debt fully repaid.
Remaining \$525 million deposited in the UI trust fund.
- 2013 Debt repayment begins, with \$125 million in bond debt repaid each May.
- 2017 All debt repaid by May 2017.

Source: Bond issuance documents, interviews with Colorado's UI program officials.

The bond issuance was structured into two slightly different series, A and B. Details of these series are presented in table C.4. The size of the bond issuance was determined primarily by the CDLE director and UI Agency administrators. Because of the solvency statute that requires that the UI trust fund balance at the end of June of each year equal at least 0.5 percent of covered payments, the state needed to borrow at least \$420 million to replenish their trust fund and turn off their solvency surcharge tax. However, they wanted some “cushion” in case more funds were needed in the future; their forecasts and modeling efforts indicated that if they borrowed just slightly more than was needed to pay off the Title XII debt and turn off the solvency surcharge (\$625 million), it would be sufficient.

TABLE C.4

Description of Two-Part Colorado Bond Issuance: Series A and B

Bond issuance features	Series A	Series B
Size of issuance	\$85 million	\$540 million
Taxable vs. tax-exempt	Tax-exempt	Taxable
Fixed duration vs. callable	Fixed, 2-year maturity	Fixed, 5-year maturity
Fixed vs. variable interest rate	Fixed interest rate - 1.4 percent	Fixed interest rate
Final payment date	2014	2017

Source: Bond issuance documents, interviews with Colorado's UI program officials.

The team responsible for making decisions regarding the structure of the bonds and the bond issuance included the CDLE director and the UI agency team, the lead underwriter (Goldman Sachs, selected through a request for proposals), the bond attorneys, the state attorney general, the state treasurer, the trustee (Wells Fargo) and the bond issuer, Colorado Housing and Financing Authority (CHFA). The latter was

responsible for all required bond issuance reporting to the Electronic Municipal Market Access (EMMA) database.

According to respondents, the bond surcharge collected from employers was deposited in a fund with the standard payroll revenue. Employers were also billed an interest assessment on the bonds. These interest-only payments were collected by the UI agency and maintained in a separate fund, prior to being transferred to the trustee, Wells Fargo. As the trustee, Wells Fargo was responsible for making the interest payments, which were paid biannually. The bond principal was paid annually with one payment in May; the bond principal repayments were administered by CDLE's budget office.

The respondents did not recall any serious discussions among decisionmakers about adding early call features to the bond issuance, in part because they "wanted to keep it as uncomplicated as possible," and because they wanted to know what the exact costs would be over the term of the bonds. They also rejected variable interest rates in the bond structuring for the same reasons.

UI agency staff reported that the bond issuance process was not a quick one, taking "seven to nine months to get going" and requiring significant time for the decisionmakers to come to an agreement on the amount to borrow. Members of the team noted that they were not aware of any written guidance or guidelines to help state UI programs in issuing municipal bonds. They reported that they had numerous discussions with federal DOL staff regarding the use of experience rating for the bond surcharge levied on employers. Overall, respondents were generally satisfied with their experiences with UI bonds. They noted that, if were faced with a similar trust fund deficit in the future, they would likely use the same approach to making borrowing decisions and would strongly consider issuing bonds again.

In terms of advice to other states considering the bonding process as an alternate strategy for UI trust fund financing, UI agency staff suggested that states should forward finance their trust funds. In addition, they suggested that bond issuance costs should be minimized to the extent possible.

Key Takeaways

- **Colorado began borrowing federal Title XII funds from the US Treasury to replenish the UI trust fund in early 2010, securing advances totaling \$400 million.** They were able to quickly reduce their outstanding debt with payroll revenues, and by mid-2012 the outstanding Title XII balance was less than \$100 million. All Title XII debt was repaid in 2012, using proceeds from the issuance of two series of municipal revenue bonds.
- **Unlike the other states that issued bonds to address UI trust fund deficits during this period, Colorado borrowed more through its bond issuance than the amount necessary to repay the existing Title XII debt.** The state chose to also improve trust fund solvency and build up their balance at the same time, issuing bonds totaling \$625 million. With the issuance of the bonds, the remaining Title XII debt was eliminated, and the state still had an additional \$525 million to add to

the trust fund. The terms of the bond issuance required that the state repay \$125 million each year from 2013 to 2017; all bond debt was repaid by May 2017.

- **One of the biggest challenges faced by the decision-makers was determining how much to borrow to address their UI trust fund debt.** The team had to determine whether to borrow enough to simply pay off the outstanding \$100 million in Title XII debt or to borrow additional funds that would enable the state to also address solvency and build up the balance in the trust fund.
- **Colorado's UI trust fund solvency requirement that levied a surcharge tax on employers was a major consideration in the decision to issue municipal bonds.** This requirement stipulated that every year, the balance in the trust fund as of June 30 must equal at least 0.5 percent of total covered state payroll. It also required that the surcharge tax levied on employers to meet this requirement had to remain active in the future until the trust fund balance exceeded 0.7 percent of covered payroll. Key decisionmakers wanted to eliminate this tax and issuing bonds would allow them to borrow sufficient funds to do so.
- **Some of the features of Colorado's municipal revenue bond issuances varied from those chosen by other bonding states, in part because of the team's desire to keep the transactions simple.** For example, Colorado issued only two, rather than three, bond series. In addition, both of their bond series had fixed interest rates and fixed maturity dates, and they did not have early call features. Finally, one of the two series of bonds included taxable bonds, while the UI bonds issued by all other states during 2010-2013 were tax-exempt.
- **State UI agency staff were generally satisfied with their experience with UI bonds.** Although they described it as a lengthy process with months of discussions, they indicated that they would likely use the same approach to making borrowing decisions and would strongly consider using UI bonds again.

C.5 Indiana Profile

This profile describes Indiana’s experience with borrowing to finance its trust fund in the aftermath of the 2007 recession. The profile is based on interviews with state officials in October 2019. Indiana is one of four states featured in the study that did not issue municipal bonds to finance trust fund deficits, instead relying mostly on Title XII loans to finance trust fund deficits.

Overview of State Unemployment Insurance Program

Indiana’s Unemployment Insurance (UI) program is housed in the state’s Department of Workforce Development (DWD), which also administers other employment-related programs such as Wagner-Peyser, Workforce Innovation and Opportunity Act programs, Adult Basic Education (ABE) and Career and Technical Education (CTE). When Indiana began borrowing from the Treasury in 2008, there was a UI advisory council in place, but it was disbanded by the state in 2016. All UI applicants in Indiana file for benefits electronically through the state’s online portal; communication and transactions regarding claims are conducted through individual claimant pages. In terms of challenges faced in operating their UI program, state agency staff identified their ongoing inability to fund adequate numbers of program staff and the related struggle to meet federal payment timeliness guidelines as key issues.

State Unemployment Insurance Trust Fund Management

Indiana’s Chief Unemployment Insurance Officer (CUIO) is ultimately responsible for managing the Unemployment Insurance trust fund, assisted by a small trust fund accounting and support unit; the lead member of this unit reports to the CUIO. That team is charged with monitoring the status of the balance in the trust fund on a weekly basis. However, staff noted that most in-house decisions related to management of the trust fund are made jointly by the agency’s key administrators, including the UI Chief of Staff or Chief Administrative Officer, the Chief UI Officer, the CFO, the Commissioner of DWD and the lead of the trust fund accounting unit. Projections of factors that affect the balance, such as expected number of claims, benefits to be paid and projected revenue, are based on economic forecasts developed internally by agency staff.

Unemployment Insurance Trust Fund Title XII Borrowing and Repayment

The balance in Indiana’s UI trust fund had been dropping since 2000, as the state had consistently been paying out more in UI benefits than it had been collecting in employer payroll taxes; the Great Recession only exacerbated this problem. As shown in box C.9, the state began borrowing federal Title XII funds from

the US Treasury to replenish the trust fund in late 2008, drawing down advances totaling almost \$2 billion by end of 2010. In March 2011, after extended negotiations and a change in political control of Indiana's House of Representatives, the state passed legislation designed to address the funding issue, increasing employer taxes and restricting benefits for UI claimants. By 2012, revenues from employer payroll taxes finally started to exceed UI payments; however, there was still \$860 million in outstanding Title XII debt at the end of 2014.

BOX C.9

Indiana's History of Title XII Borrowing During the 2007 Recession

2008	Title XII borrowing begins
2010	Outstanding Title XII balance is just under \$2 billion
2011	Legislation passed increasing taxes and restricting eligibility
2012	Net repayment begins
2013	Outstanding Title XII loan balance reduced to \$1.4 billion
2015	\$250 million borrowed from state general fund, used to help repay Title XII debt. Title XII balance fully repaid. UI trust fund continues to accrue positive balance.
2016	Debt to state general fund repaid

Source: Bond issuance documents, interviews with Indiana's UI program officials.

In 2015, with guidance from national DOL staff, the UI agency implemented an additional strategy for repayment of Title XII funds, borrowing \$250 million from the state's general fund. This was an interest-free loan with a promissory note stipulating that it would be repaid with 2016 UI revenue (first quarter payments made by employers.) The loan allowed the state to fully repay its remaining Title XII debt in 2015, but it was also framed as a move that benefitted employers by relieving them of 2016 FUTA credit reductions, which would have otherwise been imposed. By the end of 2016, the loan from the state (as well as all Title XII debt) was repaid and from 2017 to 2019 the state continued to add to its UI trust fund (with no additional borrowing).

Current and former state UI staff interviewed were positive about their Title XII borrowing and repayment experiences, with one respondent describing the operation as a "fairly easy process to initiate and a fairly easy process for the dollars to flow" with "no big hiccups." Respondents described an uncomplicated and straightforward process that was initiated by the governor sending a letter to the US Secretary Labor, requesting a specific amount of FUA funds for the upcoming three-month period. State

staff reported that they successfully used the “sweeping” option, which allowed them to transfer positive balances from the UI trust fund to the FUA when revenue exceeded payouts on a daily basis, and vice versa, thereby minimizing the average daily balance of Title XII debt and associated interest costs on the average outstanding loan principal. Staff felt that the technical guidance, written guidelines, and webinars provided fully adequate instruction on the mechanics of Title XII borrowing and repayment operations were “well communicated,” with one staff member noting that “[I’m] really content with how DOL manages the process.”

Decision-Making Process for Title XII Only Borrowing and Repayment Versus Issuing Municipal Bonds

As noted above, Indiana’s outgoing payments to UI claimants had exceeded incoming revenues collected through employer taxes for several years so the state would have needed to explore options for borrowing (or other non-borrowing strategies) to replenish its reserve balance “even without the recession” that started affecting benefits in 2008, according to one respondent. The UI Advisory Board in place at the time had reportedly set up a subcommittee to study possible options for addressing the UI trust fund deficit.

