The Big States and Unemployment Insurance Financing

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At the end of September 2015, more than six years after the trough of the Great Recession, aggregate state unemployment insurance (UI) net trust fund reserves (including loans in the municipal bond market) totaled just $26.1 billion. While many states have successfully rebuilt reserves from the low levels reached in early 2011, 11 states plus the Virgin Islands still had outstanding loans that totaled more than $13 billion at the end of September 2015. By far the largest state debt in late September 2015 was California's, which totaled $6.0 billion.

This brief examines state UI financing experiences during and after the Great Recession. It describes the aggregate experience and investigates differential responses among states with respect to state size. The descriptive analysis is followed by a regression analysis that emphasizes the state-level responses of UI tax collections and regular UI benefit payments.

State UI Trust Fund Reserves

Figure 1 traces state UI net reserves from the first quarter of 2006 (Q1 2006) to the third quarter of 2015 (Q3 2015). Net reserves (total Treasury balances less loans from the Treasury and loans in the municipal bond market) totaled $39.7 billion at the end of June 2008 but –$41.4 billion in March 2011, a loss of $81.1 billion. This loss of reserves was associated with higher benefit payments from the UI system that helped stabilize the economy during the recession. The total increment in UI benefit payments included not only money from the state trust funds that pay regular (26-week) UI benefits but also Extended Unemployment Compensation (EUC), Extended Benefits (EB) and Federal Additional Compensation (FAC). The latter three types of benefits were fully federally financed after mid-February 2009. The regular benefits from the state trust funds, in contrast, are financed by state payroll taxes levied on covered employers.

FIGURE 1

End-of-Quarter Net Reserves, Q1 2006 to Q3 2015

In billions of dollars
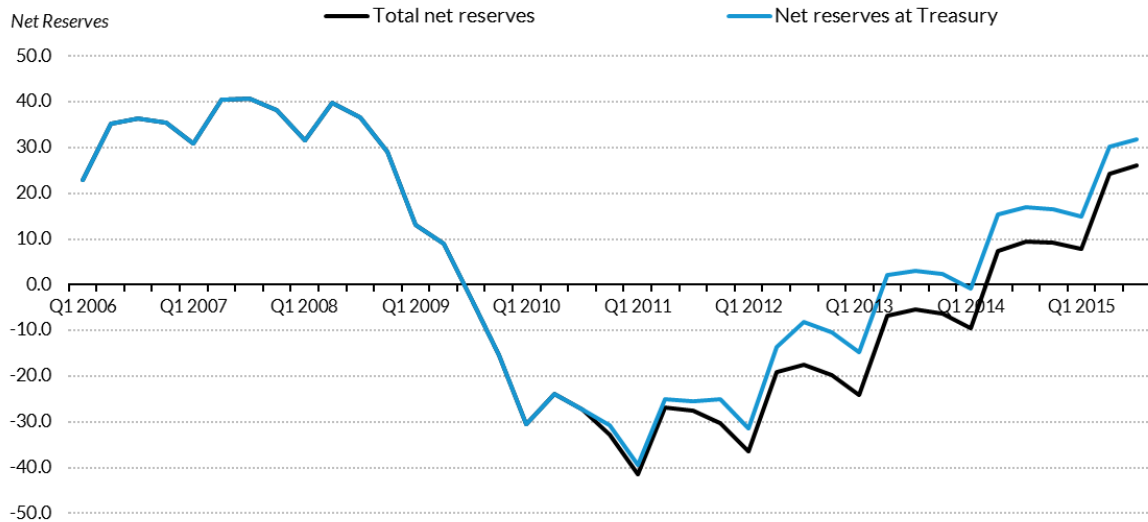
Source: End-of-quarter net state reserves held at the US Treasury taken from data published by the Office of Unemployment Insurance of the US Department of Labor.
Note: Total net reserves include loans to state UI programs from the US Treasury and from the private municipal bond market. Loans in the municipal bond market estimated at the Urban Institute.

The recovery of the aggregate trust fund after 2011 in figure 1 follows a clear seasonal pattern. Reserves decline during the first quarter and then recover during the second quarter, as most annual tax revenue is received during April and May. By September 2015, net reserves at the Treasury reached $31.9 billion, or 84 percent of the prerecession level.

Figure 1 also shows the importance of borrowing in the municipal bond market. Eight state UI programs issued municipal bonds following the Great Recession, and their outstanding principal was about $5.9 billion at the end of September 2015. Focusing on Treasury balances alone gives an exaggerated picture of the recovery of state UI trust funds. In September 2015, the aggregate net trust fund balance ($26.1 billion) was 68 percent of the prerecession balance. About half of the increase to $26.1 billion occurred during April and May 2015.

The Responses of the Big States

Table 1 provides details for the 13 largest states ranked in order of decreasing size (employment) from California to Massachusetts. The table shows the prerecession (December 2007) reserve ratio multiple (a measure of reserve adequacy),[1] total debt at the end of March 2011, and several factors in each state's response to the recession, including statutory changes that influenced UI taxes and benefits. The 13 states in 2013 represented 61 percent of taxable covered employment, 65 percent of total payroll,

and 67 percent of regular UI benefit payments. Because these states represent roughly two-thirds of national UI totals, their behavior dominates the overall performance of the state UI system.

