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State Pension System Liabilities

In **Policy Options for State Pension Systems and Their Impact on Plan Liabilities** (NBER Working Paper No. 16453), co-authors **Joshua Rauh** and **Robert Novy-Marx** examine 116 state-sponsored pension plans, including all of those with more than \$1 billion of assets, to estimate the extent of unfunded pension liabilities and how that issue might be addressed.

When states value their pension systems, they typically use a discount rate of 8 percent. The authors note that the principles of financial economics suggest using a much more conservative discount rate. "This means discounting either with a taxable state-specific municipal yield curve, which credits states for the possibility they could default on pension payments, or with a Treasury yield curve, which presents the benefit payments as default-free." The states estimate their unfunded liabilities at just under \$1 trillion. That gap increases to \$1.3 trillion using the municipal yield curve and to \$2.5 trillion using the Treasury curve. The authors focus on the narrowest mea-

sure of liabilities, which is liabilities frozen as of June 2009, not accounting for future work by existing employees, new hires, or future pay increases.

"States estimate their unfunded liabilities at just under \$1 trillion ... [but] that gap increases to \$1.3 trillion using the municipal yield curve and to \$2.5 trillion using the Treasury curve."

These funding gaps are not only large but difficult to fill, even with relatively dramatic policy fixes. For example, eliminating generous early retirement benefits or raising the retirement age by a year would reduce liabilities by no more than 2 to 5 percent, this study finds. Reducing cost of living adjustments (COLAs) by a percentage point would have a somewhat stronger effect, reducing total liabilities by 9 to 11 percent. But even eliminating COLAs completely, or changing the Social Security retirement age, would leave state pension plans with some \$1.5 trillion less than they need according to the Treasury discounting method.

A few states already have begun to move to address this problem.

Minnesota and Colorado have reduced their COLAs, but they face legal challenges as a result. Rhode Island has increased the plan retirement age for

employees who are not yet eligible for retirement benefits. So has Iowa, but again only for non-vested employees. Iowa has doubled its actuarial reductions, from 3 percent to 6 percent per year, effectively making early retirement less generous. Vermont has gone even further, implementing what is known as actuarially fair early retirement: it assesses early retirement penalties on workers below a certain age and service threshold.

This study concludes that, while measures such as the ones being considered by these states may have modest effects on reducing unfunded liabilities, a large share of the unfunded liabilities will remain.

—Laurent Belsie

Country Characteristics Determine the Effects of Fiscal Stimulus

In **How Big (Small?) Are Fiscal Multipliers?** (NBER Working Paper

No. 16479), co-authors **Ethan Ilzetzki**, **Enrique Mendoza**, and **Carlos Végh**

show that the impact of government fiscal stimulus depends on key country

characteristics, including the level of development, the exchange rate regime, openness to trade, and public indebtedness. After analyzing a quarterly dataset on government expenditures for 44 countries (20 high-income and 24 developing) from 1960 to 2007, they conclude that the output effect of an increase in government consumption is larger in industrial than in developing countries. That response—which is called the fiscal multiplier—is relatively large in economies operating under a predetermined exchange rate, but it is zero in economies operating under flexible exchange rates. Finally, they conclude that fiscal multipliers are smaller in open economies than in closed economies, and are zero in high-debt countries.

In developing countries, output initially responds negatively to increases in government consumption. Only after a lag of two to four quarters does output rise in response to an increase in government consumption, and the cumulative output response is not statistically different from zero. Furthermore, increases in government consumption are less persistent (dying out after approximately six quarters) in developing countries than in high-income countries.

Exchange rate flexibility is critical: economies operating under prede-

termined exchange rate regimes have long-run multipliers greater than one in some specifications, while economies with flexible exchange rate regimes have multipliers that are essentially

“This study provides new evidence of the importance of fiscal-monetary interactions as a crucial determinant of the effects of fiscal policy on GDP.”

zero. The differences in the responses to increases in government consumption in countries with fixed and flexible exchange rate regimes are largely attributable to differences in the degree of monetary accommodation to fiscal shocks in these nations. The results imply that the central banks’ response to fiscal shocks is crucial in assessing the size of fiscal multipliers.

Openness to trade is another critical determinant of the size of the fiscal multiplier. Economies that are relatively closed, whether because of trade barriers or larger internal markets, have long-run multipliers of around 1.3 to 1.4, but relatively open economies have negative multipliers. Indebtedness also matters: when the outstanding debt of the central government exceeds 60 percent of GDP, the fiscal multiplier is not statistically different from zero on impact and it is negative in the long run. Thus, the 60-percent-of-GDP threshold is a critical

value above which fiscal stimulus may have a negative, rather than a positive impact on output.

Only in developing countries is the multiplier on government *invest-*

ment significantly higher than the multiplier on government *consumption*. In those countries, the multiplier on government investment is positive and close to 1 in the medium term. Thus, the composition of expenditure may play an important role in assessing the effect of fiscal stimulus in developing countries.

Given increasing trade integration and the adoption of flexible exchange rate arrangements and inflation targeting regimes, these results suggest that fiscal multipliers are likely to be modest in many nations. Moreover, with a large number of countries now carrying very high public debt ratios, fiscal stimuli are likely to become even weaker, and potentially yield even negative multipliers in the near future. At the same time, this study provides new evidence of the importance of fiscal-monetary interactions as a crucial determinant of the effects of fiscal policy on GDP.