While financial analyses and economic forecasts needed to inform decision-making originated from within the UI agency, major decisions regarding steps to be taken to maintain trust fund solvency were typically made collaboratively. Decisionmakers included: UI agency senior administrators, the governor’s office, key state legislators, the state Office of Management and Budget (OMB) and other employer organizations such as the Indiana Manufacturers’ Association and the Indiana Chamber of Commerce. State agency staff described their decision-making on this issue as more of a “political problem-solving approach” as opposed to a “systematic,” or “process-oriented” strategy.

Although these decisionmakers discussed the possibility of issuing municipal bonds to finance their UI deficits, these conversations “did not get very far,” according to respondents. Indiana did not begin exploring the bonding option until information became available from other nearby states with similar economic circumstances (i.e., Michigan, Illinois and Pennsylvania) that had made the decision to move forward with the bonding process. In 2010 and 2011, two investment banks (including Bank of America) that had successfully managed the bond issuance process for these states sent representatives to meet with Indiana state legislators, staff in the governor’s office and state UI staff to present information on the benefits of issuing municipal bonds to replenish the trust fund. However, a champion for the bonding option never emerged within the legislature; respondents could not recall any public testimony or legislation drafted regarding issuance of municipal bonds to finance the UI trust fund. One state agency staff member noted that it was clear at the time that the option was not going to gain traction without the interest of the

financial committees in the legislature. Another respondent noted that staff in the governor's office "couldn't get together around [issuing municipal bonds.]"

Various issues were considered during the decision-making process regarding the bond option. First, the state had a constitutional prohibition against taking on debt, although many stakeholders were convinced that they could work around that, in part because the municipal bonds would be issued against an existing revenue stream (i.e., employer UI taxes.) There were also questions about the legality of the UI agency issuing bonds and holding debt. In addition, Indiana had a high credit rating at the time and there was reluctance to take on any debt that might affect that rating. Other key factors that contributed to the state's decision to forego issuance of municipal bonds at the time included:

- **Concerns about multiple issuances.** Some stakeholders were concerned that a first bond issuance might require a subsequent bond issuance if more funds were ultimately needed.
- **Questions over possible federal loan forgiveness.** There was a concern that the federal government might decide to forgive Title XII loans and the state would be left holding their bond debt.
- **Cost effectiveness.** At the time, there were low interest rates on federal Title XII loans compared to available interest rates on municipal bonds.
- **Unexpected transaction costs.** Some stakeholders were worried about the additional costs associated with issuing bonds, such as issuance fees, transactions costs and the need for public hearings.
- **Political optics of state-mandated vs. federal-mandated tax increases.** Because Title XII debt was adjusted through automatic FUTA credit reductions that increased taxes to employers, state legislators felt that they could shift the blame for the tax increases to the federal government, thereby making the Title XII option more appealing.

Overall, at the time the decision was made regarding Title XII repayment versus issuance of municipal bonds, the decision-makers determined that the "known" process (i.e., Title XII) was preferable to the comparatively "unknown" bonding process. They were satisfied with the federal Title XII borrowing process because they felt it was easier, they knew how it worked, and they were confident of their ability to administer it.

Current and former state agency staff interviewed were not aware of any written federal guidance or guidelines on either the process for issuing municipal bonds for replenishing trust fund reserves and/or repaying Title XII loans or for determining the merits and drawbacks of that option.

When asked for advice to states considering the bonding process, respondents stressed the need for development of financial models detailing revenue flows under multiple scenarios to inform the decision-making process. State agency staff also pointed out that decision-makers must be aware that decisions regarding UI trust fund financing strategies are not typically based on financial analysis alone but that there are almost always political considerations as well.

Although they were satisfied with the decision made at the time to continue operating under the Title XII financing process, state agency staff were open to the possibility of considering the bonding option again in the future under different circumstances. They felt that the legislative changes enacted in 2011 had made their system more “structurally sound” and that bonding might prove to be a preferable repayment method in the future, noting “but that’s not where we were a decade ago.” Staff felt that issuance of municipal bonds might prevent the legislature from having to raise employer taxes and cut benefits to address UI deficits in the future. State staff also noted that the key concerns that made them hesitate to issue bonds “never came to pass.”

Key Takeaways

- **Indiana did not issue municipal bonds, but it did use a multi-pronged approach to finance its UI debt.** Between 2008 and 2011, Indiana borrowed almost \$2 billion in federal funds through the Title XII program. The trust fund deficit was addressed through a combination of non-borrowing and borrowing strategies, including legislation passed in 2011 which raised employer taxes and reduced UI benefits, and the use of an interest-free \$250 million loan obtained from the state’s general fund. This loan allowed the state to pay off its remaining Title XII debt and prevent the imposition of an additional year of FUTA tax credit reductions for employers. The state eliminated all Title XII debt in 2015 and paid off the state loan in 2016
- **The process for borrowing federal funds through Title XII to replenish their UI trust fund was a relatively straightforward, fairly simple process with few glitches or challenges.** Current and former UI staff members felt that the guidance and written guidelines provided by the national DOL were adequate, helpful and “well-communicated” and did not identify any aspects of the process that could be improved. While they noted that the information on the Title XII payment mechanisms were good, they felt that the guidance on UI financing using municipal bonds was lacking.
- **Decisionmaking was a collaborative process,** with input from key administrators from the state agency, members of the state legislature, the Governor’s office, the state OMB and other industry stakeholders, including the Indiana Manufacturers’ Association and the Chamber of Commerce.
- **Although key decisionmakers discussed the possibility of issuing municipal bonds to repay Title XII debt, widespread support for the option never materialized.** Investment banks that had guided other states on the bonding process made informational presentations for stakeholders but, according to respondents, there was never much sustained interest among members of the state legislature or key staff in the governor’s office.
- **Current and former state agency staff identified various factors that contributed to the decision not to move forward with issuance of municipal bonds,** including:
 - » the state’s **constitutional prohibition against taking on debt** and concern about the potential effect of new debt on the state’s high credit rating;
 - » **more favorable interest rates** with federal Title XII borrowing;
 - » **possible forgiveness of Title XII debt** by the federal government;
 - » concern about **additional transactional costs** associated with bonding; and
 - » concern about the **possible need to implement later bond issuances.**

- Despite the decision not to issue municipal bonds at the time, state agency staff were open to considering the option in the future under different circumstances.

C.6 North Carolina Profile

This profile describes North Carolina's experience with borrowing to finance its trust fund in the aftermath of the 2007 recession. The profile is based on interviews with state officials in October 2019. North Carolina is one of four states featured in the study that did not issue municipal bonds, instead relying mostly on Title XII loans to finance trust fund deficits.

Overview of State Unemployment Insurance Program

Prior to 2012, North Carolina's Unemployment Insurance (UI) program was one of three divisions housed within the state's Employment Security Commission. In addition to UI, the commission administered Wagner-Peyser and housed a Labor Market Information division. The governor appointed all leadership positions, including the Chairman of the Employment Security Commission and six additional commission positions. There was also a separate commission on workforce development, which operated WIOA. Since new legislation was passed in 2011, the Employment Security Commission and Workforce Development Commission have combined and begun operating as one entity within the employment security wing of the Department of Commerce.

State staff identified several unique features of North Carolina's UI program, including a three-member board of review that was established in 2014 to examine UI claims appeals. Staff members identified several key challenges, including a 20-percent decline in administration funding based on the state's caseload in recent years. The decrease in funding has created difficulty maintaining staffing levels and meeting the demand for claims. Staff also noted concerns related to their preparation for an unexpected uptick in claims because of the tight administrative budget.

State Unemployment Insurance Trust Fund Management

The Chief Financial Officer of UI oversees the trust fund, assisted by two accounting staff. The three-person trust fund staff also provides the analysis used to monitor the trust fund. They track levels and historical trends of several variables, including the unemployment rate, claims activity, and cash flow balance.

When making decisions about Title XII borrowing, the Assistant Secretary of Commerce and the governor's office both provide input. For Title XII borrowing activities to begin, the Governor submits a formal letter to DOL containing an estimate of the needed loan. Respondents called the Title XII borrowing process fairly streamlined. By contrast, more stakeholders would have been involved if the state had chosen to issue bonds. At a minimum, the decision would have required input from the State Treasurer, because only the treasurer can authorize a municipal bond issuance on behalf of the state. Any changes to the

benefits and tax structure of the UI program would require approval from the legislature and state budget office.

Unemployment Insurance Trust Fund Title XII Borrowing and Repayment

As shown in box C.10, the state began borrowing federal Title XII funds from the US Treasury to replenish its UI trust fund in 2009, drawing down advances totaling about \$2.5 billion by end of 2010. The state was able to utilize interest-free borrowing from the federal government until 2012, when FUTA credit reductions began. In 2013, the state passed a major overhaul of the UI system designed to address the trust fund funding issue, increasing employer taxes and restricting benefits for UI claimants. The provisions, particularly the benefit reductions, were among the most severe in the country, cutting the maximum weekly benefit from \$524 to \$350, lowering the average weekly benefit amount from \$298 to \$235 and reducing the number of weeks that claimants could receive benefits from 26 to just 13, the second lowest in the country.⁸⁴

BOX C.10

North Carolina's History of Title XII Borrowing During the 2007 Recession

2009	Title XII borrowing begins.
2010	Outstanding Title XII balance is \$2.5 billion by the end of the year.
2012	Net repayment using FUTA credit offsets begins.
2013	Legislation passes reducing the maximum weekly benefit and maximum benefit duration.
2015	Final year of FUTA offsets; debt repayment finished in May.

Source: Bond issuance documents, interviews with North Carolina's UI program officials.

The combination of structural changes and FUTA credit offsets allowed the state to fully repay its Title XII debt by May of 2015, and the state has continued to add to its reserve funds in the trust fund (with no additional borrowing) since that time. Respondents noted that the trust fund has accumulated a balance of over \$3.5 billion at the end of 2019, more than before its decline in 2007.

Current and former state UI staff shared positive sentiments about the Title XII borrowing and repayment process, saying that "once you get over the hurdle of actually having to borrow," the process "goes quite smoothly." The Governor initiated the borrowing process by sending a letter to the secretary of

⁸⁴ For more information, see House Bill 4 (2013 at <https://www.ncleg.gov/Sessions/2013/Bills/House/PDF/H4v5.pdf>).

DOL, requesting an appropriate sum estimated by the UI agency staff. State staff were familiar with the “sweeping” option, which allowed them to repay with positive balances on a daily basis, thereby minimizing the average daily balance of Title XII debt and associated interest costs on the average outstanding loan principal. Staff were also familiar with Training and Employment Guidance Letters (TEGLs) and Unemployment Insurance Program Letters (UIPLs) on the subject of Title XII borrowing, which they referred to and found “quite sufficient.”