TABLE 1

UI Reserves, Debt, and Tax Features of the 13 Largest States

In billions of dollars

	RRM, December 2007	Treasury and private debt, March 2011	Low tax base[a]	Top tax schedule in 2007	Overrode state tax law	Issued municipal bonds	Wrote off large negative balances	Reduced benefits after 2007
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CA	0.18	10.62	X	X				
TX	0.41	2.06	X			X		
NY	0.04	3.78	X				X	
FL	0.46	2.25	X		X[b]			X
IL	0.30	2.95				X		
PA	0.25	3.60	X			X		X
OH	0.09	2.55	X		X[c]			
GA	0.43	0.69	X		X[d]			X
NC	0.13	2.73		X				X
MI	-0.02	3.99	X		X[e]	X		X
NJ	0.11	1.99			X[f]			
VA	0.45	0.47	X					
MA	0.28	0.33			X[f]			
All	0.24[g]	38.14	9	2	6	4	1	5

Sources: Data assembled at the Urban Institute from Office of Unemployment Insurance reports (http://www.ows.doleta.gov/unemploy/) and other sources.

Not e: RRM=reserve ration multiple

[a] Tax base was below $10,000 in 2007.

[b] Charged benefits were reduced by 10 percent from July 2007 to March 2011.

[c] Half of minimum safe level solvency tax was used to cover noncharged and ineffectively charged benefits.

[d] Automatic solvency adjustment was partially overridden after 2008.

[e] Solvency tax was waived for negative-balance employers.

[f] Taxes were levied on a lower tax schedule than stipulated in the tax statute.

[g] Average of the 13 big states.

Column 1 of table 1 shows that all 13 big states[2] entered the recession with below-average trust fund reserves. The reserve ratio multiple (RRM), an index of reserve adequacy, accounts for the trust fund balance, state size, and the highest payout during past recessions. Low RRMs signal less adequate reserve balances. The simple average of 51 state RRMs at the end of 2007 was 0.54. Not a single state among the 13 in table 1 had an average RRM, and only Texas, Florida, Georgia, and Virginia had an RRM that exceeded 0.40.

Column 2 shows that every one of the 13 big states borrowed from the Treasury. Their aggregate loan balances at the end of March 2011 of $38.14 billion represented 78 percent of total loans on that date. Nine of the 13 had outstanding loans on that date of at least $2.0 billion, led by California's total of $10.62 billion. These states, in other words, accounted for the bulk of the borrowing from the Treasury by the UI system.

Columns 3, 4, and 5 identify three factors that contributed to borrowing. Nine states had a tax base below $10,000 in 2007 (column 3). Annual payroll averaged $44,381 nationally, meaning most of these states drew revenue from less than one quarter of total payroll.[3] In 2007, California and North Carolina were already taxing employers at the highest possible tax rate schedule (column 4), leaving limited room for the tax rate to increase as their trust fund balances declined. Six states made adjustments to their statutes, which muted the response of UI taxes and prolonged the trust fund recovery period (column 5). The existing UI tax statutes in these states were modified to reduce the automatic response of taxes to the trust fund drawdown. Footnotes b to f in table 1 provide individual state details about these tax reductions.

Column 6 identifies the four big states that issued municipal bonds as part of their debt repayment strategy.[4] These states chose to repay their loans from the Treasury by obtaining loans in the municipal bond market. For all four, the maturity dates at issuance for some of their bonds extended to 2020 or beyond. Some of these bonds may still be outstanding if the next recession starts by 2017, 10 years after the onset of the previous recession.

Column 7 identifies another factor that limited the response of UI taxes in New York: automatic writeoffs of negative reserve balances that fall below a predetermined threshold. In effect, part of the trust fund debts of these companies is waived and becomes an obligation of all state employers to be paid through common charges.

Five states enacted benefit reductions (column 8). The most common form of reduction was to shorten the maximum number of weeks of regular benefits. In July 2015, the maximum duration was 16 weeks or less in Florida, Georgia, Kansas, and North Carolina, and 20 weeks in Michigan, Missouri, and South Carolina. Further reductions will likely occur in Arkansas, Florida, Missouri, and North Carolina. While the benefit reductions will help the state trust funds recover, they will also weaken the benefit adequacy and automatic stabilizing (consumption-smoothing) performance of these state UI programs during the next recession.

Columns 4, 5, and 7 identify explicit state actions that would be expected to reduce the response of UI taxes to a decrease in the state's trust fund. Column 1 shows that all 13 states entered the recession with reserve positions below the national average. Later sections explore the response of state UI taxes following the Great Recession. Attention centers on the 13 largest states to determine if their revenue was as responsive as revenue in other UI programs.

Indexation

Statutory provisions affecting taxes and benefits in the UI system vary across individual states. One aspect of this variability is the use of indexation to accomplish automatic annual changes in major provisions. Indexed provisions change automatically as the average statewide level of UI-covered earnings evolves. Before the Great Recession, 16 of 51 UI programs had indexed tax bases, and 30 programs had indexed maximum weekly benefits. In 2015, 19 states indexed their tax bases, and 23 indexed maximum weekly benefits. Among the 13 big states, two—New Jersey and North Carolina—indexed tax bases and seven had indexed maximum weekly benefits in 2007. Following the Great Recession, Pennsylvania and North Carolina discontinued indexing their maximum weekly benefit.

