Office of Debt Management

Fiscal Year 2011 Q4 Report

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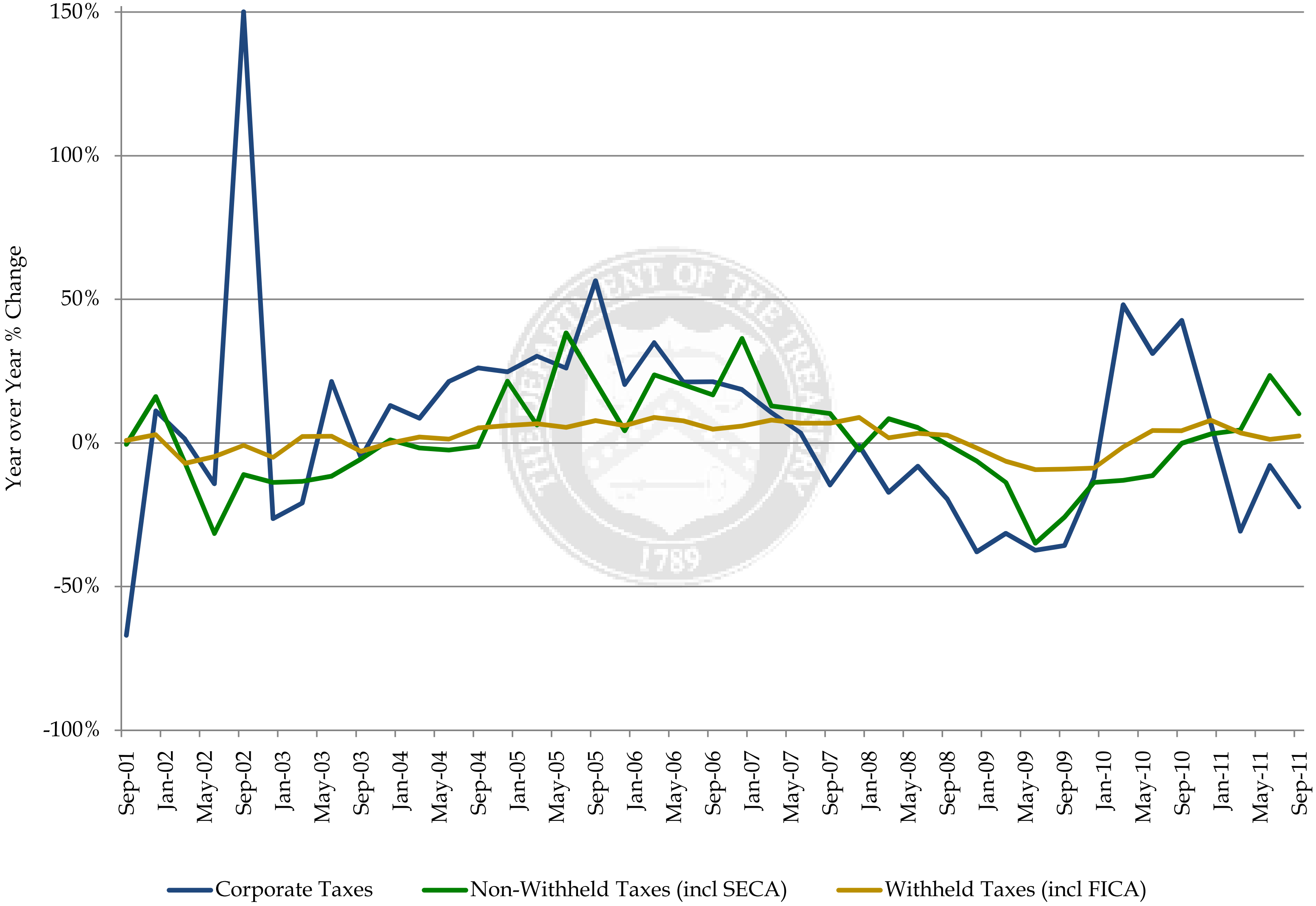
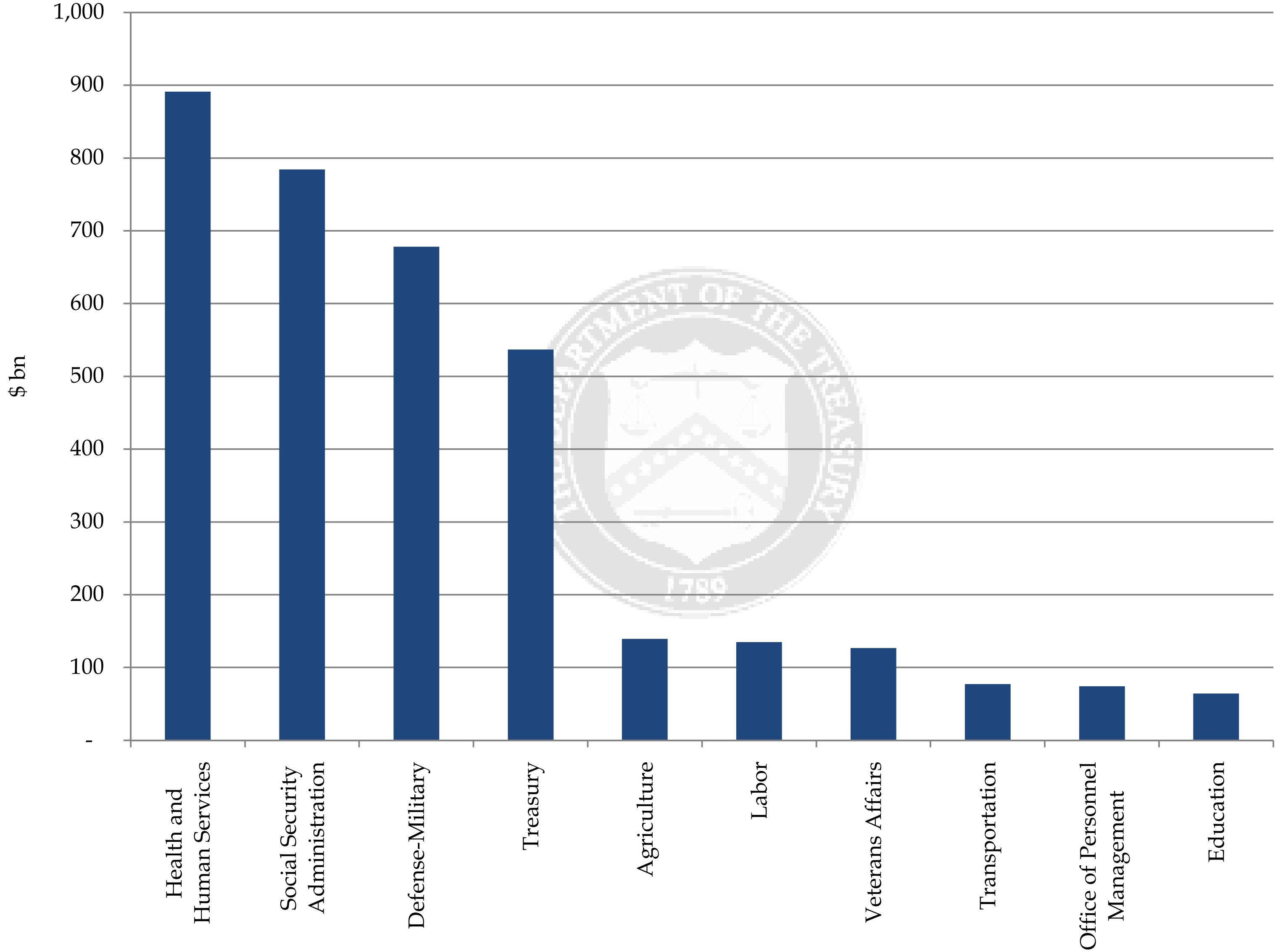
Section I:
Fiscal

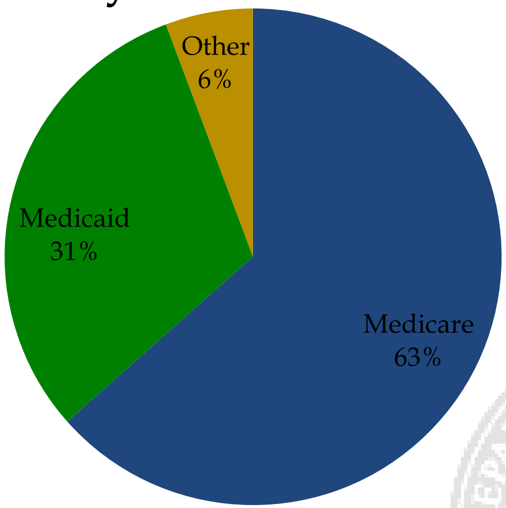
Quarterly Tax Receipts



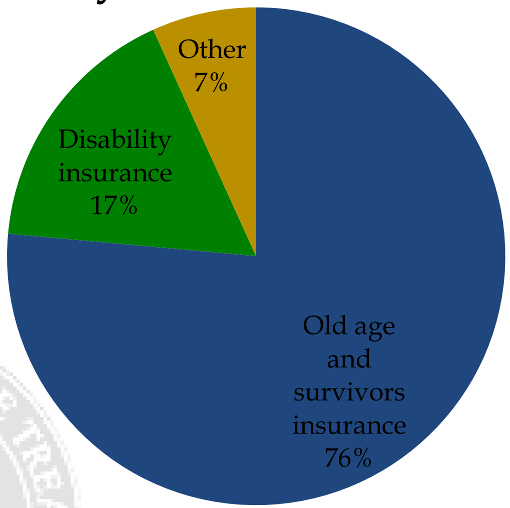
Ten Largest Outlays for FY 2011



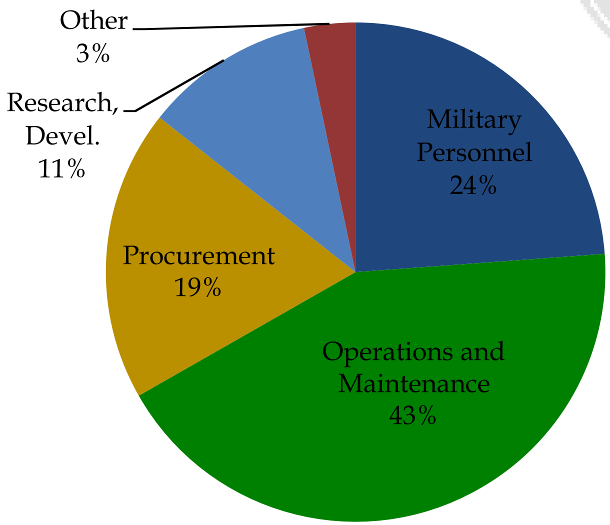
Health and Human Services ($891 bn) Outlay Breakdown FY 2011



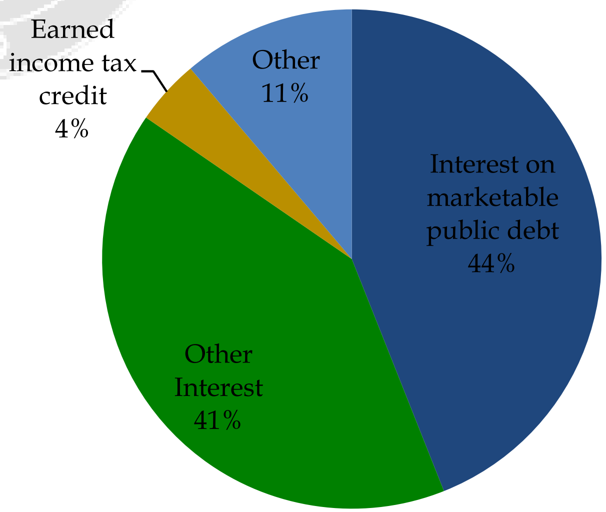
Social Security Administration ($784 bn) Outlay Breakdown FY 2011



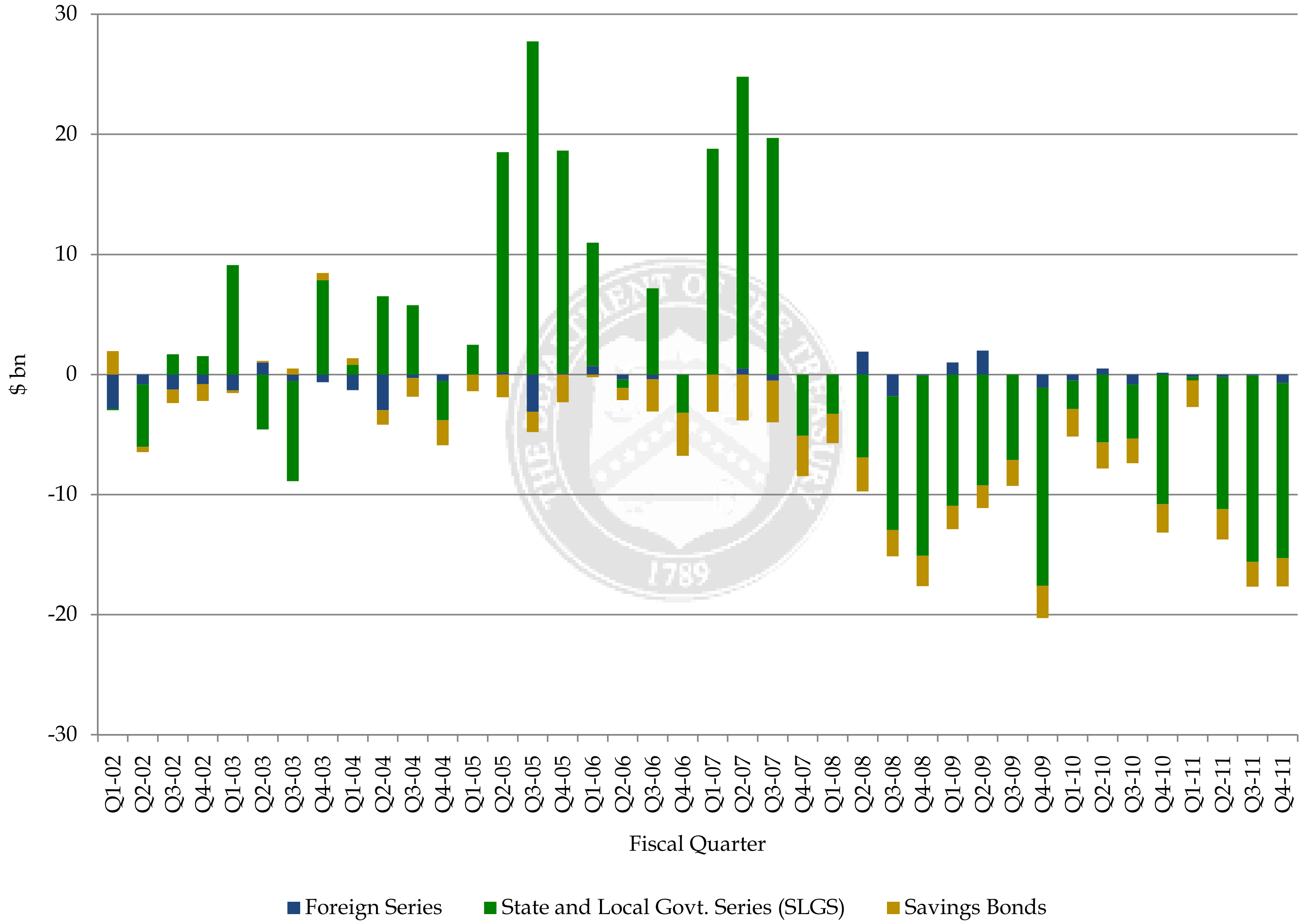
Defense-Military ($687 bn) Outlay Breakdown FY 2011