Decisionmaking Process for Title XII Borrowing Versus Issuing Municipal Bonds

While the financial analyses and economic forecasts used to monitor the health of the trust fund originated within the UI agency, when the balance began to decline and it became clear that the state needed to implement changes to maintain trust fund solvency, a wider group of collaborators got involved. UI agency staff and senior administrators and the Assistant Secretary of Commerce were key participants in financing conversations. The Governor’s office also provided input, and as noted above, ultimately submitted the formal request to DOL that kicked off the state’s Title XII borrowing. If not for the interest-free borrowing options available through American Recovery and Reinvestment Act, North Carolina would not have met the minimum trust fund requirement to be eligible for interest-free cash borrowing when it began borrowing in 2009. However, the state was able to borrow interest-free in 2009 and 2010.

The legislative changes made to improve the financial health of the trust fund involved an even wider group of decisionmakers. Prior to the 2013 legislation, the North Carolina General Assembly commissioned a report on trust fund solvency from the Upjohn Institute, the National Association of State Workforce Agencies, and DOL’s Office of Unemployment Insurance Actuarial Office, which offered options for the state to consider in addressing their trust fund. Other important contributors to the legislative package included the state budget office, fiscal research resources, DOL, and key members of the state legislature.

Decisionmakers briefly discussed the possibility of issuing municipal bonds to finance their trust fund deficits, but the conversations did not progress very far. The state had issued tax anticipation notes earlier in the decade (from 2003-2006) to address periodical short-term solvency challenges. However, they recognized that a similar solution would not be adequate to address the serious impending trust fund deficit. They also feared that they would not qualify for interest-free borrowing through Title XII because their trust fund did not meet the minimum threshold to qualify (this was before the passage of the interest-free borrowing provision in the American Recovery and Reinvestment Act). As a result, agency staff began to investigate other strategies for shoring up the trust fund, including the possibility of issuing bonds.

UI staff reported that they brought in a few investment banks (two or three, by their recollection) to discuss possible municipal bond cost structures. These bankers, UI staff, and several members of the North

Carolina General Assembly subsequently held a handful of meetings, but concerns arose that issuing debt might hurt the state's bond rating. Interviews with former staff from other state agencies confirmed that pervasive concerns about debt and the political optics of borrowing played an outsized role in ending the bonding discussion in North Carolina. Respondents referenced a debt capacity report that had been commissioned by the previous state Treasurer, which set conservative debt limits (e.g., 6 percent of state revenue for Department of Transportation infrastructure projects and 4 percent for the state health plan). While less strict than a constitutional debt limit, these restrictive debt limits decreased general public support for borrowing using bonds. Staff also mentioned the Greek debt crisis, which was unfolding at the time and contributing to negative attitudes toward borrowing. These concerns headed off early conversations about trust fund municipal bond issuances.

No other champion for bonding emerged, and the state ultimately financed its trust fund debt entirely using FUTA credit offsets. In hindsight, UI staff expressed satisfaction with this decision, noting that the annually-increasing FUTA offset reductions accelerated the rate of repayment and collected extra funds directly from employers without the state having to take political action.

In summary, key factors that contributed to the state's decision to forego issuance of municipal bonds included:

- **Anti-debt sentiment from key decisionmakers in the state government.** At the time, North Carolina's government was restrictively debt averse. When concerns arose about whether a bond issuance would negatively affect the state's bond rating, the bonding conversation stalled. Debt constraints adopted by a previous administration and negative public attitudes toward debt also played a role in dissuading the state from issuing bonds.
- **Concerns that issuing debt would appear fiscally irresponsible.** Some stakeholders believed that the political optics of issuing debt would indicate government irresponsibility, while the combination of FUTA credit reductions and legislative cuts to UI benefits would address the root of the problem, rather than serving as a "band-aid."
- **Responsibility for tax increases could shift to the federal government to appease stakeholders.** Because Title XII debt was reduced through automatic FUTA credit reductions that increased taxes to employers, some state legislators felt that they could shift the rationale for the tax increases to the federal government, thereby making the Title XII option more appealing.

Overall, at the time the decision was made regarding Title XII repayment versus issuance of municipal bonds, the bonding discussion was curtailed in part due to anti-debt voices from within state government Treasurer's office. Ultimately, the state was satisfied with the federal Title XII borrowing process. Respondents did not report familiarity with any written federal guidance or guidelines related to the use of municipal bonds to finance trust funds.

Although they were satisfied with the decision made at the time to continue operating under the Title XII financing process, state agency staff reported that they would be open to the possibility of considering

the bonding option again in the future. They would engage the same partners they engaged during the last recession and consider all options available to improve the financial condition of the trust fund, including bonding.

Key Takeaways

- **North Carolina used several strategies to finance their trust fund deficit.** Between 2009 and 2015, North Carolina borrowed just over \$2.5 billion in federal funds through Title XII loans. The state addressed its trust fund deficit with a multi-pronged approach, including legislation passed in 2013 which raised employer taxes and reduced UI benefits. Using the 2013 legislation and FUTA credit reductions, the state eliminated all Title XII debt in May of 2015.
- **Title XII borrowing was a well-documented and straightforward process, while municipal bond financing was comparatively less easy to understand.** According to current and former state agency staff, the process for borrowing federal funds through Title XII to replenish their trust fund was straightforward. Staff members felt that the guidance and written guidelines, including UIPLs and TEGs provided by the national DOL were sufficient to facilitate borrowing. Respondents did not make any suggestions regarding improvements to the Title XII process. Staff members did not report familiarity with any guidance related to alternative financing strategies to improve trust fund solvency, including the issuance of municipal bonds.
- **The involvement of various stakeholders, especially across state government agencies, was key to reaching consensus about borrowing decisions.** Decisionmaking surrounding trust fund solvency was a collaborative process, including input from key administrators from the state agency, the assistant secretary of Commerce, members of the state legislature, the Governor's office, and the Treasury. The decision included research input from outside collaborators as well, including the Upjohn Institute, federal DOL's Office of Unemployment Insurance, and National Association of State Workforce Agencies.
- **The state never seriously pursued bonding after early conversations stalled. Although key decisionmakers discussed the possibility of issuing municipal bonds to repay Title XII debt, widespread support for the option never materialized.** Investment banks that had guided other states on the bonding process made informational presentations for stakeholders, but the conversations did not progress beyond these initial meetings.
- **Multiple factors—especially strong anti-debt sentiment from within state government and from the public—led North Carolina not to issue municipal bonds during the last recession.** Current and former state agency staff identified various factors that contributed to the decision not to move forward with issuance of municipal bonds, including:
 - » concern from inside the state government that issuing debt would negatively affect North Carolina's credit rating, and general anti-debt public sentiment in the state;
 - » a previous treasurer's restrictive debt limits and anti-debt sentiment from the public.
 - » a desire to demonstrate action and political willingness to make hard choices by using a more rapid repayment strategy (raising taxes and cutting benefits) rather than issuing municipal bonds to repay the trust fund debt.

C.7 Ohio Profile

This profile describes Ohio’s experience with borrowing to finance its trust fund in the aftermath of the 2007 recession. The profile is based on interviews with state officials in February 2020. Ohio is one of four states featured in the study that did not issue municipal bonds to finance trust fund deficits, instead relying mostly on Title XII loans to finance trust fund deficits.

Overview of State Unemployment Insurance Program

Ohio’s Unemployment Insurance (UI) program is housed in the state’s Department of Job and Family Services (DJFS), an umbrella organization that administers employment-related programs—including UI, Wagner-Peyser, Workforce Innovation and Opportunity Act programs, and veterans’ services—and Department of Health and Human Services programs—including child support, childcare services, and Temporary Assistance for Needy Families. Because the UI program is housed under the department that operates HHS programs, the UI agency must follow the same financial regulations and cost allocation strategies that HHS programs follow; state staff noted that this might lead to higher indirect costs than other labor-related programs.

Respondents identified low federal administrative funding as a current challenge for the program. For the last several budget cycles,⁸⁵ the UI agency has submitted budget requests to the governor and received supplemental funding from the state general fund to maintain a sufficient level of funding to administer UI taxes and benefits. Agency staff described the funding formula used by the federal DOL as “inadequate,” and said that basing funding on average weekly unemployment has “starved the system” in Ohio, because it does not account for the ongoing increasing costs of maintaining and modernizing the system. Another key challenge that respondents identified was the adoption of new policies in Ohio, like term limits for state representatives, that have made it increasingly difficult to pass structural changes to the program when needed.

State Unemployment Insurance Trust Fund Management

A central administrative team consisting of four to six members is responsible for monitoring the trust fund, overseen by the deputy director of UI. The team oversees the trust fund accounts, monitors trends in the fund balance, and makes recommendations when the fund needs to borrow. The team tracks various indicators to monitor trust fund health, and they also have at least one staff member that is skilled at making

⁸⁵ Ohio operates on a biennial budgeting cycle, passing a new budget every other year.

trust fund forecasts (though respondents noted that they do not do a great deal of forecasting into the future during times of relative economic stability).

The central administrative team makes regular reports on the trust fund's status to the assistant director of UI, who in turn briefs the state Office of Budget and Management (OBM), though OBM typically does not intervene in day-to-day trust fund management. The same central administrative and forecasting team is also responsible for preparing projections of impact to the trust fund for legislative proposals that come from the General Assembly, a requirement of the legislative process in Ohio.⁸⁶

If the central administrative team identifies a period of financial stress that could require borrowing, more decisionmakers, including OBM, get involved to develop a financing strategy. In the past, when Ohio's trust fund has borrowed from the federal government, OBM has approved the borrowing and the central administrative team has interfaced with the governor's office and federal government to initiate Title XII borrowing.

Unemployment Insurance Trust Fund Title XII Borrowing and Repayment

As shown in box C.11, Ohio began borrowing federal Title XII funds from the US Treasury to replenish its trust fund in early 2009, after successfully delaying the onset of borrowing by asking several large firms to prepay UI tax to keep the trust fund solvent through the end of 2008 and delay the first year of FUTA credit reductions. Respondents reported that there was limited political will to increase taxes to fund the UI program. The legislature did pass a modest tax base increase and small reduction in benefits, but these changes would only take effect in 2018 and 2019 and would not have been sufficient to return the fund to solvency in the short term. If the state had not borrowed from the federal government, respondents said they were "not sure what would have happened" to the UI program, and that Title XII borrowing "enabled [them] to maintain the system."

⁸⁶ Whenever possible, the UI agency internally provides these quantitative projections of impact for the proposals from the General Assembly. However, the General Assembly has also hired outside actuarial support to analyze proposals if they include features that are not currently part of the UI system (such as an individual tax to supplement UI funding).

