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Christopher J. O'Leary
W.E. Upjohn Institute, oleary@upjohn.org

Kenneth J. Kline
W.E. Upjohn Institute

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Christopher J. O'Leary and Kenneth J. Kline
W.E. Upjohn Institute for Employment Research
300 S. Westnedge Ave.
Kalamazoo, MI 49007
E-mail: Oleary@upjohn.org

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ABSTRACT

Regular state unemployment insurance (UI) benefits are paid from state reserves held in unemployment trust fund accounts at the U.S. Treasury. Employers covered by the federal-state UI system make contributions to reserve accounts based on taxable wages. The federal government provides incentives for forward funding of benefits to support UI as an automatic macroeconomic stabilizer in the economy. However, the Great Recession exhausted UI reserves for the majority of states, and not all of them have yet replenished those reserves. Based on patterns observed over the past 40 years, in this paper we simulate the effects on state and systemwide reserves supposing that a mild, moderate, or severe recession emerges in the coming months. Our results suggest that even a moderate recession would cause a majority of states to exhaust UI reserves and be forced to borrow to pay regular UI benefits. We note that recent experience with federal funding of extended and emergency benefits may have contributed to the current state UI financing posture, and we suggest that the taxable wage bases are insufficient. The UI system exists to help involuntarily jobless Americans while they are between jobs. By accepted standards of adequacy, benefit provisions are not excessive, but limits in the financing system make it slow to recover from debt. State reserve funds have not yet reached levels sufficient to weather another economic storm.

JEL Classification Codes: H71, H81, J65

Key Words: Unemployment insurance, benefit financing, forward funding, taxable wage base, reserve ratio, adequate reserves, average high-cost rate, federal loans, state revenue bonds

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There is increasing concern that the current U.S. economic expansion is fading and the risk of recession is rising. This has raised questions about whether the federal-state unemployment insurance (UI) system is adequately prepared for another recession.[1] High unemployment in the Great Recession severely drained state UI reserve accounts, resulting in widespread borrowing. Thirty-six of 53 state UI programs took loans to pay regular UI benefits during the most recent crisis.[2] Most states used the normal UI benefit financing procedure available from the U.S. Treasury under Title XII of the Social Security Act, but several issued state revenue bonds. Despite federal assistance that helped many indebted states during the crisis, as of January 2016, 10 states still had outstanding loan or bond debts.[3] Four state UI programs (California, Connecticut, Ohio, and the U.S. Virgin Islands, which is counted as a state) are still paying on loans from the U.S. Treasury, while six other states (Colorado, Illinois, Michigan, Nevada, Pennsylvania, and Texas) are still repaying other loans or bond debts from UI benefit payments. In this paper, we briefly review the aggregate history of UI benefit financing, then simulate the financial impacts on individual state UI reserve positions of mild, moderate, and severe recessions.

BACKGROUND ON UI RESERVES

The U.S. Department of Labor defines the UI reserve ratio as the reserve balance divided by total wages paid in UI-covered employment. Combining net reserve balances for all states, we can look at the aggregate system reserve ratio. The solid curve in Figure 1 presents a long-

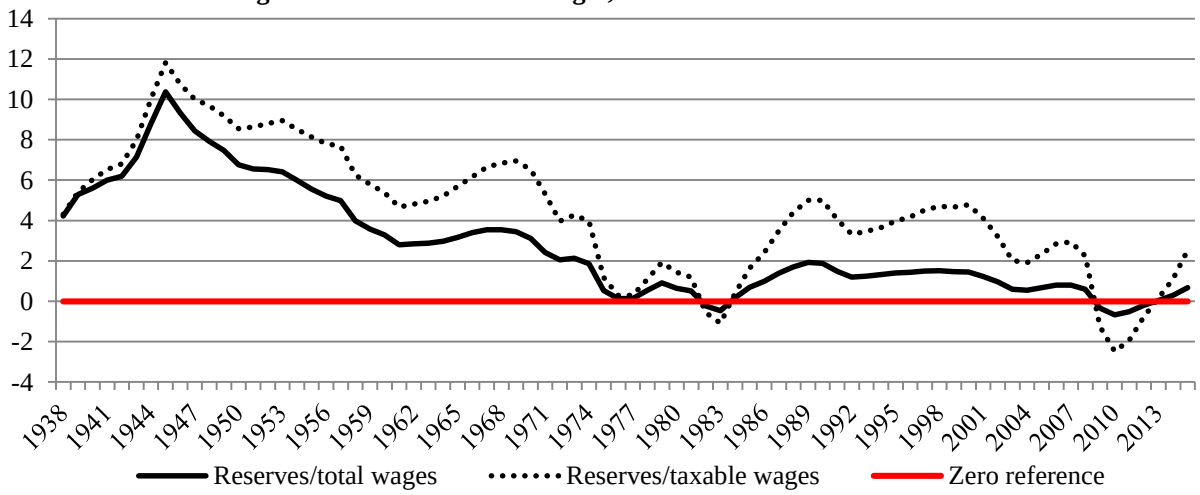
[1] See for example the recent essays by Casselman (2016), Stettner (2016), and Vroman (2016).

[2] In addition to the 50 states, UI operates in Washington, DC, Puerto Rico, and the U.S. Virgin Islands.

[3] Temporary waivers to states on loan interest from UI debts accumulated during the recession are explained in Chocolaad, Vroman, and Hobbie (2013).

term picture of the funding adequacy of the UI system by looking at the combined net UI system reserve ratio for all 53 programs. This net measure reduces balances for any Title XII borrowing, but it does not account for debt financed by state issuance of bonds and other loans. The UI system reserve ratio was around 2 percent of total wages before both the 1991 and the 2001 recessions. During each of those recessions, more than a dozen states were forced to borrow, but the combined system stayed positive throughout those recessions. Before the Great Recession, however, system reserves were only 0.80 percent of total wages, and well more than half of all state UI systems went into debt during that crisis. As shown in Figure 1, the combined system reserve ratio had recovered to only 0.67 percent of total wages by the end of 2015.[4]

Figure 1 Reserve Ratios for the UI System—Combined Net Reserves of All 53 States and Territories as a Percentage of Total and Taxable Wages, 1938–2015



SOURCE: USDOL (2015).

