



Presentation to the Treasury Borrowing Advisory Committee

U.S. Department of Treasury
Office of Debt Management
May 3, 2011



Agenda



- Fiscal Developments
 - Tax Update
 - MBS Portfolio
 - Non-Marketable Treasury Security Update
 - Deficit Forecasts
 - Debt Limit
- Auction Demand & Market Trends
 - Coverage Ratios
 - Investor Class Data
- Portfolio Metrics
 - Nominal Coupons and Bills
 - Treasury Supplementary Financing Program
 - TIPS
 - Average Maturity
 - Percentage of Debt Maturing in Upcoming Years
- Long-term Challenges
 - Office of Management and Budget (OMB) Forecasts
 - Deficit Reduction Plans



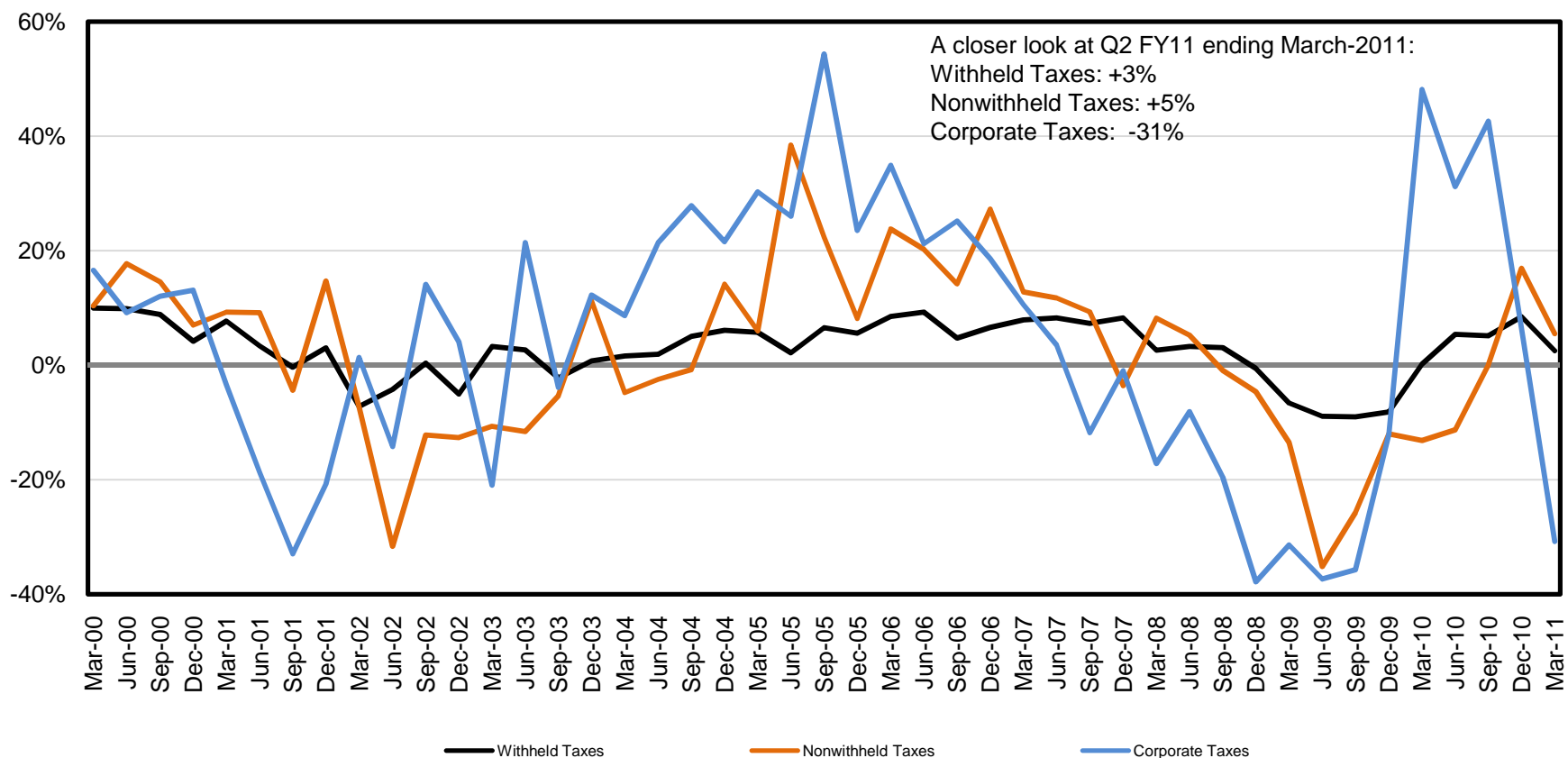
FISCAL DEVELOPMENTS



Growth in Individual Tax Receipts Continued in Q2 FY 2011



Quarterly Tax Receipts Year-over-Year Percentage Change



Note: Adjusted for 9/11/01 Corporate Tax Receipts disruption
 Source: Monthly Treasury Statement

Note: Data plotted is year-over-year changes in quarterly receipts



April Tax Receipts Show Strength



5-Year Average Receipt Composition FY2006-2010

Receipt Category	Avg. % of Annual Receipts
Withheld	69%
Corporate	14%
Nonwithheld	17%

A Closer Look at April 2011

Receipt Category	Composition	Y/Y % Change	Y/Y Change \$Billions
Withheld	42%	1%	\$2
Corporate	9%	-6%	-\$2
Nonwithheld	49%	29%	\$37

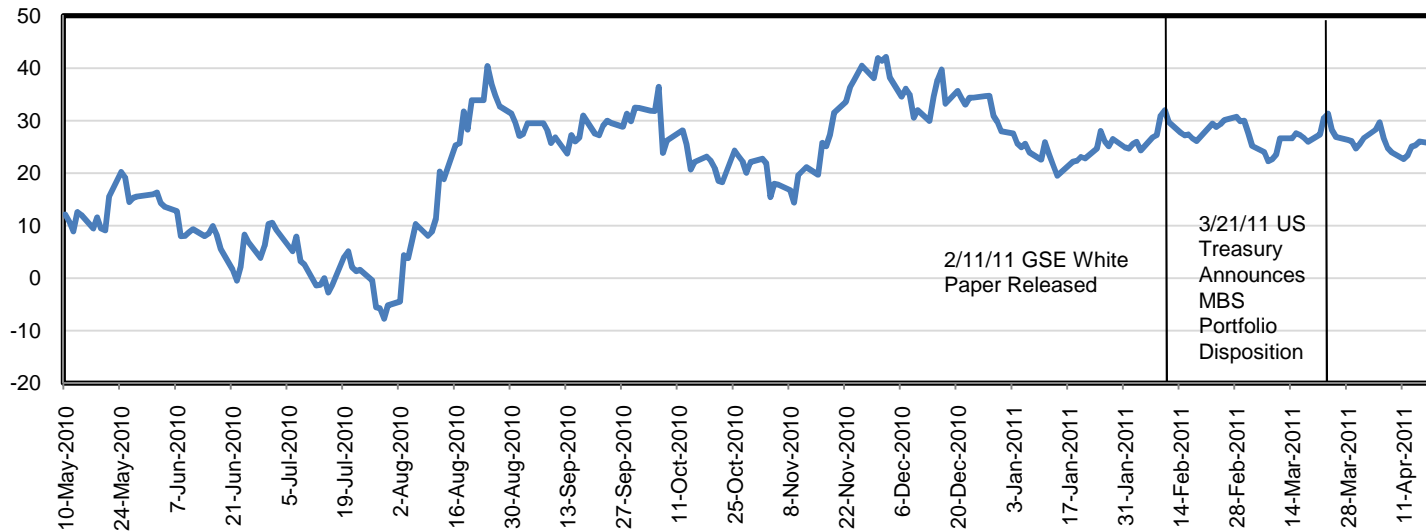


Treasury Sales of MBS Will Reduce Borrowing Needs



Agency-Guaranteed MBS Portfolio	Proceeds from Sales by Treasury	Principal and Interest Payments	Total Taxpayer Recoveries
Cumulative through February 2011	0	\$100.8 billion	\$100.8 billion
March 2011	\$3.8 billion	\$3.2 billion	\$7.0 billion
April 2011	\$10.3 billion	\$2.8 billion	\$13.1 billion
Cumulative through April 2011	\$14.1 billion	\$106.8 billion	\$120.9 billion

FNMA Current Coupon 30yr TSY OAS



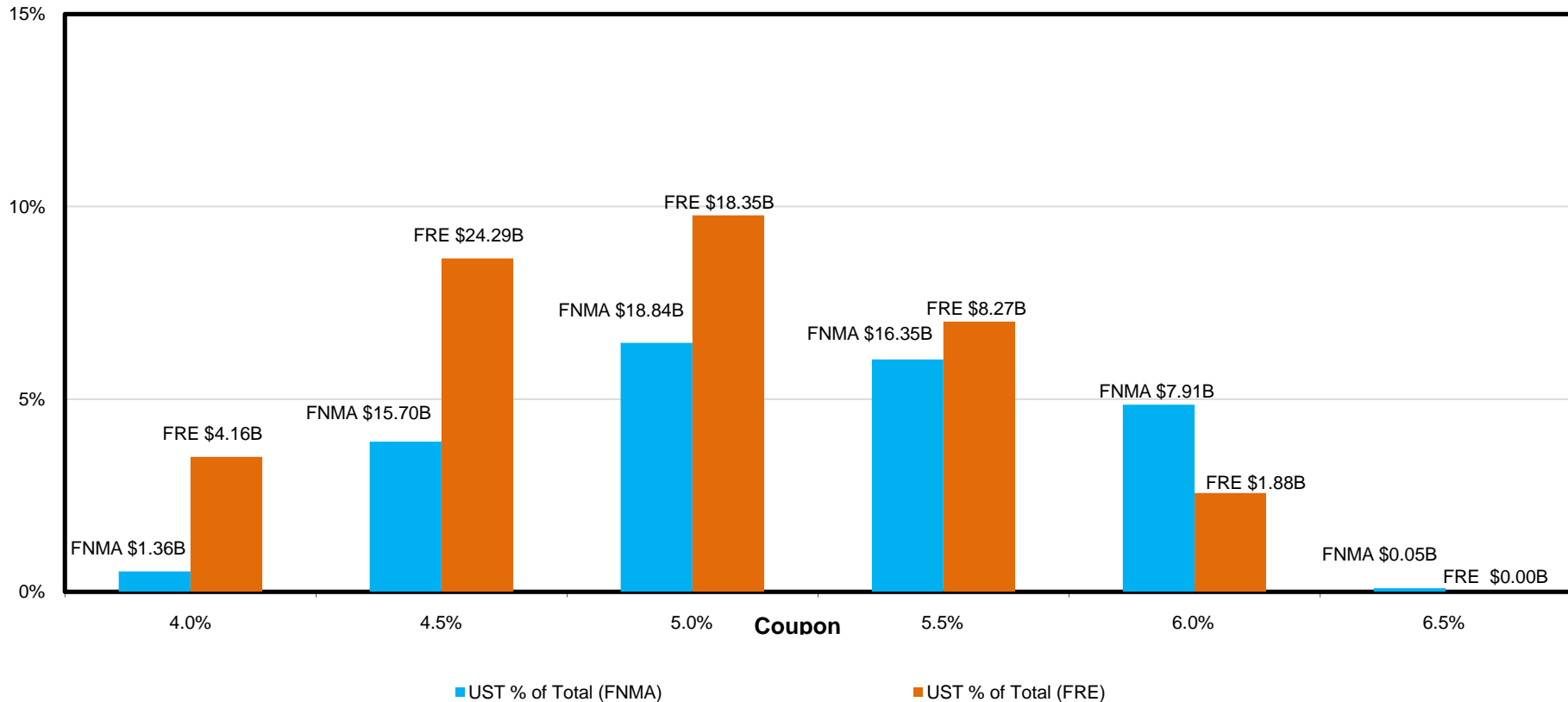
Tsy OAS Source: JP Morgan



Treasury's Current MBS Holdings



Treasury Holdings of FNMA & FRE 30-Year As a % of Outstanding Float (ex-CMO)



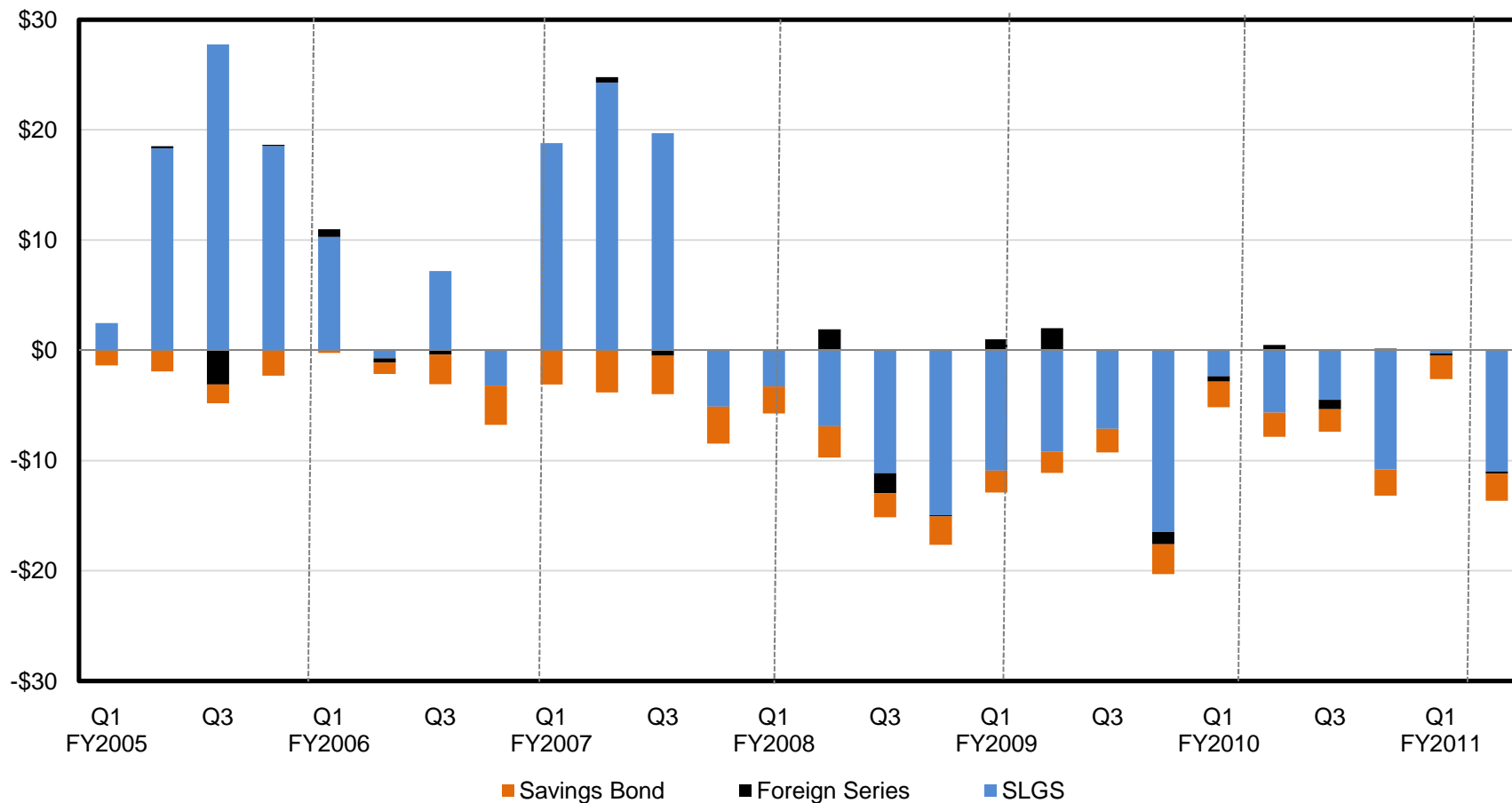
Note: Data through 4/29/2011
MBS Outstanding Float Source: JP Morgan



Non-Marketable Redemptions Continued in Q2 FY 2011



Net Non-marketable Issuance In Billions \$



Source: Monthly Treasury Statement



Primary Dealer and Government Deficit Estimates



FY 2011-2013 Deficit and Borrowing Estimates		In Billions \$		
	Primary Dealers*	CBO	OMB	
FY 2011 Deficit Estimate	1,431	1,480	1,645	
FY 2012 Deficit Estimate	1,149	1,100	1,101	
FY 2013 Deficit Estimate	920	704	768	
FY 2011 Deficit Range	1,300-1,682			
FY 2012 Deficit Range	1,025-1,300			
FY 2013 Deficit Range	700-1,100			
FY 2011 Marketable Borrowing Range	1,124-1,550			
FY 2012 Marketable Borrowing Range	1,000-1,350			
Estimates as of:	Apr 2011	Jan 2011	Feb 2011	