BOX C.11

Ohio's History of Title XII Borrowing During the 2007 Recession

2008	Ohio is able to delay the onset of borrowing by asking several large companies to prepay their UI taxes in order to delay the loss of FUTA tax credits by a year; the trust fund ends the year with a balance of \$63 million
2009	Title XII borrowing begins; the trust fund accumulates \$1.7 billion in outstanding debt by the end of the year
2010	Title XII debt increases to \$2.2 billion
2011 – 2014	Net repayment begins; outstanding debt decreases each year
2015	\$274 million borrowed at 0% interest from the state unclaimed funds reserve to repay all remaining Title XII balance and avoid FUTA credit losses in 2016
2016	Debt to unclaimed funds reserve repaid

Source: Bond issuance documents, interviews with Ohio's UI program officials.

In 2015, on the suggested guidance from Ohio's OBM, the UI agency implemented an additional strategy for repayment of Title XII funds, borrowing \$274 million from the state's unclaimed funds reserve to pay back all outstanding Title XII loans. This was an interest-free loan, which the state paid back within a few months using UI employer tax revenue in 2016. The loan allowed the state to fully repay its remaining Title XII debt in 2015, and it also benefitted employers by relieving them of 2016 FUTA tax credit reductions, which would have otherwise been imposed. By the end of 2016, the loan from the state (as well as all Title XII debt) was repaid and the state has added to its reserve funds in the trust fund (with no additional borrowing) since that time. The fund balance in early 2020 is just over \$1 billion.

Current and former state UI staff were complimentary of their experience with Title XII borrowing and repayment, saying that it "seemed to operate fairly smoothly." Respondents described an uncomplicated and straightforward process whereby the UI agency recommended that the state begin to borrow and prepared an initial debt estimate, OBM and the governor's office approved the decision to start borrowing, and the governor deputized the assistant director of DJFS to interface with the federal government to execute the Title XII process. From there, the trust fund's central administrative team prepared each three-month request for FUA funds, and the assistant director of DJFS would send those requests to the Secretary of Labor. State staff reported that they successfully used the "sweeping" option, which allowed them to transfer positive balances from the trust fund to the FUA when revenue exceeded payouts on a daily basis, and vice versa, thereby minimizing the average daily balance of Title XII debt and associated interest costs

on the average outstanding loan principal. Staff felt that the technical guidance, written guidelines, and webinars available from DOL provided adequate instruction on the mechanics of Title XII borrowing.

Decisionmaking Process for Title XII Only Borrowing and Repayment Versus Issuing Municipal Bonds

Like many other states, Ohio's trust fund required a long-term borrowing strategy in order to make timely benefit payments to Ohioans during the Great Recession. Ultimately, the state relied almost entirely on Title XII borrowing to finance its trust fund, with the exception of the brief loan from the state's unclaimed reserves fund. However, the state did consider several alternative financing options, ultimately rejecting them all. Key decisionmakers included representatives and leadership within the UI agency, collaborators in OBM and the governor's office. Respondents recalled that these decisionmakers briefly discussed the possibility of using refunded worker's compensation money to finance the trust fund, but this idea was discarded due to differences in the legal definition of employers between the Worker's Compensation and UI programs. The state also seriously considered (and might have preferred) issuing municipal bonds as its primary financing strategy, but they abandoned the strategy due to constitutional and legal concerns.

Indiana, another Title XII state in the study, also cited constitutional debt limits as one of several reasons that they chose not to issue bonds, but Ohio was the only state that described legal and constitutional considerations as the primary barrier to bonding. In the 1980s, the state had attempted to issue bonds to finance unemployment debt, but the process was contested and the Ohio Supreme Court ruled that issuing bonds to finance UI debt was not a permissible type of debt under the state's constitution.⁸⁷ With that decision as precedent, decisionmakers recognized that it would present a substantial legal barrier to issuing bonds to address the trust fund during the 2008 downturn. Even so, the state explored bonding as an option. They discussed the option with UI decisionmakers in other states, citing Texas and neighboring states Illinois and Michigan as inspiration. They consulted several lawyers, who suggested that the state might be able to get a different opinion if they sent another case to the supreme court. They also sought quotes from three of the major bonding houses to get a sense of what a bond issuance might look like. However, by the time they could realistically move forward with a legal case, it seemed that the debt would be repaid through Title XII before the court case could be resolved. Thus, they abandoned the idea of issuing bonds without ever preparing a rigorous cost comparison between the two borrowing options or drafting legislation to authorize a bond issuance.

⁸⁷ For more on the Ohio Supreme Court ruling, see *State, ex Rel. Shkurti v. Withrow* (1987), <https://casetext.com/case/state-ex-rel-shkurti-v-withrow>.

Respondents stated that one of the major attractions of issuing bonds was flexibility, saying that it would be easier to dictate the repayment period of a bond issuance rather than using what they described as the “one-size fits all” Title XII process. They also stated that that in the case of another recession, they would consider the bonding option again, likely beginning at the first serious sign of trust fund decline. In fact, in the minds of respondents, bonding has become an even more attractive option because of the increasingly strict restrictions on interest-free borrowing from Title XII. Eligibility for interest-free short-term loans now requires a large trust fund balance (high cost multiple of 1.0 or larger) that the state would find difficult to satisfy in light of past trust fund balances.

Current and former state agency staff interviewed were not aware of any written federal guidance or guidelines on the process for issuing municipal bonds for replenishing trust fund reserves or for comparing the bonding option to the existing Title XII borrowing option. They also indicated that they could not think of any guidance that they would be specifically interested from getting from DOL, saying that they prefer to discuss borrowing and financing options with other states and the National Association of State Workforce Agencies, and that “[the interests of the state] and DOL’s interests are not always aligned.”

When asked whether they had any advice for states considering the bonding process, respondents said to keep in mind all types of barriers that might arise when issuing bonds, including legal barriers. They also stressed the importance of beginning the process early—even in advance of the onset of a recession—because it can be time consuming to conduct research and secure the necessary support to issue bonds for the first time. This is especially true for states that did not issue bonds during the last recession but would be open to a future issuance.

Key Takeaways

- **Ohio mostly relied on Title XII loans to finance their trust fund deficit, but also used an intra-governmental loan.** Between 2009 and 2016, Ohio borrowed \$2.6 billion to finance its trust fund, mostly through the federal Title XII program. The state paid back its loans via the automatic loss of FUTA tax credits and an additional short-term interest-free loan from the state’s unclaimed funds reserve in 2015. This loan allowed the state to pay off its remaining Title XII debt and prevent the imposition of an additional year of FUTA tax credit reductions for employers. The state eliminated all Title XII debt in 2015 and paid off the state loan in 2016.
- **Title XII was a straightforward process, especially compared to the necessary process for the state to issue municipal bonds.** According to current and former state agency staff, the process for borrowing federal funds through Title XII to replenish their trust fund was a relatively straightforward, simple process with few glitches or challenges. Staff members felt that the guidance and written guidelines provided by the national DOL were adequate. While they noted that the information on the Title XII payment mechanisms were good, they did not report any familiarity with similar guidance on the use of municipal bonds to finance trust fund deficits. However, they also did not express interest in receiving that kind of guidance from DOL—preferring to discuss the bonding option with other states and National Association of State Workforce Agencies.

- **Decisionmaking was a collaborative process**, with input from key administrators from the state agency, the governor’s office, the state OBM, and other experts familiar with the bonding process including attorneys and bond houses. If the possibility of issuing bonds had not been abandoned, it was possible that other stakeholders would have gotten involved in the decisionmaking process.
- **Legal barriers to issuing municipal bonds served as a major deterrent to issuing municipal bonds in Ohio.** Although key decisionmakers seriously considered the possibility of issuing municipal bonds to repay Title XII debt, a bond issuance would have required a legal ruling to overturn a 1987 state supreme court ruling that bonding trust fund debt was unconstitutional. While the state investigated the possibility of opening a new legal case and even got quotes from several prominent bond houses, the state ultimately decided that the process would take longer than repayment via Title XII. As a result, state reluctantly rejected the option. Bonding UI debt remained a popular idea among state UI staff, and it was possible that the state would reinvestigate its legal viability in the case of another recession.

C.8 Vermont Profile

This profile describes Vermont's experience with borrowing to finance its trust fund in the aftermath of the 2007 recession. The profile is based on interviews with state officials in November 2019. Vermont is one of four states featured in the study that did not issue municipal bonds to finance trust fund deficits, instead relying mostly on the Title XII borrowing program.

Overview of State Unemployment Insurance Program

Vermont's Unemployment Insurance (UI) program is housed within the Vermont Department of Labor (VDOL), which is a standalone agency with a commissioner reporting to the governor's office. UI is one of the major divisions within VDOL, along with the Labor Market Information (LMI) division (which contributes some of the analysis used by the UI division when making policy decisions), the Workforce Development division (which oversees the implementation of Workforce Innovation Opportunity Act programs, state apprenticeships, and other adult training programs), and the Workers' Compensation division.

In addition to managing the UI program, the UI division oversees the Reemployment Services and Eligibility Assessment (RESEA) program. All UI applicants in Vermont file for benefits electronically through the state's online portal. State agency staff identified low funding levels and difficulty finding staff as key challenges to smooth operation of the UI program.

State Unemployment Insurance Trust Fund Management

The Vermont UI finance manager is responsible for the day-to-day management of the trust fund. Assisted by a small supporting staff, the finance manager monitors the daily balance of the trust fund and prepares monthly status reports that are reviewed by the UI Director and the Chief LMI Officer. Every legislative session, the monitoring team makes a UI trust fund report to the relevant house committee, Vermont's House Committee on Commerce and Economic Development.

Regarding borrowing in times of financial distress, respondents reported that those decisions are made by high-level administrators, including the VDOL commissioner, likely with input from UI division staff. Because current UI administrators and staff were not present during 2009 when borrowing decisions were being discussed, respondents were unsure whether those conversations would include people from other government agencies, like the treasury department or governor's office.

The Labor Market and Information (LMI) division, a separate division from UI that is also housed within VDOL, provides the labor market forecasts needed for UI trust fund projections, including the monthly expected number of claimants and payments. The UI finance manager uses these projections in the monthly

status reports discussed above. These forecasts, which are internal to VDOL, are key indicators for monitoring the trust fund, and they would be used to plan a financing strategy if borrowing were necessary.

Unemployment Insurance Trust Fund Title XII Borrowing and Repayment

As shown in box C.12, Vermont enacted a robust response to its UI trust fund deficit in 2008, working quickly to limit borrowing by implementing changes that affected both employers and claimants. Claimant-related changes included the implementation of a “waiting week” before receiving benefits and freezing the maximum weekly benefit at \$425. Employer-related changes included significant increases in the taxable wage base, starting in 2010, with an increase to \$10,000. In subsequent years, the tax base increased again, to \$13,000 and then to \$16,000, before adopting an indexation metric that continued to increase the tax base until it reached \$17,600 in 2018 (more than double its prerecession level).