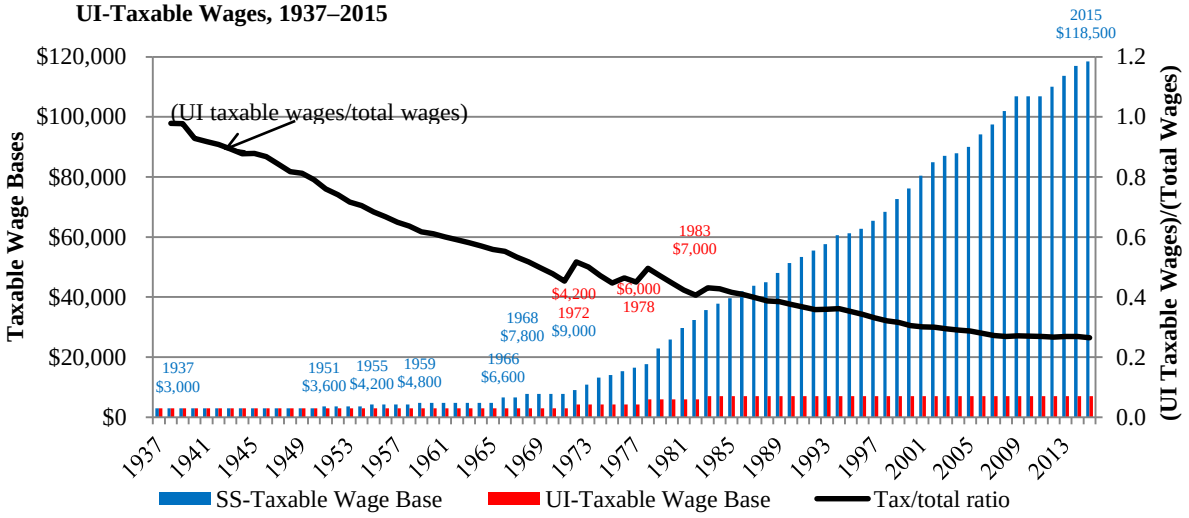
Our approach to simulating impacts of future recessions on individual state reserve positions is to look at net reserves as a proportion of UI taxable wages (Figure 1). We focus on this ratio because the level of taxable wages drives reserve recovery for a given state tax

[4] Total and taxable wages in Figures 1 and 2 for the second half of 2015 are estimated values. The UI reserve balances in the numerator of reserve ratios are actual values based on final year-end reports through 2015.

structure. Reserve ratios defined on taxable wages are more volatile because the denominator in the ratio is only a fraction of total wages, yielding a ratio that varies more widely. Taxable wage bases, which determine the size of total taxable payrolls, vary across states and are an indicator of state attitudes toward the idea of forward funding UI benefits. The federal taxable wage base has been fixed at $7,000 per worker since 1983, and state taxable wage bases must be at least as high as the federal level. While only two states have UI-taxable wage bases equal to $7,000, many states have not strayed far above that level. More than half of all states (28) have taxable wage bases at or below double the federal level ($14,000).

Figure 2 contrasts the federal UI taxable wage base (UITWB) with the Social Security taxable wage base (SSTWB). Both were originally set in 1936 to be $3,000, which at that time covered about 98 percent of all wages and salaries paid in the country. The SSTWB was increased five times between 1951 and 1971. In 1972, reforms included a plan for increasing and indexing the SSTWB. In 1982 the SSTWB indexing was refined, and in 2015 it reached $118,500. The UITWB has been increased only three times, in 1972, in 1978, and most recently in 1983 to $7,000. The divergence between the SSTWB and UITWB is shown by the blue and red bars, respectively, in Figure 2. The impact of the low UI taxable wage base on the ratio of taxable to total wages in UI-covered employment is shown by the dotted line graph in Figure 2, which had a level of 0.98 in 1938 but had fallen to 0.27 by 2015. The capacity of the UI benefit financing system to generate revenues has fallen in step with the taxable-to-total wages ratio.

Figure 2 UI- and Social Security-Taxable Wage Bases and the Ratio of Total to UI-Taxable Wages, 1937–2015



SOURCE: USDOL (2015).

THE FORWARD FUNDING PRINCIPLE

For a state UI system to be sustainable over the long run, on average, revenues should match expenditures over business cycles. The accepted policy standard for UI benefit financing is based on the principle of forward funding. Having money in reserves when unemployment increases means states do not have to raise employer UI taxes immediately during recessions. Therefore, forward funding prevents UI financing from driving the economy into a worse situation when business conditions are weak. Accumulating reserves during economic recoveries puts a slight damper on expansions but helps avoid severe financing crises in the depths of recessions. To achieve adequate forward funding, state accounts in the federal Unemployment Trust Fund (UTF) should maintain balances "sufficient to pay at least one year of unemployment insurance benefits at levels comparable to its previous 'high cost'" (ACUC 1996, p. 11).[5] In 2010, this rule was put into place as a federal requirement for interest-free

[5] The Advisory Council on Unemployment Compensation (ACUC) was the most recent federal advisory council convened by Congress on the topic of UI. The bipartisan ACUC published final recommendations in 1996.

short-term Title XII loans. The final regulation on this matter was published by the U.S. Department of Labor (USDOL) in the *Federal Register* on September 17, 2010, as 20 CFR, Part 606.

As an incentive for states to maintain adequate forward funding of UI benefits, the new USDOL regulations set reserve requirements for states to maintain privileges for interest-free short-term loans. The rules require states to hold one year of reserves in the UTF equal to the average of the three highest benefit payment rates (benefit payments divided by total payrolls) experienced in the previous 20 years. This rate is known as the average high-cost rate (AHCR). The new federal regulation required reserve balances to have a high-cost multiple (HCM) of 0.5 in 2014, increasing by 10 percentage points a year to reach 1.0 in 2019 and thereafter.