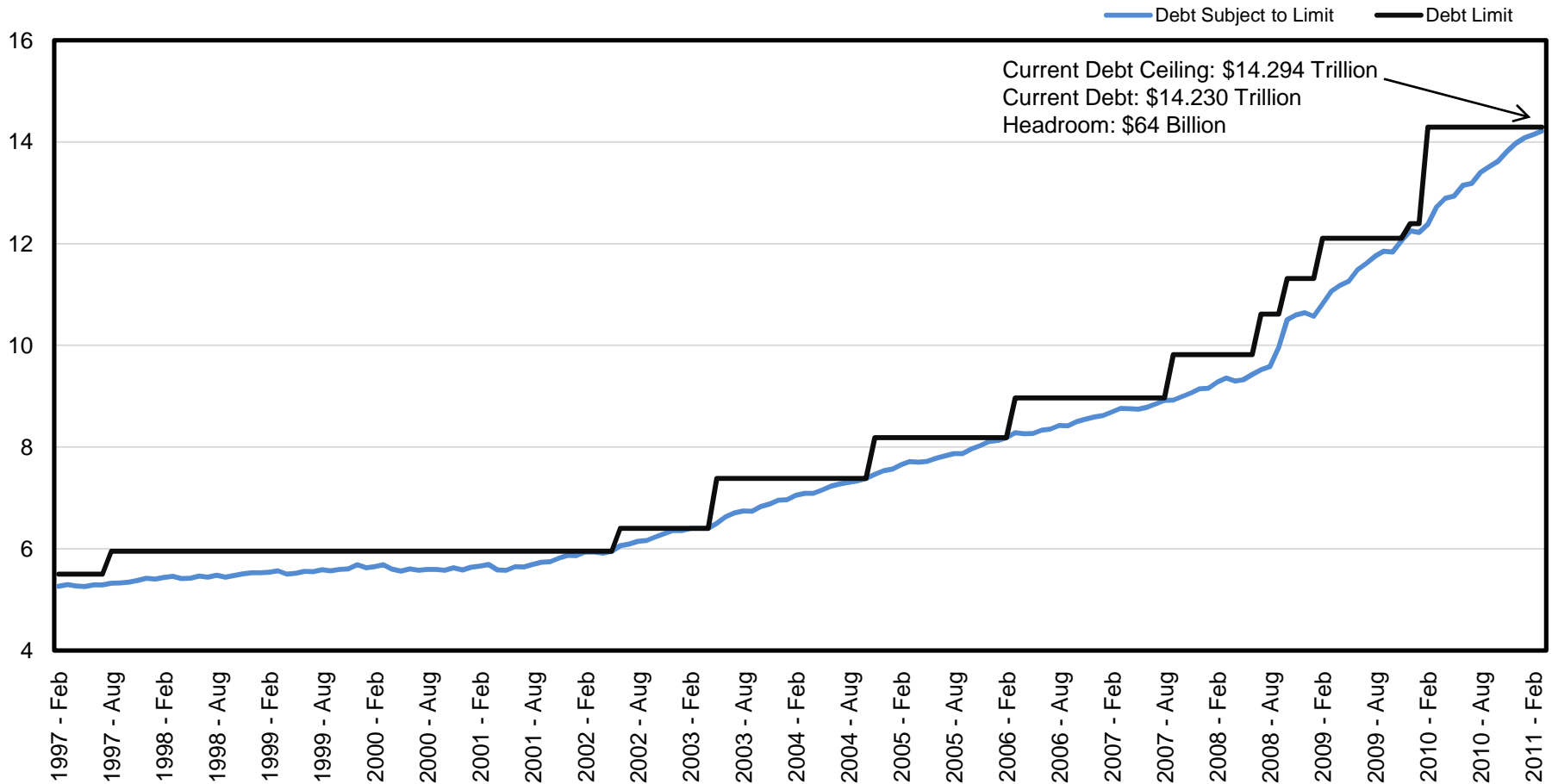
*Based on Primary Dealer feedback on April 29, 2011. Deficit estimates are averages.



Treasury Expects to Reach the Debt Limit on May 16



Total Public Debt Outstanding Subject to the Statutory Debt Limit



Note: Data through 4/28/2011



Extraordinary Actions Used in the Past Do Not Provide as Much Flexibility

Fiscal Year 1996

# of Days of Debt Limit Impasse	136
Tools	G-Fund, CSRDF, ESF, FFB, SLGS

Fiscal Year 2002

# of Days of Debt Limit Impasse	85
Tools	G-Fund, CSRDF, SLGS

Fiscal Year 2003

# of Days of Debt Limit Impasse	93
Tools	G-Fund, CSRDF, ESF, FFB, SLGS

Fiscal Year 2005

# of Days of Debt Limit Impasse	37
Tools	G-Fund, CSRDF, ESF, FFB, SLGS

Fiscal Year 2006

# of Days of Debt Limit Impasse	29
Tools	G-Fund, CSRDF, ESF, FFB, SLGS

Fiscal Year 2011

# of Days of Debt Limit Impasse	???
Tools	G-Fund, CSRDF, ESF, SLGS

There have been 6 occasions over the past 15 years where Treasury has been forced to use extraordinary actions to continue to fund government operations.

Some combination of the following actions have been used during these episodes:

- Suspension of issuance of new State and Local Government Securities (SLGS)
- Suspension of investments in:
 - the Government Securities Investment Fund (G-Fund)
 - the Exchange Stabilization Fund (ESF)
 - the Civil Service Retirement and Disability Fund (CSRDF)*
- Federal Financing Bank (FFB) swap transactions

These periods lasted between 29 and 136 days. In each of these cases, the extraordinary actions undertaken by Treasury were sufficient to continue funding the government.

However, given financing needs, these tools will not sustain borrowing beyond early August.

*Also includes the redemption of existing investments



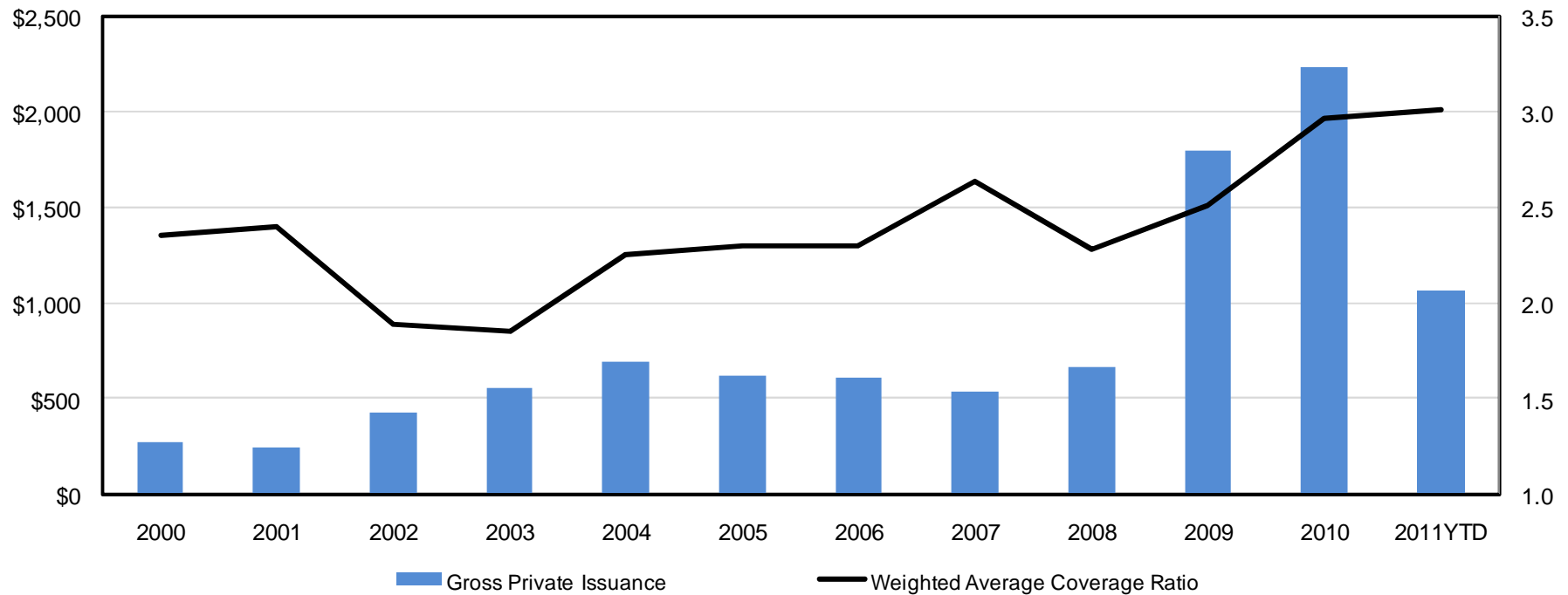
AUCTION DEMAND & MARKET TRENDS



Coverage Ratios Have Remained Strong in FY 2011



**Weighted Average Coverage Ratio on Nominal Notes and Bonds
In Billions \$, Coverage Ratio**

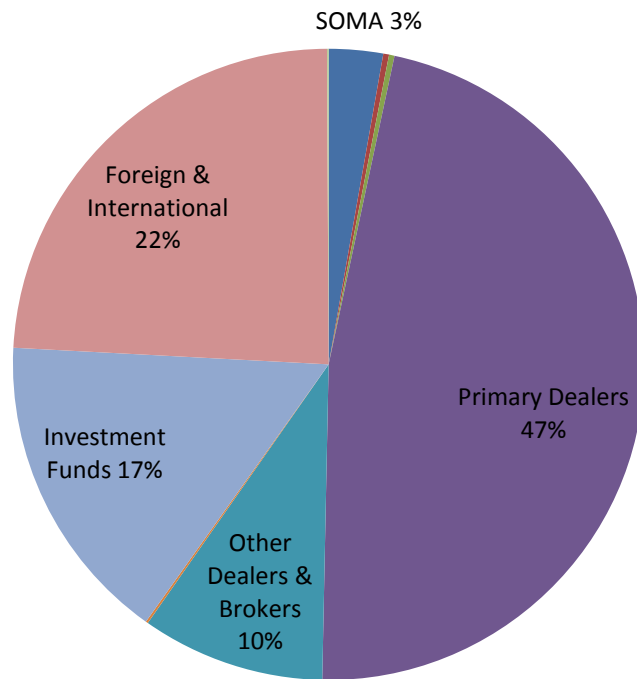


Source: Treasury Auction Data; Through 4/25/2011

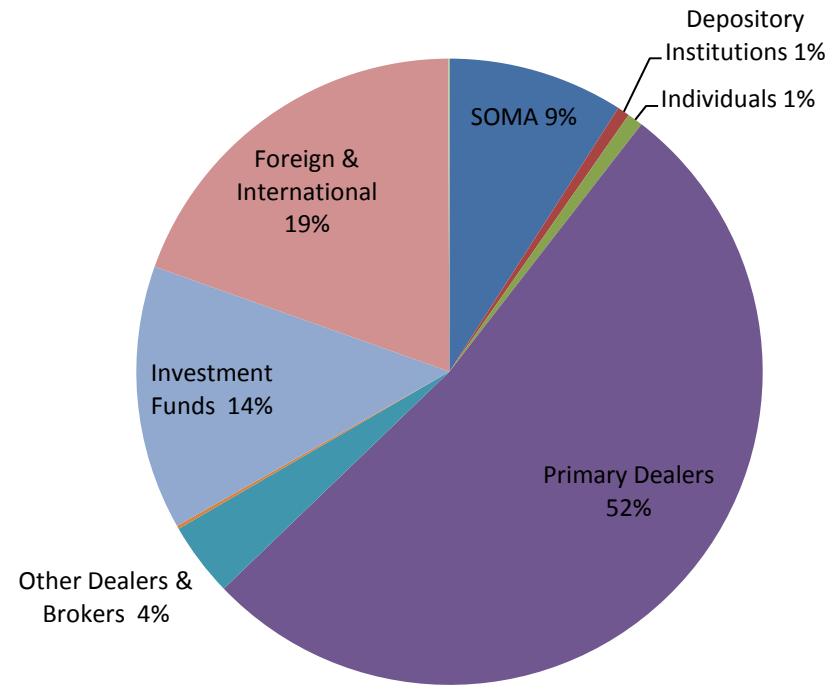


Smaller Dealers Have Increased Nominal Coupon Auction Participation

FY2011 YTD: Average Investor Class Allotments



Five-Year Average of Investor Class Allotments*



*FY2006 through FY2010

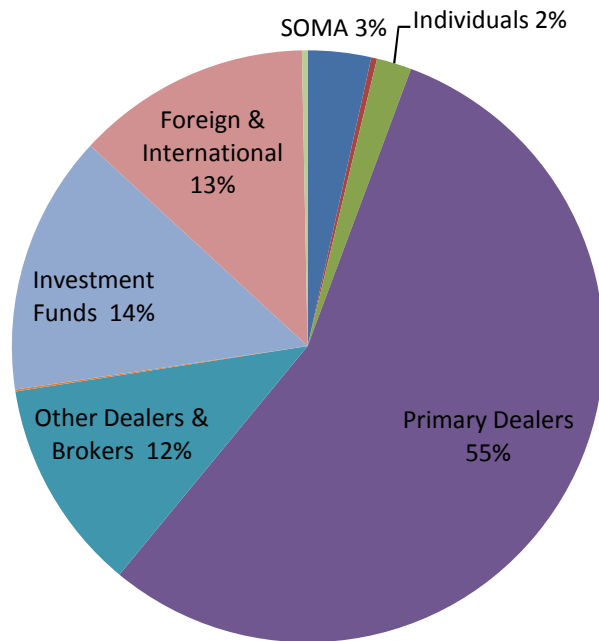
Source: Treasury Investor Class Data; Data through 4/15/2011



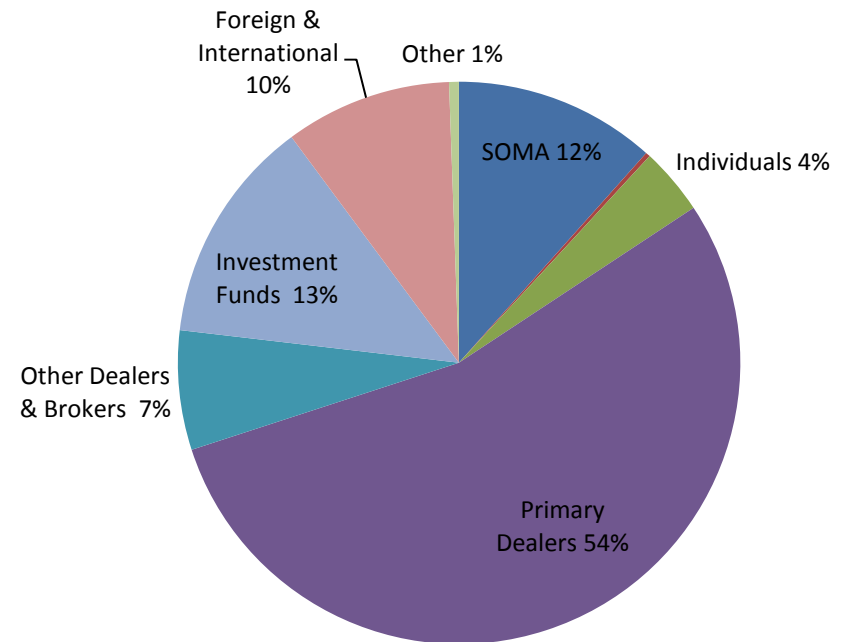
Smaller Dealers Have Also Increased Bill Auction Participation