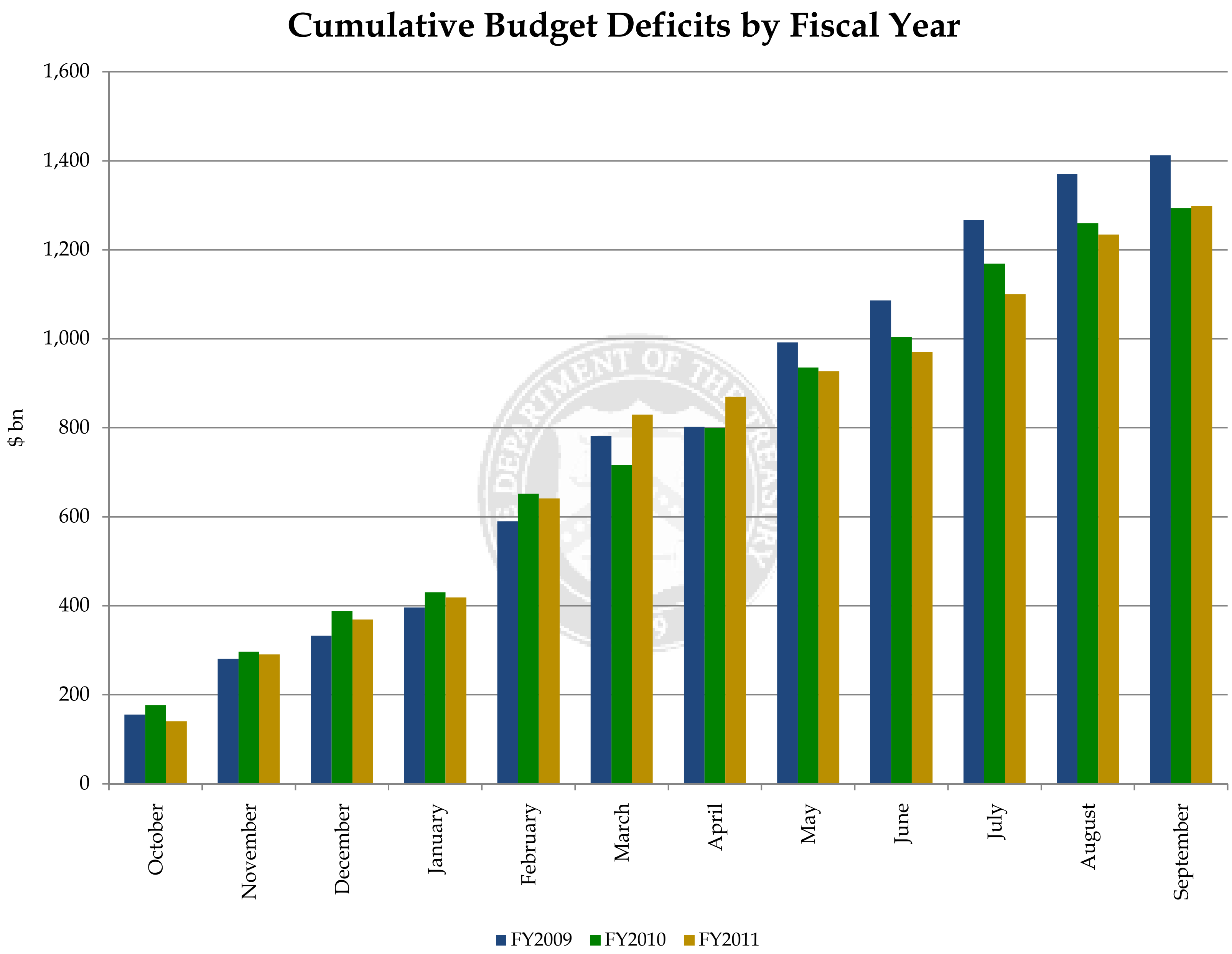


Treasury ($537 bn) Outlay Breakdown FY 2011



Treasury Net Nonmarketable Borrowing




Cumulative Budget Deficits by Fiscal Year
1,600
1,400
1,200
1,000
800
600
400
200
0
$ bn
October
November
December
January
February
March
April
May
June
July
August
September
FY2009
FY2010
FY2011

FY 2012-2014 Deficit and Borrowing Estimates

In Billions $

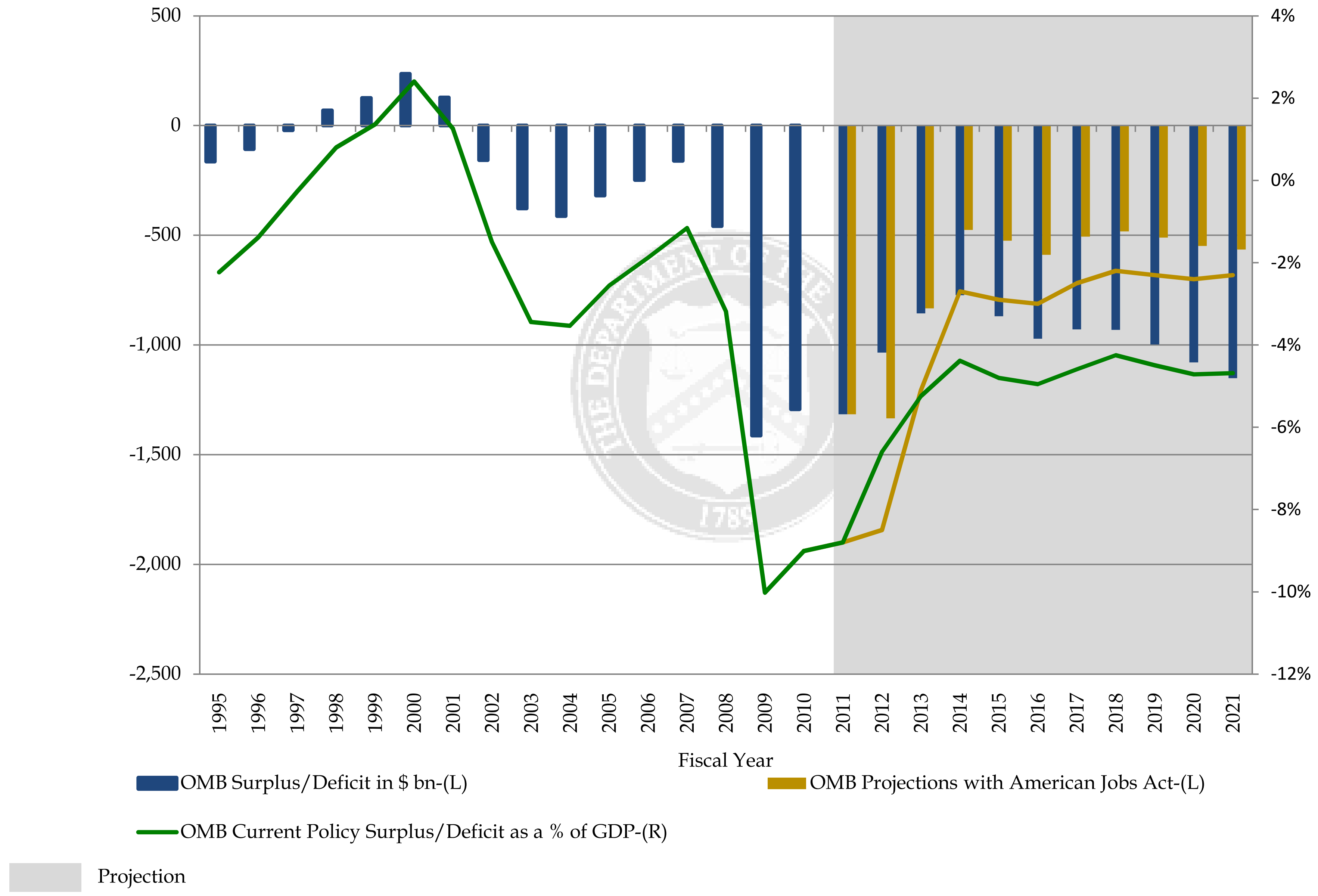
	Primary Dealers*	CBO**	OMB***
FY 2012 Deficit Estimate	1,132	973	1,334
FY 2013 Deficit Estimate	951	623	833
FY 2014 Deficit Estimate	812	380	476
FY 2012 Deficit Range	1,000-1,411		
FY 2013 Deficit Range	750-1,200		
FY 2014 Deficit Range	650-1,100		
FY 2012 Marketable Borrowing Range	950-2,450		
FY 2013 Marketable Borrowing Range	800-2,250		
Estimates as of:	Oct-11	Aug-11	Oct-11

*Based on primary dealer feedback on October 24, 2011. Deficit estimates are averages.
**Current law, prior to any Joint Committee actions or sequester.
***Deficit projections with American Jobs Act and President's deficit reduction proposals.

Elements of the American Jobs Act (OMB)

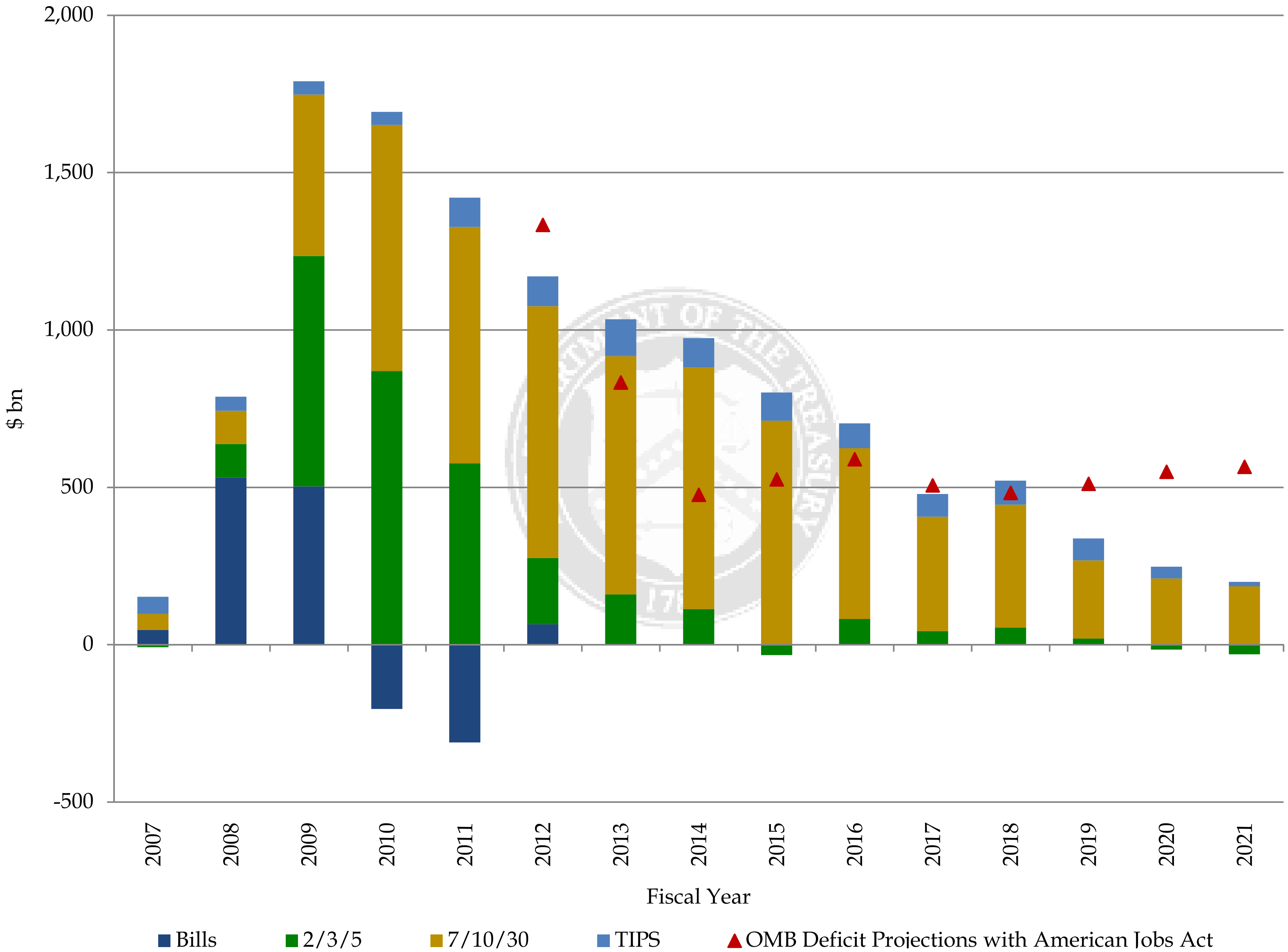
Tax Cuts ($ bn)	
Payroll tax cut for employees	$179
Payroll tax cut for employers	$69
Expensing	$6
Delay 3% withholding	$0.5
Long-term unemployed	$11
Subtotal, tax cuts	***$265.5***
Spending ($ bn)	
Teachers & first responders	$35
School modernization	$30
Immediate transportation	$50
Infrastructure bank	$10
Project Rebuild	$15
Wireless	-$11
Unemployment extension	$49
Unemployment reforms	$5
Subtotal, spending	***$183***
TOTAL	**$448.5 billion**

Budget Surplus/Deficit with OMB Forecast



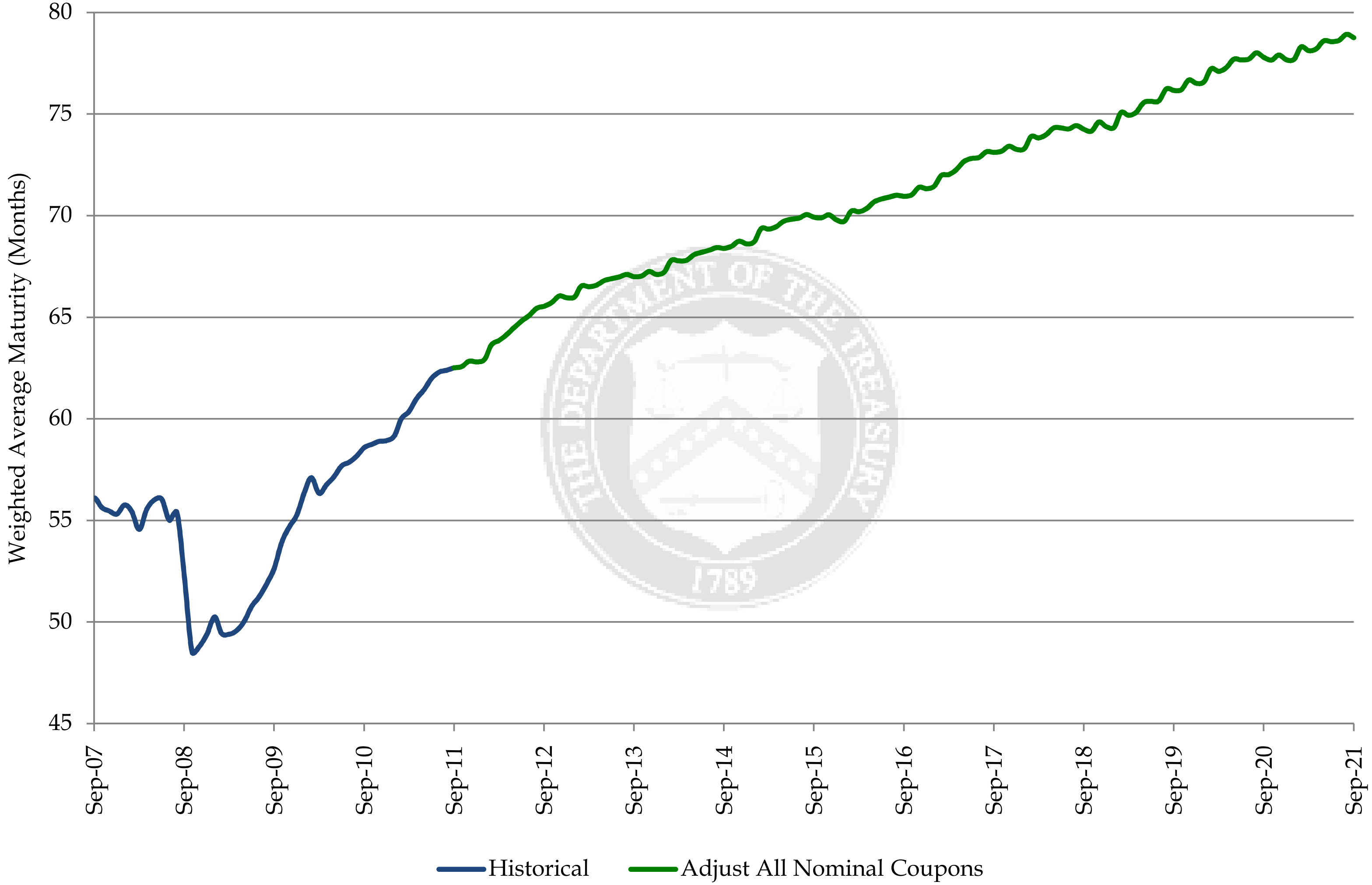
Section II:
Portfolio Metrics

Projected Net Marketable Borrowing Assuming Note and Bond Issuance Remains Constant