THE PAY-AS-YOU-GO ALTERNATIVE

An alternative to forward funding, which some states prefer, is pay-as-you-go financing of benefits. The fundamental principle of finance is that "money today is worth more than money tomorrow." By keeping employer UI taxes low, states may be reducing reserve balances, but they keep money in the hands of private-sector businesses, where jobs are created. In today's world of low interest rates, debt can be financed by tax-exempt state revenue bonds at interest rates far below the Title XII borrowing rates. Some states have adopted this model, which is a rational cost-saving approach in a low-interest-rate environment. Currently, interest rates on state revenue bond rates are about one-tenth the Title XII loan rates. However, this will not always be the case. When rates rise and the spreads between U.S. Treasury bonds and tax-exempt state revenue bonds shrink or flip, forward funding will regain appeal.[6] Unfortunately,

[6] Interest rates for Title XII borrowing are based on U.S. Treasury bond rates.

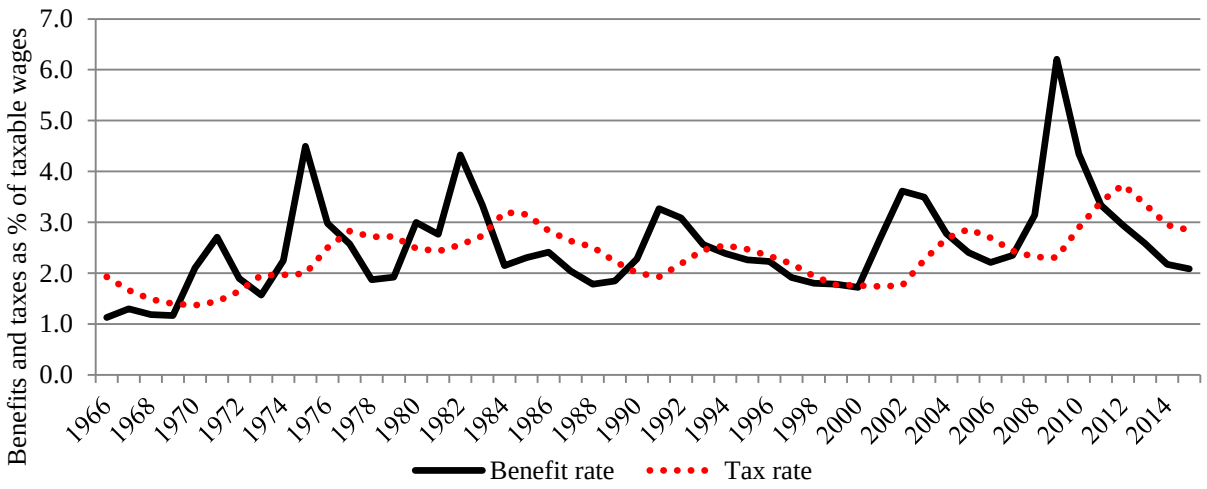
switching financing schemes in times of crisis can be very costly to states. Not only is forward funding a countercyclical stabilizer, it is a less risky policy option for states, since advance building of reserves is less risky than dealing with unexpected debt.

IMBALANCE BETWEEN BENEFIT PAYMENTS AND TAX REVENUES

Annual regular UI benefit payments totaled $30.5 billion in 2006 but reached a peak of $75.8 billion in 2009. Reserves along with current tax revenues were not sufficient to cover benefit payments over the duration of the Great Recession in most states. Systemwide Title XII borrowing totaled more than $141.3 billion from 2008 to 2012. In recent years the system has been tilting toward structural debt, as shown in Figure 3. Over the 50-year period from 1966 to 2015, the percentage of taxable wages paid in UI-covered employment benefits averaged 2.54 percent, while the percentage of taxable wages paid in tax payments averaged 2.37 percent—a deficiency of 7.2 percent (Figure 3).[7] The imbalance between system disbursements and revenues worsened in the last half of that period. During the first 25 years, benefits averaged 1.8 percent more than tax contributions, while in the last 25 years, benefits averaged 12.2 percent more than tax contributions. As shares of taxable wages, there has been a downward shift over time in both benefit payments and tax contributions, but recently tax payments have fallen more. This suggests both a declining rate of UI wage replacement and a declining capacity to finance even the lower benefit levels.

[7] The ratio of benefits paid to total wages is called the benefit-cost rate. Ratios are based on actual data for UI benefits paid and tax contributions. Wage data for 2015 were estimated by multiplying actual 2014 wages by the year-over-year percentage change in wages for the first half of 2015 (wages for 2015Q1 plus 2015Q2 divided by wages for 2014Q1 plus 2014Q2).

Figure 3 UI Benefits and Taxes as Percentages of Taxable Wages, 1966–2015



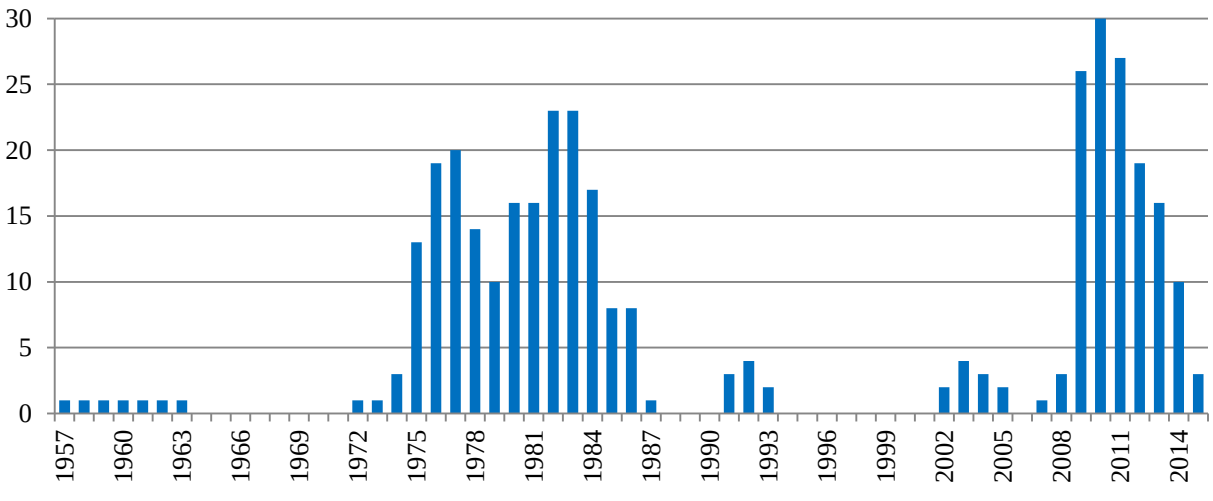
SOURCE: USDOL (2015).