FY2011 YTD: Average Investor Class Allotments



Five-Year Average of Investor Class Allotments*



*FY2006 through FY2010

Source: Treasury Investor Class Data; Data through 4/15/2011



PORTFOLIO METRICS



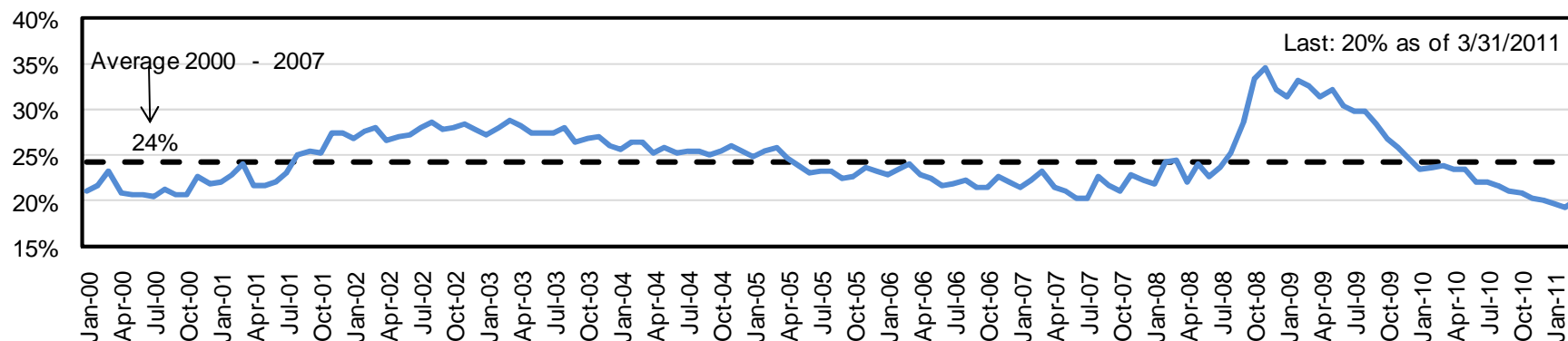
Nominal Coupons and Bills as a Percentage of the Portfolio