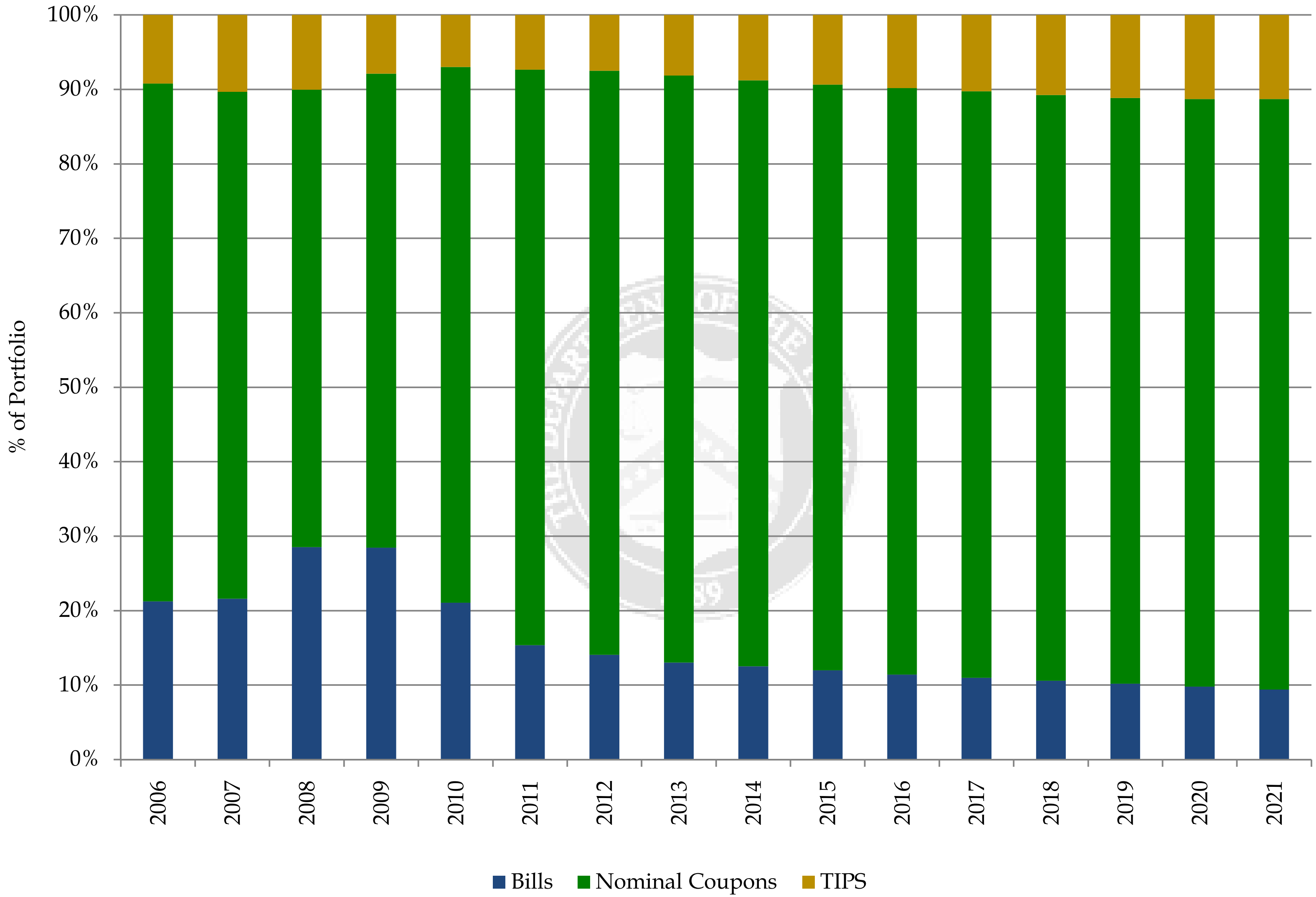
Portfolio & SOMA holdings as of 9/30/2011. Assumes current issuance size, SOMA reinvestment and no attempt to match future financing needs.

Weighted Average Maturity of Marketable Debt Absent Policy Changes



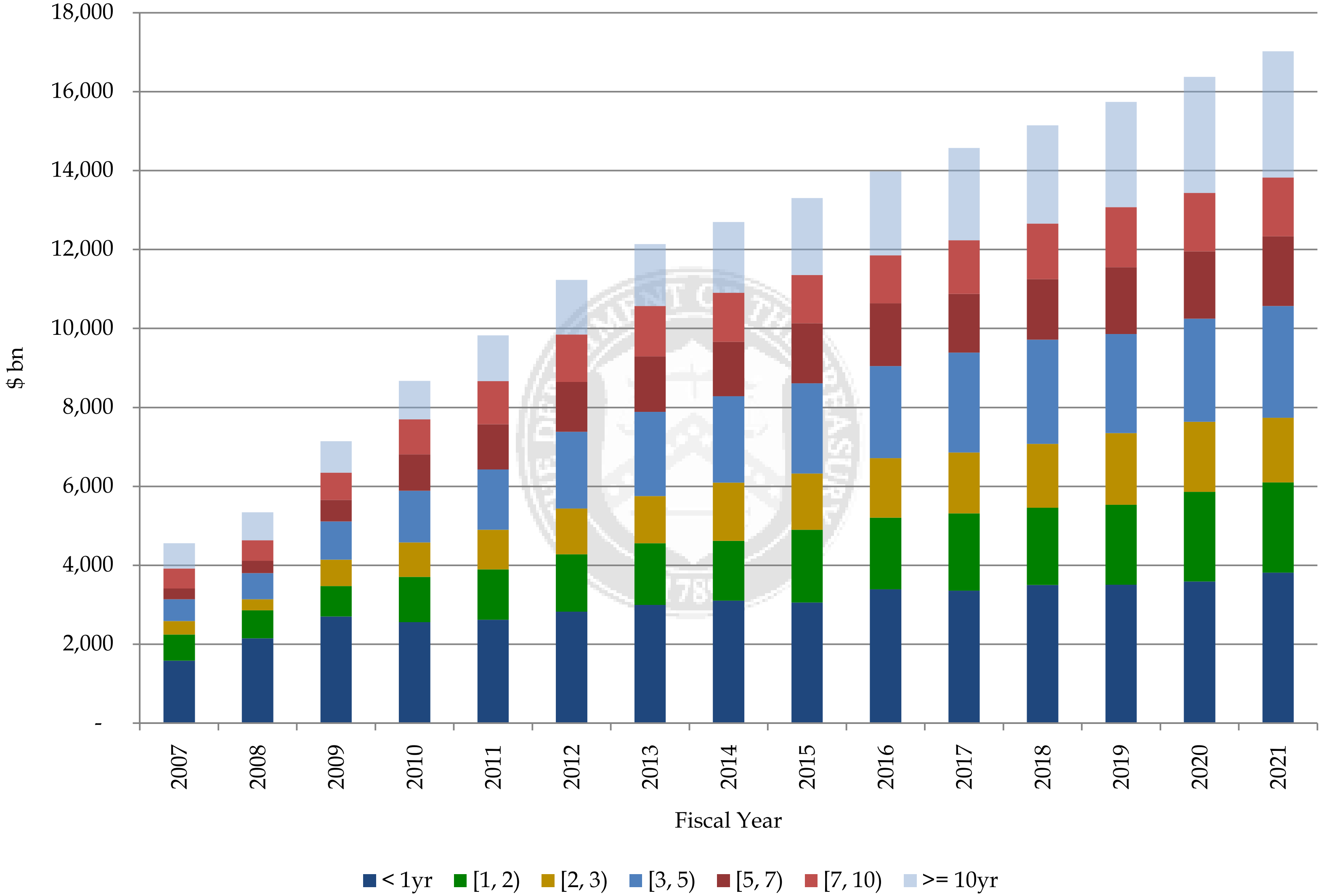
Portfolio & SOMA holdings as of 9/30/2011. To match OMB's projected financing needs for the next 10 years, all nominal coupon securities (2-, 3-, 5-, 7-, 10-, and 30-year) were adjusted by the same percentage. This scenario does NOT represent any particular course of action that Treasury is expected to follow. Instead, it is intended to demonstrate the basic trajectory of average maturity absent changes to the mix of securities issued by Treasury.

Recent and Future Portfolio Composition as Issued, %



Portfolio & SOMA holdings as of 9/30/2011. To match OMB's projected financing needs for the next 10 years, all nominal coupon securities (2-, 3-, 5-, 7-, 10-, and 30-year) were adjusted by the same percentage. This scenario does NOT represent any particular course of action that Treasury is expected to follow. Instead, it is intended to demonstrate the basic trajectory of average maturity absent changes to the mix of securities issued by Treasury.

Recent and Future Maturity Profile, $ bn



Portfolio & SOMA holdings as of 9/30/2011. To match OMB's projected financing needs for the next 10 years, all nominal coupon securities (2-, 3-, 5-, 7-, 10-, and 30-year) were adjusted by the same percentage. This scenario does NOT represent any particular course of action that Treasury is expected to follow. Instead, it is intended to demonstrate the basic trajectory of average maturity absent changes to the mix of securities issued by Treasury.

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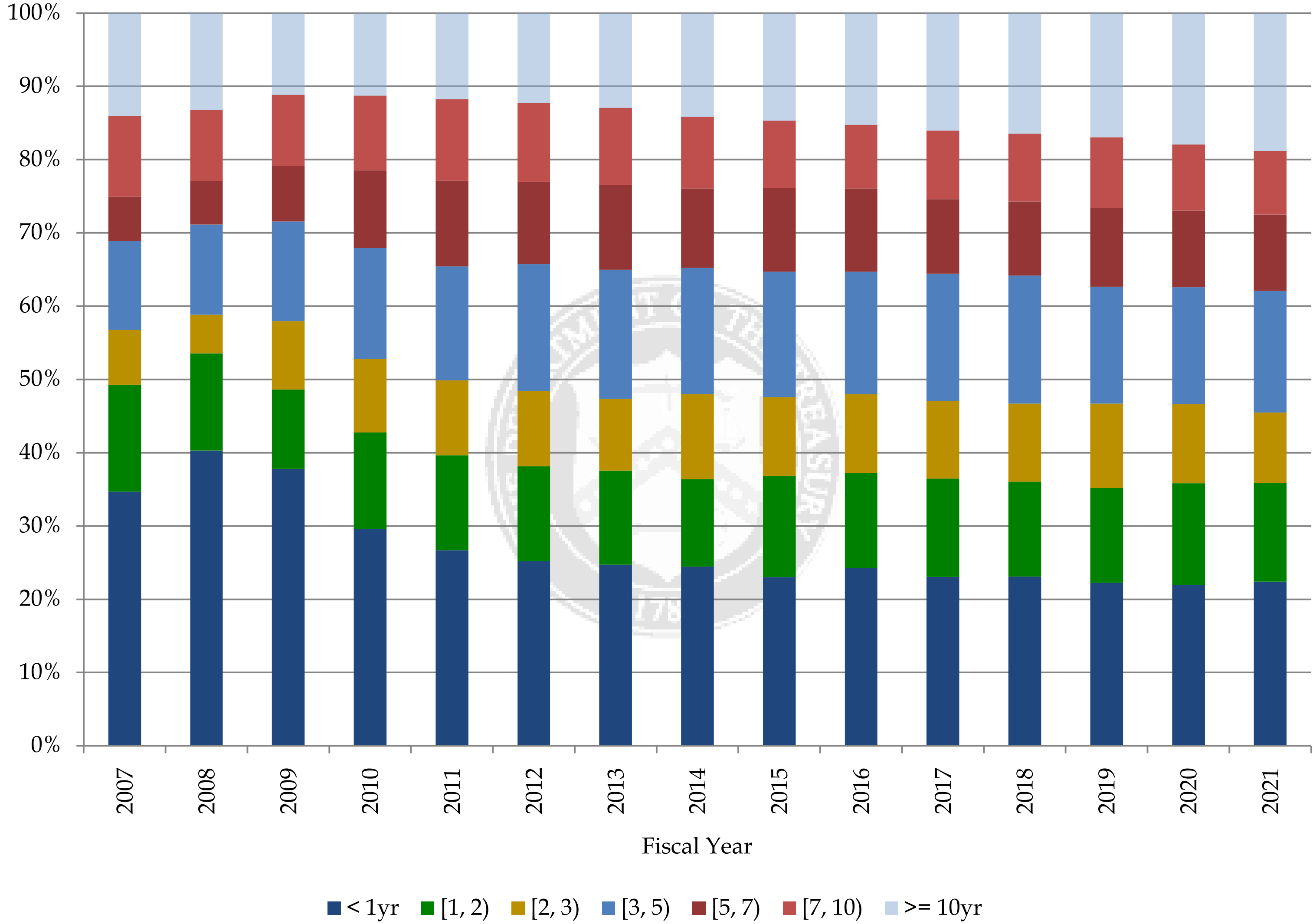