The economic recovery that began in 1983 and continued through the 1990s resulted in a steady improvement in UI system reserves, which peaked at 2 percent of total wages and 5 percent of taxable wages in 1989. By 2000, after the early 1990s recession and healthy job gains in the late 1990s, but before the Y2K-dot-com bust, UI system reserves recovered to about 1.5 percent of total wages and 4.8 percent of taxable wages. With the relatively weak "jobless recovery" that followed, reserves reached only 0.8 percent of total wages and 2.9 percent of taxable wages before the Great Recession. Consequently, by 2010, system reserves had fallen to −0.67 percent of total wages and −2.48 percent of taxable wages. When the combined system is in a deficit position, net reserves are negative, and so is the reserve ratio. If the United States is to be adequately prepared to weather a future severe recession, these historical data suggest that prerecession reserves should be close to 2.0 percent of total wages or 5.0 percent of taxable wages. After several years of economic growth and labor market improvement, system net reserves had, by the end of 2015, recovered only to 0.67 percent of total wages and 2.53 percent of taxable wages.

SIMULATING THE IMPACTS ON RESERVES FROM RECESSIONS

To forecast which states might face the most severe difficulties in a near-term recession, we start by looking at the history of UI financing difficulties among individual states. Alaska had the earliest difficulties, with negative net UI reserve balances in 1957–1963 (Figure 4). Connecticut and Washington were the only states to borrow in 1972 and 1973. Following the severe recession in 1974–1975, brought on in part by the first OPEC oil embargo, the number of states with negative net UI reserves peaked at 20 in 1977. Significant numbers of states had UI financing debts in each year from 1975 through 1986. Despite the 1991 and 2001 recessions, fewer than five states had UI debt outstanding in any year from 1987 through 2008. After a relatively long period of macroeconomic stability—sometimes called the Great Moderation—unemployment benefit claims during the Great Recession drained UI reserves in many states, resulting in negative year-end net reserves in 30 states in 2010.

Figure 4 Number of States with Negative Net Reserves, 1957–2015



SOURCE: USDOL (2015).

EFFORTS TO RESTORE UI RESERVE POSITIONS

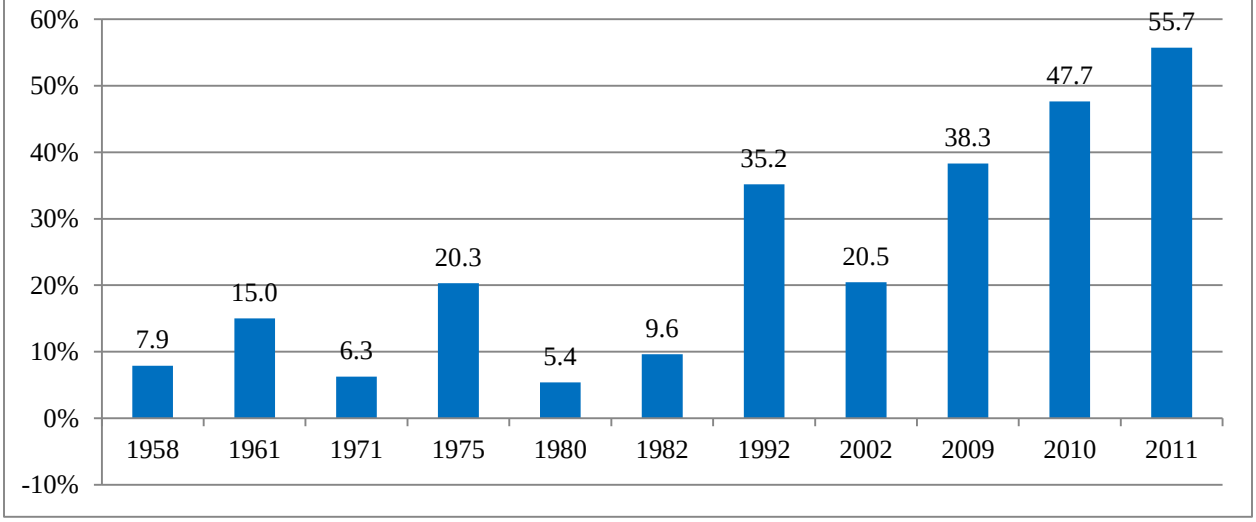
In the early recovery stages of the Great Recession, several states took drastic actions to restore their UI reserve positions. Nine states chose to cut UI benefit provisions. Influenced by the nonreduction rules of the 2008 Emergency Unemployment Compensation (EUC) program, eight other states limited benefit reductions to shortening potential durations only. North Carolina shortened the potential duration but also reduced the maximum weekly benefit amount from a formula-based $504 to a fixed $350, which will remain in effect until further legislative action. This change, effective July 1, 2013, ended federal EUC payments to more than 70,000 North Carolina UI beneficiaries and prevented others from receiving federally paid EUC through the end of 2013.

Effective in January 2012, Michigan permanently cut the maximum duration of regular UI benefits from 26 to 20 weeks. Georgia trimmed the maximum duration by the same amount, but varied it by linking it to the unemployment rate—that is, effective July 1, 2012, Georgia cut the maximum duration of benefits from 26 weeks to a range from 14 to 20 weeks, depending on the level of the unemployment rate. Florida adopted a similar variable maximum approach, with the potential duration falling to 12 weeks if the unemployment rate is at or below 5 percent. Each 0.5 percentage-point increase above 5 percent adds one week to the maximum potential UI benefit duration in Florida, which peaks at 23 weeks for unemployment rates at or above 10.5 percent. In 2013, North Carolina adopted a variable maximum ranging from 12 to 20 weeks.