— Matt Nesvisky

Peer Salaries and Job Satisfaction

After a court decision on California’s “right to know” law, the *Sacramento Bee* newspaper established a website in early 2008 that made it possible to search for the salary of any state employee, including both faculty and staff at the University of California (UC). To determine how the availability of such salary information may affect workers’ job satisfaction, researchers **David Card**,

Alexandre Mas, **Enrico Moretti**, and **Emmanuel Saez** contacted a random subset of employees at three

employees about their use of this website, their pay and job satisfaction, and their job search intentions.

“For people paid below the median for their department and occupation ... information [on pay of peers] has a negative effect ... on job satisfaction.”

UC campuses, informing them of the existence of this website. A few days later, they surveyed all campus

In ***Inequality at Work: the Effect of Peer Salaries on Job Satisfaction*** (NBER Working Paper

No. 16396), the authors report that informing people about a web site that contains individual salary information for their co-workers and colleagues doubles the likelihood of using the site. Most of the new users are interested primarily in the salaries of co-workers within their own department.

For people paid below the median for their department and occupation, the new information has a negative effect, with the greatest impact on the lowest-paid workers. Higher-wage individuals, however, are not negatively affected. Once an individual's salary exceeds the median for his or her department

and occupation, the effect of others' higher wages falls to zero. These findings suggest that employers have a strong incentive to impose pay secrecy rules, and they raise questions about how greater access to information on compensation patterns in the workplace may affect pay scales.

—Lester Picker

Capital Structure and Debt Maturity Choices

Corporate financing choices are determined by a combination of factors that are related to the characteristics of the firm as well as the institutional environment. In **An International Comparison of Capital Structure and Debt Maturity Choices** (NBER Working paper No. 16445), authors **Joseph Fan, Sheridan Titman, and Garry Twite** argue that the country in which the firm resides is an even more important determinant of the firm's financing decisions than its industry affiliation. This in turn suggests that differences in country-level institutional factors can have a profound effect on how firms are financed.

Using a large sample of firms from 39 countries, the authors examine how cross-country differences in capital structures can be explained by differences in tax policies, the legal environment, and the importance and regulation of financial institutions. They find that a country's legal and taxation system, its level of corruption, and the preferences of capital suppliers — banks and pension funds — together explain a significant portion of the variation in leverage (the extent to which a firm relies on debt for its financing) and debt-maturity ratios.

In countries with a greater tax gain from leverage, firms tend to use more debt. But the tax effect is not as strong and pervasive as other influences on capital structure. Indeed,

“A country's legal and taxation system, its level of corruption, and the preferences of capital suppliers ... explain a significant portion of the variation in leverage.”

the strength of a country's legal system and public governance dramatically affect firm capital structure. Weaker laws and more government corruption are associated with higher corporate debt ratios and shorter debt maturity.

Moreover, in countries with deposit insurance or explicit bankruptcy codes, firms have higher debt ratios and longer debt maturities. In countries with larger banking sectors, the debt maturity structure of corporations tends to be shorter, which reflects the preferences of banks to lend short term. However, the results here suggest that deposit insurance in some way facilitates long-term lending by banks. Finally, the data support the idea that suppliers of capital influence firm financing decisions, even though the evidence of a relation between the size of the insurance sector and capital structure is very weak.

There are some significant differences between the subsamples of developed and developing countries. In particular, common law and the bankruptcy code are significant

influences on capital structure in the sample of developed economies, but not in the sample of developing economies. Deposit insurance and the size of the government bond market are important in developing economies, but not in developed economies. Indeed, a larger government bond sector crowds out private debt capital in the developing countries, leading firms in these countries to borrow less and with shorter maturities. Taxes are significant in the sample of developed economies, but not in the sample of developing economies; that may be because the influence of corporate taxes is likely to be weaker in countries where they are easier to evade. Debt maturity increases with the level of economic development. However, corruption is consistently associated with higher debt ratios in all of the subsamples.

—Claire Brunel

School Desegregation and Urban Change

In **School Desegregation and Urban Change: Evidence from City Boundaries** (NBER Working Paper No. 16434), **Leah Platt Boustan** analyzes changes in housing prices in neighborhoods on either side of the borders of city school districts that were subject to court-ordered school desegregation in the 1970s. She finds that school desegregation orders reduced the value of urban houses relative to houses in neighboring suburbs by almost 6 percent. She also finds that hostility to school desegregation reflected both an aversion to busing and concerns about classroom quality.

At the beginning of the 1970s, around 12 percent of the students at the average white child's school in city districts were black, regardless of subsequent desegregation history. At the end of the decade, the share of black students at the average white student's school had increased by 20 points in cities that

were under court-ordered desegregation and by 5.5 points in cities that were not under court order.

“School desegregation orders reduced the value of urban houses relative to houses in neighboring suburbs by almost 6 percent.”

On average, the neighborhoods studied were 5.5 percent black with owner-occupied housing that had an average value of slightly more than \$100,000 in 2000 dollars. In cities subject to court-ordered desegregation, the value of owner-occupied housing declined by 6.5 percent between 1970 and 1980 relative to values in suburban neighborhoods. In cities not under court order, it declined by only 0.7 percent. The imposition of a desegregation order did not affect either the racial composition or the age distribution of the neighborhoods studied. That finding is consistent with previous work showing that urban residents were more likely to respond

to mandated school desegregation by shifting to private schools than by leaving a central city.

The data for this study come from Census blocks on either side of 81 city-suburban school district boundaries in northern and western metropolitan areas in 1970 and 1980. In forty of those cases, neither side of the city-suburban boundary was required to desegregate. In 29 cases, the boundaries divide an urban school district placed under a 1970s desegregation order from a suburban district that was not desegregated. In seven cases, both sides of the borders fell under court order to desegregate during the 1970s. In five cases, both sides of the boundaries had been subject to court-ordered desegregation in the 1960s.

— Linda Gorman

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