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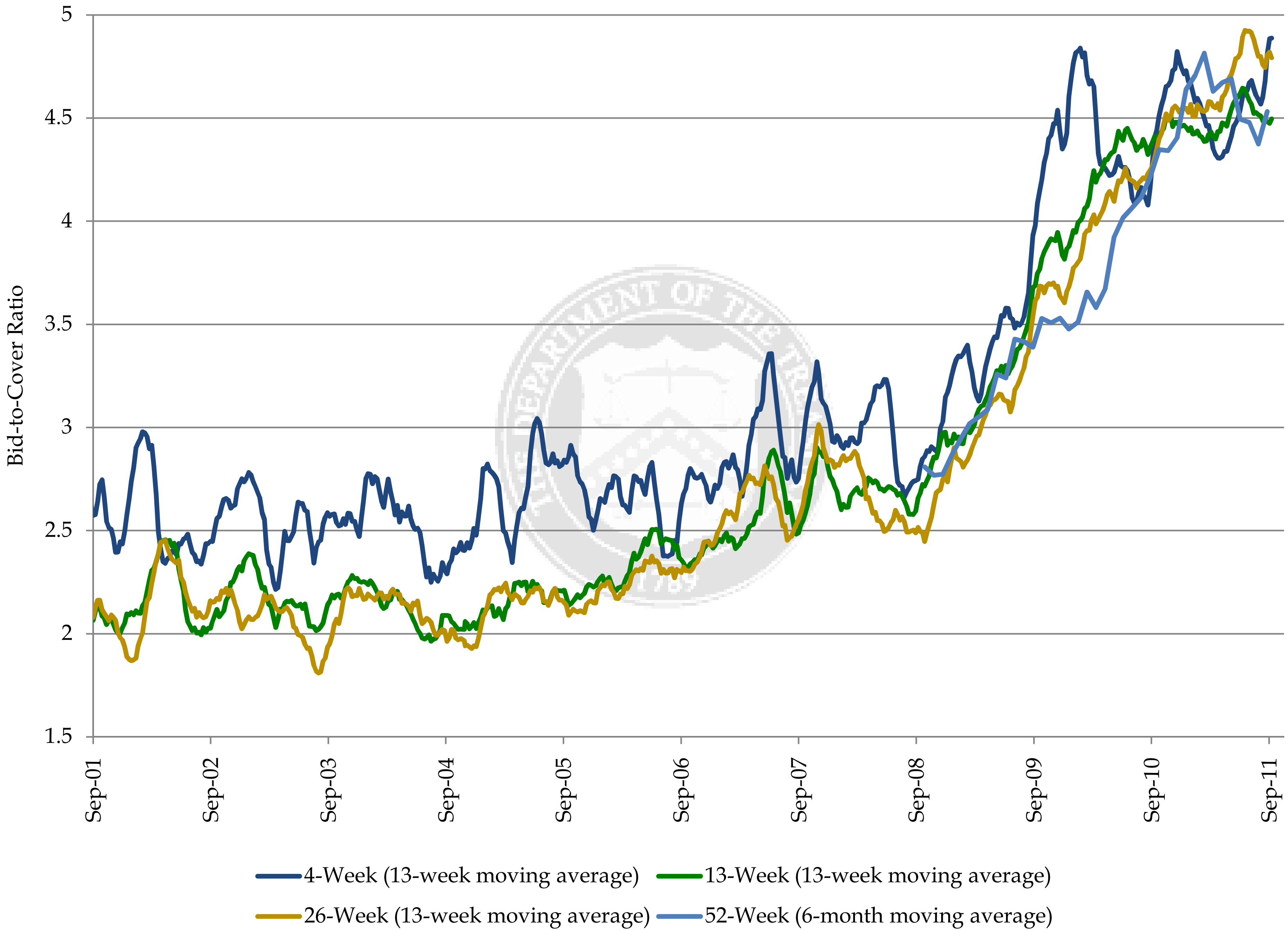
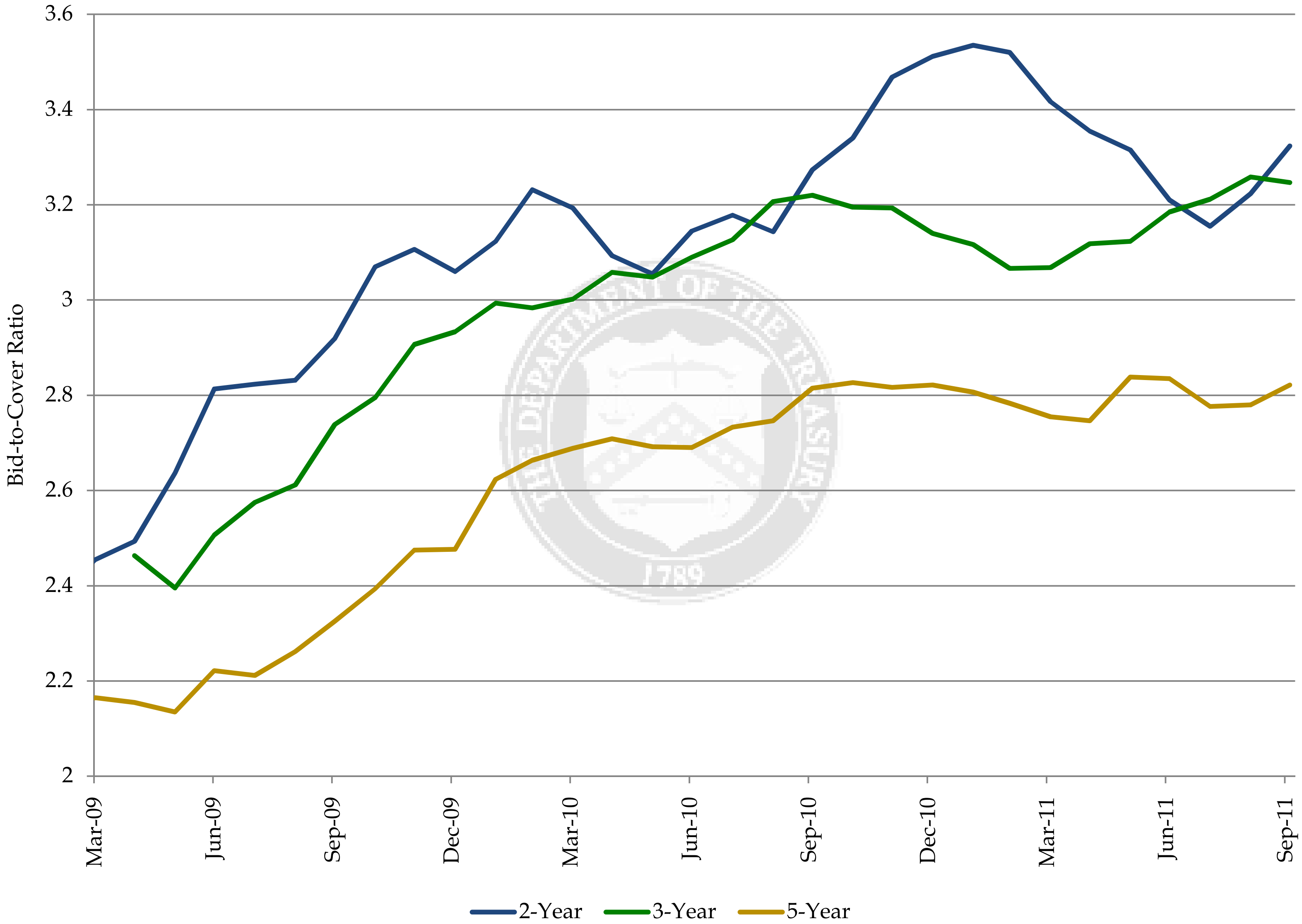
Section III:
Demand

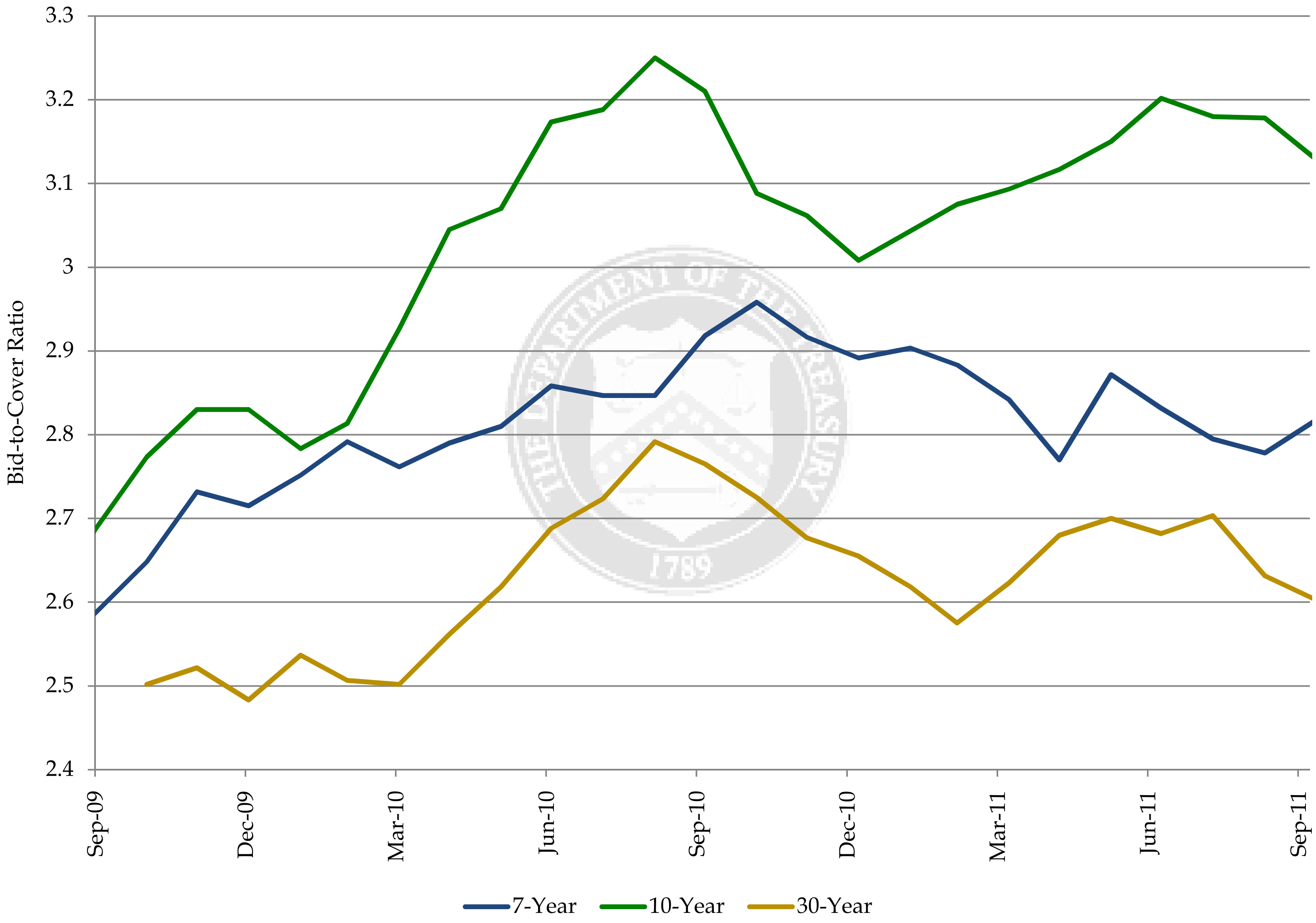
Bill Bid-to-Cover Ratios



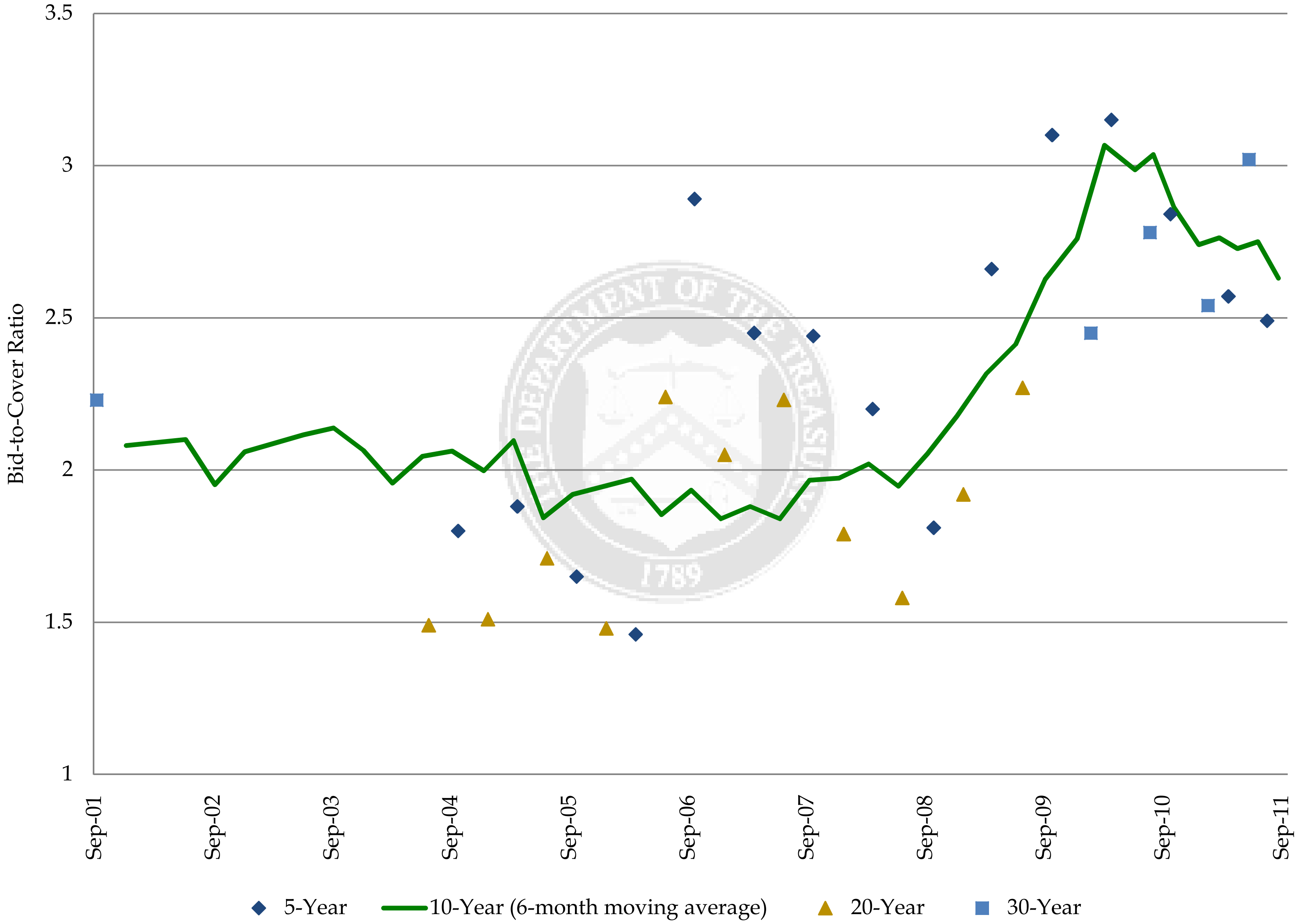
Short Nominal Coupon Bid-to-Cover Ratios
(6-Month Moving Average)