States may have been emboldened to shorten regular UI durations by the generous federal extensions. The federally funded extensions of UI in the Great Recession yielded potential durations of more than 26 weeks in all states and up to 99 weeks at times in some states. Figure 5 shows the share of total UI payments that were federally paid in recession years dating back to

1958. The three recession years with the highest federal payment shares of all benefits occurred during the Great Recession. The all-time maximum was in 2011, when the federal government paid 55.7 percent of all UI benefits. This may have created an expectation among states that the federal government would always provide generous emergency extensions of UI benefits when unemployment rose significantly. There are no federal conformity standards on weekly benefit amounts or duration. However, the Advisory Council on Unemployment Compensation (1996, p. 22) enunciated accepted benefit standards, stipulating that "each state should replace at least 50 percent of lost earnings over a six-month period, with a maximum weekly benefit amount equal to two-thirds of the state's average weekly wages." The benefit cuts also mean that the nine states that chose to cut benefits have weaker countercyclical mechanisms to replace spending, and, following previous federal procedures, EUC benefits in any future recession would be reduced in proportion to the reductions in potential durations of regular state UI benefits.

Figure 5 Federal Shares of Total Unemployment Insurance Benefit Costs in Recession Years



SOURCE: O'Leary (2013).

STATE BOND FINANCING

Table 1 summarizes the year-end 2015 net reserve balances of the nine states that lowered their maximum potential durations of UI from 26 weeks.[8] During and shortly after the Great Recession, Florida's reserve balance fell to −$1.9 billion, before recovering to a positive $2.7 billion by the end of 2015. Georgia's net reserves fell to −$631 million in 2011 but recovered to a positive $942 million by the end of 2015. Michigan's reserves hit a low of −$3.5 billion in 2010, and Table 1 shows that reserves *appear* to have recovered substantially, to a positive $2.7 billion, but Michigan's bond debt of $2.2 billion remains outstanding. Despite the 2015 year-end reserve positions listed in Table 1, our simulations suggest that only three of the nine states (Arkansas, Florida, and Kansas) have reserve positions sufficient to survive an "average" recession without borrowing.

Table 1 Reserve Positions on December 31, 2015, of States That Reduced Maximum Duration of UI Benefits to Fewer Than 26 Weeks since 2011

	2015 reserve position ($000s)			Avg. recession peak-to-trough change[b]
State	Net reserves	Taxable wages (2015 est.)	Reserve ratio[a]	
Arkansas	384,596	12,148,525	3.17	−2.80
Florida	2,666,016	59,203,612	4.50	−2.48
Georgia	941,924	38,375,907	2.45	−2.89
Illinois	1,540,766	65,267,303	2.36	−5.96
Kansas	456,523	20,351,646	2.24	−1.66
Michigan	2,689,825	36,186,561	7.43	−8.40
Missouri	377,527	28,733,510	1.31	−3.28
North Carolina	1,362,916	63,435,148	2.15	−2.88
South Carolina	307,378	22,178,827	1.39	−4.19

[a] The reserve ratio is based on USDOL (2016) published reserve positions of the states as of December 31, 2015, and estimated 2015 total taxable wages. Taxable wages were estimated by taking the actual 2014 values and multiplying by the year-over-year percentage change in taxable wages for the first two quarters of 2015 (taxable wages for 2015Q1 plus 2015Q2 divided by taxable wages for 2014Q1 plus 2014Q2).

[b] Recessions include 2008–2009, 2001–2002, 1991–1992, 1980–1983 and 1974–1975. For these five recessions, the peaks in business activity prior to the recession are designated as 2007, 2000, 1990, 1979, and 1973. Subsequent to these peak years, for each state, we search for the minimum net reserve balance and use that value to define the trough. For each of the five recessions, the change in the reserve ratio is calculated by taking the change in the net reserve balance from peak to trough and dividing by peak-year taxable wages. These five values are then averaged.

SOURCE: USDOL (2015, 2016) and authors' computations.

[8] This table does not account for state sales of revenue bonds to finance UI debt; only Title XII loans are figured into the balances listed.

The statutory mechanism for financing state UI benefit payment debts is loans from the U.S. Treasury under Title XII of the Social Security Act. However, bond financing of UI debthas become increasingly popular among states. The six states listed in Table 2 sold state revenue bonds in recent years to finance UI debt. For example, in late 2011, Michigan repaid its $3.2 billion unemployment insurance debt to the U.S. Treasury by raising money through a bond sale. At the time, Title XII loans were charging 2.94 percent, whereas the Michigan bonds were sold at an effective rate of 0.24. This strategy is expected save Michigan close to $150 million over the term of the debt. As Table 2 shows, Michigan's outstanding debt to the private markets (including principal and interest) totaled $2.4 billion as of the fiscal year ending September 30, 2015, with the final repayment of those bonds not expected until 2022. While the official data as of last December 31 suggests that three states have negative net reserves, taking the bond data in Table 2 into consideration suggests four states are currently negative.[9] Figure 6 summarizes

Table 2 Net Reserves as of December 31, 2015, and Outstanding Bonds as of the Most Recent Fiscal Year Ending in 2015 ($ millions)

		Outstanding bond principal and interest				
State	Net reserves, 2015 ($)	Principal ($)	Future interest ($)	P&I total ($)	Revised net reserves ($)	Final bond maturity
Colorado	681.2			256.5	424.7	FY 2016–17
Illinois[a]	1,540.8	654.9	195.2	850.1	690.7	FY 2023–24
Michigan	2,689.8			2,400.0	289.8	FY 2021–22
Nevada	447.0	410.3	35.9	446.2	0.9	FY 2017–18
Pennsylvania	966.8	2,230.2	485.7	2,715.9	−1,749.1	FY 2023–24
Texas[a]	1,304.9			652.6	652.3	FY 2016–17
	7,630.6			7,321.3	309.3	

NOTE: Data on state bond payments and balances are only available from state annual finance reports. It would be valuable if the U.S. Department of Labor monitored state UI bond financing and balances and published such data on the doleta.gov/unemploy web page.

[a] The interest amount for Illinois ($195.2 million) is the payment amount due in the current fiscal year, ending June 30, 2016. Interest amounts for future years were not found in the documentation. The documentation for Texas does not clarify whether the liability of $652.6 million includes all future interest payments; therefore, the total amount of principle and interest is slightly understated.

SOURCE: State-specific Comprehensive Annual Financial Report for fiscal year ending June 30, 2015: Colorado, p. 103; Illinois, p. 97; Nevada, p. 66; and Pennsylvania, p. 105. For fiscal year ending September 30, 2015: Michigan, p. 119; and for fiscal year ending August 31, 2015: Texas, p. 43. For Michigan, also see http://michigan.gov/treasury/0,4679,7-121-1755_1963-268192--,00.html.