With indexation, the tax base and the maximum weekly benefit respond automatically when average UI-covered earnings change. On average, states with indexation have much higher tax bases and noticeably higher maximum weekly benefit amounts (WBAs) than states that are not indexed. In 2007, for example, the average tax base for the 16 indexed states was $24,275 compared with $9,014 in the nonindexed states. Automatic indexed responses have persisted.

Legislation can also change the UI tax base and the maximum WBA. However, the enactment of a higher tax base, for example, requires action that the legislative and executive branches of state government can agree to for the change to occur. With indexation, the change occurs automatically.

From 2006–07 to 2015, indexation raised the average tax base and the average maximum weekly benefit by about 30 percent. Figure 2 shows annual average ratios of these series relative to their 2006–07 averages. The 2015 average tax base ratio is 1.30, and the average maximum weekly benefit-ratio is 1.29.

FIGURE 2

Indexed Growth: Tax Base and Maximum WBA, 2009–15 Ratios to 2006–07 Average
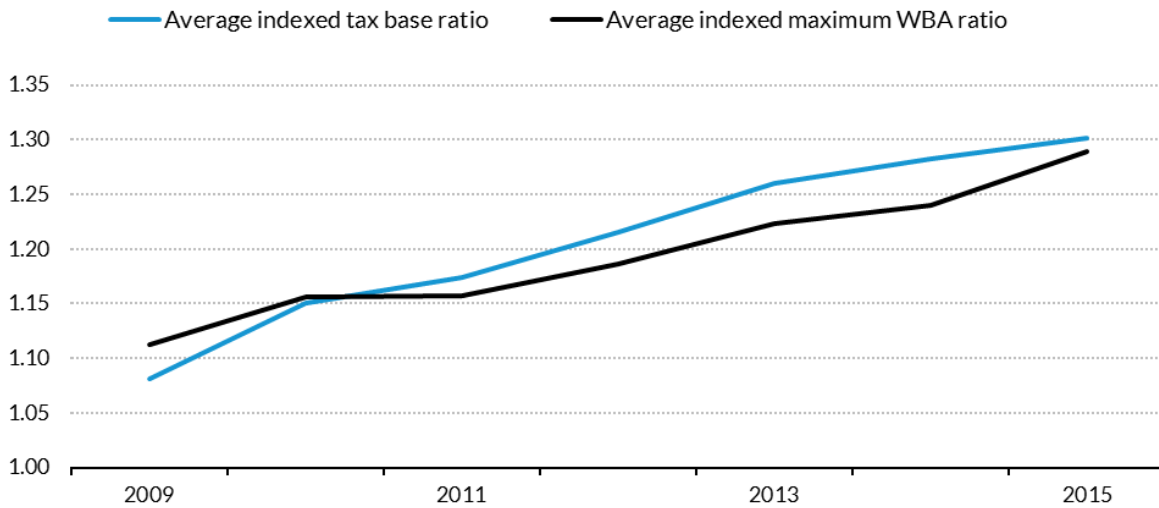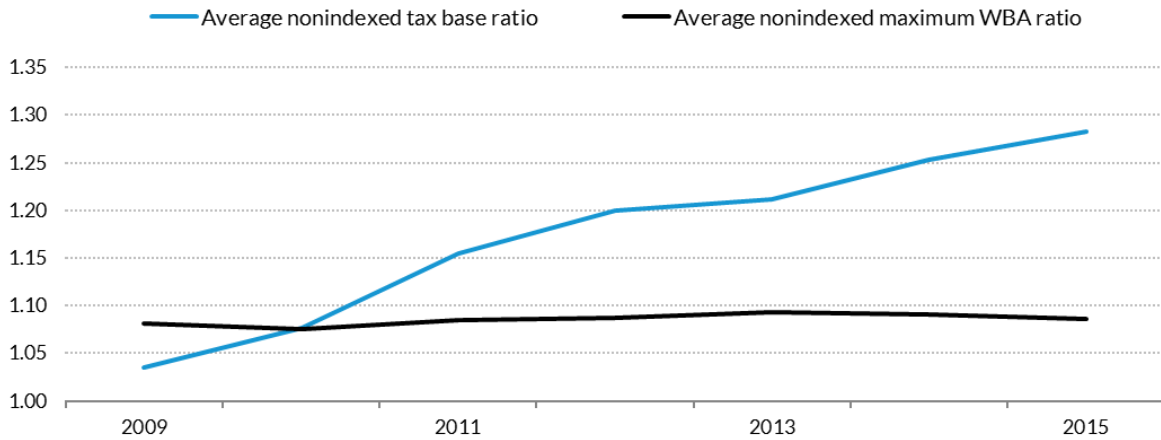

Source: Averages taken from "Significant Provisions of State Unemployment Insurance Laws," http://www.ows.doleta.gov/unemploy/sigpros/.
Notes: Data refer to statutes as of January 1. Averages based on 17 states with indexed tax bases and 23–30 states with indexed maximum WBAs. Averages for each year are shown as ratios to the 2006–07 average for each state.