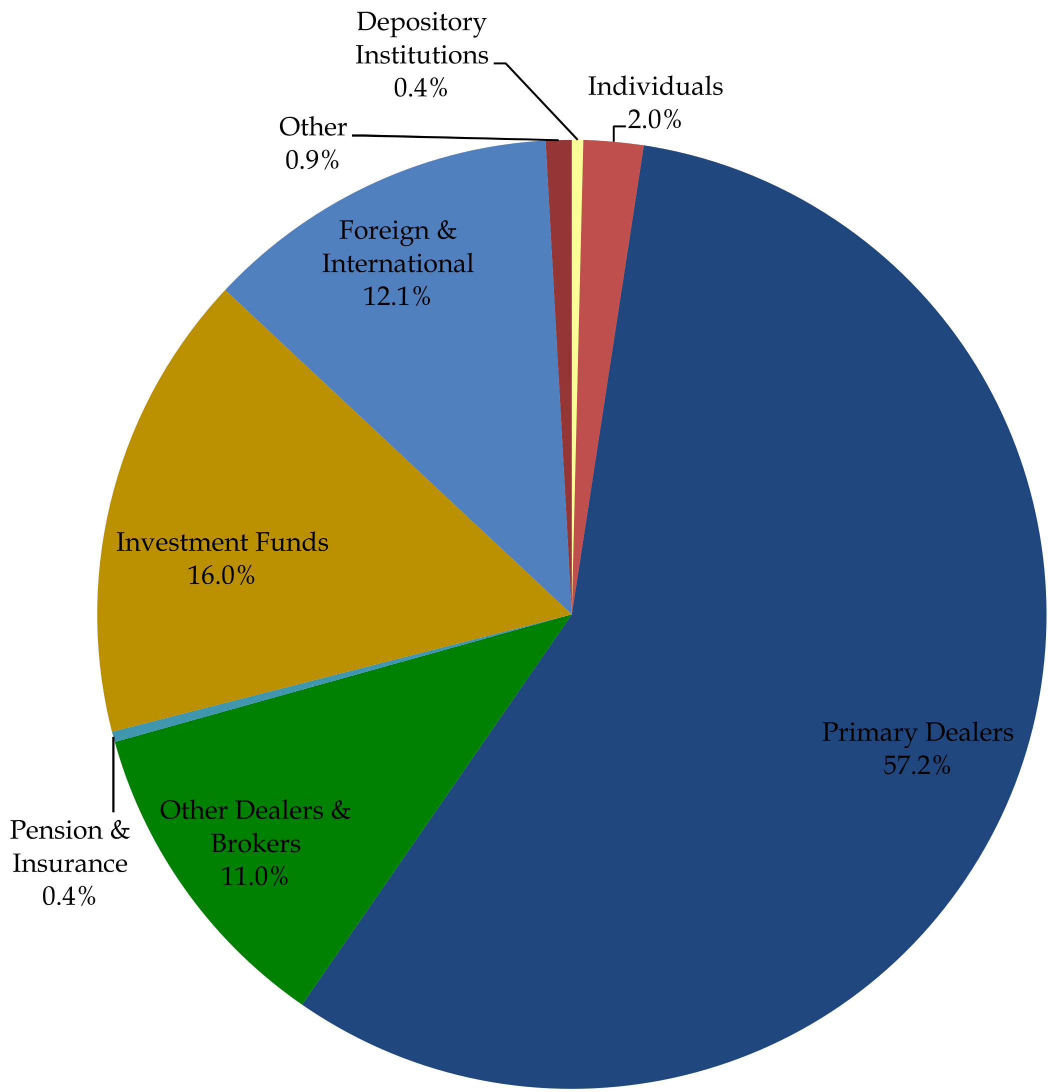
Long Nominal Coupon Bid-to-Cover Ratios
(6-Month Moving Average)



TIPS Bid-to-Cover Ratios

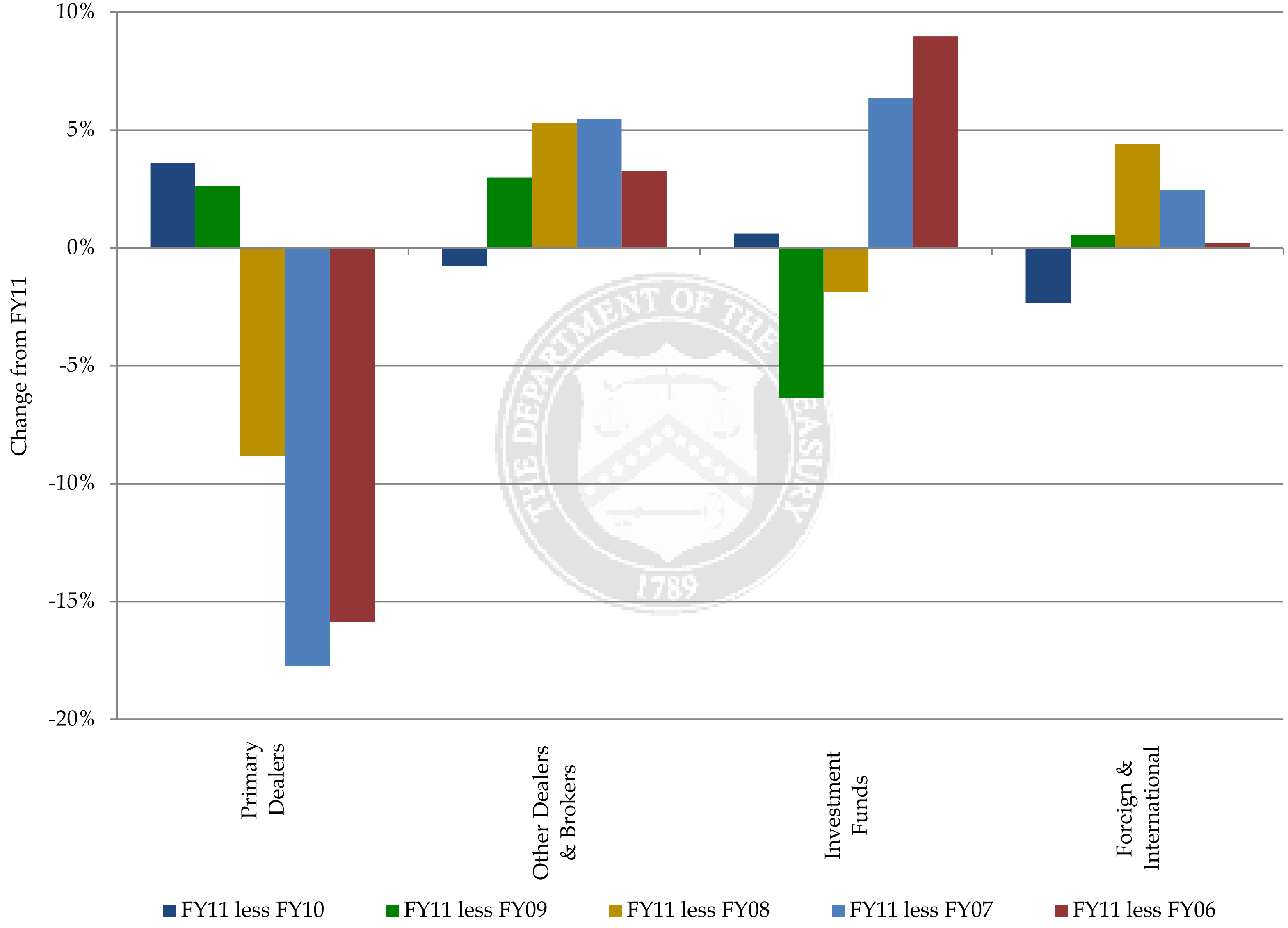


Investor Class Auction Awards: Bills
FY2011



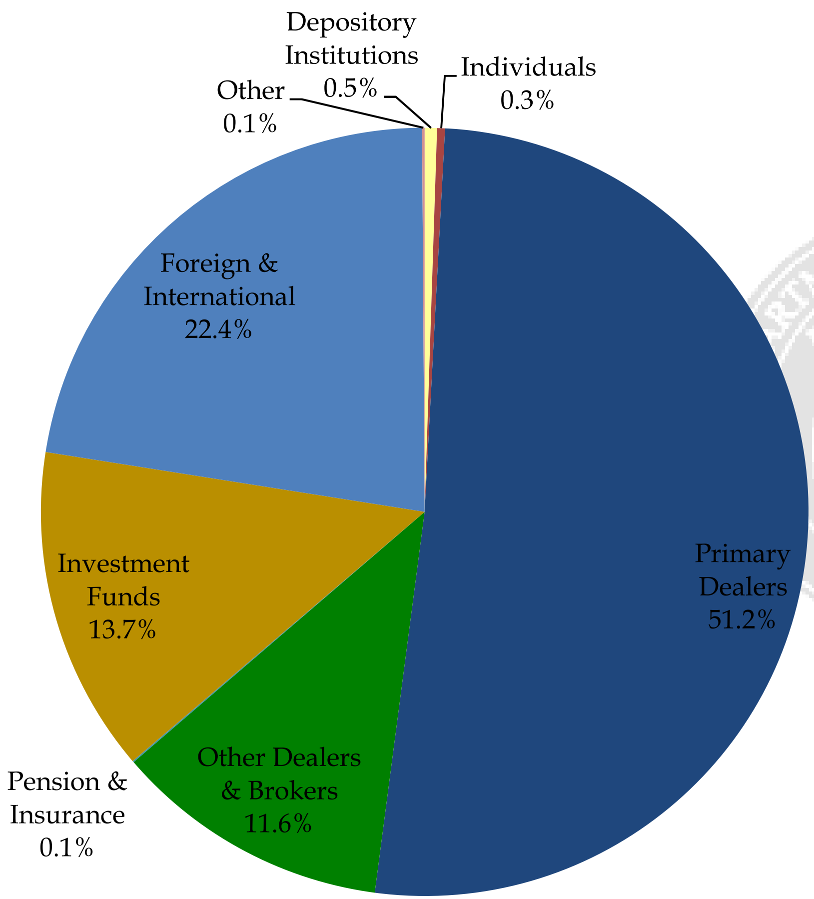
Excludes SOMA add-ons.

Change in Bill Auction Awards by Investor Class

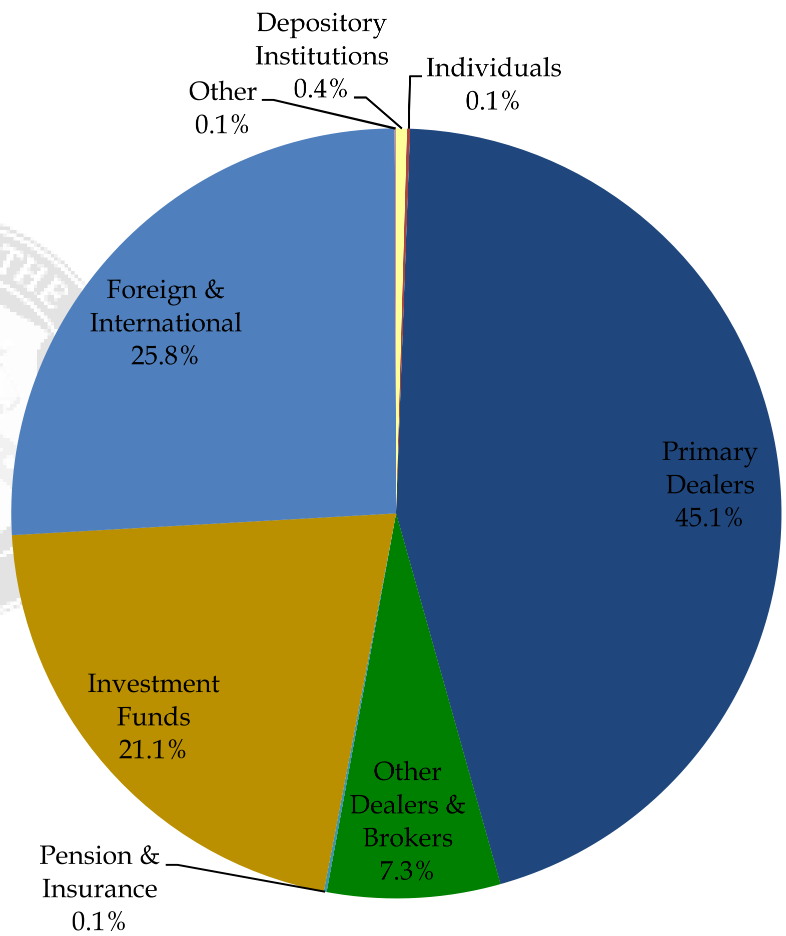


Excludes SOMA add-ons.