Bills

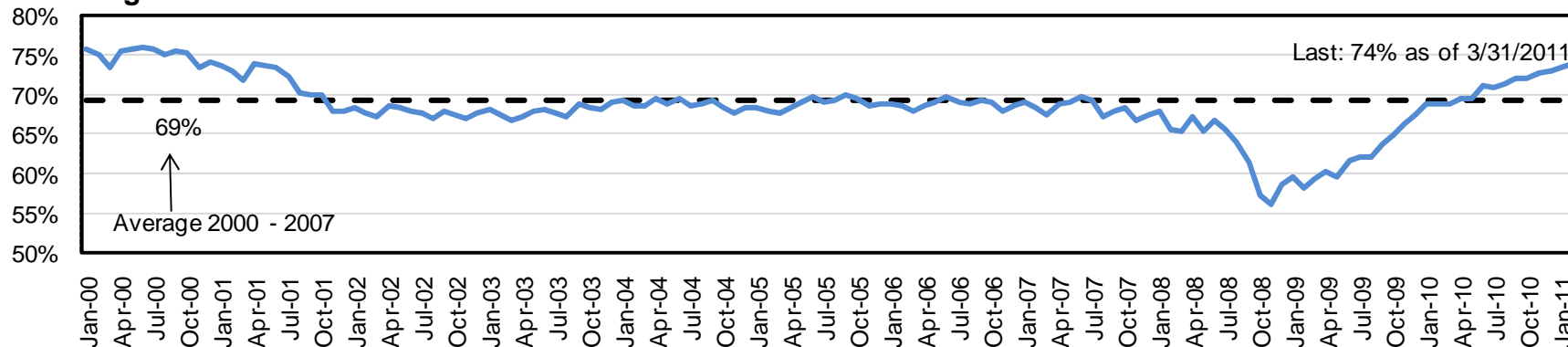
Percentage of Total Portfolio

Notes: Includes SFP and CMBs



Nominal Coupons

Percentage of Total Portfolio

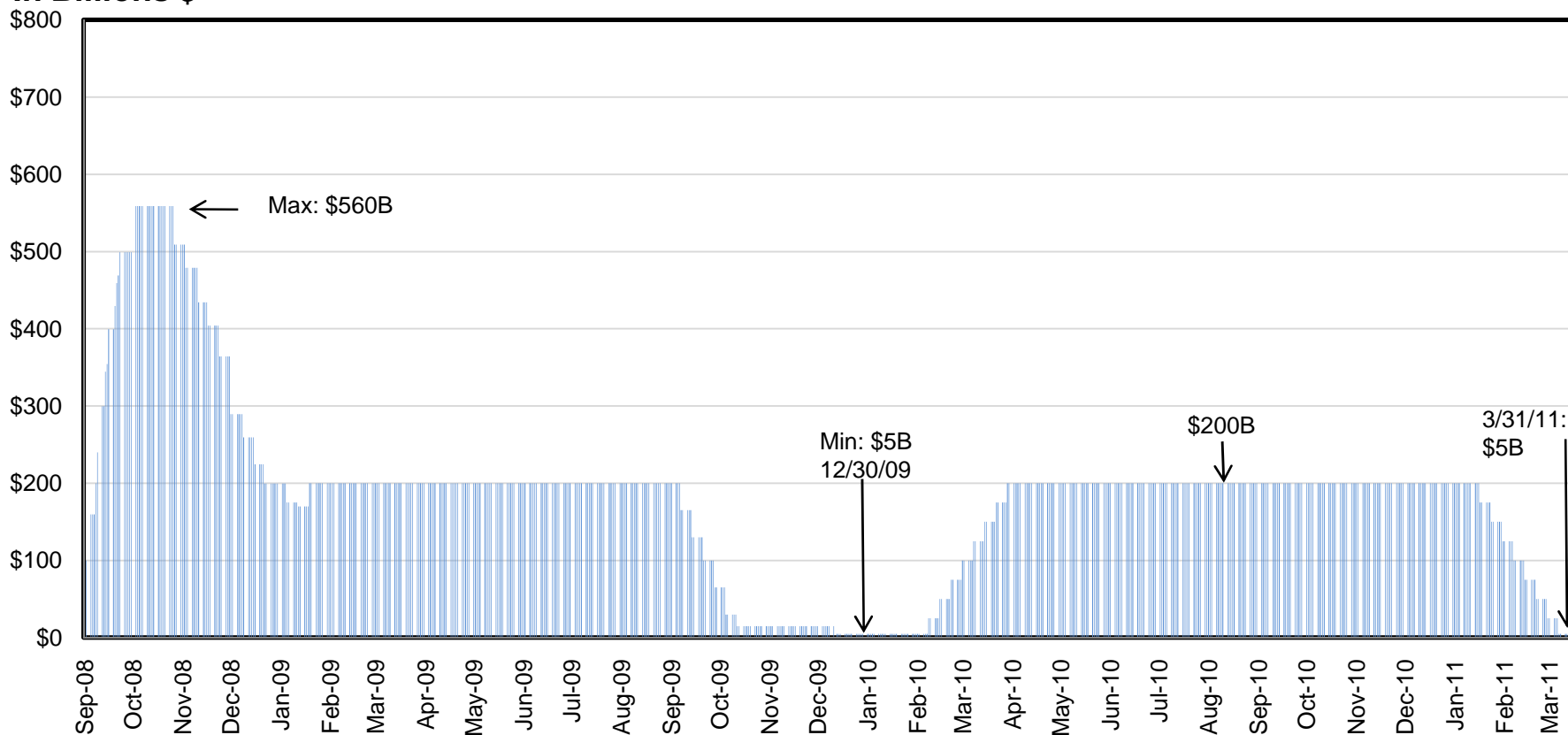


Balances in the SFP Have Fallen as the Debt Limit Approaches



Treasury Supplementary Financing Program Cash Balance

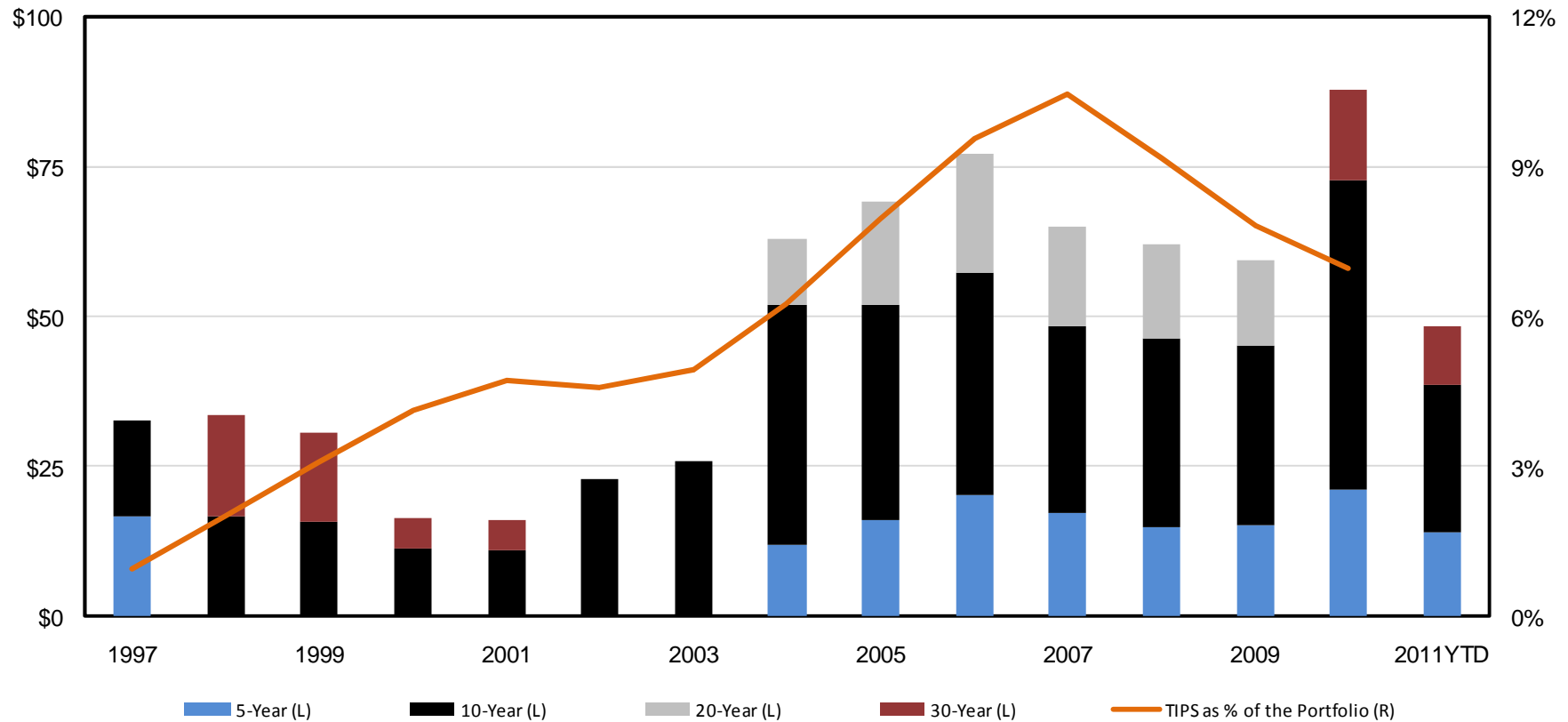
In Billions \$



TIPS Issuance Will Continue to Increase



TIPS
Calendar Year Issuance in Billions \$, Percentage of Portfolio



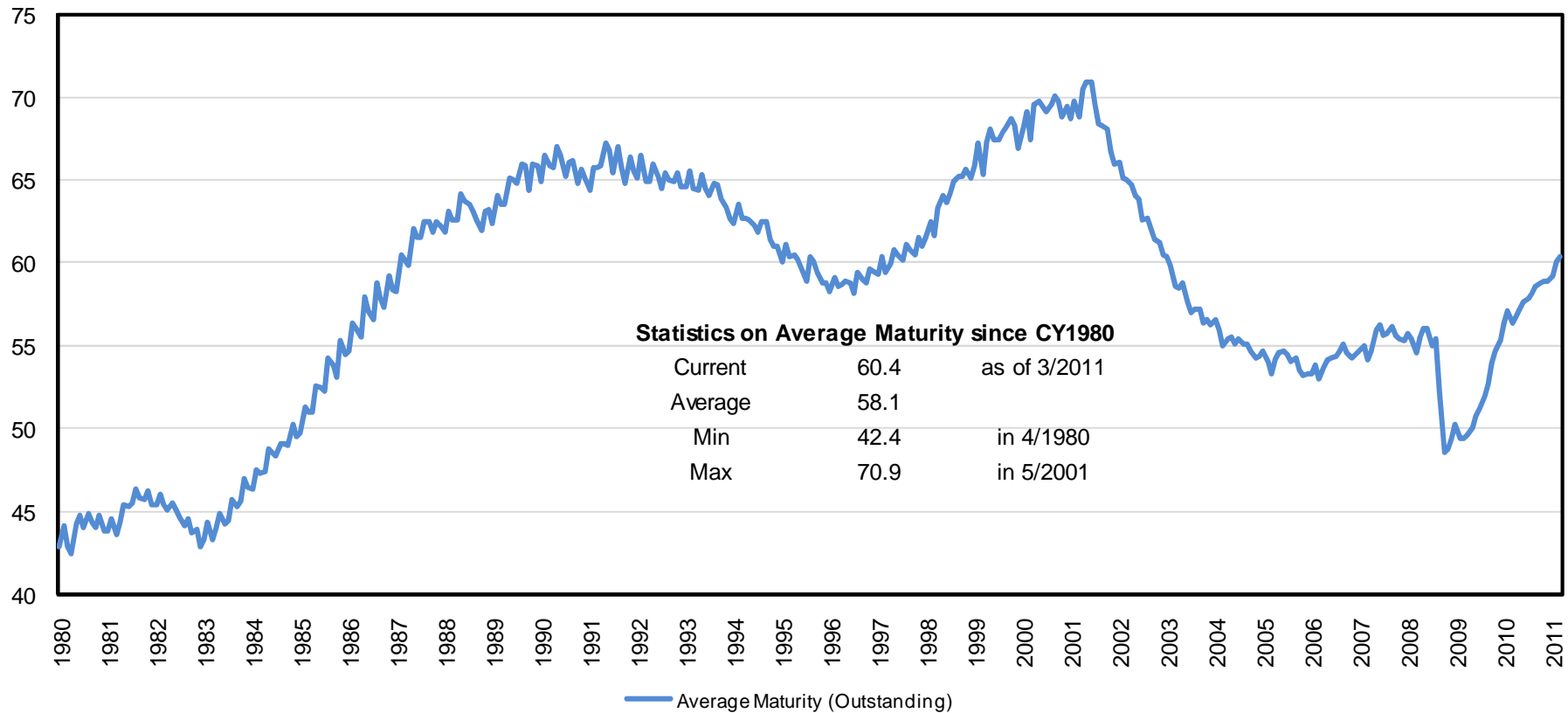
Note: Data through 4/21/2011



Average Maturity of the Debt Continues to Lengthen



Average Maturity of Marketable Debt In Months

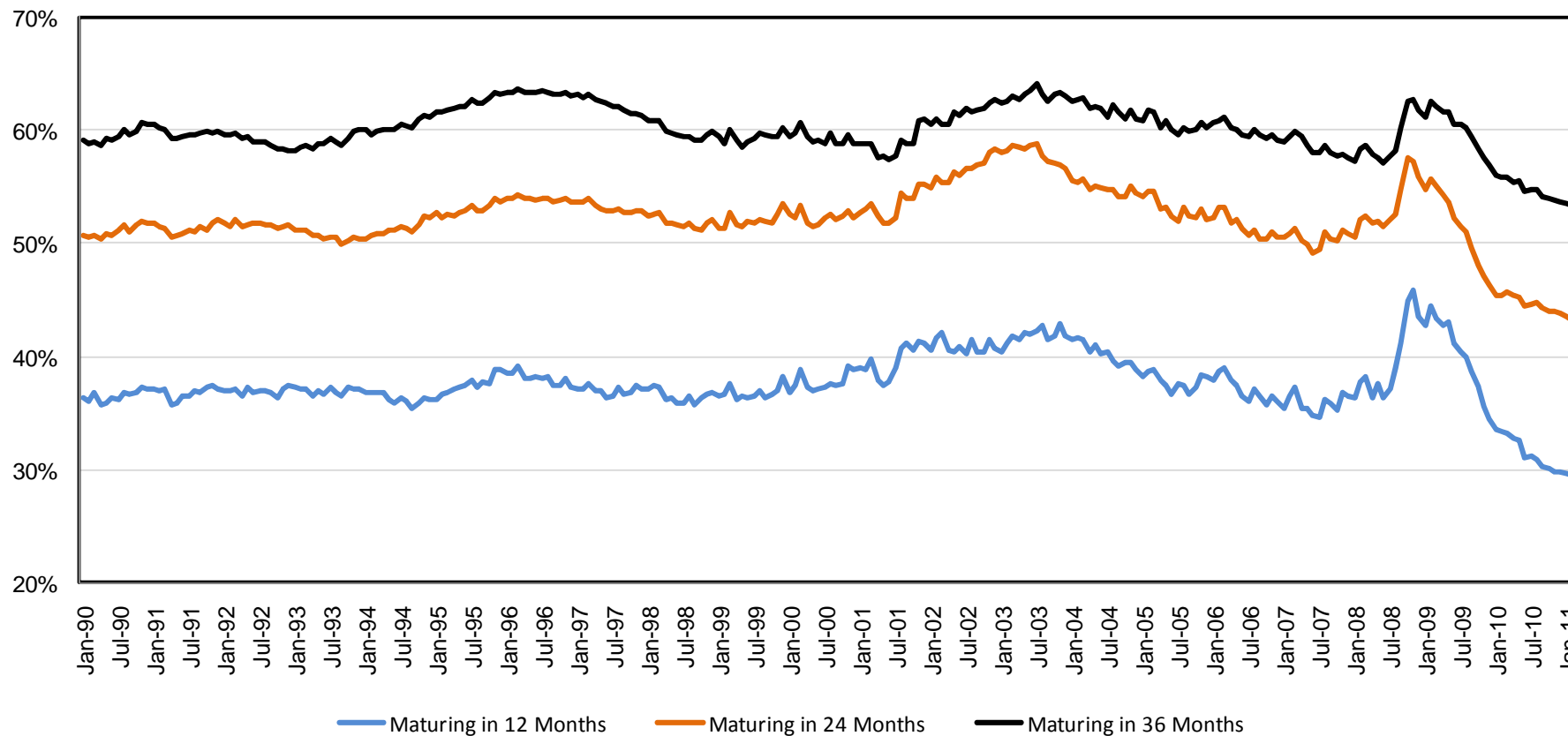


Note: Data through 3/31/2011



Percentage of Debt Maturing in the Near-Term Remains at Historic Lows

Percentage of Debt Maturing in Next 12 to 36 Months



Note: Data through 3/31/2011



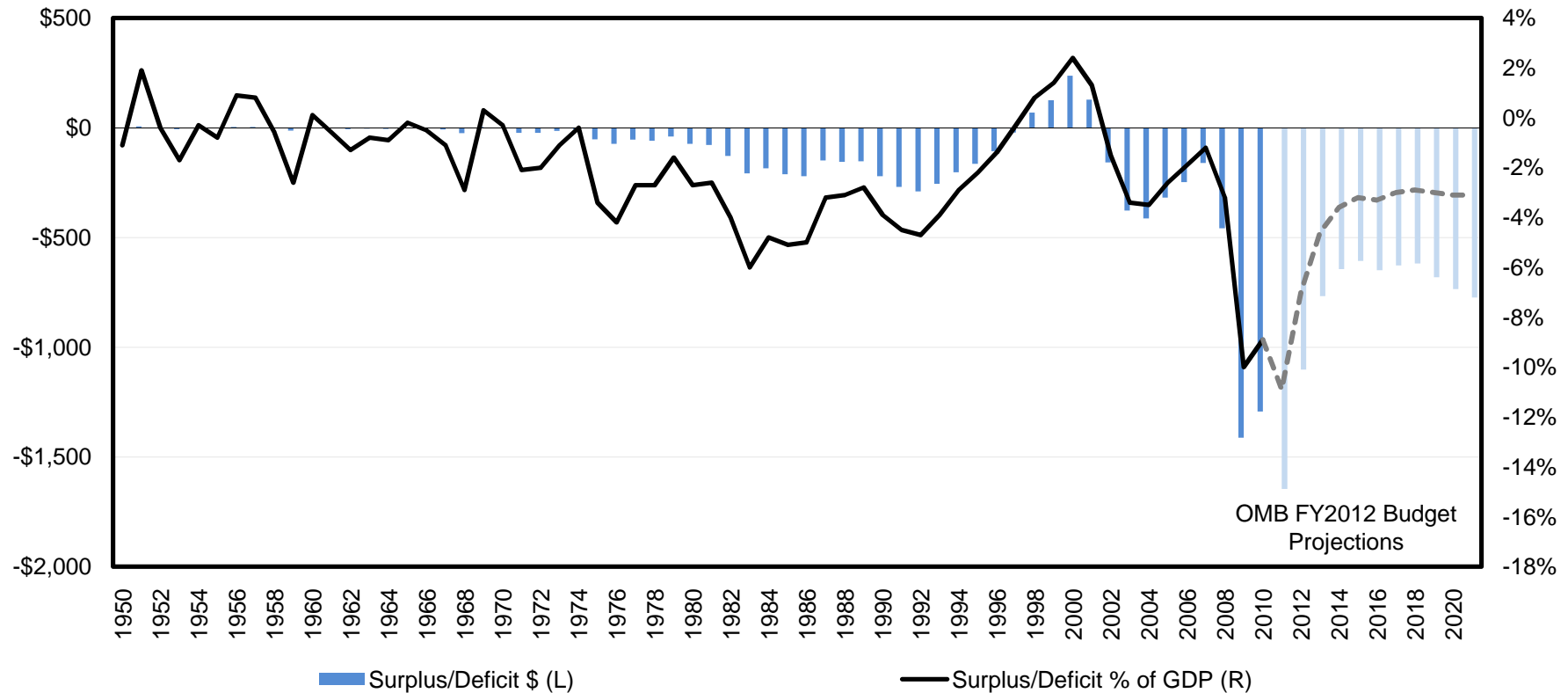
LONG-TERM CHALLENGES



OMB FY 2012 Budget Projections

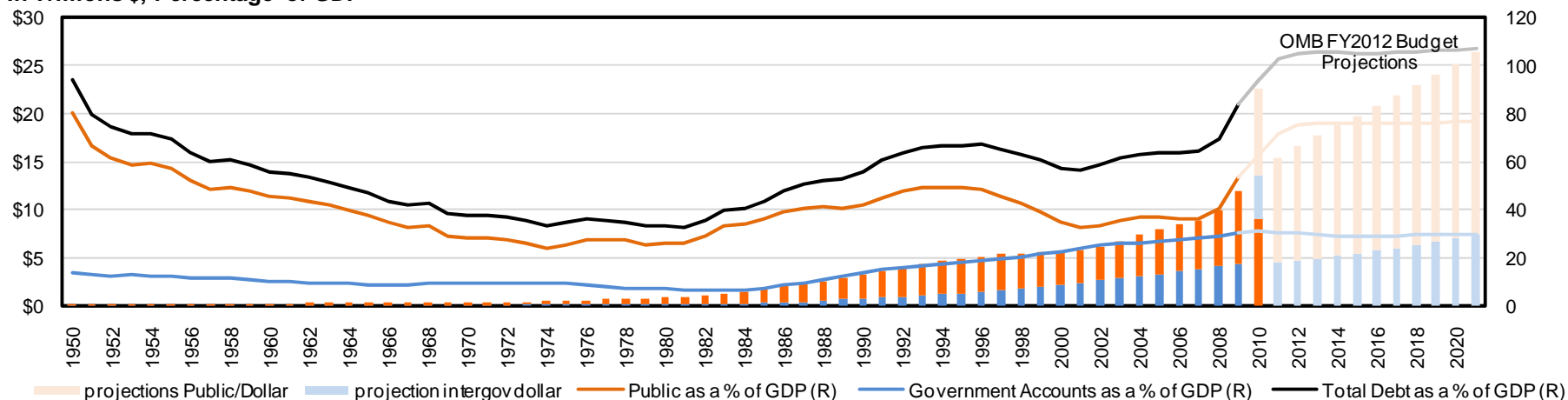


**Budget Surplus/Deficit
In Billions \$, Percentage of GDP**

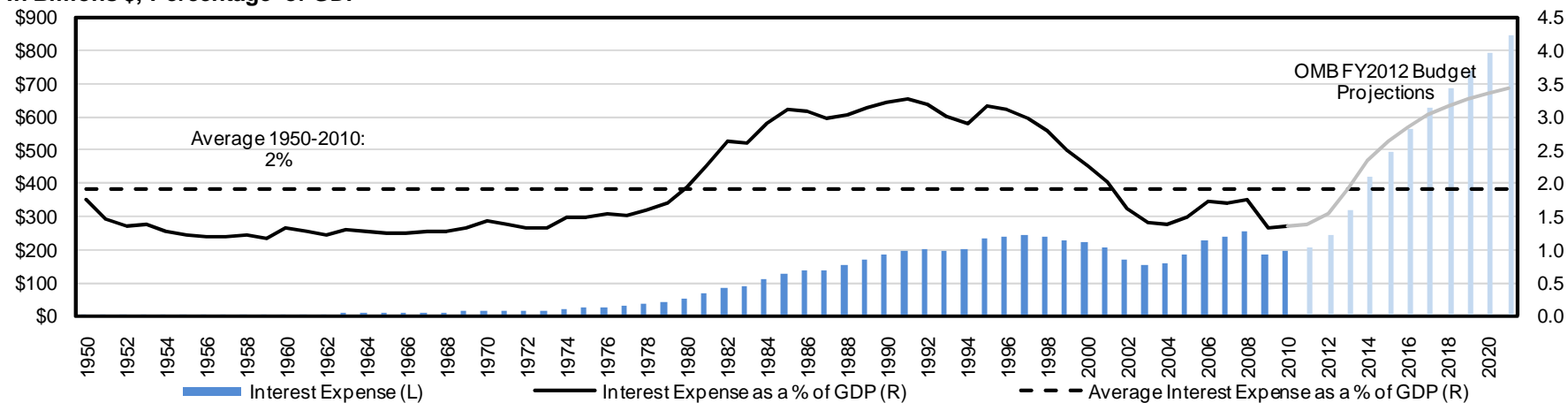


OMB Long-Term Debt Metrics

Fiscal Year Outstanding Debt
In Trillions \$, Percentage of GDP



Fiscal Year Interest Expense
In Billions \$, Percentage of GDP



Note: Interest costs based on net interest on Treasury debt minus interest on trust funds and other income.



Deficit Reduction Plans



Deficit Reduction

Relative to Current Policy Baseline, \$ billion

	Administration Framework (2012-23)	Simpson- Bowles (2012-21)	Ryan Budget Resolution (2012-21)
Total Deficit Reduction	-4,000	-4,394	-4,685
Spending	-2,010	-2,694	-5,325
Security Discretionary	-400	-930	-100
Non-Security Discretionary	-770	-600	-1,740
Repeal ACA	0	0	-1,410
Medicare/ Medicaid	-480	-460	-1,100
Other Mandatory	-360	-224	-975
Social Security + Superlative CPI	0	-480	0
Tax Reform	-1,000	-1,000	1,420
Interest	-990	-700	-780





What adjustments to debt issuance, if any, should Treasury make in consideration of its financing needs in the short-, medium-, and long-term?



Presentation for:

The Treasury
Borrowing
Advisory
Committee

May 3, 2011

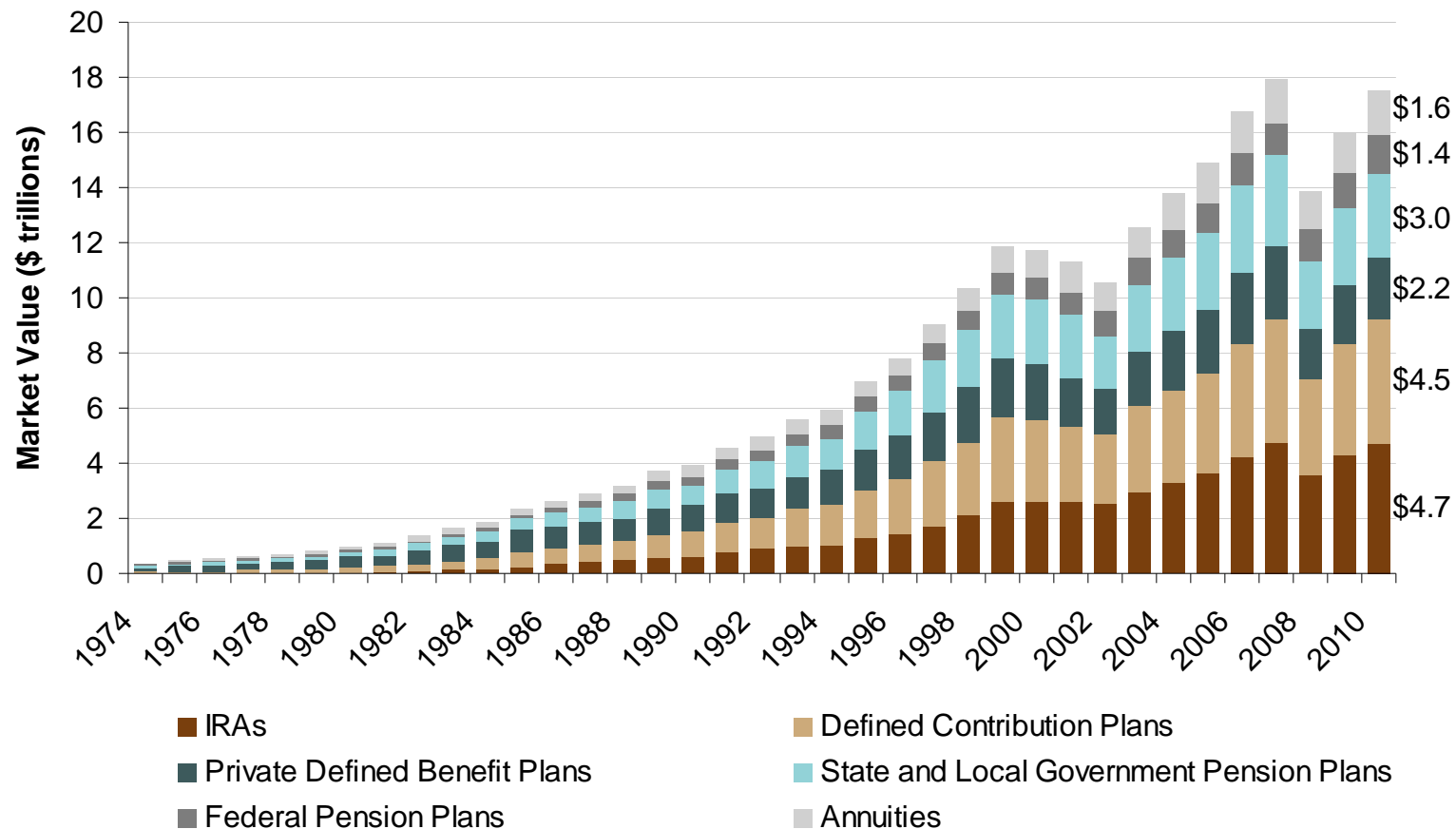
The Charge

We would like the Committee to comment on the current state of public and private pension funds in the U.S. How do public and private pensions differ in their approach to asset-liability management? Please discuss how these approaches affect their investment decisions in fixed income markets. Is there anything Treasury should consider when thinking about the overall composition of the Treasury debt portfolio and/or other Treasury products?