In contrast, changes in the nonindexed states display much greater variation. Also, while there has been substantial growth in the average tax base among nonindexed states, their average maximum WBA in 2015 is less than 10 percent above the average in 2009. Figure 3 illustrates this low growth in the average maximum WBA ratio since 2009 and shows that the average tax base in the nonindexed states grew substantially after 2009. The average tax base ratio in 2015 of 1.28 was nearly identical to the 2015 average in states with indexed tax bases.

FIGURE 3

Nonindexed Growth: Tax Base and Maximum WBA, 2009–15 Ratios to 2006–07 Average

Source: Averages taken from "Significant Provisions of State Unemployment Insurance Laws," http://www.ows.doleta.gov/unemploy/sigpros/.

Notes: Data refer to statutes as of January 1. Averages based on 34 states with nonindexed tax bases and 23–30 states with a nonindexed maximum WBA. Averages for each year were computed as ratios to the 2006–07 average for each state.

Testing Tax Revenue Responsiveness

The starting point for the quantitative analysis is an analysis UI tax revenue growth following the Great Recession. Table 2 displays two sets of six regressions that test for a revenue growth differential between the 13 large states and the other 38 states.[5] Tax revenue in each state during each year from 2009 to 2014 was measured relative to tax revenue from 2006 to 2007.

TABLE 2

Tax Base Growth and Growth in UI Tax Revenue in the 13 Big States, 2009–14 Relative to 2006–07

	Regression with Dummy Variable Only		Regression with Dummy Variable and Tax Base Growth			Mean revenue growth ratio
	Dummy variable	Adjusted R^2	Dummy variable	Tax base growth	Adjusted R^2	
Growth period	(1)	(2)	(3)	(4)	(5)	(6)
Tax ratio 2009/ (2006–07)	0.0673 (0.9)	-0.003	-0.0394 (0.6)	0.7612 (3.2)	0.159	0.891
Tax ratio 2010/ (2006–07)	-0.2688 (1.7)	0.038	-0.1494 (0.9)	1.2178 (1.9)	0.088	1.279
Tax ratio 2011/ (2006–07)	-0.3631 (2.6)	0.101	-0.2302 (1.6)	0.7534 (2.3)	0.176	1.578
Tax ratio 2012/ (2006–07)	-0.3055 (1.9)	0.050	-0.1167 (0.7)	0.9408 (3.3)	0.208	1.697
Tax ratio 2013/ (2006–07)	-0.2851 (2.0)	0.059	-0.1265 (0.9)	0.7415 (3.0)	0.187	1.653
Tax ratio 2014/ (2006–07)	-0.1577 (1.4)	0.020	-0.0123 (0.1)	0.6330 (3.9)	0.242	1.497

Source: Data assembled at the Urban Institute from Office of Unemployment Insurance reports and other sources.
Notes: All regressions based on 51 data points. Beneath each coefficient is the absolute value of its *t*-ratio. *T*-ratios of 2.0 or larger are considered statistically significant.

Columns 1 and 2 in table 2 show the slope coefficients and adjusted R^2s for simple regressions of revenue growth on a dummy variable that identifies the 13 big states. Five of the six dummy coefficients are negative, two have *t*-ratios of at least 2.0—a common indicator of statistical significance—and two have *t*-ratios between 1.7 and 1.9. The regressions have very low explanatory power with five adjusted R^2s below 0.100. When the dummy coefficients for the 13 big states (column 1) are compared with the average revenue growth across the 51 UI programs (column 6), the average downward deviation in the 13 big states is consistently between 10 and 23 percent of overall state-level revenue growth in every year from 2010 to 2014. Revenue growth in the 13 big states was consistently below the all-state average in these five years.

Columns 3, 4, and 5 show a second set of regressions where tax base growth is added as a second explanatory variable. It enters all six regressions with a positive coefficient, four have *t*-ratios of 3.0 or larger, and the smallest *t*-ratio is 1.9. The main explanatory power in these equations is provided by growth in the UI tax base. On average, states with high tax base growth had high revenue growth. All six coefficients for the 13 big states in column 3 are negative but are smaller compared with the first regression. The dummy coefficients in column 3 are about half the size of their counterparts in column 1.

Part of the explanation for the below-average revenue growth in the 13 big states is the below-average growth in their tax bases. Recall from figures 2 and 3 that tax base growth in indexed and nonindexed states had similar overall patterns from 2009 to 2015. Among the 13 big states, however, tax base growth was below-average and especially slow among the 11 with nonindexed tax bases. The average tax base ratio in 2015 relative to 2006 and 2007 was 1.093 for the 13 big states and 1.069 for the 11 with nonindexed tax bases. In fact, among the latter 11 states, five had the same tax base in 2015 as in 2006.[6]

The fact that tax base growth contributes the bulk of the explanatory power to the second set of regressions in table 2 raises a question of interpretation. We know that the 11 nonindexed big states had very low tax base growth. Thus part of the explanation for their below-average revenue growth is their slow tax base growth. Their revenue growth from 2010 to 2015 averaged between 10 and 23 percent less than the all-state averages. Slow growth in their tax bases and other factors such as those identified in columns 4, 5, and 6 in table 1 all played a role in their slow revenue growth.

A final point about the second set of regressions in table 2 is that most of the variation in revenue growth from 2009 to 2015 was not explained. Across the six regressions, the average adjusted R^2 was only 0.177, and the highest adjusted R^2 was only 0.242. The explanation of more than 80 percent of revenue growth across the 51 UI programs following the Great Recession was not captured by the table 2 regressions.