Investor Class Auction Awards: Short Nominal Coupons, FY2011

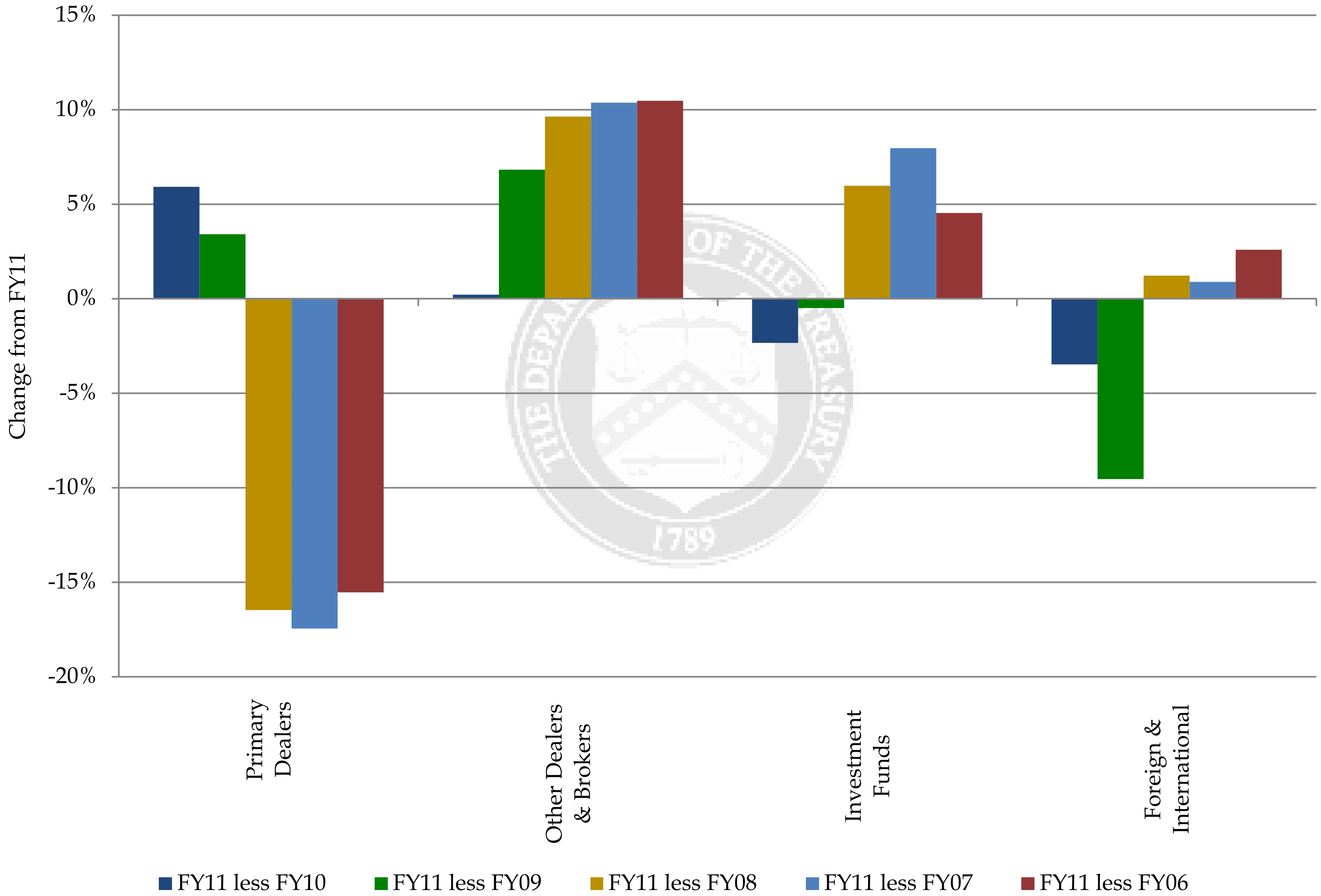


Investor Class Auction Awards: Long Nominal Coupons, FY2011



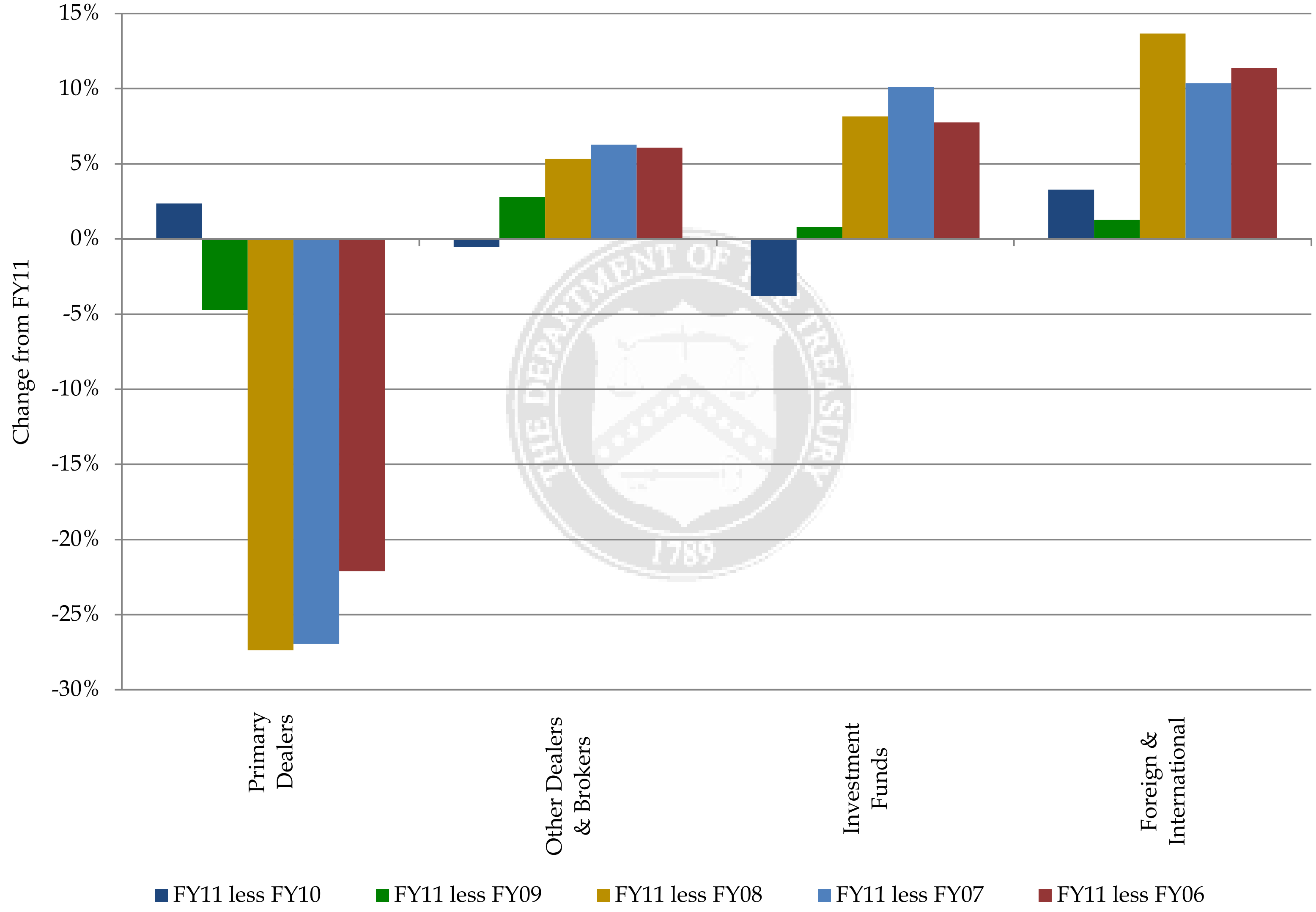
Excludes SOMA add-ons.
Short = 2/3/5yr, Long = 7/10/30yr

Change in Short Nominal Coupon Auction Awards by Investor Class



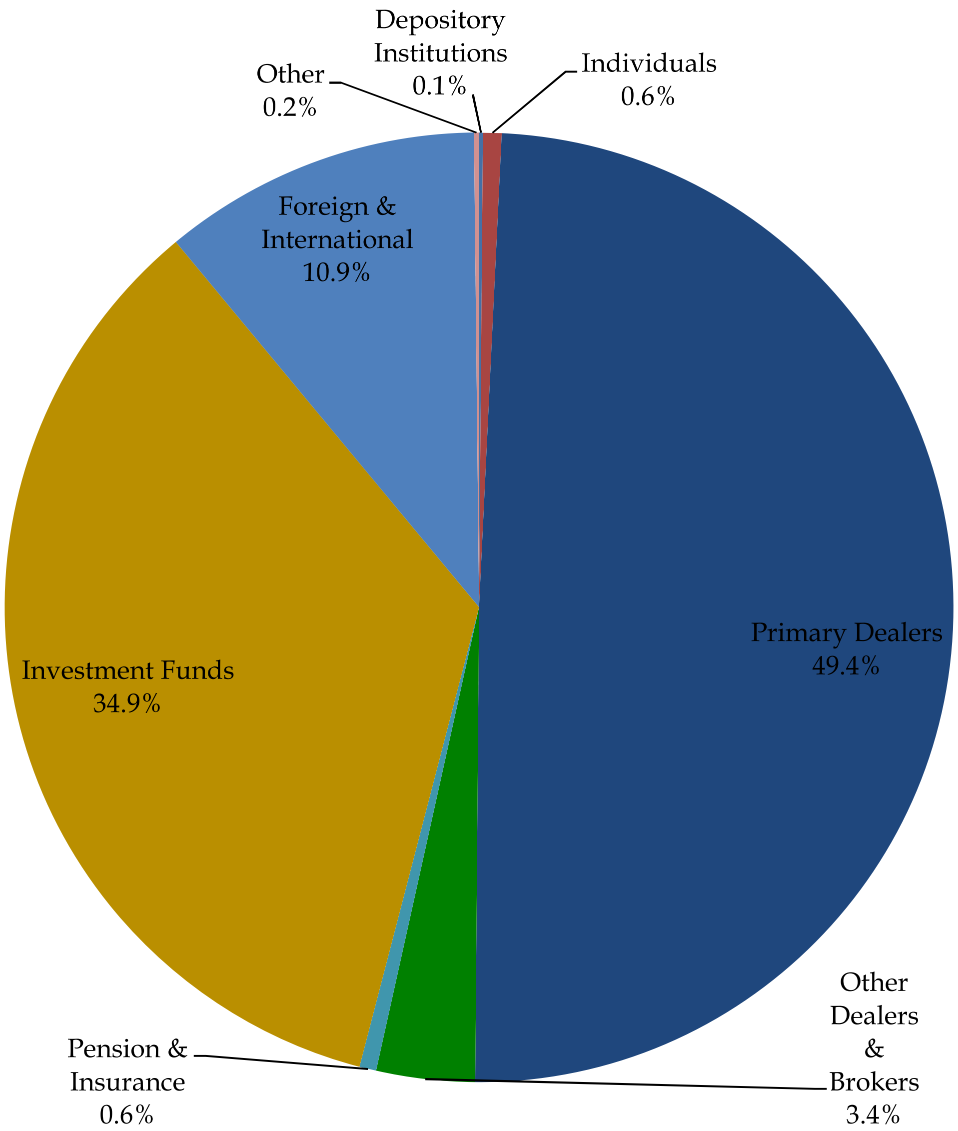
Excludes SOMA add-ons.
Short = 2/3/5yr

Change in Long Nominal Coupon Auction Awards by Investor Class



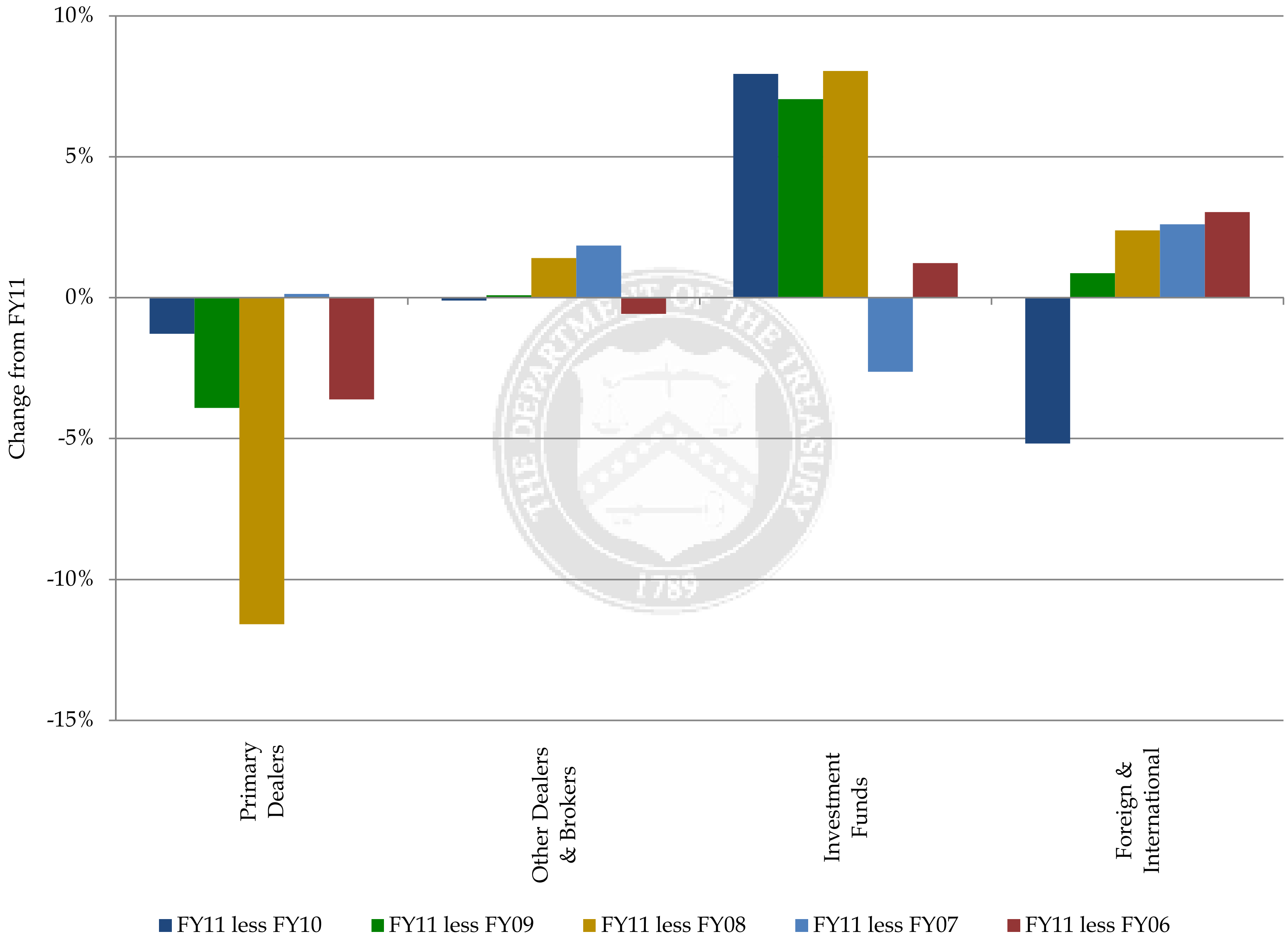
Excludes SOMA add-ons.
Long = 7/10/30yr

Investor Class Auction Awards: TIPS
FY2011



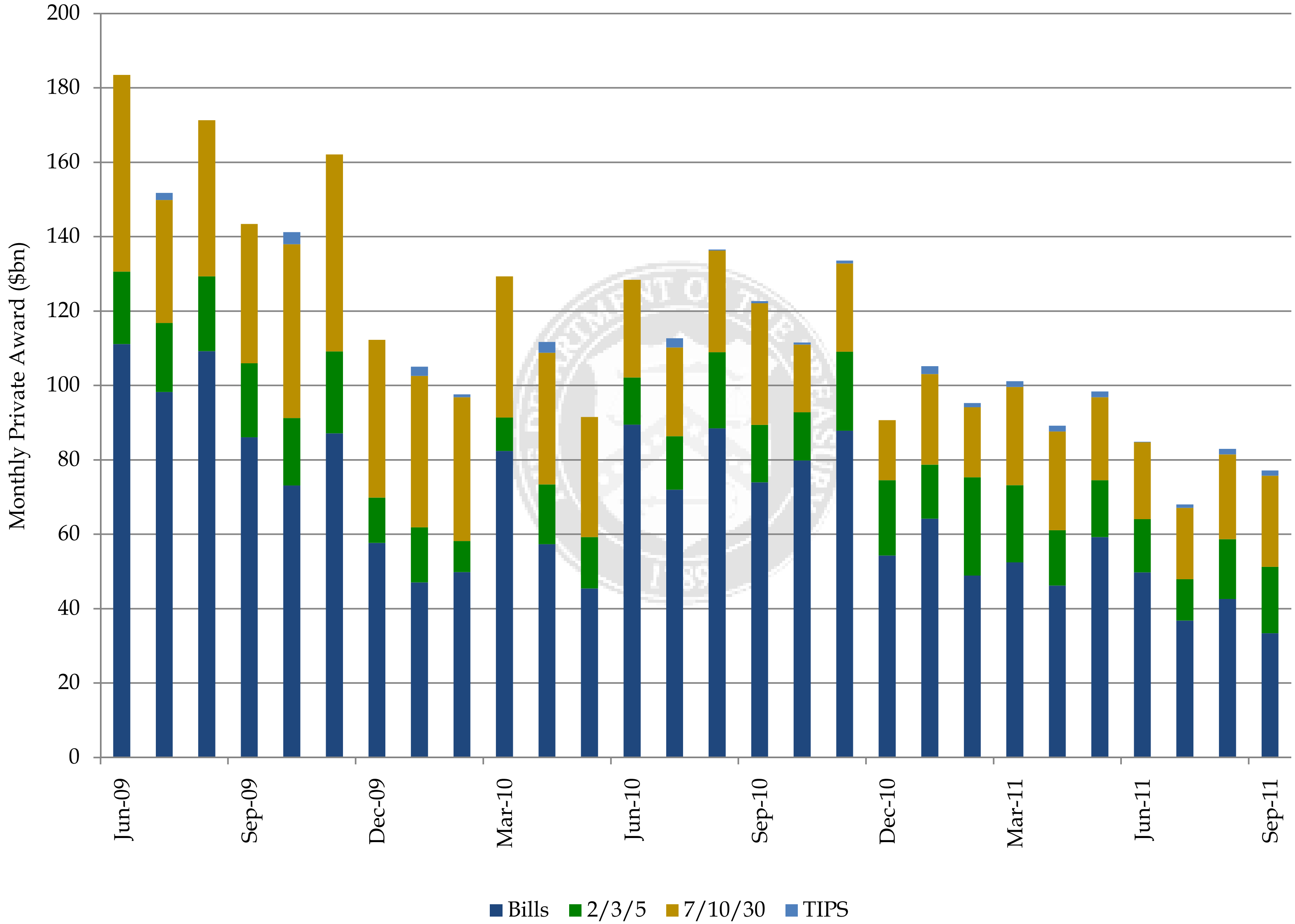
Excludes SOMA add-ons.