BOX C.12

Vermont’s History of Title XII Borrowing During the 2007 Recession

2008	Vermont begins borrowing using Title XII
2010	Ended the year with outstanding loans of \$38 million; UI tax base increased
2011	Outstanding loans increased to \$78 million by the end of the year; UI tax base increased
2012	Outstanding loans fell to \$57 million by the end of the year; UI tax base increased
2013	Title XII loans fully paid off
2019	UI tax base fell automatically, triggered by a change built into its solvency legislation of 2009

Source: Bond issuance documents, interviews with Vermont’s UI program officials.

In 2019, the tax base fell to \$15,600 thanks to an automatic legislative trigger that reduced the tax base when the UI department lowered its tax rates to schedule III; another \$2,000 decrease will be triggered if and when the UI tax rate falls to schedule I. The maximum weekly benefit was also unfrozen; the state used a one-time calculation to set the benefit equal to 57 percent of the average weekly wage, and it will change through annual indexation moving forward.

Because current UI agency administrators and staff were not employed by the state government during the last period of Title XII borrowing, they did not have any first-hand experience with the borrowing and repayment process. However, they were not aware of any negative feedback or identification of challenges

associated with that process from the individuals responsible for those activities at the time. They did cite more recent, positive experiences working with DOL, mentioning that the modeling services provided by the Office of Unemployment Insurance have been instrumental in allowing the state to conduct their own UI modeling and trust fund projection activities, noting that “without that support, it would be very difficult to conduct the analysis that we do.”

Decisionmaking Process for Title XII Only Borrowing and Repayment Versus Issuing Municipal Bonds

As noted above, Vermont’s response to its trust fund deficit relied heavily on structural changes to the UI program, including reducing benefits and raising taxes, rather than trying to find alternative, long-term debt financing strategies. When asked about the possibility of borrowing again in the future, state respondents said that their preference would be to predict times of stress far enough in advance that they could adjust the UI program and avoid running deficits entirely. If borrowing was unavoidable, staff said they would consider all options, including further changes to program structure, and different borrowing options, including both Title XII and municipal bonds.

Key Takeaways

- **Vermont used a multi-pronged strategy to finance its UI deficit.** Between 2008 and 2011, Vermont borrowed about \$80 million in federal funds through the Title XII program. The trust fund deficit was addressed through a combination of non-borrowing and borrowing strategies, including legislation passed in 2009, which raised employer taxes and reduced UI benefits. The state eliminated all Title XII debt in 2013 and has gradually raised benefits and lowered taxes as the trust fund reaccumulated a positive balance.
- **Although current UI staff did not have direct experience with the Title XII borrowing and repayment process, they were not aware of any glitches or challenges that the previous staff may have faced.** They were also not personally familiar with written guidance from federal DOL on the Title XII process but presumed they would be able to find those resources, should the need arise.
- **The choice not to issue bonds likely involved multiple decisionmakers.** Due to agency staff turnover, some details of the decisionmaking process addressing the solvency of the trust fund at the time of the last recession have been lost. At a minimum, they involved input from key administrators within the UI division, members of the state legislature, and the Governor’s office.
- **The state did not explore the possibility of issuing bonds very seriously.** Respondents were not aware of any conversations that took place regarding the issuance of municipal bonds as an alternate financing strategy to Title XII borrowing.
- **If the trust fund were in a difficult financial position in the future, respondents indicated that they would explore all financing options, including the possibility of issuing municipal bonds.**
- **Respondents were interested in other policies to encourage trust fund solvency.** Current UI division staff expressed interest in programs that would incentivize states to maintain a robust trust

fund, including the possibility of allowing states to use trust fund monies for other economic adjustment activities, including administrative purposes.

Appendix D. Federal Interview Questions

US DEPARTMENT OF LABOR INTERVIEW QUESTIONS

1. Regarding federal requirements related to issuing municipal bonds to repay UI borrowing:
 - a. Are there any written directives, Unemployment Insurance Program Letters, or other guidance to the states?
 - b. Have state issuances of municipal bonds caused administrative problems for Office of Unemployment Insurance or for other parts of DOL? How have the problems been resolved?
 - c. Are there any federal reporting requirements related to issuing and repaying municipal bonds? If yes, please describe.
 - d. At the federal level, who is responsible for overseeing this process?
2. Who at Treasury should we contact to ask questions about the process and to secure data on daily trust fund account sweeping activities? Pilot state? Bond state?
3. Are there other federal agencies (besides Treasury) we should contact to ask questions about state issuance of municipal bonds? Office of Management and Budget? US Securities and Exchange Commission?
4. Regarding the state's decision to issue or not issue municipal bonds:
 - a. Whose idea was it?
 - b. Who supported and who opposed issuing municipal bonds? Who were the key players in the decision-making process?
 - c. How important were interest rate and other cost arguments pro and con?
 - d. Were there state constitutional considerations?
 - e. Other considerations in the pro or con decision
 - f. Did the state have access to other sources of funds to finance its UI trust fund deficit? State rainy day fund? Funds at other state agencies?

TREASURY AND SECURITY AND EXCHANGE COMMISSION INTERVIEW QUESTIONS

Start with open ended question about the interviewee's thoughts on why some states choose to pursue the municipal bond option but others don't – and, of those that consider it, why some move forward while others don't.

1. Do you have a sense of why some states choose to pursue the municipal bond option but others do not?
 - o Of those that consider it, why some move forward while others don't?

2. Who at Treasury/SEC is charged with staying abreast of state borrowing to replenish UI trust funds?
3. How do they monitor this activity?
4. Are there restrictions on the types of financial instruments state UI programs can issue for this purpose?
5. Does Treasury have any requirements related to special UI taxes state levy to repay municipal bonds?
6. Have states issuing municipal bonds been provided with written guidance related to requirements associated with issuing municipal bonds?
7. What other issues are federal overseers focused on (e.g., arbitrage)?
8. Are there other federal agencies (outside of DOL) that perform a regulatory or oversight role?
9. Are there any other federal stakeholders whom we should consider interviewing?
10. Do you or does anyone at Treasury/SEC keep abreast of state constitutional provisions limiting the use of debt for UI trust funds? (This may be more of a question for the states.)
11. Do you have thoughts on types of staff/positions that we should interview in each state beyond usual suspects like UI trust fund administrators, treasurers, other bonding agencies?

Appendix E. Interview Guide for State Officials

ANALYSIS OF ALTERNATIVE STRATEGIES FOR FINANCING UNEMPLOYMENT INSURANCE BENEFITS WHEN TRUST FUND BALANCES ARE INSUFFICIENT

INTERVIEW DISCUSSION GUIDE State Respondents

INTRODUCTION

I am/we are researchers with The Urban Institute/Capital Research Corporation, private research organizations based in Washington, DC/Arlington VA which conduct policy-related research on a variety of social welfare and economic issues.

This project is being conducted by the Urban Institute and its partner, Capital Research Corporation, under contract to the U.S. Department of Labor. Our visit here today is part of a study of alternative strategies states utilize for financing Unemployment Insurance (UI) benefits when trust fund balances are not sufficient. A major aim of the study is to learn more about the decision-making process (including the factors that influence these decisions) that states undergo to determine the merits of and tradeoffs between borrowing through federal Title XII loans and issuing municipal bonds to replenish UI trust funds. In addition, we are interested in gaining a better understanding of the specific activities and steps, as well as the benefits and challenges, associated with various borrowing methods. As part of this study, we are conducting site visits to eight states, including some that borrowed funds through Title XII only and some that also issued bonds to finance UI benefits. In each state, we will be speaking with state UI Directors and staff; state Finance/Tax/Revenue/Treasury Department Directors and staff; and key respondents from Governors' offices, in state legislatures and other relevant state agencies. We will also be meeting with bond market representatives, including bond underwriters, municipal financial advisers, credit analysts, bond attorneys and institutional investors, as well as other national experts on these processes.

We are here to learn from you about the decisions your state made and the strategies you have implemented to finance UI benefits when trust fund balances are insufficient. Our aim is to learn from your experiences, not to audit, judge or monitor your activities.

Privacy Statement: I/we want to thank you for agreeing to participate in the study. I/we know that you are busy and we will be as focused as possible and will only ask questions that are relevant to your experience. We have many questions and will be talking to many different people, so please do not feel as though we expect you to be able to answer every question. Your participation in this discussion is voluntary and you may choose not to answer some or any of our questions.

My colleague and I will be taking notes in order to document what we hear during our discussion, and we may record this discussion. We do not share these notes with anyone outside of our research team, including Department of Labor, and we will destroy these notes after the end of our project. When we compile our reports, the states we visit as part of this study will be identified; however, the names of individual respondents will not be included. If we choose to quote you, you will only be identified by your title. You will not be quoted directly by name in any of our reports. While it is possible that you might be identified by your title or state, we will do our best to minimize the chance of that occurring.

OMB Burden Statement: According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays an Office of Management and Budget (OMB) control number. The valid OMB control number for this information collection is 1290-0022. The time required to complete this collection of information is estimated to average 90 minutes, including the time to review instructions, search existing data resources, gather the data needed and complete and review the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden Chiefevaluationoffice@DOL.gov and reference the OMB Control Number 1290-0022.

Do you have any questions before we begin?

[If we decide to record the interview] Are you okay with us recording the interview to improve the accuracy of our notes?

A. GENERAL BACKGROUND ON RESPONDENT AND RESPONDENT'S RESPONSIBILITIES

1. I'd like to begin by collecting some general information about you and your job responsibilities. *[Obtain the following information for each respondent, in advance if possible; confirm as necessary. Request a business card.]*
 - a. Name
 - b. Organization/Agency/Office
 - c. Contact information (address, telephone, e-mail)
 - d. Title/Position
 - e. How long have you been in this position? How long have you been with the agency?
2. What are your overall responsibilities in your current position? To whom do you report?
3. What are your responsibilities specifically related to UI Trust Fund borrowing/financing (e.g., responsible for monitoring balances, requesting advances from DOL)?

B. GENERAL BACKGROUND ON RESPONDENT'S ORGANIZATION

[Verify the name of the organization/agency/office.]

1. Please provide a general overview of the key functions/responsibilities of this organization/agency/office.
2. What are the functions of this organization/agency/office as they specifically relate to UI trust fund borrowing/financing?
3. Please describe the staffing structure and the responsibilities of staff involved with UI trust fund borrowing/financing. *[If not obtained during the pre-visit call, identify key individuals (and obtain their contact information) who may have played a critical role in these processes but may no longer be with the organization.]*
 - a. Number of staff
 - b. Responsibilities of each staff member
 - c. Reporting structure *[Obtain org chart, if available.]*

C. GENERAL OVERVIEW OF STATE UI PROGRAM FINANCING

(Use these questions as needed to verify our understanding of what agencies are involved in the state's UI program funding and trust fund borrowing and financing.)