Part I: Characteristics of Public and Private Pension Funds

Historical Growth of U.S. Retirement Assets by Category

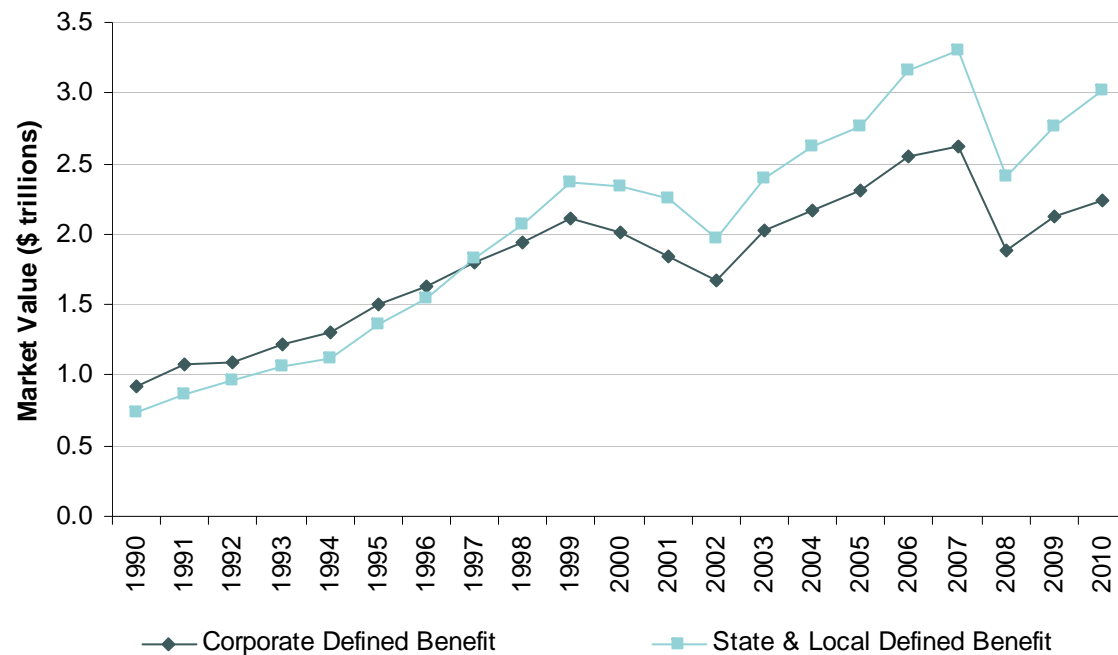
- Retirement assets totaled approximately \$17.5 trillion as of the end of 2010
- State and local government plans are almost exclusively defined benefit (DB) plans
- In the private sector, defined contribution (DC) plans are larger than defined benefit plans



Source: Investment Company Institute (ICI)

Historical Growth of Defined Benefit Plans

- Total assets of state and local government DB plans first exceeded corporate DB plan assets in 1997
- Since then, state and local government DB plans have grown 66% (4% annually), while corporate DB plans have grown by 25% (1.7% annually)
- In 2010, state and local DB plans comprised 57% of the total DB market (\$3 trillion of \$5.2 trillion)



Source: ICI

Comparison of Private and Public DB Plans

- Private and public DB plans have different characteristics
- In general, public plans offer higher benefit payments but require larger contributions from both the employer and employee
- Importantly, freezing a public DB plan is generally more difficult (due to collective bargaining agreements, legal protections, etc.), thus reducing the degrees of freedom for public plan sponsors

Characteristic	Private Plans	State and Local Plans
Benefit Formula	The most common plan structure sets retirement benefits based on the number of years of service, salary at/near retirement, and a constant accrual rate	
Median Accrual Rate ¹	1.5%	1.9%, if covered by Social Security 2.2%, if not covered by Social Security
Cost of Living Adjustments	Very rare	Majority of plans have automatic COLAs
Median Employee Contribution Rates ²	Very rare	5%, if covered by Social Security 8%, if not covered by Social Security
Median Employer Contribution Rates ³	8%	8%, if covered by Social Security 10.7%, if not covered by Social Security
Can Employer Freeze Plan?	Generally, yes	Generally, not unilaterally

1. As of 2005

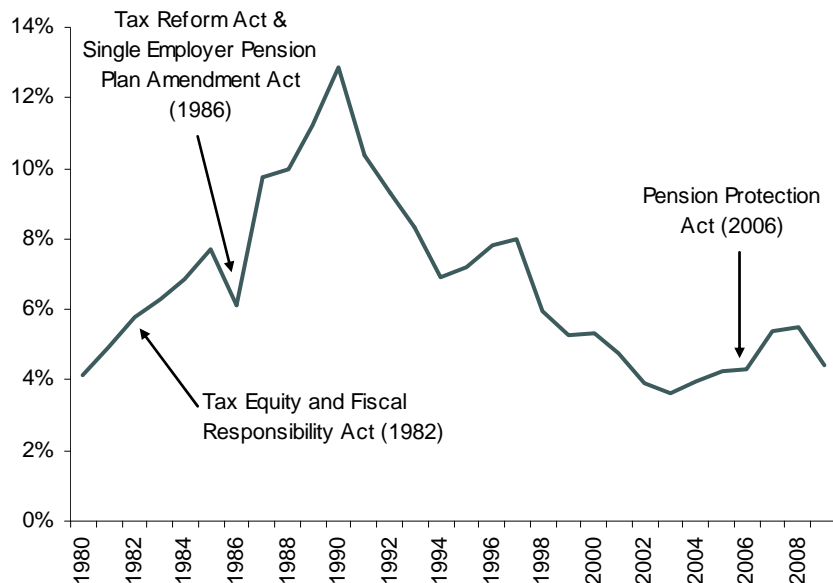
2. As of 2005. From 2002 – 2009, public employee contribution rates were stable.

3. As of 2005. In 2009, public fund figures were 9.4% and 12.7% respectively

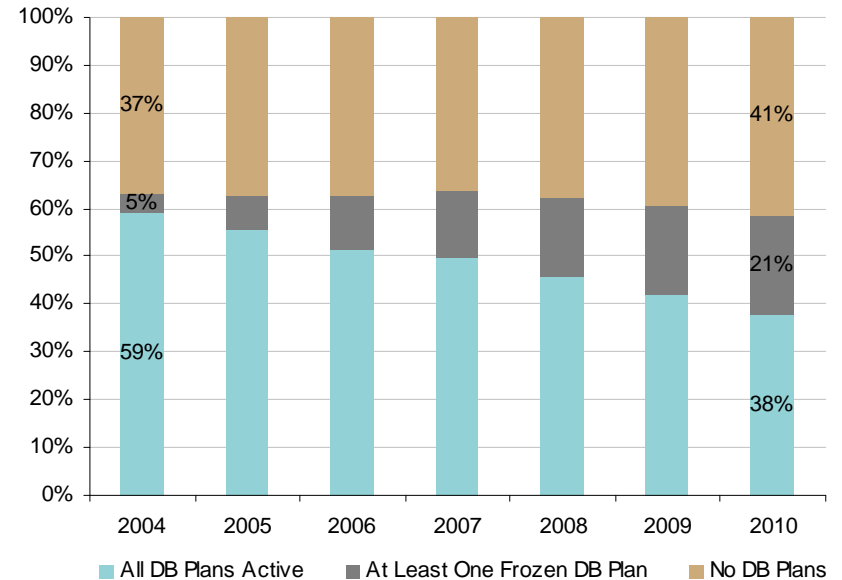
Complexity and Volatility are Causing Private Firms to Freeze DB Plans

- Regulatory, legislative, and accounting changes over the past several decades have made private DB plans increasingly complex and have contributed to cash flow and earnings volatility
- As a result, firms have increasingly frozen DB plans
 - 59% of Fortune 1,000 companies sponsor a DB plan (vs. 64% in 2004)
 - 21% of Fortune 1,000 companies have frozen at least one of their DB plans (vs. 5% in 2004)

PBGC Standard Single Employer Terminations (% of insured plans)



Status of DB Plans at Fortune 1,000 Companies

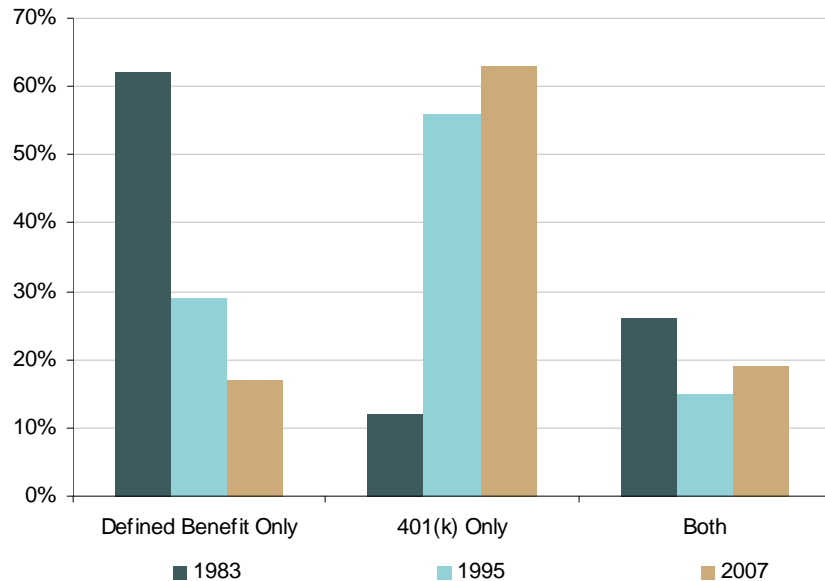


Sources: National Institute on Retirement Security, PBGC, Towers Watson

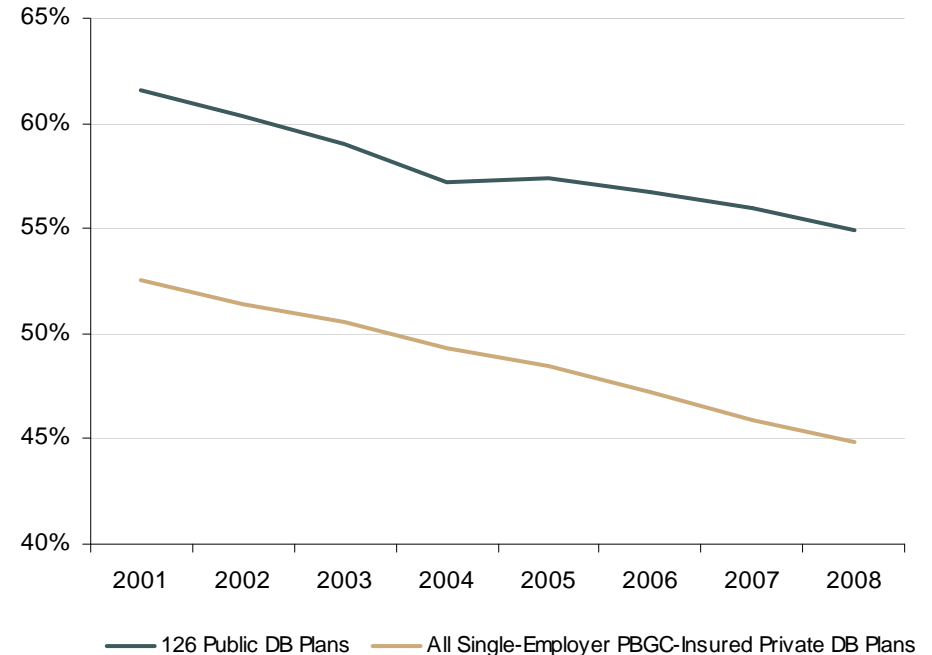
DB Coverage is Declining, while DC Coverage is Rising

- DB plan freezes and turnover of the labor force have contributed to a dramatic shift in the coverage of DB plans
 - The percentage of workers covered by DB plans has declined by over 40 percentage points since 1983
 - Less than half of the participants in private DB plans (and 55% in public DB plans) are still working for the sponsoring employer

Workers with Pension Coverage, by Pension Type



Percent of Active Participants in Defined Benefit Plans

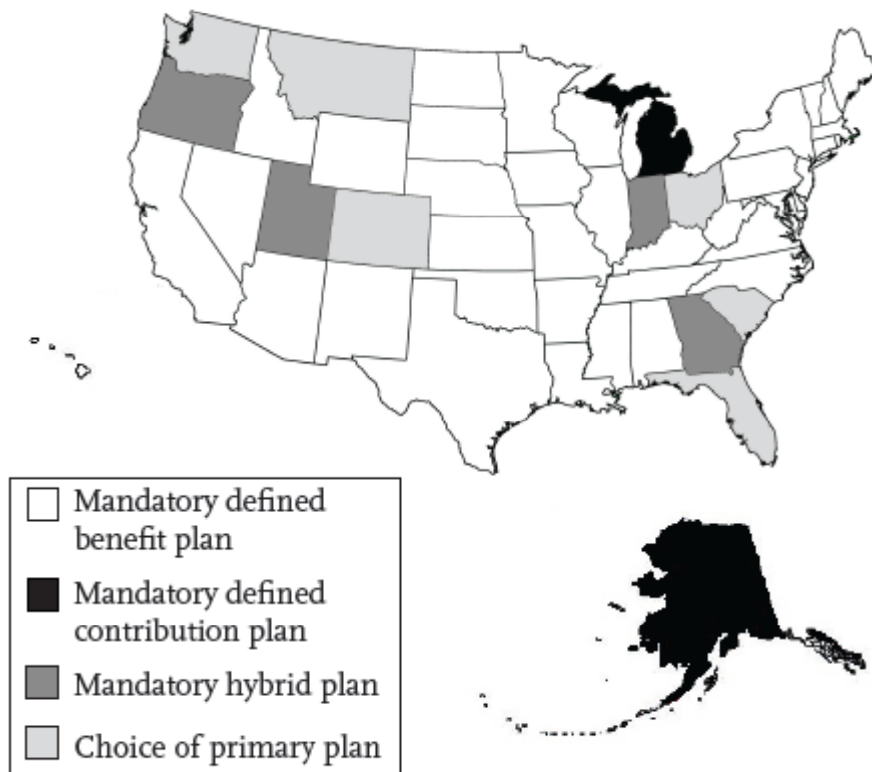


Sources: CRR, PBGC

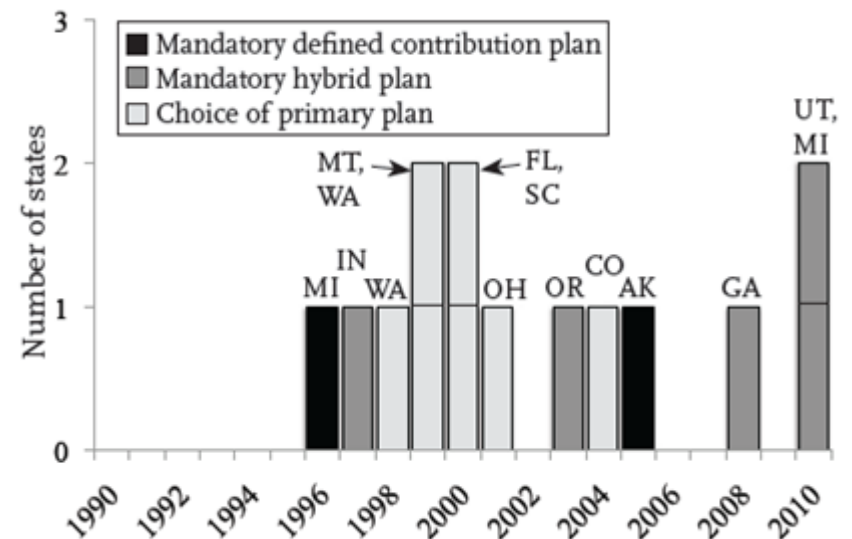
Historical Growth of Public Defined Contribution Plans

- State & Local Defined Contribution plans represent a small portion of the DC market
 - Only two states (MI and AK) have implemented mandatory defined contribution programs
 - Most of the asset growth has been in voluntary contribution plans (similar to 401(k) plans)