Change in TIPS Auction Awards by Investor Class



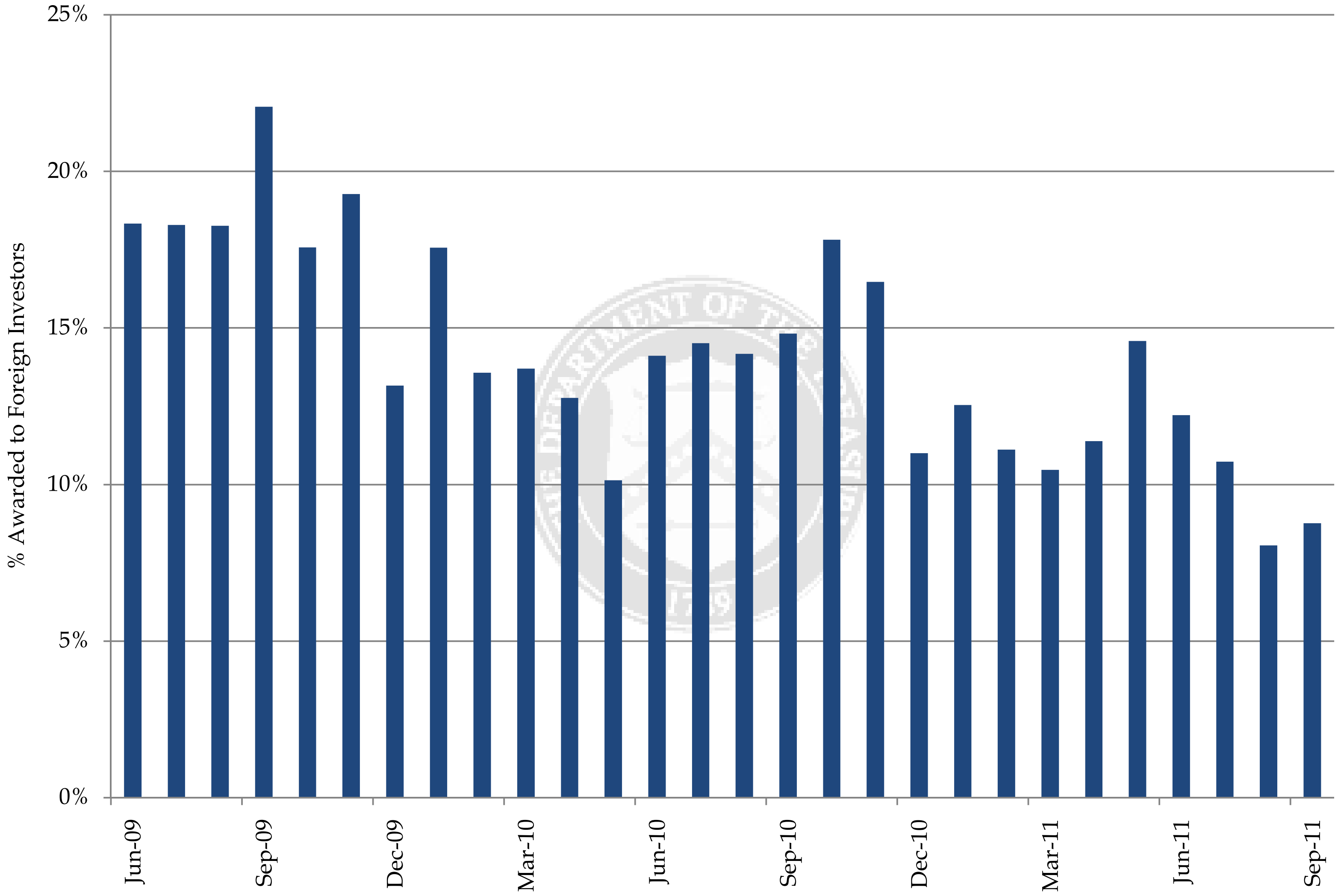
Excludes SOMA add-ons.

Total Foreign Awards of Treasuries at Auction, $ bn



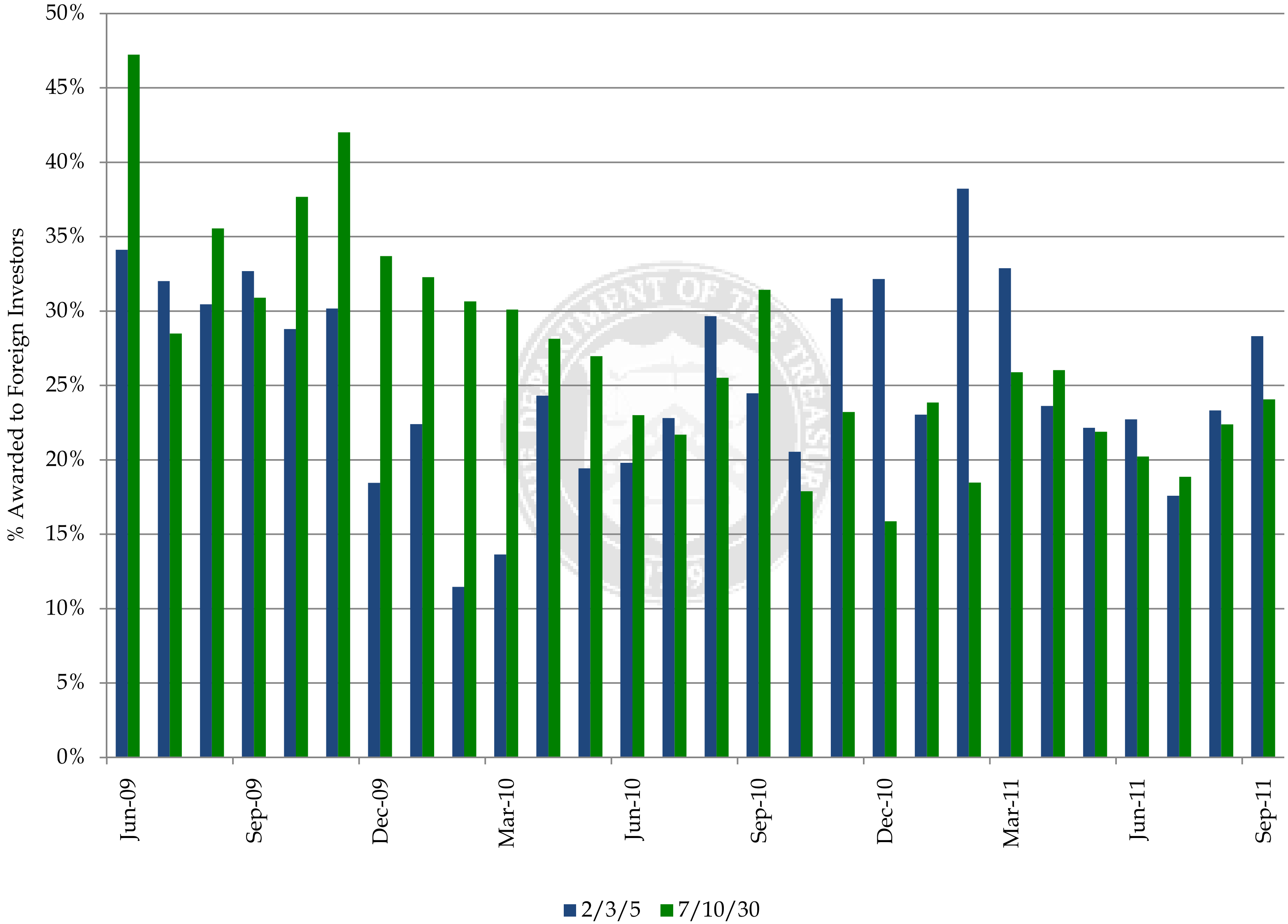
Total Foreign includes both private and public.

Foreign Awards of Bills at Auction, %



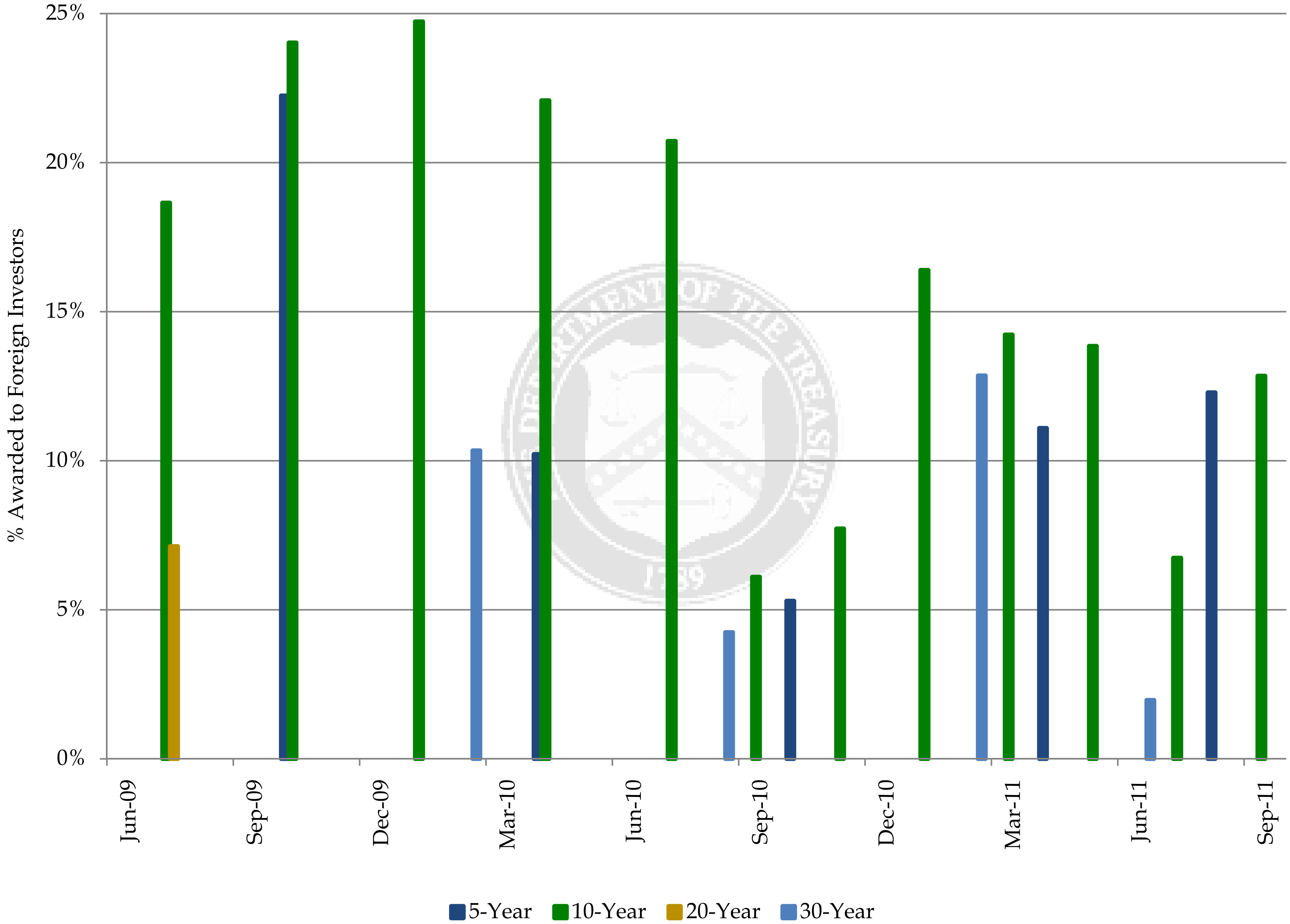
Excludes SOMA add-ons.

Foreign Awards of Nominal Coupons at Auction, %

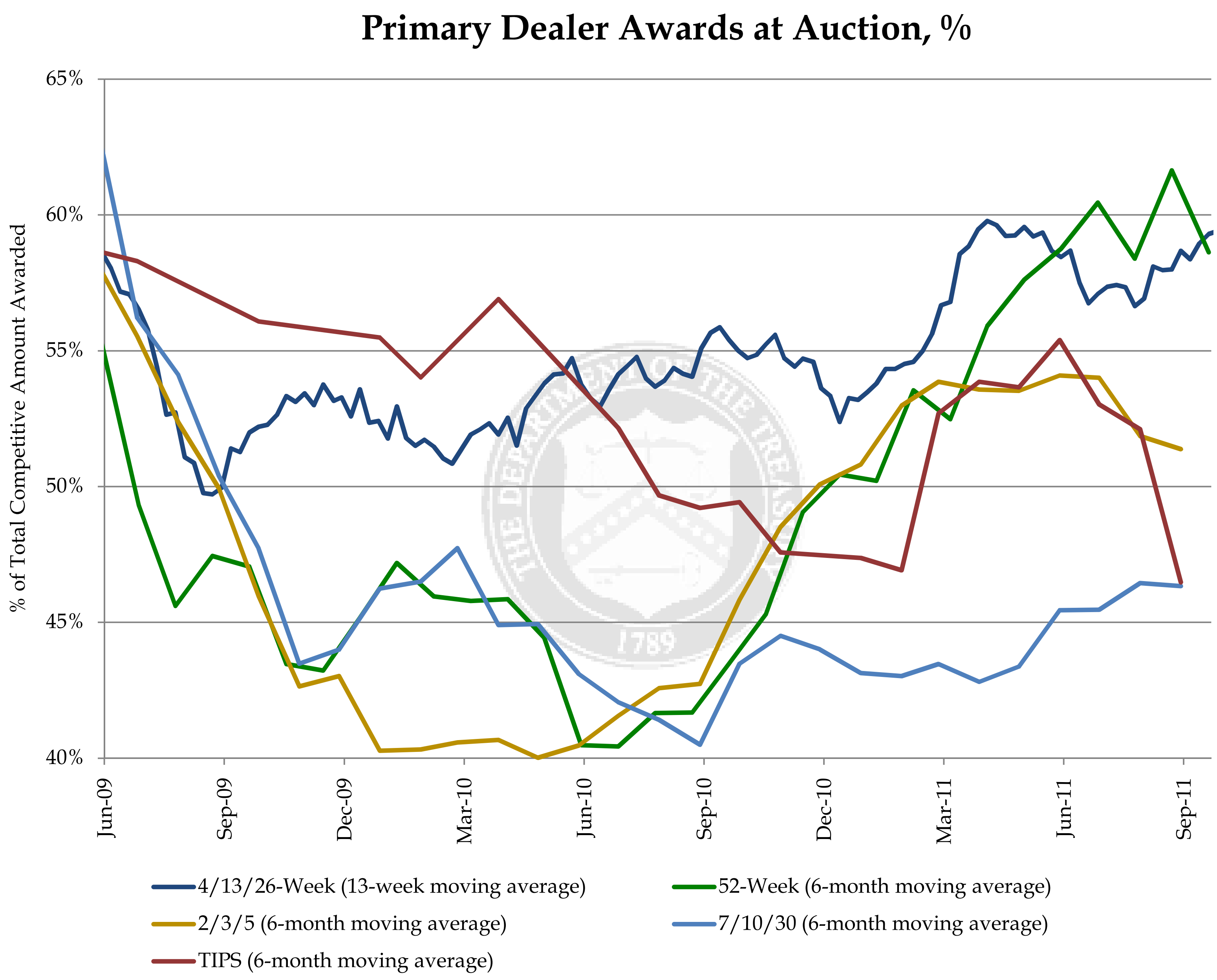


Excludes SOMA add-ons.

Foreign Awards of TIPS at Auction, %



Excludes SOMA add-ons.



Primary Dealer Awards at Auction, %
65%
60%
55%
50%
45%
40%
% of Total Competitive Amount Awarded
Jun-09
Sep-09
Dec-09
Mar-10
Jun-10
Sep-10
Dec-10
Mar-11
Jun-11
Sep-11
4/13/26-Week (13-week moving average)
52-Week (6-month moving average)
2/3/5 (6-month moving average)
7/10/30 (6-month moving average)
TIPS (6-month moving average)
1789

TBAC Committee Charge

The Impact of a Prolonged Period of Low-Interest Rates on Financial Markets

November 2011

Borrowers

Question:

Review where we are in the credit cycle. Is consumer and business credit expanding? If so, which sectors (mortgages, C&I loans, etc)? How is this recovery different from past recoveries given the level of rates and the availability of credit?