[9] As of December 31, 2015, four states had outstanding Title XII debt, and six states had outstanding bonds requiring repayment (USDOL 2016, p. 63).

counts of states with negative net reserve positions along with simulation-based counts of states with negative net reserves after simulated recessions.

SIMULATIONS OF STATE BORROWING IN A NEAR-TERM RECESSION

Simulations of UI reserve balances experienced by states in mild, moderate, and severe recessions are based on the history from recessions in 2008–2009, 2001–2002, 1991–1992, 1980–1983, and 1974–1975. For these five recessions, the preceding peaks in business activity were designated as 2007, 2000, 1990, 1979, and 1973, respectively. Subsequent to the peaks, we search for the minimum net reserve balance for each state and use that to define the reserve level in the following trough of the recession. For each of the five recessions, the change in the reserve ratio is calculated by taking the change in the net reserve balance from peak to trough and dividing by peak-year taxable wages. The dip in reserve ratio for an "average" recession is computed as the peak-to-trough drop in reserve ratio averaged over all five historical periods. The dip for a "mild" recession is the average drop during the 2001–2002 and 1991–1992 recessions. The dip for a "severe" recession is computed as the average over the 2008–2009, 1980–1983, and 1974–1975 recessions.

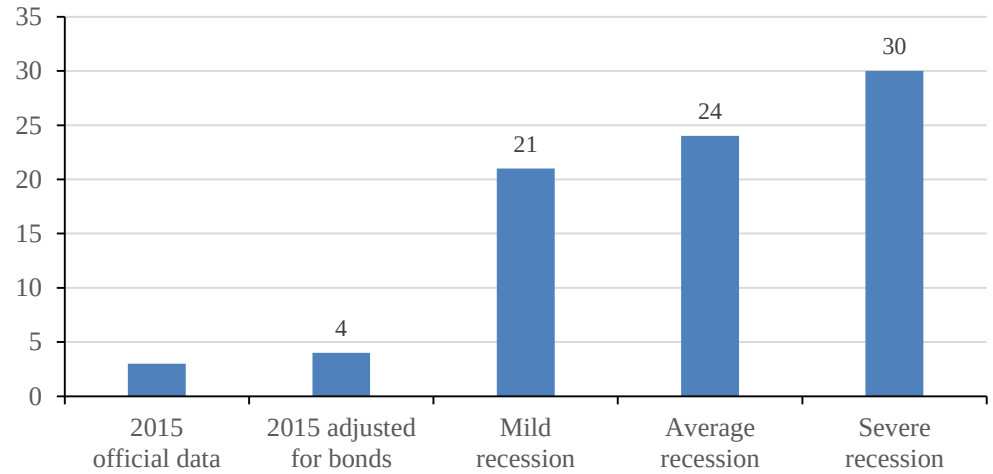
Simulations start with the official net reserve balances for each state at the end of 2015, adjusted for bond debt as the initial peak before a recession. The simulations examine reserve ratios defined by taxable wages.[10] Figure 6 summarizes the number of states that experience negative net reserves if a mild, moderate, or severe recession started in 2016. The simulations suggest that 21, 24, and 30 states would have negative net reserves, respectively, if a 2016

[10] Since wage data are only available through June 2015, data for the last two quarters of 2015 for each state were imputed from 2014 data.

recession were mild, moderate, or severe. The count of 30 negative net reserve states is identical to the peak-year number of negative net reserve ratio states at the end of 2010, during the Great Recession.

It should be noted that our simulations are based entirely on historic patterns of changes in reserve ratios. The simulations include no adjustments for other factors that may have changed. In particular, there are no adjustments for changes in potential benefit durations or weekly benefit amounts. However, O'Leary (2012) reports that simulations based on cuts in benefit durations and amounts that have been implemented would reduce the countercyclical strength of UI benefit payments by up to two-thirds. This reduction in spending would most likely lengthen the duration of any future recession and delay and weaken any economic recovery that were to follow a recession.

Figure 6 Number of States with Negative Reserves in 2015, and the Simulated



SOURCE: USDOL (2015), sources listed for Table 2, and authors' computations.

Another graphic representation of the simulation results is given in Figure 7, which arrays states from lowest to highest net reserve ratio on taxable wages at year's end for 2015, as represented by the black curve. The upper green curve shows the pre–Great Recession reserve ratio peak for each state in 2007, and the lower red curve lists the simulated trough reserve ratio