Availability of Defined Contribution and Hybrid Plans



Introduction of State DC and Hybrid Plans, by Year



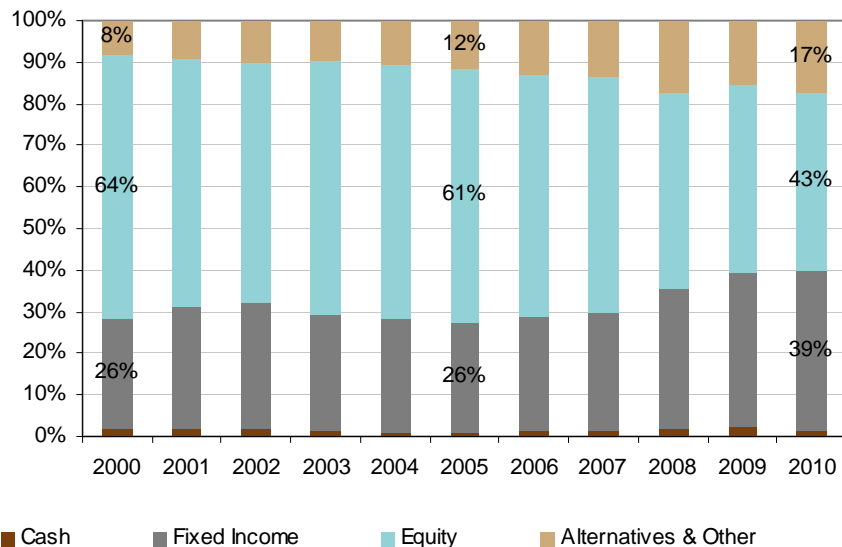
Sources: ICI, CRR

Part II: Survey of Assets Held by Public and Private Funds

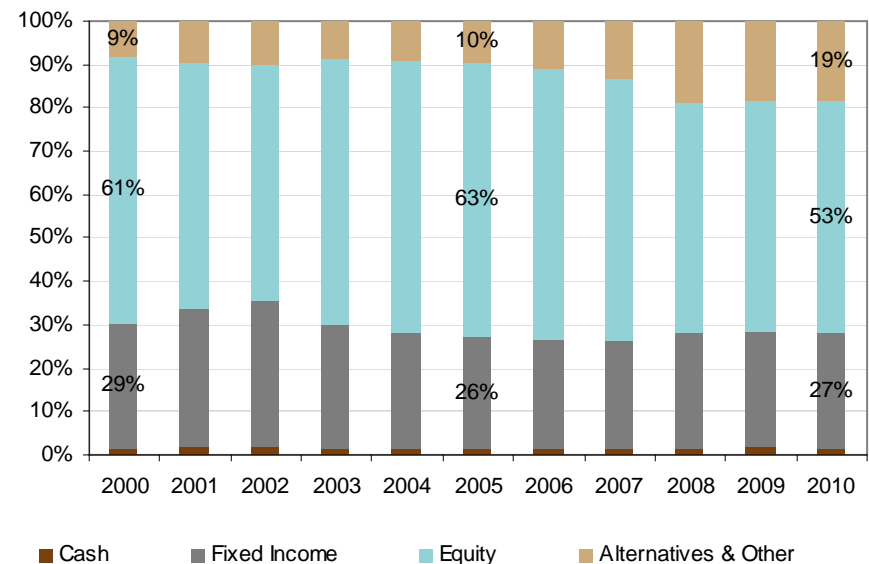
Asset Allocation Diverging Between Private and Public DB Plans - Historical

- Since the Pension Protection Act was enacted in 2006, corporations have increasingly focused on liability-driven investment strategies
- As a result, corporate DB plans have shifted from equities into fixed income and also increased the duration of their fixed income assets to better match the duration of their liabilities (typically 12+ years)
- Over the past decade, the fixed income allocation of corporate DB plans has expanded from 26% to 39%, while the allocation in public DB plans has declined from 29% to 27%
- Both have increased allocations to alternative strategies (such as real estate, private equity, and hedge funds)

Asset Allocation for Corporate DB Plans



Asset Allocation for Public DB Plans



Source: Pensions & Investments (P&I)

Comparison of Funding and Accounting Rules

- Differences in accounting and funding requirements impact asset allocation
- Under proposed accounting standards for private plans, the expected return on pension assets will no longer flow through the income statement. This may cause private plans to increase their allocations to fixed income.

	Private DB	Public DB
Accounting Rules		
Source	Primarily FAS 87 and 158	Primarily GASB 25 and 27
Funded Status on Balance Sheet?	Yes. Net asset for all overfunded plans + net liability for all underfunded plans	No. Incur a liability if annual contribution is below the annual required contribution (ARC) ¹
Pension Asset Valuation	Generally at fair value	Typically 3-5 year smoothing
Liability Discount Rate	Based on high-quality corporate bond yields. Discount rate unaffected by asset allocation.	Based on expected rate of return. Assumes sponsor will not default.
Income Statement Impact of Asset Allocation	More aggressive portfolio → Higher expected return → Lower pension expense	More aggressive portfolio → Higher expected return → Lower ARC → Lower pension expense
Funding Rules		
Source	Primarily ERISA and PPA	No uniform requirement
Annual Required Contribution	Normal Cost + Underfunding amortized over seven years ²	GASB recommends Normal Cost + Underfunding amortized over ~30 years

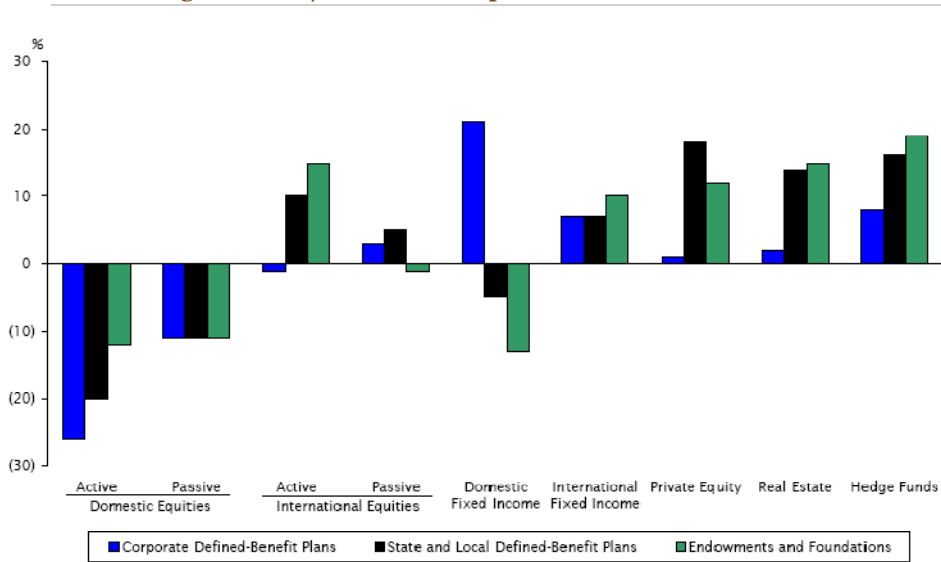
1. Funded status (using actuarial value of assets and a discount rate equal to the expected return) is reported on a separate schedule.

2. Unlike the funded status reflected on balance sheet (which compares assets to the projected benefit obligation), funding requirements are calculated with respect to the accumulated benefit obligation (which excludes future salary growth). Congress enacted pension funding relief in 2010 that allows sponsors to temporarily extend the amortization period.

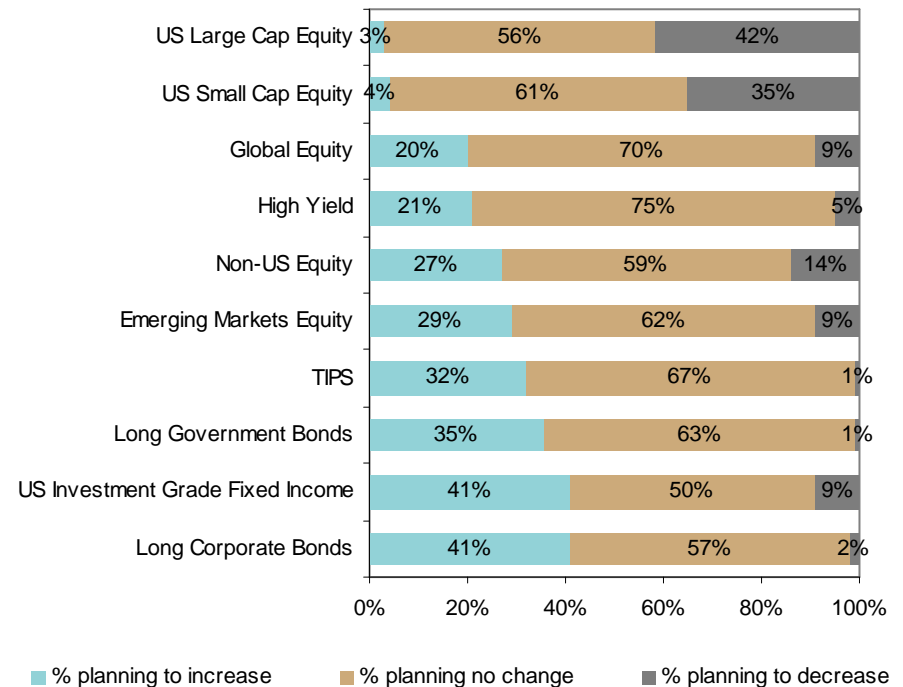
Asset Allocation Diverging Between Private and Public DB Plans - Prospective

- Surveys indicate that asset allocation trends between corporate and public DB plans are likely to continue over the next few years
- 41% of corporate DB plan sponsors intend to increase their allocation to long corporate bonds over the next one to two years (35% planning to increase allocation to long government bonds)
- Both corporate and public plans intend to reduce exposure to U.S. equities

Net Share of Sponsors Planning to Significantly Increase Exposure over Next 3 Years



Asset Allocation for Corporate DB Plans over Next 1 – 2 Years

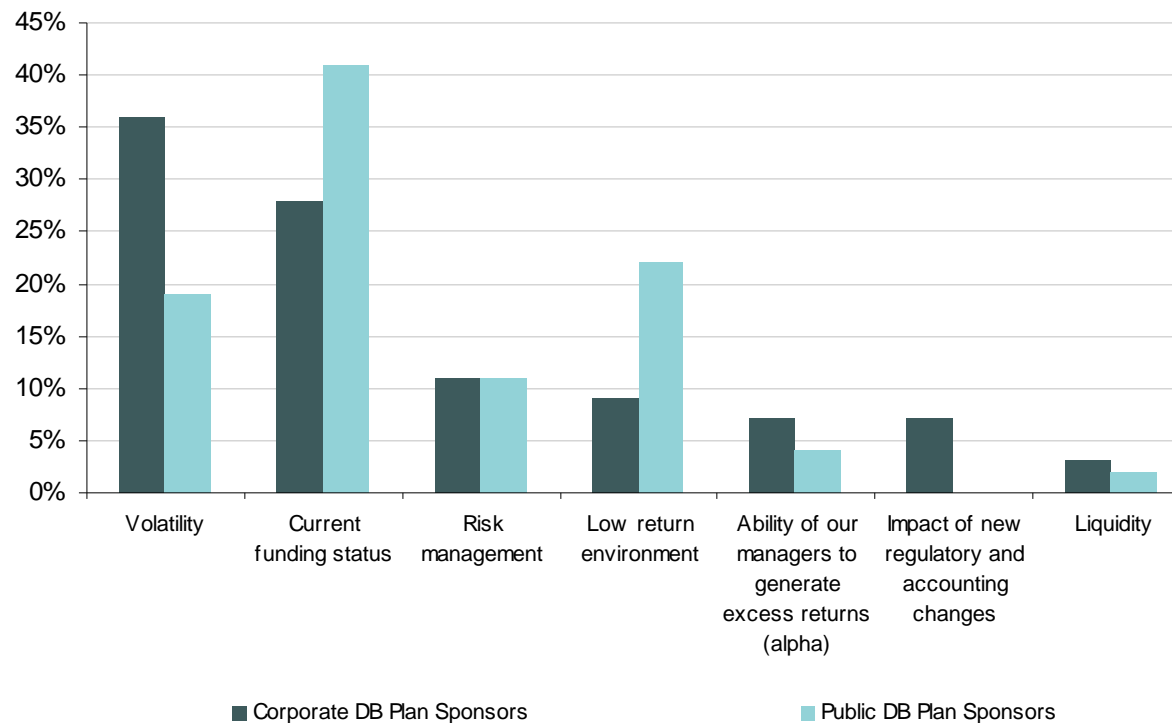


Sources: Empirical Research, Pyramis

Private DB More Concerned About Volatility, Public DB About Returns

- Surveys of plan sponsors indicate that corporate DB plan sponsors are primarily concerned with volatility, while public DB plan sponsors are more concerned with improving their funded status
 - When asked to define volatility, corporate DB plan sponsors were more concerned with funded status volatility, while public DB plan sponsors were more concerned with asset volatility
- This difference in focus is likely the result of differences in regulatory and accounting standards, as well as the lower funded status of public plans

Top Concerns of Corporate and Public DB Sponsors over the Next Decade

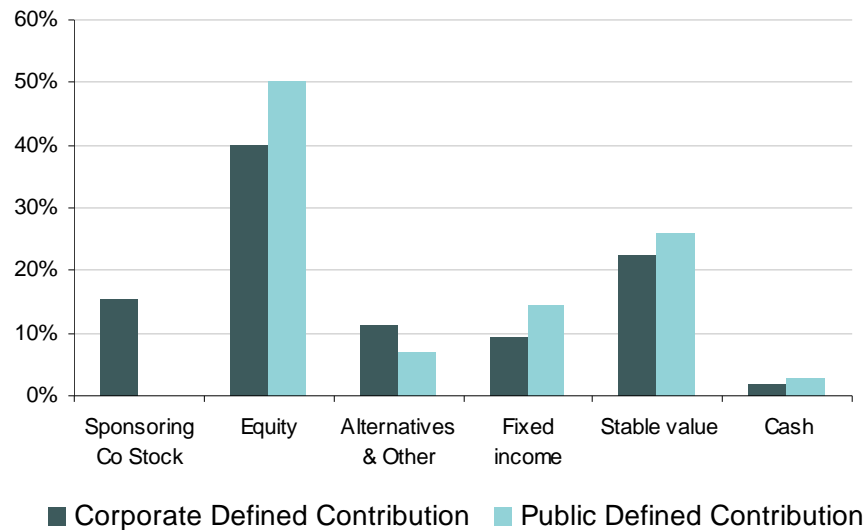


Source: Pyramis

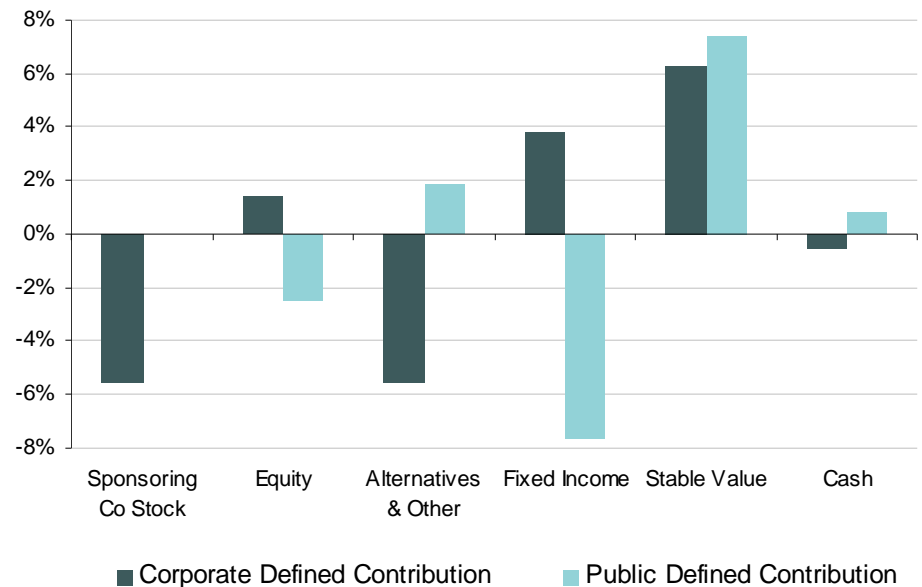
DC Plan Asset Allocation

- Participants in corporate DC plans have been gradually de-risking
 - Cash, stable value, and fixed income in aggregate have risen from 24% to 33% over the past 5 years
 - Total equity allocation has declined 4 percentage points, driven by a decrease in sponsoring company stock
 - However, corporate DC plans still appear to have riskier asset allocations than public DC plans
- Changes in the risk profile of public DC plans, meanwhile, appear more muted
 - Equity allocation has declined slightly, offset by an increase in alternative investments / other
 - Fixed income assets have been re-allocated to stable value

Corporate DC vs Public DC Asset Allocation as of 2010



Change in Asset Allocation: 2010 vs 2006 (in percentage points)



Source: P&I

Part III: Public and Private Pension Fund Liabilities

What Drives the Growth of Pension Liabilities?