1. Please provide a general overview of the UI program in your state, highlighting any unique or innovative features/aspects of the structure.
2. What state agencies are involved in administering the UI program in your state (e.g., UI, Finance/Tax/Revenue/Treasury)?

3. What is the role of any Federal agencies (e.g., DOL, Treasury)?
4. What are the key sources of funding for the UI program (e.g., federal/state payroll taxes, UI trust fund)? Are there other sources of funding?
5. Are there any unique or innovative administrative processes/funding strategies for the UI program in your state?
6. What, if any, are the key issues/challenges related to the UI process (e.g., trust fund deficit after recessions)?

D. OVERVIEW OF TITLE XII BORROWING/FINANCING PROCEDURES

[Verify history and current status of Title XII borrowing/requesting advances:

- *Borrowed in past from Title XII but not currently borrowing from Title XII*
- *Currently borrowing from Title XI]*

1. Please provide a “big-picture” description of the Title XII borrowing process in your state.
2. Which state agencies, and which individuals within those agencies, are primarily responsible for borrowing decisions?
3. What types of information/data/analyses are used to inform the decision-making process regarding borrowing? Please describe. Is the information you need to make your decisions readily available? What are the sources of this information?
4. What are the roles of the various state agencies (e.g., UI, Finance/Tax/Revenue/Treasury) and their staff in these processes?
 - a. In monitoring balances
 - b. In making withdrawals/deposits
 - c. In making the required 3-month advance requests and repayment plans with DOL
 - d. In other key tasks [identify]
5. What types of interactions do you and others involved with this process have with federal agencies (such as DOL and Treasury) and their staff regarding this process? Are there other federal agencies involved? Please describe these interactions in terms of content and frequency.
6. What types of interactions/communications do you have with the DOL regional office on this process? Please describe these interactions in terms of content and frequency.
7. What types of federal and/or state reporting requirements are in place to monitor this process? Please describe. More specifically, who monitors/regulates these activities at the federal level? At the state level?
8. What types of guidance/written guidelines/directives are available to guide you on this process? Are there any TEGs and UIPLs (e.g., UIPL 22-2 April 2002) that you’re aware of? Are there other sources that you rely on for this guidance? Is the available guidance adequate/helpful? *[Probe: NASWA? Webinars conducted by Federal agencies? Word of mouth (e.g., UI Directors’ meetings, informal networking?]*
9. *[If not covered above]* Can you provide me with a history/timetable of your state’s borrowing from Title XII? When did your state first borrow? How often have you borrowed? *[If respondents cannot provide information, ask for contacts who may be able to do so.]*
10. Have there been any issues or challenges related to borrowing process? If yes, please describe. How were these issues resolved?

E. OVERVIEW OF TITLE XII LOAN REPAYMENT PROCESS THROUGH US TREASURY

[Verify history of Title XII repayment practices:

- *Repaid borrowing through direct repayment to US Treasury only*
- *Also issued bonds to repay borrowing and/or replenish UI Trust Fund (discussed below)]*

1. Please provide a “big-picture” description of the process for direct repayment to the US Treasury of borrowing through Title XII loans.

2. What state agencies, and which individuals within those agencies, are involved in the repayment process?
3. What types of information/data/analyses are used to inform the decision-making process on the repayment options available (e.g., sweeping, voluntary repayment plan)? Please describe. Is the information you need to make your decisions readily available? What are the sources of this information?
4. What are the roles of the various state agencies (e.g., UI, Finance/Tax/Revenue/Treasury) and their staff in this process?
5. What types of interactions do you and others involved with this process have with federal agencies (such as DOL and Treasury) and their staff regarding this process? Are there other federal agencies involved? Please describe these interactions in terms of content and frequency.
6. What types of federal and/or state reporting requirements are in place to monitor this process? Please describe. More specifically, who monitors/regulates these activities at the federal level? At the state level?
7. What types of guidance/written guidelines/directives are available to guide you on this process? Are there any TEGs and UIPLs (e.g., UIPL 22-2 April 2002) that you're aware of? Are there other sources that you rely on for this guidance? Is the available guidance adequate/helpful? *[Probe: National Association of State Workforce Agencies? Webinars conducted by Federal agencies? Word of mouth (e.g., UI Directors' meetings, informal networking?)]*
8. Are you aware of the sweeping option related to trust fund account balances? If yes, can you provide a description of the process? Does your state use this option? In your opinion, what are the pros and cons of this practice?
9. How do you/your agency track the costs associated with borrowing and direct repayment through US Treasury? What are the main types of costs (i.e., by category)?
10. *(If not covered above)* What is the current status of your repayments of Title XII loans? Is there still an outstanding balance? If yes, what is the amount?
11. From your perspective, what are the benefits of using the direct repayment process for Title XII loans? What are the benefits of the FUTA credit reductions? What, if any, are the costs of these? Are there issues and challenges associated with this repayment process? Please describe. Have these issues been resolved?

F. DECISIONMAKING REGARDING ISSUANCE OF BONDS VERSUS BORROWING/REPAYMENT THROUGH US TREASURY

1. Who/what agency was the initial source of the idea to issue bonds for this purpose (e.g., state UI administrators/staff, state Finance/Tax/Revenue/Treasury administrators/staff, Governor's office, state legislator, legislative staff, other states' experiences, bond underwriters, financial advisers)?
2. When did these discussions first take place (e.g., post 2007 recession)?
3. Can you provide a description of the decision-making process?
 - a. Number and timing of meetings convened
 - b. Duration of discussions
 - c. Content of meetings (e.g., presentations by staff; presentations by bond market analysts/advisers)
4. Who were the key stakeholders involved in the decision-making process? From your perspective, what was their respective knowledge of and stance on borrowing options (i.e., pros/cons of Title XII borrowing; pros/cons of issuing bonds)?
5. What were the key issues discussed during these meetings? Were any of the following discussed?
 - a. Savings through different interest rates (federal vs. bonds (including NIC vs. TIC)) and calculation of payments (average daily balance vs. total borrowed)
 - b. Other cost considerations (e.g., administrative, insurance, underwriter and other costs associated with issuance of bonds)
 - c. State constitutional provisions (e.g., limiting issuance of debt)
 - d. Other state constraints/limitations regarding issuance of bonds
 - e. Legislation required

- f. State economic situation/state budget and finances
 - g. Past borrowing experiences
 - h. Other options for UI trust fund replenishment potentially available (e.g., tax increases and/or benefit reduction; other state resources such as rainy day fund or other state agency funds)
 - i. Use of direct lending option (e.g., bridge loan to repay Title XII loan prior to issuing bonds)
 - j. Other?
6. What types of guidance/written guidelines/directives were available to guide you on the bond issuance process? Are there any TEGs and UIPLs that you relied on for this guidance? Is the available guidance adequate/helpful?
[Probe: National Association of State Workforce Agencies: Webinars conducted by Federal agencies? Word of mouth (e.g., UI Directors' meetings, informal networking)]
 7. What kinds of data analyses were conducted to justify the decision made?
 - a. Types of analyses (e.g., internal memos/reports)
 - b. Sources of analyses (e.g., your agency, a bond seller, others?)
 8. From your perspective, what were the key factors in the final decision?
 9. What are the tradeoffs or the disadvantages and advantages of issuing bonds for financing as opposed to Title XII financing?
 10. Are there circumstances under which it makes sense to implement one approach versus the other (e.g., change in interest rates)? Please describe.
 11. What are the outstanding issues and challenges related to issuing bonds for UI trust fund financing?

[Ask the following questions of interviewees in those states that considered issuing bonds but ultimately decided not to issue bonds]

12. From your perspective, what were the key factors in the final decision not to issue bonds?
13. Were tax increases implemented to restore the UI trust fund? If yes, please describe.
14. Were UI benefits reductions implemented to restore the UI trust fund? If yes, please describe.
15. What role, if any, did FUTA tax credit offsets play in the repayment process?
16. From your perspective, is there a possibility of re-visiting the decision not to issue bonds if a new need arises or circumstances change in the future? (e.g., dramatic increase in interest rates)
17. What is your overall level of satisfaction/dissatisfaction with your decision not to issue bonds?

G. PROCESS FOR ISSUING BONDS TO FINANCE UI TRUST FUNDS [For those states that issued bonds]

1. Please provide a “big-picture” description of the bond issuance process implemented in your state. (Collect any available information prior to the interview and confirm as needed.)
2. Can you give me a history of bond issuance in terms of dates and frequency? How many bonds were issued? When were the bonds issued?
3. What were the amounts of the bonds issued?
4. What types of bonds were issued?
 - o Municipal bonds
 - o Private market loans (e.g., bridge loan to repay Title XII borrowing before issuing bonds)
 - o Short-term notes
5. Were the bonds taxable or tax-exempt?
6. Why were these particular types of bonds chosen?
7. What was the structure of the issuance?
 - a. Maturity
 - b. Length
 - c. Convertibility
 - d. Callability
 - e. Taxability
8. Who were the key decision makers in the determination of the structure of the issuance [Probe: state agency staff or bond underwriters]?
9. What was the rationale behind the choices made regarding the structure of the issuance?

10. Who was the bond underwriter?
 - a. How was the bond underwriter chosen? (e.g., negotiated vs. competitive)? Who made that decision?
 - b. What was the role/responsibilities of the bond underwriter?
 - c. What was your overall level of satisfaction with the bond underwriter?
11. Was there ever any consideration given to issuing short-term notes versus bonds? If yes, please explain. Specifically, what degree of consideration was given to this option?
12. Please provide a description of the structure and format of the new administrative unit set up to administer bond issuance and repayment. Is this a unit/entity within the UI agency or another existing state agency (e.g., housing finance agency)? What are the responsibilities/tasks of this new unit/entity? Please describe.
13. Please describe the process for determining how bond funds were to be distributed (e.g., repayment of Title XII debt, replenishing trust fund account, administrative costs, etc.)? Who made that decision? What were the factors considered in that decision?
14. How does that distribution process work in practice?
15. How did you determine the specific amount to borrow? Did you borrow additional funds beyond the existing debt amount? Why? Who made that decision?
16. What are the bond issuance tasks? What are the sources of funding for all of the bond issuance tasks? What are the costs of all of the issuance tasks? *[Verify information in bond issuance documents.]*
17. What are the sources for repayment of the bonds? Are they being repaid by add-ons to regular state UI employer taxes? If yes, are they experience rated? If another source is being used, please describe. What are the administrative costs associated with bond repayment? *[See table]*
18. How are bond taxes calculated? Please describe.
19. What is the process for collecting bond taxes? Were they linked to regular UI taxes? What are the administrative costs associated with collecting bond taxes? *{See table}*
20. What is the process for determining the average tax rate for bond taxes?
21. What is the process for making interest payments to bond holders? What are the administrative costs of that process? *[See table.]*
22. What is the process for retiring bonds? What are the costs of that process?
23. What are the bond tax administrative tasks? What are the sources of funding these bond tax administrative tasks? What are the costs of those tasks?
24. Did your state decide to repay bonds early? If yes, please describe the decision-making process behind that decision. What was the rationale for that choice?
25. What kinds of processes are in place for tracking all of the costs associated with issuance/repayment of bonds? Who is responsible for monitoring those costs?
26. Please describe the steps for repayment of Title XII debt with bond funds through DOL and Treasury. Are there any time limitations on the repayment process? If yes, please describe. Are there any penalties for violation of these limitations? If yes, please describe.
27. What types of interactions do you and others involved with this process have with federal agencies (such as DOL and Treasury) and their staff regarding this process? Are there other federal agencies involved? Please describe these interactions in terms of content and frequency.
28. What types of interactions/communications do you have with the DOL regional office on this process? Please describe these interactions in terms of content and frequency.
29. What types of federal and/or state reporting requirements are in place to monitor this process? Please describe. More specifically, who monitors/regulates these activities at the federal level? At the state level?
30. What types of guidance/written guidelines/directives are available to guide you on this process? Are there any TEGs or UIPLs that you're aware of? Are there other sources that you rely on for this guidance? Is the available guidance adequate/helpful?
(Probe: National Association of State Workforce Agencies? Webinars conducted by Federal agencies? Word of mouth (e.g., UI Directors' meetings, informal networking?)
31. Please describe any outstanding issues or concerns regarding the bond issuance process (e.g., arbitrage regulations).