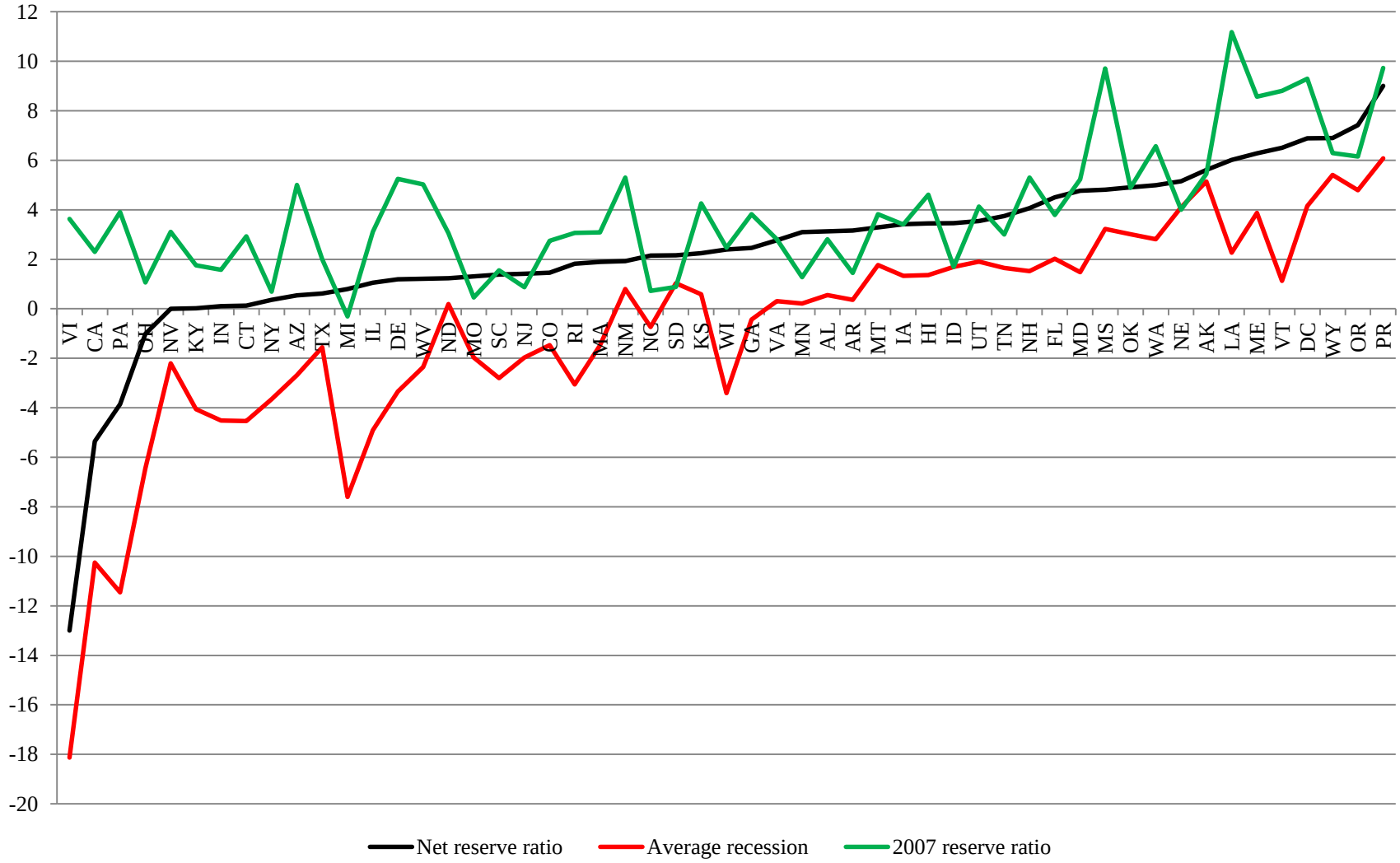
for each state should an average recession commence in 2016. Just 17 states are currently at or above their 2007 reserve ratio levels, and, under an average recession scenario, the UI system as a whole is underfunded and would again heavily rely on borrowing to finance benefit payments. Dollar amounts for reserve balances for each state, currently and under simulated recession scenarios, are listed in Table 3, with associated reserve ratios listed in Table 4.

CONCLUSION

Our simulation analysis suggests that current levels of UI system reserves are not high enough to avoid a net negative position for the system if a recession should emerge in the coming months. Even a relatively mild recession will generate debt for many states, and possibly for the whole system taken together. There is a structural mismatch in the system between benefit payments and tax revenues that has worsened in recent years. By accepted standards of adequacy, benefit levels and durations throughout the system are not excessive, but financing is inadequate.

From a negative net reserve position in 2012, UI system net reserves recovered to $24.1 billion by the end of 2015. However, this level is not sufficient to avoid systemic debt should a new recession emerge. Simulated mild and severe recessions suggest that net system debts of $13.5 and $40.4 billion, respectively, will result. During the Great Recession, systemwide indebtedness reached $30.7 billion in 2010. Our simulations suggest that systemwide reserves need to be at least 2.5 percent of 2015 taxable wages to avoid a systemwide debt following a mild recession, and that they need to be over 4.0 percent of taxable wages to avoid a systemwide negative reserve position should a severe recession occur.

Figure 7 Net Reserve Ratios of the 53 States and Territories in 2015, Their 2007 Reserve Ratios, and Their Simulated Reserve-Ratio Trough Values if an "Average" Recession Were to Occur in 2016



SOURCE: USDOL (2015), sources listed for Table 2, and authors' computations.

Table 3 Reserve Positions of the States and Territories (accounting for bond debt) at Year's End 2015, and Simulated Postrecession Reserves

State	Net reserve ratio for 2015	Net reserves adjusted for bond debt	Simulated trough reserves	
			Mild recession	Severe recession
Overall	1.57	24,104,541	−13,508,086	−40,413,219
U.S. Virgin Islands	−13.00	−69,667	−86,728	−107,705
California	−5.35	−6,397,495	−11,878,276	−12,514,106
Pennsylvania	−3.86	−1,749,100	−3,665,982	−6,207,812
Ohio	−1.01	−432,039	−1,484,974	−3,601,213
Nevada	0.00	853	−299,970	−776,929
Kentucky	0.02	3,501	−331,053	−890,029
Indiana	0.10	26,645	−701,353	−1,475,316
Connecticut	0.12	24,681	−871,697	−939,609
New York	0.36	288,063	−3,073,813	−2,842,012
Arizona	0.54	102,435	−218,456	−698,920
Texas	0.61	652,295	−807,601	−2,217,652
Michigan	0.80	289,825	−1,411,928	−3,640,364
Illinois	1.06	690,682	−1,586,523	−4,275,739
Delaware	1.19	72,368	−76,131	−288,337
West Virginia	1.21	82,372	56,627	−305,601
North Dakota	1.23	132,881	57,781	−3,923
Missouri	1.31	377,527	−558,004	−570,281
South Carolina	1.39	307,378	−248,060	−870,046
New Jersey	1.42	1,194,644	−1,543,613	−1,737,459
Colorado	1.45	424,743	−37,091	−688,624
Rhode Island	1.82	131,921	−105,469	−298,587
Massachusetts	1.89	925,787	−1,424,242	−252,235
New Mexico	1.93	250,993	272,566	−8,061
North Carolina	2.15	1,362,916	216,428	−921,026
South Dakota	2.16	99,458	65,589	35,424
Kansas	2.24	456,523	216,817	54,043
Wisconsin	2.40	746,895	−25,540	−1,751,845
Georgia	2.45	941,924	118,242	−356,152
Virginia	2.77	769,647	129,530	54,750
Minnesota	3.10	1,664,584	701,918	−281,842
Alabama	3.13	445,381	226,519	−18,611
Arkansas	3.17	384,596	188,891	−52,231
Montana	3.29	309,990	311,723	69,148
Iowa	3.41	943,250	853,076	44,447
Hawaii	3.45	474,739	249,186	145,887
Idaho	3.46	458,989	294,380	177,264
Utah	3.55	946,273	780,505	323,879
Tennessee	3.74	915,945	589,219	281,038
New Hampshire	4.07	289,375	147,027	82,631
Florida	4.50	2,666,016	1,772,837	815,567
Maryland	4.77	957,921	480,682	173,513
Mississippi	4.81	599,570	509,945	330,845
Oklahoma	4.90	1,153,136	965,010	536,971
Washington	4.99	3,873,638	2,467,206	1,991,028
Nebraska	5.15	390,813	358,764	279,373
Alaska	5.61	447,613	373,328	435,547
Louisiana	6.01	904,485	891,736	−27,301
Maine	6.28	356,865	254,513	197,237
Vermont	6.50	230,963	99,863	399
District of Columbia	6.88	351,252	290,597	159,469
Wyoming	6.90	345,994	360,842	211,638
Oregon	7.41	2,843,549	2,286,436	1,537,631
Puerto Rico	9.01	440,946	340,633	268,619