Changes in the
future value of
benefits

Benefit Accruals

Each year workers accrue a future benefit based on a predetermined formula, typically linked to compensation and years of service

Wage / Salary Growth

Estimates of future benefit obligations include an assumption about the growth in wages over the working life of the beneficiaries

Inflation

Many public plans offer retirees a direct cost of living adjustment based on CPI inflation. Private plans rarely offer this benefit

Increasing Longevity

Longer lives in retirement result in a greater liability as the benefits are paid until death, not to a fixed number of years

Changes in the
present value of
benefits

Discount Rate

Private pension plans use a discount rate linked to the yield on high quality corporate bonds, which can fluctuate and result in material changes in the present value of the liability. Public plans use a fixed discount rate that effectively insulates the liability from mark-to-market volatility

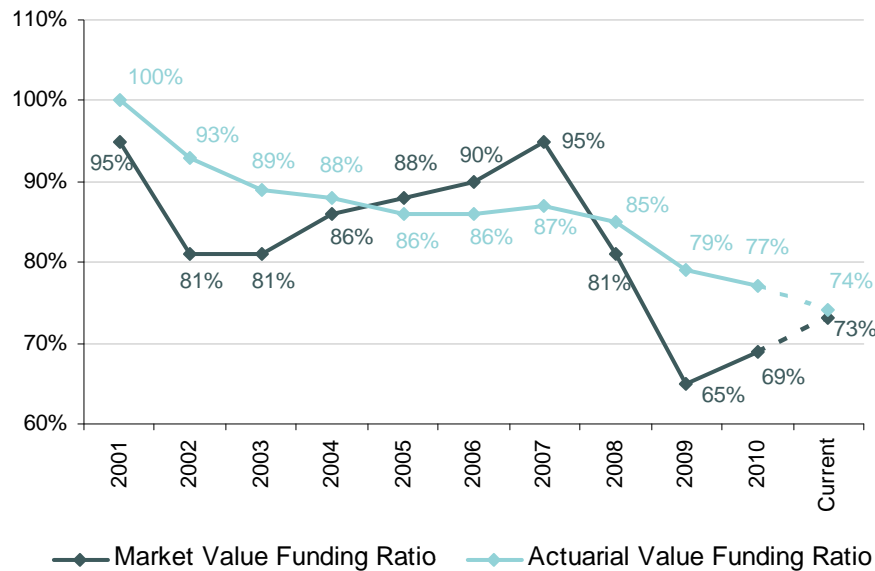
Measuring Pension Funding Gaps

- Pension funding gaps fluctuate with pension assets and liabilities
- Main drivers of pension assets
 1. Investment Return (most volatile component)
 2. Benefit Payments
 3. Contributions (generally, but not necessarily, increase in response to reductions in funded status)
- Main drivers of pension liabilities
 1. Service cost + Interest cost
 2. Benefit Payments
 3. Changes in actuarial assumptions, especially the discount rate
- Due to differing accounting standards, funding gaps for public and private funds are not directly comparable
- The choice of discount rate is particularly important in calculating the funded status of a plan
 - Corporate DB plans are discounted using high-quality corporate bond yields
 - Reflects credit risk of strong corporations
 - In 2010, yields in the 5.5% - 6% range were generally used
 - State & Local DB plans are discounted using an assumed long-term rate of return on plan assets
 - These return assumptions rarely change, and are not necessarily tied to actual plan returns
 - Currently, the average public plan discount rate is about 8%
 - Discounting public plans using high-quality municipal bond yields may be a better choice
 - In contrast, discounting each entity's pension obligation using the sponsor's bond yields may be a poor choice because it would reduce the pension obligation as the sponsor's creditworthiness deteriorates

Funded Status of Public Pensions

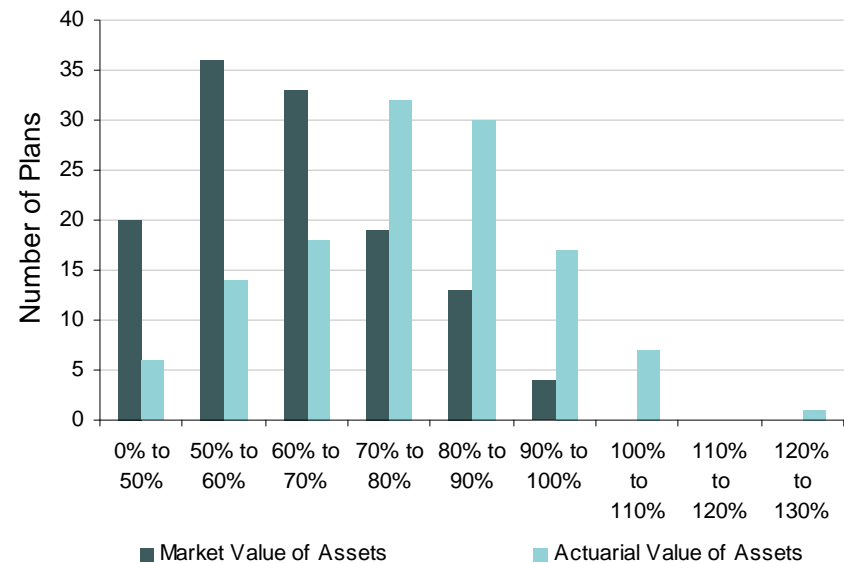
- Public pension liabilities are valued using a discount rate that is linked to the expected return on plan assets, which does not fluctuate based on movements in interest rates or credit spreads
- Assets are measured using either a mark-to-market valuation or a smoothed actuarial value, resulting in different levels of estimated funded status
- Strong market returns are improving the funded status on a market value basis. Actuarial returns are continuing to decline as they still do not fully incorporate the financial crisis.

Estimated Funded Status of 125 State DB Plans over Time



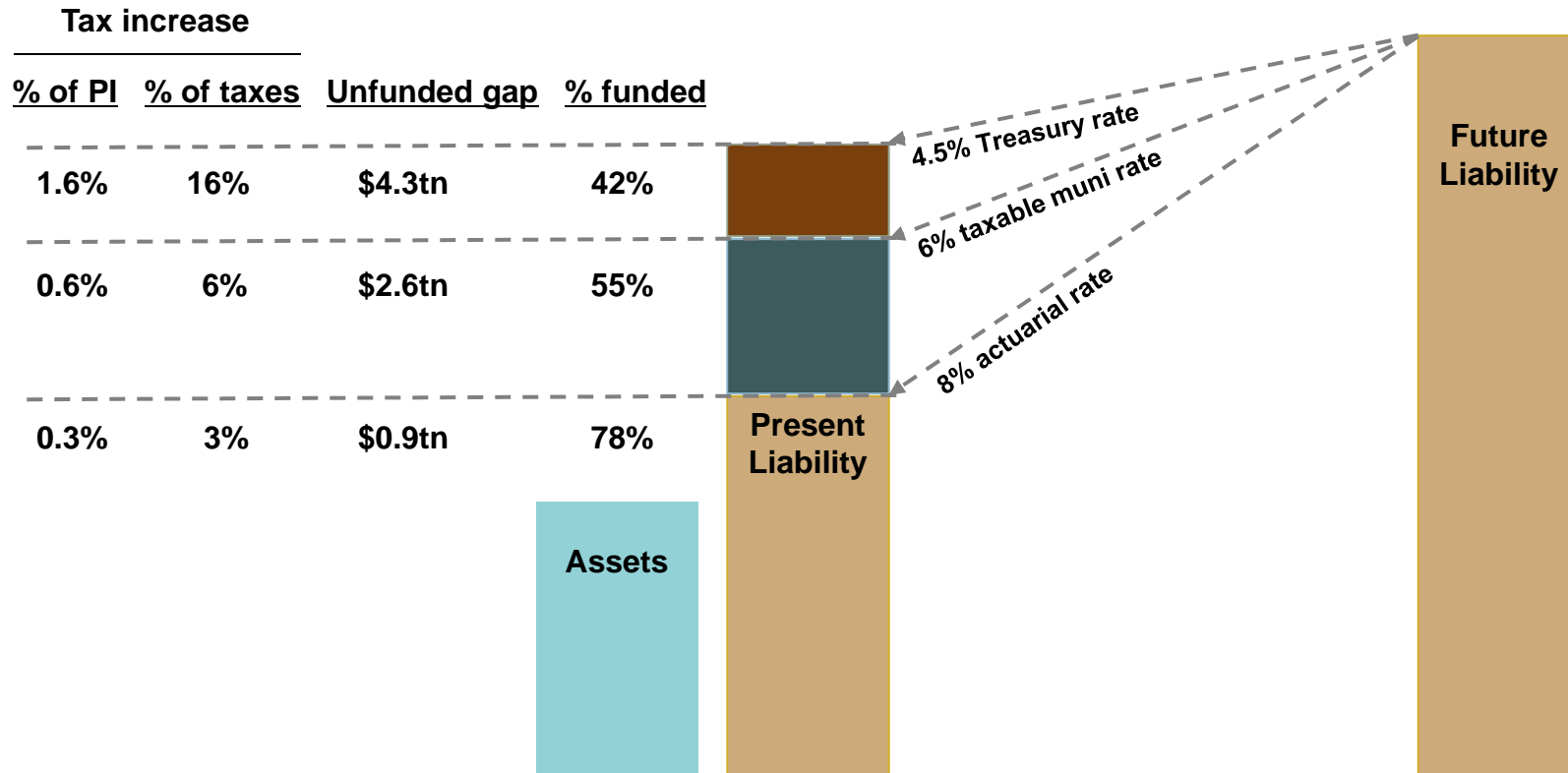
Source: Wilshire, JP Morgan

Estimated Funded Status of 125 State DB Plans as of 2010



How Large is the State and Local Government Pension Gap?

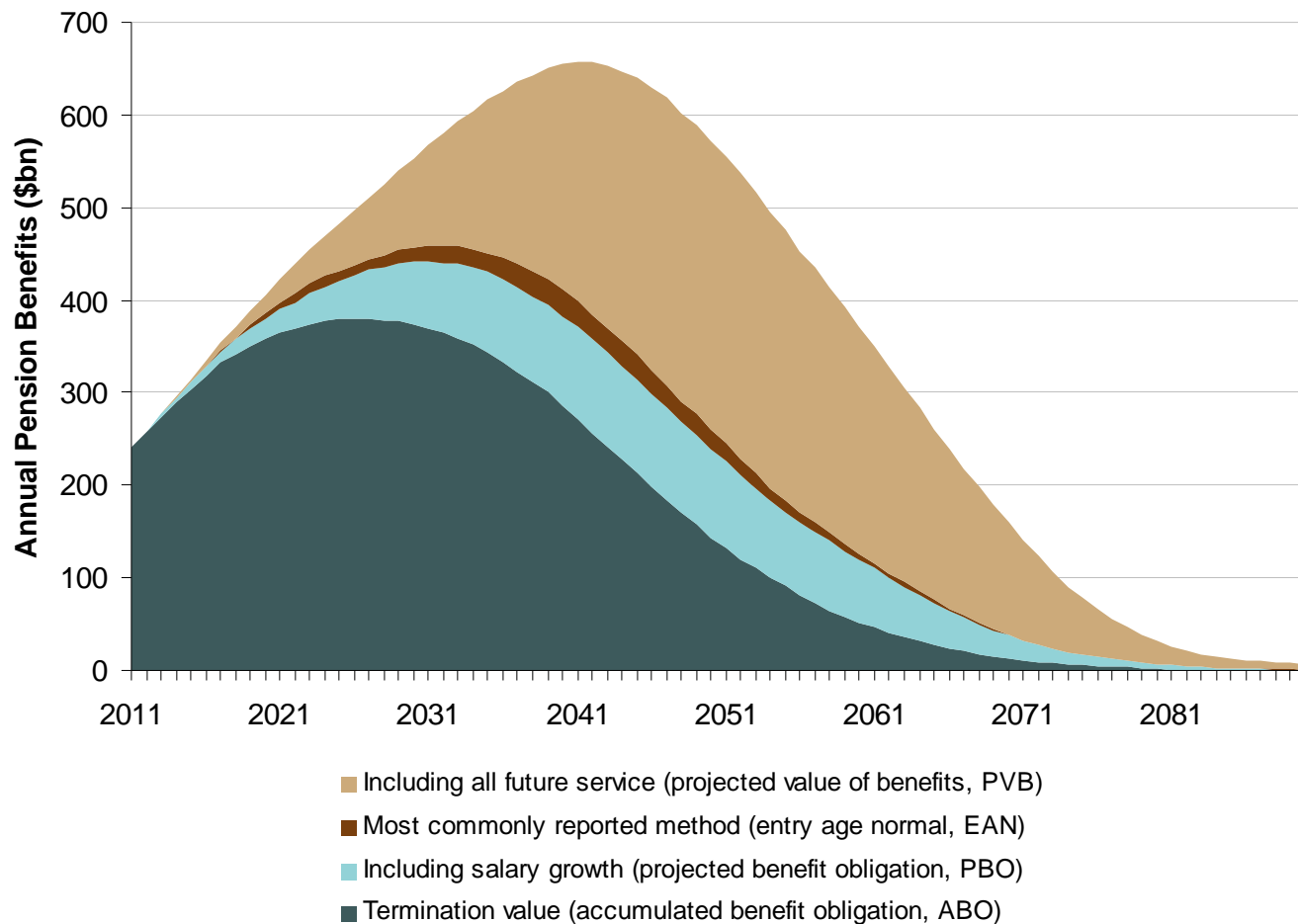
- Public plans report their liability using a discount rate that is equal to the expected return on plan assets
- Based on “as reported” figures (adjusted for recent market movements), plans are ~78% funded. If a lower discount rate were to be used, plan funding would be significantly worse (shown below).
- To calculate the increase in taxes necessary to fund accrued benefits, we assume that 22-year amortizing pension obligation bonds are issued to fully fund the pension and then solve for the upfront tax increase that is necessary to pay off the debt. If yet-to-be-accrued benefits for current employees are taken into account, the figures are even larger (see subsequent slides).



Note: For the tax increase analysis, the yield on the pension obligation bonds equals the discount rate. If future asset returns are lower than the discount rate, then taxes would need to be increased more than indicated above. “% of PI” indicates the tax increase as a % of personal income. “% of taxes” indicates the tax increase as a % of the existing state and local tax burden. Source: JP Morgan

Projected Benefit Payments for Current State and Local Employees

- Already earned vested benefits (dark blue area) will peak at ~\$380 billion per year in 2026
- If employees' future service and salary increases are also included (all shaded areas), annual benefit payments will peak at ~\$660 billion in 2041
- This analysis does not take into account that new employees will be hired to replace retiring employees (and that many of those new employees will retire during the illustrated timeframe)



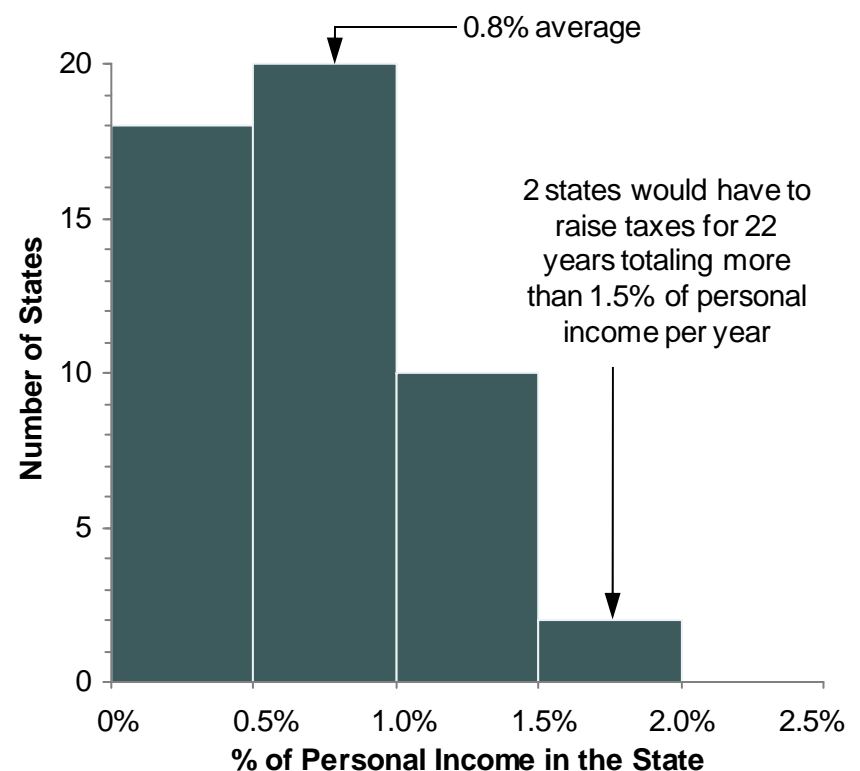
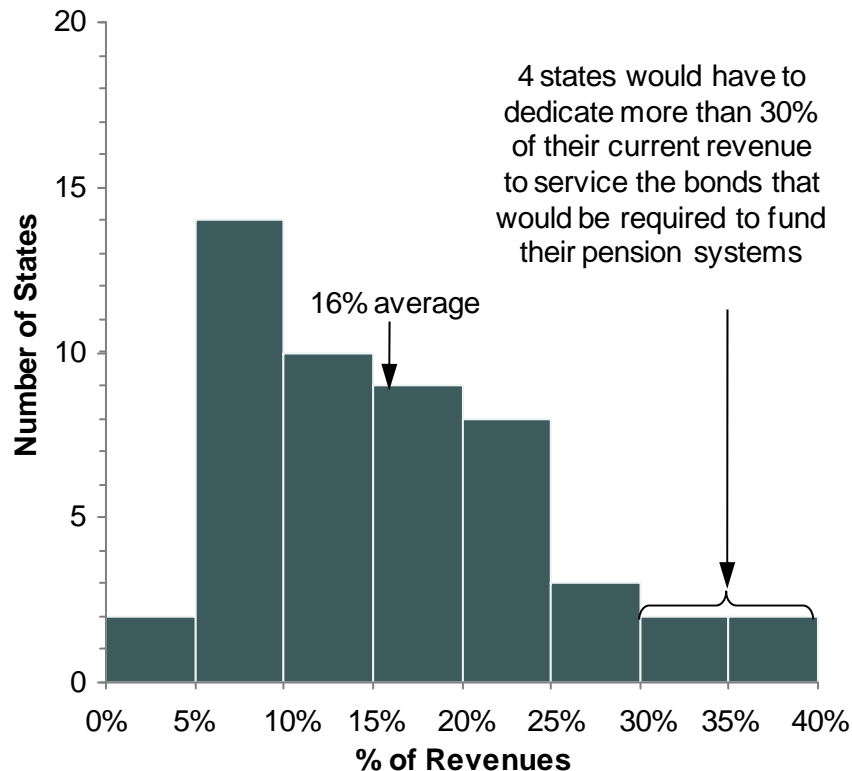
Source: JP Morgan, based on work by Robert Novy-Marx and Joshua Rauh