H. LESSONS LEARNED AND ASSESSMENT OF BORROWING/REPAYMENT THROUGH US TREASURY AND BOND ISSUANCE PROCESSES

1. What is your overall assessment of the Tittle XII borrowing and repayment process?
 - a. In general, what is your overall level of satisfaction with the process? What aspects work particularly well?
 - b. Are there any outstanding issues or challenges related to the process? Please describe.
 - c. Are there aspects that need improvement?
2. What is your overall assessment of the bond issuance process?
 - a. In general, what is your overall level of satisfaction with the bond issuance process? What aspects work particularly well?
 - b. Are there any outstanding issues or challenges related to the process? Please describe.
3. From your perspective, how would you rate the overall cost-effectiveness of bond issuance compared to borrowing/repayment directly to US Treasury?
4. What guidance would you give to other states considering issuing bonds as an alternative UI financing strategy?
5. Are there any lessons learned that you would share regarding these processes?
6. Are there other issues related to UI Trust Funding that we have not covered? If yes, please describe.

Thank you for participating in this very important study.

Request of states:

1. *Quantitative data on bond taxes and various administrative costs*
2. *Internal estimates of savings from issuing municipal bonds versus Title XII repayment.*

Appendix F. Interview Guide for Bond Market Representatives

ANALYSIS OF ALTERNATIVE STRATEGIES FOR FINANCING UNEMPLOYMENT INSURANCE BENEFITS WHEN TRUST FUND BALANCES ARE INSUFFICIENT

INTERVIEW DISCUSSION GUIDE Bond Market Representative Respondents

INTRODUCTION

I am/we are researchers with The Urban Institute/Capital Research Corporation, private research organizations based in Washington, DC/Arlington VA which conduct policy-related research on a variety of social welfare and economic issues.

This project is being conducted by the Urban Institute and its partner, Capital Research Corporation, under contract to the U.S. Department of Labor. Our visit here today is part of a study of alternative strategies states utilize for financing Unemployment Insurance (UI) benefits when trust fund balances are not sufficient. A major aim of the study is to learn more about the decision-making process (including the factors that influence these decisions) that states undergo to determine the merits of and tradeoffs between borrowing through federal Title XII loans and issuing municipal bonds to replenish UI trust funds. In addition, we are interested in gaining a better understanding of the specific activities and steps, as well as the benefits and challenges, associated with various borrowing methods. As part of this study, we are conducting site visits to eight states, including some that borrowed funds through Title XII only and some that also issued bonds to finance UI benefits. In each state, we will be speaking with state UI Directors and staff; state Finance/Tax/Revenue/Treasury Department Directors and staff; and key respondents from Governors' offices, in state legislatures and other relevant state agencies. We will also be meeting with bond market representatives, including bond underwriters, municipal financial advisers, credit analysts, bond attorneys and institutional investors, as well as other national experts on these processes.

We are here to learn from you about your collaborations with states that have issued bonds to finance UI benefits when trust fund balances were insufficient, as well as your role in the bond issuance process. Our aim is to learn from your experiences, not to audit, judge or monitor your activities.

Privacy Statement: I/we want to thank you for agreeing to participate in the study. I/we know that you are busy and we will try to be as focused as possible and will only ask questions that are relevant to your experience. We have many questions and will be talking to many different people, so please do not feel as though we expect you to be able to answer every question. Your participation in this discussion is voluntary and you may choose not to answer some or any of our questions.

My colleague and I will be taking notes in order to document what we hear during our discussion, and we may record this discussion. We do not share these notes with anyone outside of our research team, including Department of Labor, and we will destroy these notes after the end of our project. When we compile our reports, the states we visit as part of this study will be identified; however, the names of individual respondents will not be included. If we choose to quote you, you will only be identified by

your title. You will not be quoted directly by name in any of our reports. While it is possible that you might be identified by your title or the state you worked with, we will do our best to minimize the chance of that occurring.

OMB Burden Statement: According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays an Office of Management and Budget (OMB) control number. The valid OMB control number for this information collection is 1290-0022. The time required to complete this collection of information is estimated to average 60 minutes, including the time to review instructions, search existing data resources, gather the data needed and complete and review the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden Chiefevaluationoffice@DOL.gov and reference the OMB Control Number 1290-0022.

Do you have any questions before we begin?

[If we decide to record the interview] Are you okay with us recording the interview to improve the accuracy of our notes?

A. GENERAL BACKGROUND ON RESPONDENT'S RESPONSIBILITIES

1. I'd like to begin by collecting some general information about you and your job responsibilities. *[Obtain the following information for each respondent, in advance if possible; confirm as necessary. Request a business card.]*
 - a. Name
 - b. Company/Organization
 - c. Contact information (address, telephone, e-mail)
 - d. Title/Position
 - e. How long have you been in this position? How long have you been with the company?
2. What are your overall responsibilities in your current position? To whom do you report?
3. What are your responsibilities specifically related to state municipal bond issuance for UI trust fund borrowing/financing?

B. GENERAL BACKGROUND ON RESPONDENT'S COMPANY

[Verify the name of the organization/agency/office.]

1. Please provide a general overview of your organization's experience and the services provided related to state municipal bond issuance in general.
2. Please provide an overview of the specific services provided related to state municipal bond issuance/offerings for UI trust fund borrowing/financing.
3. Please describe the staffing structure and the responsibilities of staff involved in municipal bond issuance/offerings for UI trust fund borrowing/financing. *[If not obtained during the pre-visit call, identify other key individuals (including contact information) involved in these tasks.]*
 - a. Number of staff
 - b. Responsibilities of each staff member
 - c. Reporting structure for key staff involved in municipal bond issuance/offerings for UI Trust Fund borrowing/financing

C. HISTORY/BACKGROUND ON ORGANIZATION'S EXPERIENCE IN ISSUANCE OF MUNICIPAL BONDS FOR STATE UI TRUST FUND FINANCING

1. Which state (s) has your company assisted with issuance of municipal bonds for state UI trust fund borrowing/financing? Did you have any prior experience working with these states on issuance of other types of municipal bonds? If yes, please describe.

[Complete the following in advance from information available in the issuance documents and confirm as needed.]

2. Number of issuances for each state
3. Dates of issuances
4. Amounts of issuances
5. Types of bonds issued
 - a. Municipal bonds
 - b. Private market loans (e.g., bridge loans to repay Title XII borrowing before issuing bonds)
 - c. Short term notes
 - d. Taxable vs. tax-exempt
6. Structure of issuance
 - a. Maturity
 - b. Length
 - c. Convertibility
 - d. Callability
 - e. Taxability

D. DESCRIPTION OF DECISION MAKING PROCESS ON BOND ISSUANCE FOR STATE UI TRUST FUND BORROWING/FINANCING.

1. Please provide a general overview of the bond issuance process for state UI trust fund borrowing.
2. Thinking back, how was the initial contact made with representatives from the state(s) to discuss the possibility of issuing bonds? Did representatives from your company reach out to them or did state representatives reach out to you? Please describe that process.
3. Who were the representatives from your company involved in that initial contact? What were their positions in the company?
4. Who were the representatives from the state involved in that initial contact? What agencies were they with (e.g., State UI office, Governor's office)? What were their positions?
5. When did these discussions first take place?
6. Please provide a description of the process decision making process.
 - a. Number and timing of meetings convened
 - b. Duration of discussions
 - c. Content of meetings (e.g., presentations (including data analysis) by your company; presentations by other partners; presentations by state staff)
7. Who were the key state decision makers in the borrowing decisions? From your perspective, what was their respective knowledge of and stance toward positions on municipal bond issuance (e.g., pros/cons of issuing bonds)?
8. What were the key issues discussed/concerns raised by state representatives during these meetings? By members of your team? Were any of the following discussed?
 - a. Savings through different interest rates (federal vs. bonds (including NIC vs. TIC approaches to calculating costs over time)) and calculation of payments (average daily balance vs. total borrowed)
 - b. Other cost considerations (e.g., administrative, insurance, underwriter and other costs associated with issuance of bonds)

- c. State constitutional provisions (e.g., limiting issuance of debt)
 - d. Other state constraints/limitations regarding issuance of bonds
 - e. Legislation required
 - f. State economic situation/state budget and finances
 - g. Past borrowing experiences
 - h. Other options for UI trust fund replenishment potentially available (e.g., tax increases and/or benefit reduction; other state resources such as rainy day fund or other state agency funds)
 - i. Use of direct lending option (e.g., bridge loan to repay Title XII loan prior to issuing bonds)
 - j. Other?
9. What types of existing federal guidance/written guidelines/regulations on the bond issuance process were available to guide you on this process? Please describe. Is the available guidance adequate/helpful? What impact did this guidance have on the decision-making process?
 10. What kinds of data analyses were conducted to justify the decision made?
 - k. Types of analyses (e.g., internal memos/reports)
 - l. Sources of analyses (e.g., state agency, your company, others?)
 11. From your perspective, what were the key factors in the final decision to issue bonds?
 12. What was your role in the decision to issues bonds for this purpose?
 13. What are the tradeoffs or the disadvantages and advantages for states of issuing bonds for financing as opposed to Title XII financing?
 14. Are there circumstances under which it makes sense to implement one approach versus the other (e.g., change in interest rates)? Please describe.
 15. What are the key factors in your company's/organization's decision to underwrite state municipal bonds for UI trust fund borrowing versus other potential investments (i.e., what financial calculations guided that decision)?