Other tests of potential influences on tax revenue growth produced no significant results. Borrowing from the Treasury was hypothesized to have a positive effect on revenue growth. A dummy variable was created for the 35 states that borrowed from 2008 to 2011. While the dummy had a positive coefficient in 2010, 2011, 2012, and 2013, it never achieved statistical significance. The results do not support the hypothesis that borrowing from the Treasury increased the response of UI taxes in the years after the Great Recession.

High benefit recipiency could have increased the response of UI taxes to the recession because of a need for increased taxes to finance a larger volume of benefit payments compared with states with low benefit recipiency. This was tested using state-specific average recipiency rates in the regular UI program from 2000 to 2013. When tested for individual years, however, the recipiency rate coefficient was negative for four of the five years from 2010 to 2014 and did not achieve statistical significance in any year. Thus the regressions did not support the hypothesis that high benefit recipiency was associated with above-average tax revenue growth from 2010 to 2014.

Two Determinants of Tax Responsiveness

The analysis of tax responsiveness examined the two factors that determine total tax revenue: the average tax rate on taxable payroll and the taxable wage base, which is the principal determinant of the taxable wage proportion (the ratio of taxable payroll to total payroll). Attempts to explain developments at the state level in the average tax rate did not find consistently important factors.

Three potential determinants of changes in the average tax rate from 2009 to 2014 were examined: trust fund reserves before the Great Recession;[7] type of experience-rating system;[8] and a dummy variable that identified the 13 big states (as in table 2). None of the three, alone or in combination, had a significant statistical relationship with annual state tax rates measured as a ratio to the state's average tax rate in 2006 and 2007. The tax rate ratios showed wide variation between states, with the highest overall averages occurring in 2011 and 2012, years when the national average tax rate ratio exceeded 1.50.

Regressions to explain growth in state UI tax bases from 2009 to 2015 were fitted for 51 UI programs (table 3). As noted, 16 programs had indexed tax bases in 2007, but by 2015, this number increased to 19.[9] Columns 1 and 2 show results of a simple regression of tax base growth (relative to the 2006–07 average) on a dummy variable for the 13 big states. Significantly negative slope coefficients for the dummy (column 1) were obtained in six of the seven years (all but 2009). As noted previously, the average tax base in the 13 big states grew much slower than the all-state average from 2009 to 2015.

TABLE 3

Tax Base Indexation and Growth in UI Tax Base in the 13 Big States, 2009–15 Relative to 2006–07

	Regression with Dummy Variable Only		Regression with Dummy Variable and Indexed Tax Base			
	Dummy variable	Adjusted R^2	Dummy variable	Indexed tax base	Adjusted R^2	Mean tax base ratio
	(1)	(2)	(3)	(4)	(5)	(6)
Tax base ratio 2009/ (2006–07)	-0.0367 (0.9)	-0.003	-0.0268 (0.7)	0.0408 (1.1)	-0.000	1.050
Tax base ratio 2010/ (2006–07)	-0.0981 (2.9)	0.127	-0.0844 (2.5)	0.0570 (1.8)	0.166	1.101
Tax base ratio 2011/ (2006–07)	-0.1764 (3.0)	0.134	-0.1710 (2.8)	0.0201 (0.4)	0.119	1.161
Tax base ratio 2012/ (2006–07)	-0.2006 (2.8)	0.117	-0.1896 (2.5)	0.0410 (0.6)	0.106	1.205
Tax base ratio 2013/ (2006–07)	-0.2139 (2.9)	0.127	-0.1976 (2.6)	0.0554 (0.8)	0.121	1.228
Tax base ratio 2014/ (2006–07)	-0.2296 (2.7)	0.110	-0.2209 (2.5)	0.0293 (0.4)	0.094	1.263
Tax base ratio 2015/ (2006–07)	-0.2624 (2.9)	0.128	-0.2590 (2.7)	0.0115 (0.1)	0.110	1.289

Source: Data assembled at the Urban Institute from Office of Unemployment Insurance reports and other sources.
Notes: All regressions based on 51 data points. Beneath each coefficient is the absolute value of its *t*-ratio. *T*-ratios of 2.0 or larger are considered statistically significant.

Following the Great Recession, several nonindexed states also enacted large tax base increases. By 2015, only 11 of 51 state programs were operating with the same taxable wage base as in 2006, but as noted above, five of the 11—California, Florida, Ohio, Texas, and Virginia—were states in the big 13 group. Several nonindexed states enacted major increases in the tax bases after the Great Recession. For example, the tax base in nine states in 2015 was 50 percent or more above its level in 2006 and 2007.[10] Eight of the nine states are below average in size (measured by taxable covered employment). When states are ranked according to their employment in 2013, eight of the nine ranked 30th or below, and the only state ranked in the top 26 is South Carolina, which ranked 24th. Increasing the taxable wage base after 2007 was common among indexed and nonindexed states. As noted in figures 2 and 3,

the average tax base ratios in 2015 to 2006–07 for both groups of states were nearly identical: 1.30 for indexed states and 1.28 for nonindexed states.