SOURCE: USDOL (2015), sources listed for Table 2, and authors' computations.

Table 4 Reserve Positions of the State and Territories (accounting for bond debt) at Year's End 2015, and Simulated Postrecession Reserve Ratios

State	Estimated 2015 taxable wages	2015 reserve ratio	Simulated trough values: Mild recession	Simulated trough values: Severe recession
Overall	1,535,584,592	1.57	−0.88	−2.63
U.S. Virgin Islands	536,094	−13.00	−16.18	−20.09
California	119,570,755	−5.35	−9.93	−10.47
Pennsylvania	45,328,373	−3.86	−8.09	−13.70
Ohio	42,736,366	−1.01	−3.47	−8.43
Nevada	26,564,907	0.00	−1.13	−2.92
Kentucky	16,434,180	0.02	−2.01	−5.42
Indiana	25,826,656	0.10	−2.72	−5.71
Connecticut	20,097,418	0.12	−4.34	−4.68
New York	80,449,092	0.36	−3.82	−3.53
Arizona	18,897,304	0.54	−1.16	−3.70
Texas	106,242,853	0.61	−0.76	−2.09
Michigan	36,186,561	0.80	−3.90	−10.06
Illinois	65,267,303	1.06	−2.43	−6.55
Delaware	6,081,214	1.19	−1.25	−4.74
West Virginia	6,820,375	1.21	0.83	−4.48
North Dakota	10,800,064	1.23	0.54	−0.04
Missouri	28,733,510	1.31	−1.94	−1.98
South Carolina	22,178,827	1.39	−1.12	−3.92
New Jersey	84,336,717	1.42	−1.83	−2.06
Colorado	29,213,849	1.45	−0.13	−2.36
Rhode Island	7,237,556	1.82	−1.46	−4.13
Massachusetts	48,866,674	1.89	−2.91	−0.52
New Mexico	12,997,376	1.93	2.10	−0.06
North Carolina	63,435,148	2.15	0.34	−1.45
South Dakota	4,610,128	2.16	1.42	0.77
Kansas	20,351,646	2.24	1.07	0.27
Wisconsin	31,152,234	2.40	−0.08	−5.62
Georgia	38,375,907	2.45	0.31	−0.93
Virginia	27,812,529	2.77	0.47	0.20
Minnesota	53,696,579	3.10	1.31	−0.52
Alabama	14,244,122	3.13	1.59	−0.13
Arkansas	12,148,525	3.17	1.55	−0.43
Montana	9,411,217	3.29	3.31	0.73
Iowa	27,642,606	3.41	3.09	0.16
Hawaii	13,750,985	3.45	1.81	1.06
Idaho	13,251,043	3.46	2.22	1.34
Utah	26,661,110	3.55	2.93	1.21
Tennessee	24,463,271	3.74	2.41	1.15
New Hampshire	7,115,823	4.07	2.07	1.16
Florida	59,203,612	4.50	2.99	1.38
Maryland	20,087,659	4.77	2.39	0.86
Mississippi	12,463,478	4.81	4.09	2.65
Oklahoma	23,525,174	4.90	4.10	2.28
Washington	77,562,481	4.99	3.18	2.57
Nebraska	7,588,448	5.15	4.73	3.68
Alaska	7,982,012	5.61	4.68	5.46
Louisiana	15,045,194	6.01	5.93	−0.18
Maine	5,682,751	6.28	4.48	3.47
Vermont	3,552,731	6.50	2.81	0.01
District of Columbia	5,102,786	6.88	5.69	3.13
Wyoming	5,013,258	6.90	7.20	4.22
Oregon	38,352,163	7.41	5.96	4.01
Puerto Rico	4,895,947	9.01	6.96	5.49

SOURCE: USDOL (2015), sources listed for Table 2, and authors' computations.

The inadequacy of forward funding for UI benefits has induced some states to reduce benefit durations, and in one case the maximum weekly benefit amount was reduced, too. Forward funding of UI benefits helps improve the automatic countercyclical functioning of the UI benefit and tax system. If many states were to respond to the USDOL incentive of zero interest for short-term loans for maintaining year-end reserves at least at the average high cost rate, then individual state and overall system reserve adequacy would improve. Some states have adopted a pay-as-you-go UI benefit financing approach. This is a cost-saving strategy in the current low-interest-rate environment, but it could present systemic risks and have procyclical effects should interest rates rise. A hindrance to adequate UI benefit system finance is the low federal taxable wage base.

The federal-state UI system was established during the Great Depression by the Social Security Act of 1935. The taxable wage base is the foundation for adequate forward funding of UI benefits. The $7,000 federal taxable wage base, which was equal to the Social Security taxable wage base when the Federal Unemployment Tax Act (FUTA) was enacted, is now less than 6 percent of the Social Security level. The FUTA wage base sets the minimum taxable wage standard for states, and 90 percent of FUTA taxes are returned to the states to pay regular benefits. The 10 percent of FUTA revenues retained by the federal partner forms the basis for funding public employment services, state administration of UI programs, and the federal reserve for loans to states. Boosting the FUTA tax base would nudge states to improve forward funding of benefits, restore the reemployment emphasis of UI programs, and support better information technology and skilled staffing for state program administration.

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