E. DESCRIPTION OF PROCESS FOR MUNICIPAL BOND ISSUANCE FOR STATE UI TRUST FUND BORROWING

1. How was the bond underwriter chosen for this process (i.e., negotiated versus competitive)? Who made that decision?
2. What was the roles/responsibilities of the bond underwriter?
3. What are the roles/responsibilities of the bond attorneys?
4. Who were the key decision makers responsible for the determination of the structure of bond issuance? [*Probe: state agency staff; bond underwriters*]
5. Please provide an overview of the process for determining/developing the specific bond formats/mechanisms, including:
 - a. Maturity
 - b. Length
 - c. Convertibility
 - d. Callability
 - e. Taxability
 - f. Amount
 - g. Repayment procedures
6. What are the pros and cons of these different formats/mechanisms?
7. What is the rationale/key factors for the choices that were made regarding the structure of the issuance?
8. What was the process for determining the amount that the state should initially borrow? For example, under what circumstances would the state borrow additional funds beyond the existing debt amount? Who makes that decision?

9. What is the process for determining the distribution or uses of the bond funds? (e.g., repayment of Title XII debt, replenishing trust fund account, administrative costs, etc.) Who makes that decision? What are the factors considered in that decision?
10. How does that distribution process work in practice?
11. What are the sources for repayment of the bonds? Are they being repaid by add-ons to regular state UI employer taxes? If yes, are they experience rated? If another source is being used, please describe. What are the administrative costs associated with bond repayment?
12. How are bond taxes calculated? Please describe.
13. What is the process for collecting bond taxes? Were they linked to regular UI taxes?
14. What is the process for determining the average tax rate for bond taxes? What were the administrative costs associated with collecting bond taxes? What are the sources of funding for these tasks?
15. What are the bond issuance tasks? What are the sources of funding for all of the bond issuance tasks? What are the costs of the issuance tasks? *[Verify information in bond issuance documents.]*
16. What kinds of processes are in place for tracking all of the costs associated with issuance/repayment of bonds? Who is responsible for monitoring those costs?
17. What is the process for making interest payments to the bond holders? What are the administrative costs of that process?
18. What is the process for retiring bonds? What are the costs of that process?
19. Did the state decide to repay bonds early? If yes, please describe the decision-making process behind that decision. What was the rationale for that choice?
20. Please describe the steps for repayment of Title XII debt with bond funds through DOL and Treasury. Are there any time limitations on the repayment process? If yes, please describe. Are there any penalties for violation of these limitations? If yes, please describe.
21. What types of interactions do you and others involved with this process have with federal agencies (such as DOL and Treasury) and their staff regarding this process? Are there other federal agencies involved? Please describe these interactions in terms of content and frequency.
22. What types of federal and/or state reporting requirements are in place to monitor this process? Please describe. More specifically, who monitors/regulates these activities at the federal level? At the state level?
23. What types of guidance/written guidelines/directives are available to guide you on this process? Is the available guidance adequate/helpful?
24. Was there ever any consideration given to issuing short-term notes versus bonds? If yes, please explain. Specifically, what degree of consideration was given to this process?
25. Please describe any outstanding issues or concerns regarding the bond issuance process (e.g., arbitrage regulations).
26. From your perspective, what is the overall role of bond market companies in the decision-making regarding municipal bond issuance for state UI trust fund borrowing and repayment?

F. LESSONS LEARNED AND ASSESSMENT OF PROCESSES IN PLACE FOR ISSUING MUNICIPAL BONDS FOR STATE UI TRUST FUND BORROWING/FINANCING

1. What is your overall assessment of the bond issuance process for state UI trust fund borrowing/financing?
2. In general, what is your overall level of satisfaction with this process? What aspects work particularly well?
3. Are there any outstanding issues or challenges related to the process? Please describe.
4. From your perspective, how would you rate the overall cost-effectiveness of bond issuance compared to borrowing/repayment directly to US Treasury?

5. What are the overall benefits/costs to organizations like yours of working with states to issue municipal bonds for state UI trust fund borrowing, particularly when compared to other potential investments?
6. What guidance would you give to states considering issuing bonds as an alternative UI financing strategy?
7. Are there any lessons learned that you could share regarding these processes?
8. Are there other issues related to bond issuance for UI Trust Funding that we have not covered? If yes, please describe.

Thank you for participating in this very important study.

References

- Burtless, Gary. 2009. "Unemployment Insurance for the Great Recession." Testimony. Washington, DC: Brookings Institution.
- Carrington, William (with Kristi Hawley Anthony. 2012. Unemployment Insurance in the Wake of the Recent Recession. Washington, DC: Congressional Budget Office, November.
https://www.cbo.gov/sites/default/files/112th-congress-2011-2012/reports/UnemploymentIns_One-col.pdf.
- CEA (Council of Economic Advisers). 2018. "Economic Report of the President." Washington, DC.
- CEA (Council of Economic Advisers). 2019. "Economic Report of the President." Washington, DC.
- Cornaggia, Kimberly, John Hund, and Giang Nguyen. (2019). The Price of Safety: The Evolution of Municipal Bond Insurance Value. Hutchins Center Working Paper #52. Washington, DC: Brookings Institution, August.
https://www.brookings.edu/wp-content/uploads/2019/08/WP52_Cornaggia-et-al..pdf.
- Del Negro, Marco, Domenico Giannone, Marc P. Giannoni, and Andrea Tambalotti. "Safety, Liquidity, and the Natural Rate of Interest." *Brookings Papers on Economic Activity*, Spring: 235-316. ([link](#))
- Gagnon, Etienne, Benjamin K. Johansson, and David López-Salido. 2016. "Understanding the New Normal: The Role of Demographics." Finance and Economics Discussion Series no. 2016-080. Washington: Board of Governors of the Federal Reserve System. ([link](#))
- Government Finance Officers Association. 2008. "Best Practices – Selecting and Managing Underwriters for Negotiated Bond Sales." Accessed July 28, 2020. <https://www.gfoa.org/materials/selecting-and-managing-underwriters-for-negotiated>.
- Hamilton, James D., Ethan S. Harris, Jan Hatzius, and Kenneth D. West. 2016. "The Equilibrium Real Funds Rate: Past, Present, and Future." *IMF Economic Review* 64, no.4: 660-707. ([link](#))
- Hitchcock, David G., and Robin L. Prunty. 2012. "Unemployment Insurance Fund Bonds Help States Pay Off Federal Unemployment Loans." New York, NY: Standard & Poor's.
- Landoni, Mattia. 2013. "Do Taxes or Information Drive Demand for Bond Insurance?" Dallas, TX: Southern Methodist University, December 31. <https://www8.gsb.columbia.edu/cbs-directory/sites/cbs-directory/files/publications/Landoni%20-%20Why%20are%20municipal%20bonds%20issued%20at%20a%20premium.pdf>.
- McHugh, Rick. 2004. "Bond Financing for Insolvent State Unemployment Insurance Trust Funds." NELP Briefing Paper. New York, NY: National Employment Law Project. <https://www.nelp.org/wp-content/uploads/2015/03/bond-final1.pdf>.
- Oliff, Phil, Chris Mai, and Vincent Palacios. 2012. *States Continue to Feel Recession's Impact*. Washington, DC: Center on Budget and Policy Priorities.
- Rueben, Kim, and Megan Randall. 2017. "Debt Limits." Washington, DC: Urban Institute.
<https://www.urban.org/research/publication/debt-limits>.
- SIFMA. 2019. "Capital Markets Fact Book." <https://www.sifma.org/wp-content/uploads/2019/09/2019-Capital-Markets-Fact-Book-SIFMA.pdf>.
- Taylor, Peter, and Robert Hillman. 2009. Introduction to Bond Concepts. Presentation to California Debt and Investment Advisory Commission (CDIAC). New York: Barclays Capital, October 1.
<https://www.treasurer.ca.gov/cdiac/seminars/2009/20091001/1.pdf>
- Tsilas, Vicky, and Kimberly Ciccone Betterton. 2018. *The ABCs of Arbitrage 2018: Tax Rules for Investment of Bond Proceeds by Municipalities*. Chicago, IL: ABA Book Publishing. 106-200.

- US Department of Labor. 2002. Procedures for Requesting and Repaying Title XII Advances from the Federal Unemployment Account (FUA). Unemployment Insurance Program Letter NO. 22-02. Washington, DC: US Department of Labor, Employment and Training Administration, April 24. https://oui.doleta.gov/dmstree/uipl/uipl2k2/uipl_2202.htm.
- US Department of Labor. 2019. Unemployment Compensation: Federal-State Partnership. Washington, DC: US Department of Labor, Office of Unemployment Insurance, Division of Legislation, May. <https://oui.doleta.gov/unemploy/pdf/partnership.pdf>.
- US Department of Labor. 2020. State Unemployment Insurance Trust Fund Solvency Report 2020. Washington, DC: US Department of Labor, Office of Unemployment Insurance, Division of Fiscal and Actuarial Services, February. <https://oui.doleta.gov/unemploy/docs/trustFundSolvReport2020.pdf>.
- US Securities and Exchange Commission. 2012. Report on the Municipal Securities Market. Washington, DC: US Securities and Exchange Commission, July 31, p. 15. <https://www.sec.gov/files/munireport073112.pdf>.
- Vroman, Wayne. 2005. "The Recession of 2001 and Unemployment Insurance Financing." *FRBNY Economic Policy Review* August: 61-79.
- Vroman, Wayne. 2015. "Chapter 11. Trust Fund Loans and Loan Repayment Strategies."
- Vroman, Wayne. 2016. "The Big States and Unemployment Insurance Financing." Washington, DC: The Urban Institute. <https://www.urban.org/research/publication/big-states-and-unemployment-insurance-financing>.
- Vroman, Wayne. 2017. "Unemployment Insurance Performance after the Great Recession." Washington, DC: The Urban Institute.
- Vroman, Wayne. 2020. "UI Trust Fund Borrowing: A Short History," Working Paper. Washington, DC: The Urban Institute, April.
- Vroman, Wayne, Elaine Maag, Christopher O'Leary, and Stephen A. Woodbury. 2017. A Comparative Analysis of Unemployment Insurance Financing Methods. Prepared for the US Department of Labor, Chief Evaluation Office. Washington, DC: The Urban Institute, December. <https://www.dol.gov/sites/dolgov/files/OASP/legacy/files/A-Comparative-Analysis-of-Unemployment-Insurance-Financing-Methods-Final-Report.pdf>.
- Vroman, Wayne, and Stephen A. Woodbury. 2014. "Financing Unemployment Insurance." *National Tax Journal* 67 (1): 253-268.