Table 3 displays two sets of regressions that examine the determinants of changes in tax base. The first set in columns 1 and 2 uses only the dummy variable for the 13 big states. All seven dummy coefficients are negative, and six coefficients are statistically significant, with *t*-ratios between 2.7 and 3.0. When the size of each dummy coefficient is compared with the mean growth in the tax base for the same year (column 6), a clear pattern emerges. The tax base in the 13 big states fell behind the all-state average by larger and larger percentages from 2009 to 2015. The differential was 3.4 percent in 2009 (–0.0367/1.050), and was 20.4 percent (–0.2624/1.289) in 2015. By 2015, the average tax base across the 51 programs was 28.9 percent higher than the 2006–07 average, but in the 13 big states, the tax base growth ratio was only 1.093. Limiting growth of the tax base in the 13 big states has helped restrict revenue growth since 2009.

UI Benefits in the 13 Big States

Adjustments by the 13 big states could also occur regarding decisions affecting benefit payouts. The following paragraphs explore their recent benefit experiences following the approach used previously in examining their tax revenue adjustments. First, there are tests for differences between the 13 big states and other states using a succession of annual cross sections. Then, there are more structural explanations for the observed adjustments in benefits.

Three factors determine the annual volume of benefit payments for any state: the state's unemployment rate (unemployment as a percentage of the active labor force); the benefit recipiency rate (the ratio of weekly beneficiaries to weekly unemployment); and the replacement rate (the ratio of the weekly benefit amount to average weekly wages). The unemployment rate is determined mainly by macroeconomic developments beyond the control of individual states. In contrast, states can influence the recipiency rate and the replacement rate through state UI benefit statutes and administrative actions.

Table 4 displays two sets of six regressions that link the 13 big states to annual recipiency rates across 51 state programs. The dependent variables are the ratios of each year's regular UI recipiency rate to the state's average in 2006 and 2007. Columns 1 and 2 display the slope coefficients and adjusted R^2s for simple regressions of the recipiency rate on the dummy variable for the 13 big states. All six slope coefficients are negative, and five slopes are significantly negative. The regressions have modest explanatory power with an average adjusted R^2 of just 0.089 and only two adjusted R^2s exceeding 0.100.

TABLE 4

Prerecession Reserves and Change in UI Benefit Recipiency Rates in the 13 Big States, 2009–14 Relative to 2006–07

	Regression with Dummy Variable Only		Regression with Dummy Variable and 2007 Reserve Ratio Multiple			
	Dummy variable	Adjusted R^2	Dummy variable	2007 reserve ratio multiple	Adjusted R^2	Mean recipiency ratio
	(1)	(2)	(3)	(4)	(5)	(6)
Recipiency rates 2009/ (2006–07)	-0.1714 (2.2)	0.073	-0.0788 (1.0)	0.2308 (2.6)	0.172	1.284
Recipiency rates 2010/ (2006–07)	-0.1885 (3.2)	0.153	-0.0986 (1.6)	0.2441 (3.4)	0.307	0.964
Recipiency rates 2011/ (2006–07)	-0.1450 (2.9)	0.127	-0.0616 (1.2)	0.2077 (3.9)	0.321	0.834
Recipiency rates 2012/ (2006–07)	-0.1268 (2.4)	0.090	-0.0355 (0.7)	0.2273 (4.2)	0.319	0.812
Recipiency rates 2013/ (2006–07)	-0.1502 (2.3)	0.075	-0.0585 (0.9)	0.2285 (3.1)	0.211	0.797
Recipiency rates 2014/ (2006–07)	-0.0894 (1.4)	0.018	-0.0136 (0.2)	0.1887 (2.5)	0.116	0.782

Source: Data assembled at the Urban Institute from Office of Unemployment Insurance reports and other sources.
Notes: All regressions based on 51 data points. Beneath each coefficient is the absolute value of its *t*-ratio. *T*-ratios of 2.0 or larger are considered statistically significant.

These simple regressions suggest that the benefit recipiency rate in the big 13 big states was considerably lower than in the earlier prerecession years. The average for all 51 states is displayed in column 6 of table 4. When the dummy coefficients in column 1 are measured as a ratio to the overall averages, all six ratios exceed –0.10 and four range from –0.156 to –0.196. Compared with all states, the benefit recipiency rate in the 13 big states declined by more than the all-state averages during all six postrecession years.

Several additions to the simple regression specifications of columns 1 and 2 were tested but with limited success. Six regressions displayed in columns 3, 4, and 5 of table 4 add to the big 13 dummy variables a measure of prerecession state UI trust fund balances. Each state's RRM at the end of 2007 was added as a second explanatory variable, yielding strong and consistent findings.

The RRM enters consistently and positively in all six regressions displayed in table 4. The six RRM slope coefficients range from 0.1887 to 0.2441, a narrow range. Four of the associated *t*-ratios exceed 3.0, and the other two are 2.5 and 2.6. These regressions support the hypothesis that high prerecession reserves were associated with above-average relative benefit recipiency ratios from 2009 to 2014.

The dummy variables for the 13 big states in column 1 retain their negative signs in column 3. The dummy coefficients are much smaller in column 3 than in column 1, and not one is significant. Recall from column 1 of table 1 that the prerecession RRMs for all 13 big states were smaller than 0.50 and that for nine, the RRM was less than 0.40. Every one of these 13 states entered the Great Recession with an RRM below 0.54, the average for the 51 UI programs.[11] Yet even controlling for the prerecession reserve position of the states, there is some evidence in column 3 of table 4 that the 13 big states had lower relative benefit recipiency ratios from 2009 to 2014 than the recipiency ratios in the other states.