Required State Adjustments To Fund Benefits for Current State Employees

- When including the full costs of future service and salary increases (PVB on the prior slide), the total state and local gap increases to \$3.9 trillion (of which the state portion is \$2.5 trillion)
- The fiscal adjustment required to satisfy these liabilities varies significantly from state to state

States would have to dedicate 16% of their current revenue, on average, to fully fund their pension plans

Which would mean increasing taxes by 0.8% of personal income (from 9.8% to 10.6%)

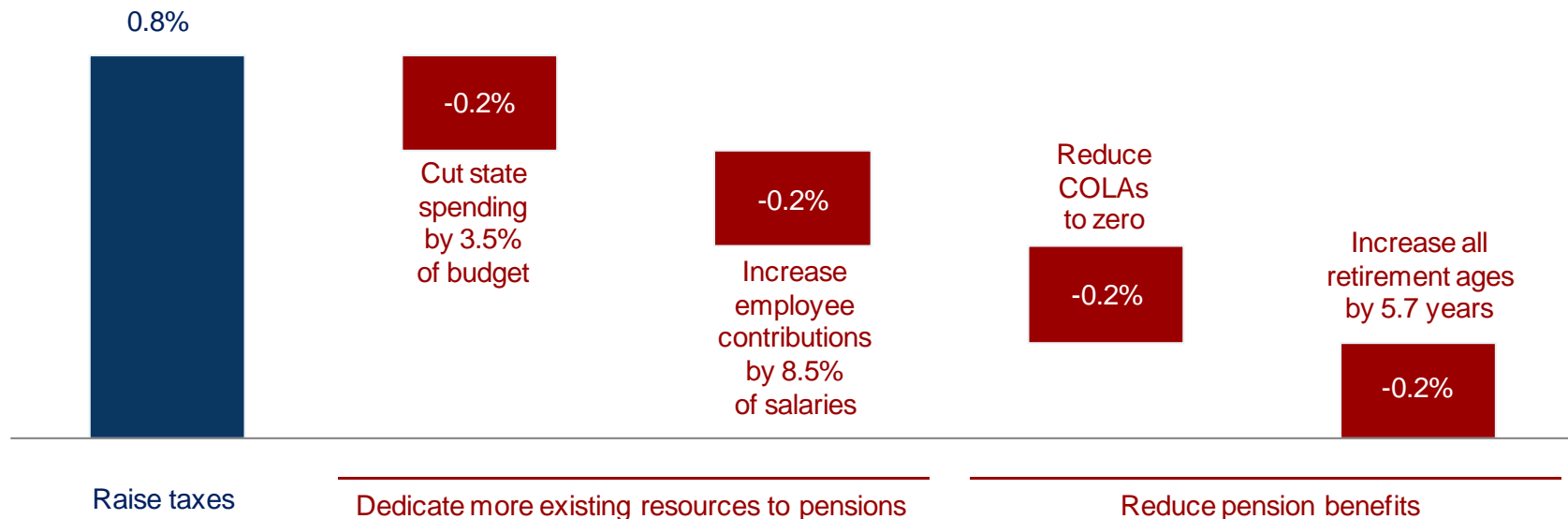


Note: Pensions discounted at a yield curve of taxable muni discount rates. Revenue is FY2011 total governmental funds excluding federal grants and aid. Source of revenue data: FY2009 and FY2010 CAFRs and NCSL survey of legislative analyst projections for FY2011. Unfunded pension liabilities also include full estimate of future service and salary increases and eliminate asset smoothing. Cost of servicing unfunded pensions assumes 22-year fully amortizing bonds are issued (at the same taxable muni rate) to pay for the entire unfunded liability. Source of personal income in each state: Tax Foundation.

Source: JP Morgan

Alternatives to Raising Taxes

- Aside from raising taxes, states have other levers at their disposal
- The chart below illustrates one possible solution that relies equally on cutting state spending, increasing employee contributions, reducing COLAs, and increasing retirement ages



As with the chart on the right side of the previous page, all numbers show the adjustment as a percentage of personal income in the state

Employee contributions assume that each percentage point increase raises \$250 per member per year. Present value of COLA reduction and retirement age increases based on “Policy Options for State Pensions Systems and Their Impact on Plan Liabilities” presented by Joshua Rauh and Robert Novy-Marx at Jackson Hole in August of 2010.

Source: JP Morgan

Limited Legal Precedents to Changing Benefits

Decreasing cost of living adjustment for retirees

- **Colorado's** 2010 legislation, amongst other reforms, reduced the COLA to the lesser of 2% or inflation
- **Minnesota's** 2010 legislation reduced COLAs until the plan is 90% funded (COLAs from 2.5% to 2% for SERS, from 2.5% to 1.5% for state police, from 2.5% to 1% for PERS, from 2% to 0% for teachers)
- **South Dakota's** 2010 legislation ties COLAs to a formula based on funded level (3.1% COLA if 100%+ funded, 2.1-2.8% if 90-100%, 2.1-2.4% if 80-90%, 2.1% if less than 80%)

Retirees in all three states have filed lawsuits alleging that the reduction in benefits represents a breach of contract

Increasing early and full retirement ages

- **Rhode Island's** 2009 legislation was carefully crafted to generate as much savings as possible (e.g., impacting current workers too) while also respecting the vested rights of current workers:
 - Increasing the retirement age from 60 to 62, but only for employees who are NOT yet eligible to retire
 - The closer an employee is to age 60, the less it impacts him or her (proportionally with caps)

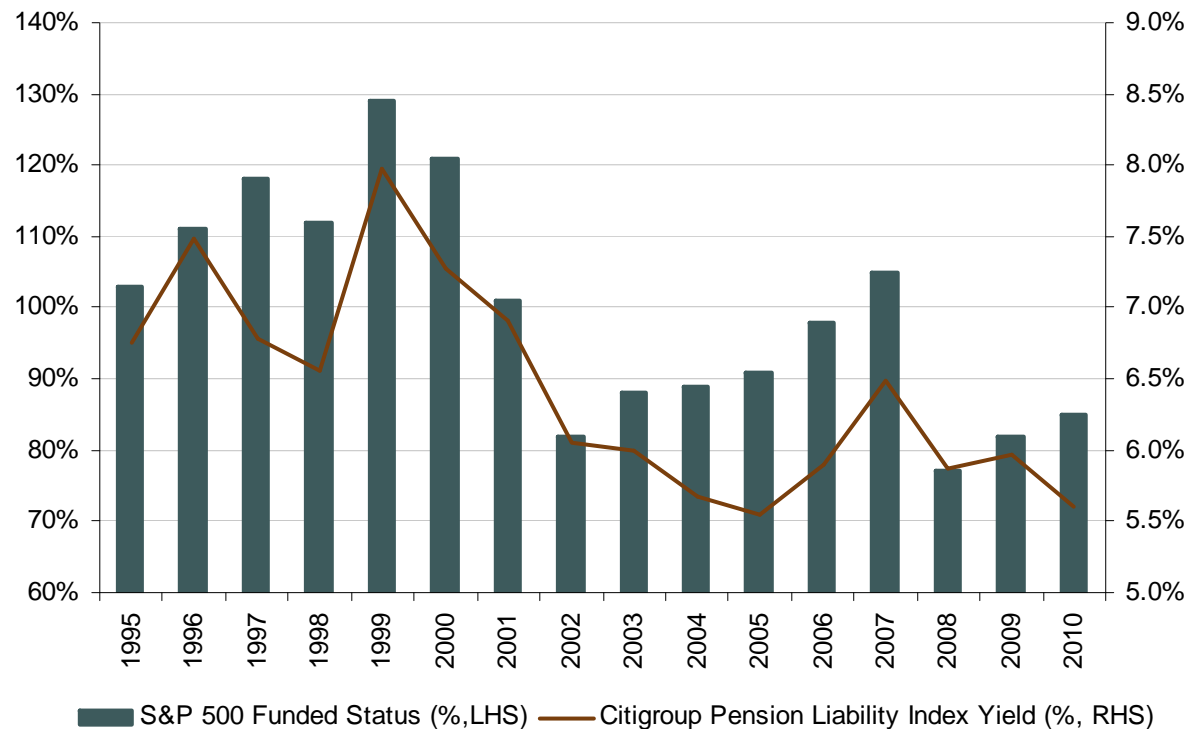
No lawsuits have been filed to our knowledge

Note: Legal protections vary by state

Source: National Conference of State Legislatures

S&P 500 DB Funded Status is Improving and Likely Manageable

- After declining to ~77% in 2008, the funded status for S&P 500 companies has improved to ~85% as of 12/31/2010 (~\$192 billion)
 - A 50bp increase in the discount rate would improve the status to 90% (~\$120bn), assuming an 11 year duration
 - Employer contributions are sizeable: ~\$66 billion in 2009, up from \$39 billion in 2008
- In aggregate, \$192 billion of pension underfunding (\$125 billion after-tax) seems manageable
 - In 2010, S&P 500 companies spent \$299bn on share repurchase and \$206bn on dividends
 - Circumstances vary by sector and company



Sources: Morgan Stanley, Wilshire, Standard & Poor's, Citigroup

Part IV: Considerations

Potential Fixed Income Inflows from Pension Asset Allocation Changes

- Given expected asset allocation trends, flows into fixed income may increase in the coming years
 - \$2.2 trillion of assets in corporate DB plans, \$3 trillion in state and local government DB plans
- A 10 percentage point increase in the fixed income allocation for corporate DB plans equates to \$224bn
 - For comparison, the Barclays Capital Long Corporate and Long Treasury indices have market caps of \$744 billion and \$661 billion, respectively, as of 3/31/2011
 - Currently, corporate DB plans have a fixed income allocation of 39%
- However, changes in asset allocation are likely to be gradual. According to the Pyramis survey of corporate DB plans cited earlier (pg. 12):
 - 39% (net) of plans intend to increase their allocation to long corporate bonds over the next 1 -2 years
 - 34% (net) of plans intend to increase their allocation to long govt. bonds over the next 1 -2 years
 - If we assume that increasing the allocation to an asset class means changing the allocation by 5 percentage points, this would imply purchases of \$44 billion of long corporate bonds and \$38 billion of long government bonds *
- Given the lack of near-term catalysts, it appears unlikely that state and local government DB plans will increase their fixed income allocation in the near future

* \$2.24 trillion corporate DB assets * 39% increasing allocation to long corporate bonds * 5% increase in allocation = \$44 billion
For reference, \$88 billion of long (>15 years) investment grade US corporate debt was issued in 2010 (\$105bn in 2009)

Sources: ICI, P&I, Barclays Capital, Pyramis

Implications for Treasury / New Product Ideas

- The Treasury may be able to issue new types of securities to assist DB plans in hedging risks that are currently difficult to hedge
 - Ultra-long Treasuries
 - Pension liabilities are long duration and have meaningful convexity
 - Wage inflation-linked Treasuries
 - Retirement benefits are often linked to the retiree's wage at retirement
 - TIPS are linked to CPI and may not provide an adequate hedge against wage inflation
 - The federal government already calculates wage inflation to index Social Security benefits
- OPEB liabilities are generally unfunded but could be funded with bonds in the future
 - Health inflation-linked treasuries
 - Public plans face an estimated unfunded OPEB liability of ~\$1 trillion, while S&P 500 corporations are underfunded by approximately \$260 billion
 - The growth rate of healthcare costs is an important factor in measuring OPEB liabilities
- While in theory the above products may generate new demand, it is important to also analyze the practical implications of issuing a new type of security. For example, dealers have balance sheet constraints that limit their ability to warehouse new issues (particularly for new types of securities). This may lead to storage costs / higher yields for the Treasury.
 - Average participation in 30-year bond auctions by various investor types (Aug '06 – present):
 - Pension and retirement funds: 0.14% (essentially zero direct participation)
 - Dealers: 54%
 - Investment Funds: 25%

UK and Netherlands Offer Alternative Models for Pension Regulation

	United Kingdom	Netherlands
Assets	\$1.6 trillion (10% public / 90% private)	\$1.1 trillion (roughly evenly split public/private)
Liability Discount Rate	Gilts + margin (typically in 0.5-1.5% range)	Euro swap curve
Minimum Funding Requirements	Less formula-driven than in the U.S. or Netherlands. Nevertheless, the UK is viewed as one of the most stringent frameworks. Funding plan must be submitted to the regulator. Deficits generally need to be rectified over the average duration of scheme (~15 years)	Three tests need to be met 1) Minimum Test: Assets must exceed 105% of liabilities. 3 year recovery period if below 105% 2) Solvency Buffer Test: Sufficient buffer to withstand a 1-in-40 year market move. Typically implies assets exceed 120-130% of liabilities. 15 year recovery period if below this level 3) Continuity Test: Proof that coherent plan in place to run sustainable pension fund
Accounting Regime	IAS 19	IAS 19 (corporate schemes only. About 65% of market is industry-wide schemes)
Average Funding Position	80-90% range	107% as of December 2010
Asset Allocation	31% bonds & bills, 41% equities, 4% cash, 26% other	47% bonds & bills, 32% equities, 4% cash, 18% other
Comments	Clear trend toward LDI	Duration mismatch versus liabilities is a major concern because it creates solvency level volatility and increases required buffer

Sources: Presenting Member's Firm, OECD

Considerations Regarding Public Pension Reform

- State and local government retirement plans should be structured to satisfy the needs of retirees, employees, and taxpayers
- Clear disclosure is needed so that plan beneficiaries, plan sponsors, and investors in state and local government debt can make informed decisions
 - While some flexibility in accounting standards is necessary, sponsors should use standardized assumptions/methodologies to the greatest extent possible and standardize reporting dates for comparability
- Pension funds should take concrete actions before it is too late. Potential actions include:
 1. Adjust benefits for current employees (COLAs, length of service, retirement age, etc) or increase employee contributions
 - Most direct approach. May face legal challenges if attempted unilaterally – once granted, may be deemed “contractual obligations”
 2. Contribute actuarially required contribution, funded by raising taxes and/or cutting expenditures
 - Difficult given current state of economy. May be used as a bargaining chip when negotiating benefit cuts
 3. Create a new tier of benefits or switch to a DC plan for new employees
 - Fewer legal hurdles but does not address the potentially large benefits promised to current employees
 4. Risk sharing - Implement a hybrid “cash balance” plan (low guaranteed return + DC component) or full DC plan
 - Employees may demand higher current salaries or increased employer match if they view the new benefit package as inferior to DB
 5. Improve governance / oversight to ensure that plans are managed effectively by increasing training, setting higher standards for trustees, or hiring outside professionals
 6. Issue pension obligation bonds and use proceeds to improve funded status
 - If future returns are lower than the bond yield then the sponsor is worse off