The level of weekly benefits and the associated replacement rate (ratio of average weekly benefits to average weekly wages) could also evolve differently in the 13 big states compared with other states. Table 5 displays two sets of six regressions from 2009 to 2014, examining the ratio of the replacement rate for the indicated year to the average replacement rate in 2006 and 2007. Columns 1 and 2 show results of using the dummy variable for the 13 big states to explain the replacement rate. All six slope coefficients are negative, but just one has a *t*-ratio as large as 2.0. Further, the largest of the six adjusted R^2s is just 0.060. There is practically no association between the dummy variable for the 13 big states and the replacement ratios during these years.

TABLE 5

Indexed Maximum WBA and Relative Replacement Rates in the 13 Big States, 2009–14 Relative to 2006–07

	Regression with Dummy Variable Only		Regression with Dummy Variable and Indexed Maximum WBA			
	Dummy variable	Adjusted R^2	Dummy variable	Indexed maximum WBA	Adjusted R^2	Mean relative replacement rate
	(1)	(2)	(3)	(4)	(5)	(6)
Replacement rate 2009/ (2006–07)	-0.0036 (0.2)	-0.019	-0.0011 (0.1)	0.0369 (3.0)	0.129	1.065
Replacement rate 2010/ (2006–07)	-0.0159 (1.0)	-0.001	-0.0177 (1.2)	0.0485 (3.9)	0.221	1.009
Replacement rate 2011/ (2006–07)	-0.0182 (1.2)	0.010	-0.0178 (1.3)	0.0356 (3.0)	0.147	0.971
Replacement rate 2012/ (2006–07)	-0.0356 (2.0)	0.060	-0.0350 (2.3)	0.0514 (3.8)	0.263	0.966
Replacement rate 2013/ (2006–07)	-0.0196 (1.0)	-0.001	-0.0206 (1.2)	0.0702 (4.8)	0.308	0.972
Replacement rate 2014/ (2006–07)	-0.0387 (1.5)	0.026	-0.0377 (1.7)	0.0815 (4.3)	0.281	0.972

Source: Data assembled at the Urban Institute from Office of Unemployment Insurance reports and other sources.
Notes: All regressions have 51 data points. Beneath each coefficient is the absolute value of its *t*-ratio. *T*-ratios of 2.0 or larger are considered statistically significant.

In contrast, the second pair of regressions in columns 3, 4, and 5 of table 5 shows a strong positive association between indexation of the maximum WBA and the relative replacement rate. All six of the slope coefficients in column 4 are positive with *t*-ratios that range from 3.0 to 4.8. The states with indexed maximum WBAs were much more successful in maintaining their replacement rates during these postrecession years. Also, the dummy variable coefficients for the 13 big states in column 3 are similar in sign, size, and statistical significance to their counterparts in column 1. As before, however, just one of these dummy coefficients has a *t*-ratio as large as 2.0. There is only a suggestion that the replacement rates in the 13 big states decreased more than the all-state average.

Table 6 examines the determinants of changes in the maximum WBA. Two potential determinants are tested: a dummy variable for the 13 big states and indexation of the maximum WBA. Columns 1 and

2 show the results of a simple regression on a dummy variable for the 13 big states. All seven dummy coefficients are negative, and their t-ratios range from 1.4 to 2.2. While the dummy coefficients are similar in size and statistical significance, these simple regressions have little explanatory power. The average adjusted R^2 for the seven regressions is only 0.043, and the largest adjusted R^2 is only 0.068. When the dummy coefficients in column 1 are compared with the mean maximum WBA ratios in column 6, it suggests the restriction on the maximum WBA in the 13 big states ranged from 4.1 to 5.0 percent from 2009 to 2013 and increased to the 8.4–8.7 percent range in 2014 and 2015. This increased downward deviation in 2014 and 2015 reflects the effects of the reduction in the maximum WBA in North Carolina from $535 to $350 in July 2013.

TABLE 6

Indexed Maximum WBA and Growth in Maximum WBA in the 13 Big States, 2009–15 Relative to 2006–07

	Regression with Dummy Variable Only		Regression with Dummy Variable and Indexed Maximum WBA			
	Dummy variable (1)	Adjusted R^2 (2)	Dummy variable (3)	Indexed max. WBA (4)	Adjusted R^2 (5)	Mean max. WBA ratio (6)
Max. ratio 2009/ (2006–07)	-0.0449 (1.8)	0.044	-0.0429 (1.7)	0.0291 (1.3)	0.059	1.099
Max. ratio 2010/ (2006–07)	-0.0564 (1.9)	0.046	-0.0595 (2.2)	0.0824 (3.4)	0.217	1.117
Max. ratio 2011/ (2006–07)	-0.0508 (1.7)	0.038	-0.0499 (1.8)	0.0717 (3.0)	0.176	1.119
Max. ratio 2012/ (2006–07)	-0.0477 (1.5)	0.024	-0.0465 (1.7)	0.0989 (4.0)	0.256	1.133
Max. ratio 2013/ (2006–07)	-0.0522 (1.4)	0.020	-0.0541 (1.8)	0.1309 (5.0)	0.339	1.152
Max. ratio 2014/ (2006–07)	-0.0970 (2.2)	0.068	-0.0814 (2.3)	0.1752 (5.7)	0.431	1.161
Max. ratio 2015/ (2006–07)	-0.1026 (2.1)	0.063	-0.0851 (2.3)	0.1965 (5.9)	0.449	1.178

Source: Data assembled at the Urban Institute from Office of Unemployment Insurance reports and other sources.
Notes: All regressions based on 51 data points. Beneath each coefficient is the absolute value of its *t*-ratio. *T*-ratios of 2.0 or larger are considered statistically significant.

The second set of regressions in table 6 adds dummy variables for indexation of the maximum WBA. All seven have positive coefficients, and six are statistically significant (column 4) and increase from 2009 to 2015. Indexation has an important positive and growing effect on the maximum WBA during these years of economic recovery. Also, the dummy coefficients for the 13 big states remain negative, are about the same size as in the simple regressions, and are slightly more statistically significant compared with their column 1 counterparts. The inference from this second set of regressions is that indexation has a strong positive association with growth in the maximum WBA. While nonindexed states could raise the maximum WBA through legislation, the empirical observation is that they change their maximum WBAs less often and by smaller amounts compared with the indexed states.

Summary and Conclusions

The Great Recession placed heavy demands on regular state UI programs. This exploratory analysis tested for differences in postrecession response patterns of the 13 largest states relative to the response patterns in the other 38 state UI programs.

The principal conclusion is that there were significant differences in the responses of the 13 big states vis-à-vis the other states, both the responses of their UI taxes and their UI benefits. From 2009 to 2015, taxes grew less rapidly in the 13 big states compared with other states. During these years, there were somewhat larger restrictions on regular UI benefits in the same 13 states.

The analysis also documented the importance of indexation, both of the taxable wage base and of the maximum weekly benefit. Total tax revenue grew rapidly in the indexed states and in the nonindexed states with large tax base increases compared with other states from 2009 to 2014. Growth in the tax base and total tax revenue was below average in the 13 big states. There were also positive effects of indexation on the weekly benefit replacement rate and growth in the maximum weekly benefit.

Given the large share of total UI program activity that occurs in the 13 big states—some 60 to 67 percent of national UI program totals—the performance of these states affects the national performance of the UI program. The analysis indicates that following the Great Recession, the 13 big states exhibited below-average performance in terms of revenue growth and the maintenance of regular UI benefits.

There have been negative effects from the 13 largest states on national UI program performance during the recovery from the Great Recession. Negative effects from these states will also occur during and after the next recession.

At the end of December 2015, the current economic recovery has lasted 66 months. The average duration of the 11 postrecession recovery periods since World War II has been 58.4 months. When the next recession occurs, we are likely to observe negative effects from the changes in the 13 big states documented in this paper on overall UI program performance as an automatic stabilizer of the macroeconomy.

Notes

1. The reserve ratio multiple (RRM) is a ratio of two ratios. Its 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. Many experts recommend states achieve an RRM of 1.0—that is, have 12 months of reserves in the state UI trust fund.

2. The choice of 13 for the size cutoff defining big states is admittedly arbitrary. Limited analyses using size cutoffs of 10 and 20 produce results similar to those reported here. This brief focuses on 51 programs—50 states plus the District of Columbia—but does not include the programs in Puerto Rico and the Virgin Islands.

3. New Jersey and North Carolina have higher tax bases ($26,600 and $17,800 in 2007, respectively), while the 2007 tax bases in Illinois and Massachusetts were $11,500 and $14,000, respectively.

4. Through June 2014, eight states had borrowed in the municipal bond market to repay Treasury loans.

5. All regressions in Table 2 have 51 data points, for the 50 states plus the District of Columbia.

6. The states were California, Florida, Ohio, Texas, and Virginia. Only six of the other 38 programs had the same tax base in 2015 as in 2006.

7. This was measured as each state's RRM (reserve ratios relative to the highest past benefit payout rate) at the end of 2007.

8. The primary systems are reserve ratio and benefit-ratio. A dummy variable for reserve ratio systems was tested.

9. Colorado, Rhode Island, and Vermont had indexed tax bases in 2015. A second type of tax base flexibility should also be noted. In Delaware, Louisiana, Missouri, and Oklahoma, the tax base can change automatically in response to changes in the state's UI trust fund balance.

10. This was true for Delaware, Kansas, Mississippi, New Hampshire, North Dakota, South Carolina, South Dakota, Vermont, and West Virginia. In Delaware, Mississippi, South Carolina, and Vermont, the 2015 tax base was at least double its 2006 level.

11. The aggregate RRM at the end of 2007 was 0.36. This is considerably smaller than the average of 0.54 because the large states had systematically below-average RRMs.

About the Author

Wayne Vroman is a senior fellow in the Center on Labor, Human Services, and Population at the Urban Institute, having joined in 1977. Vroman is a labor economist whose work focuses on unemployment insurance (UI) and other social protection programs. He has directed several past projects on UI financing, benefit payments, and program administration. He has developed simulation models to project the financing of UI in individual states, most recently in Kentucky and Ohio. He has also worked on UI program issues in several foreign economies. Vroman has a BA, MA, and PhD in economics from the University of Michigan.

Acknowledgments

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