Conclusion:

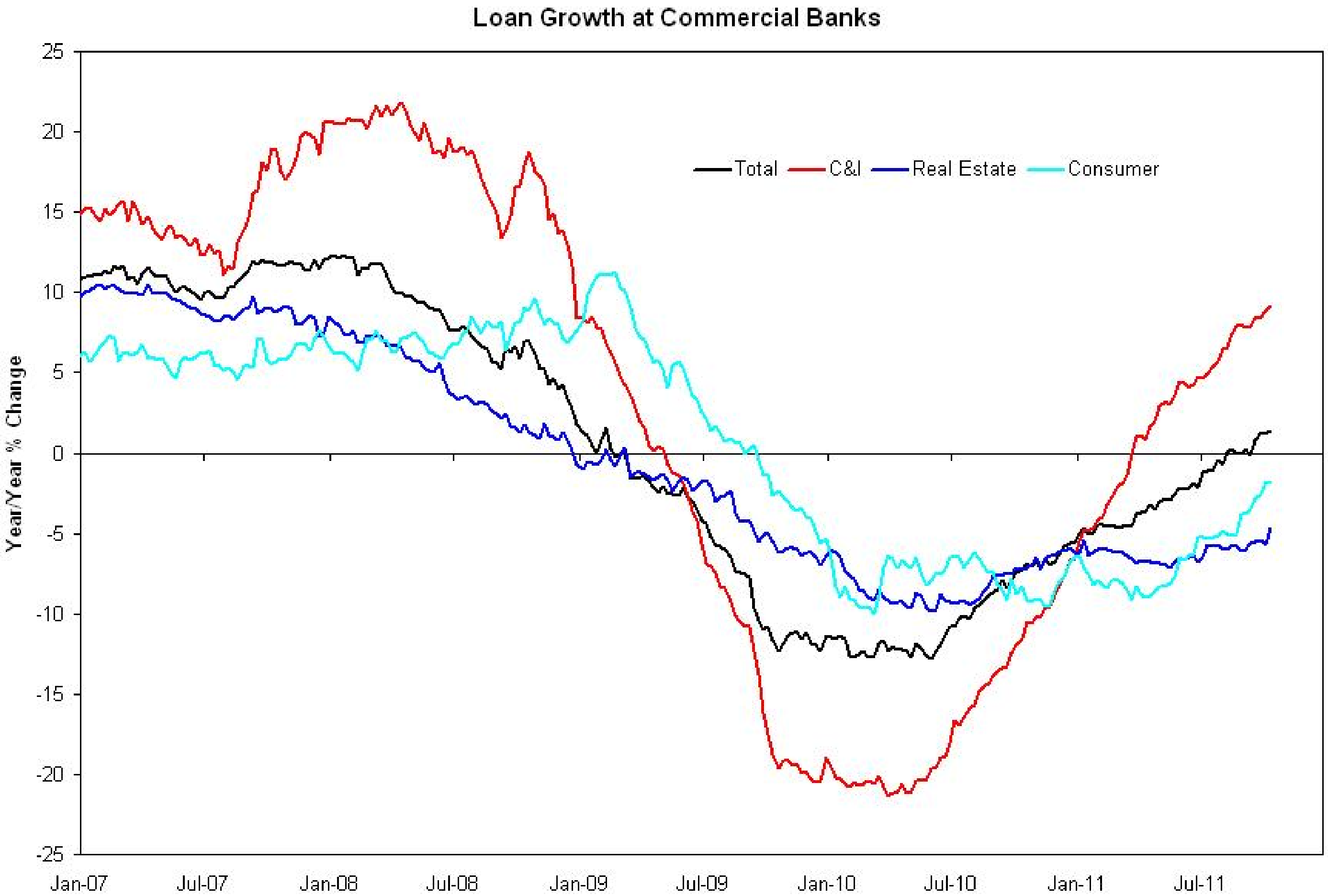
This recovery tracks below past recoveries. C&I loan growth is picking up but is still soft compared to previous recoveries. Meanwhile, lending to households is weak, especially for real estate. On the supply side, credit standards are gradually loosening, in line with prior episodes.

Discussion:

- Total loan growth is picking up, as banks are making more commercial and industrial loans.
- However, consumer and real estate loan growth remains weak, reflecting household deleveraging efforts and a stagnant-to-falling housing market.
- Compared with previous recoveries, bank credit is relatively soft across all major sectors. Part of this may be attributed to high corporate cash balances, which decreases demand for bank credit.
- Lending standards are gradually loosening and are generally in line with previous recoveries.
- The shadow banking sector, which was so important for fueling credit earlier in the century, is continuing to contract.

Borrowers

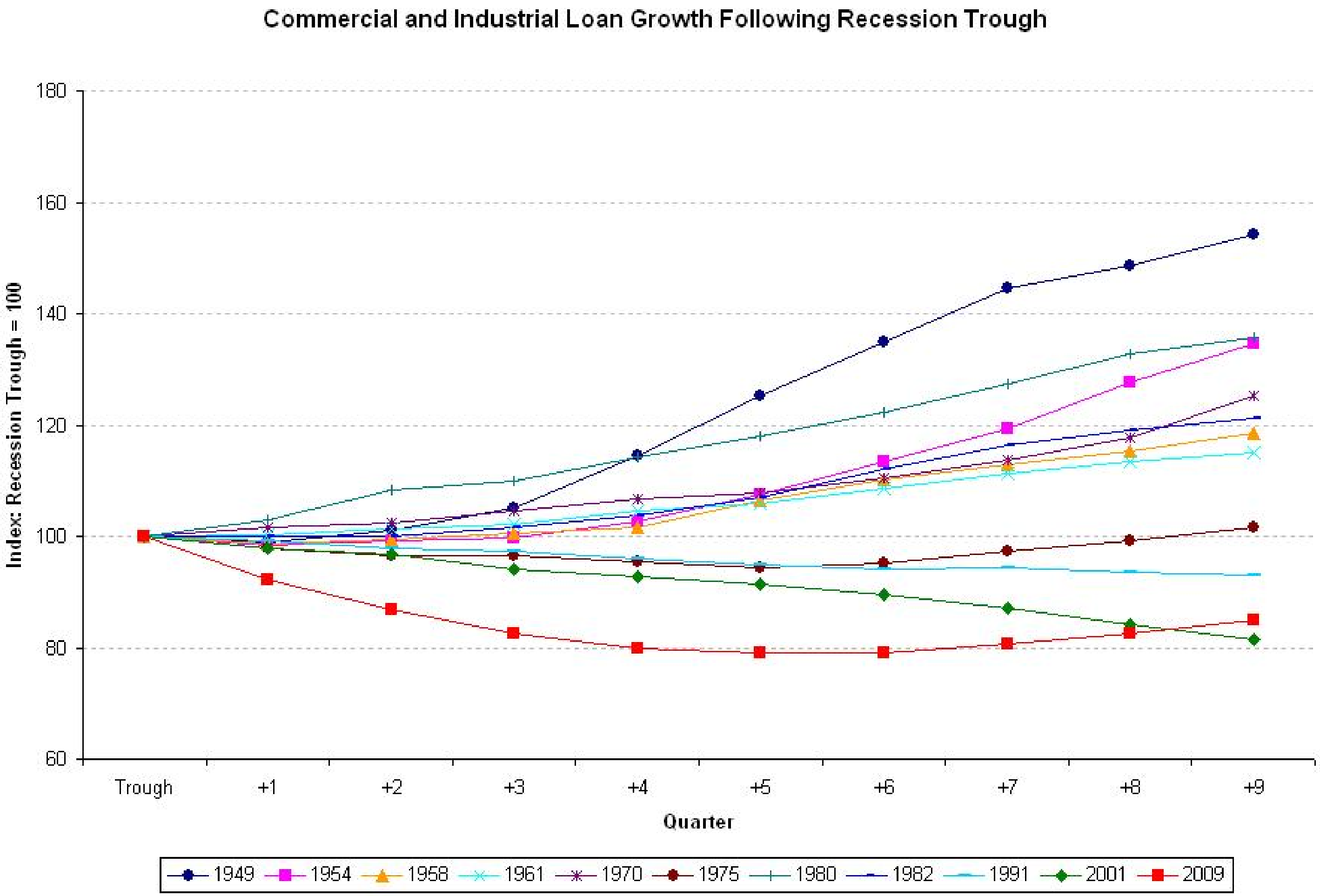
C&I loans growing …



Source: Federal Reserve

Borrowers

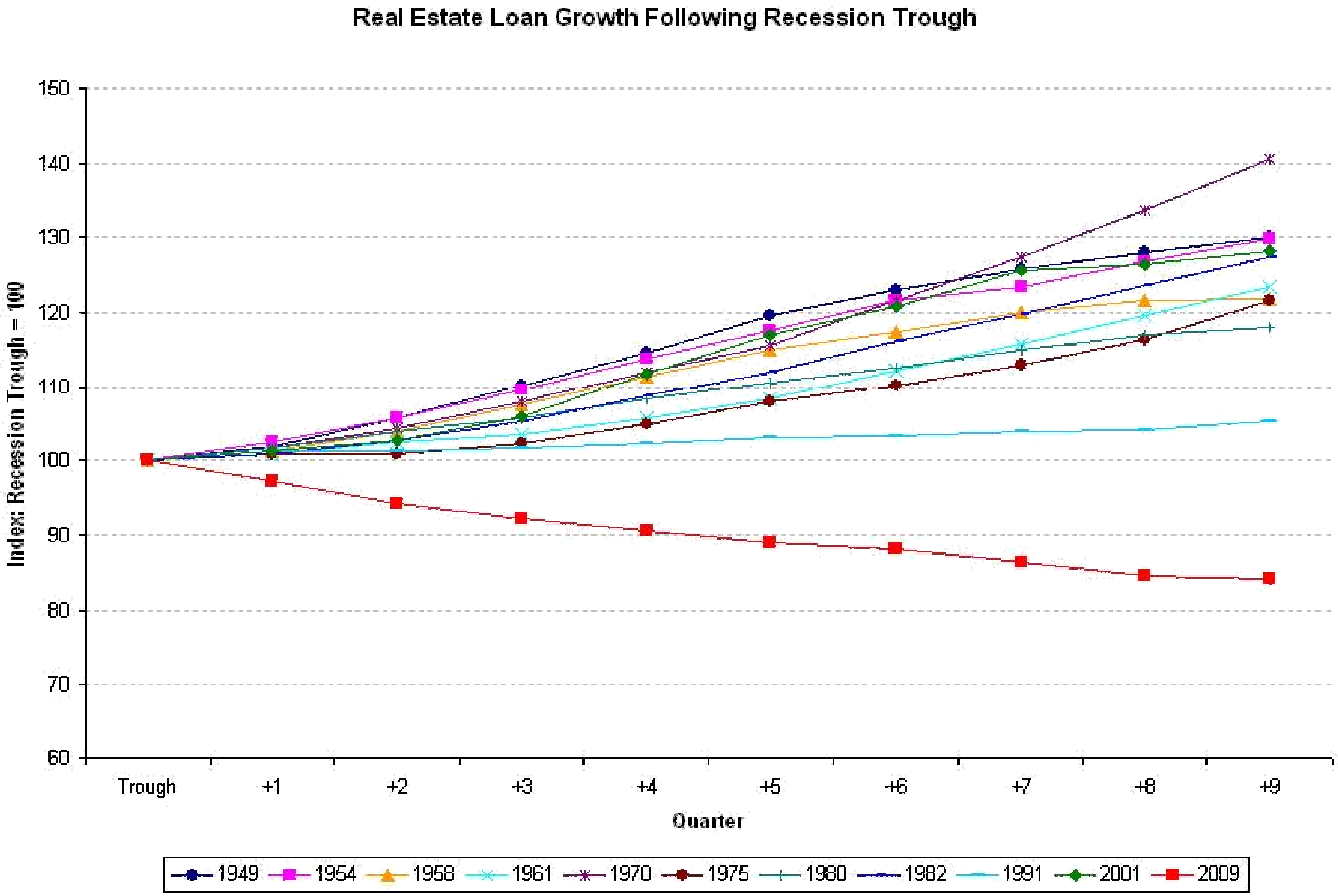
… but well below most previous recoveries.



Source: Federal Reserve

Borrowers

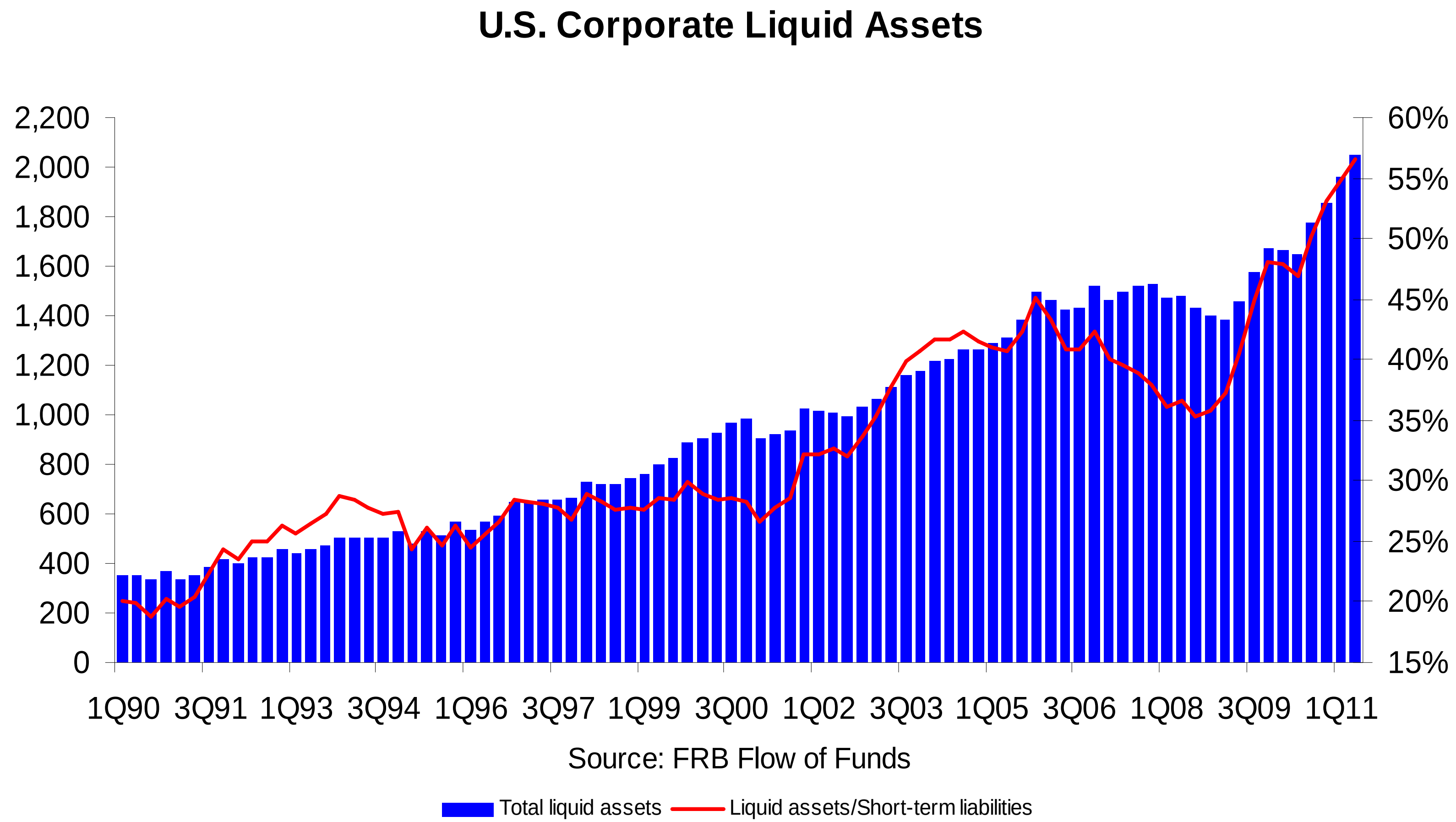
Real estate loan growth well below previous recoveries.



Source: Federal Reserve

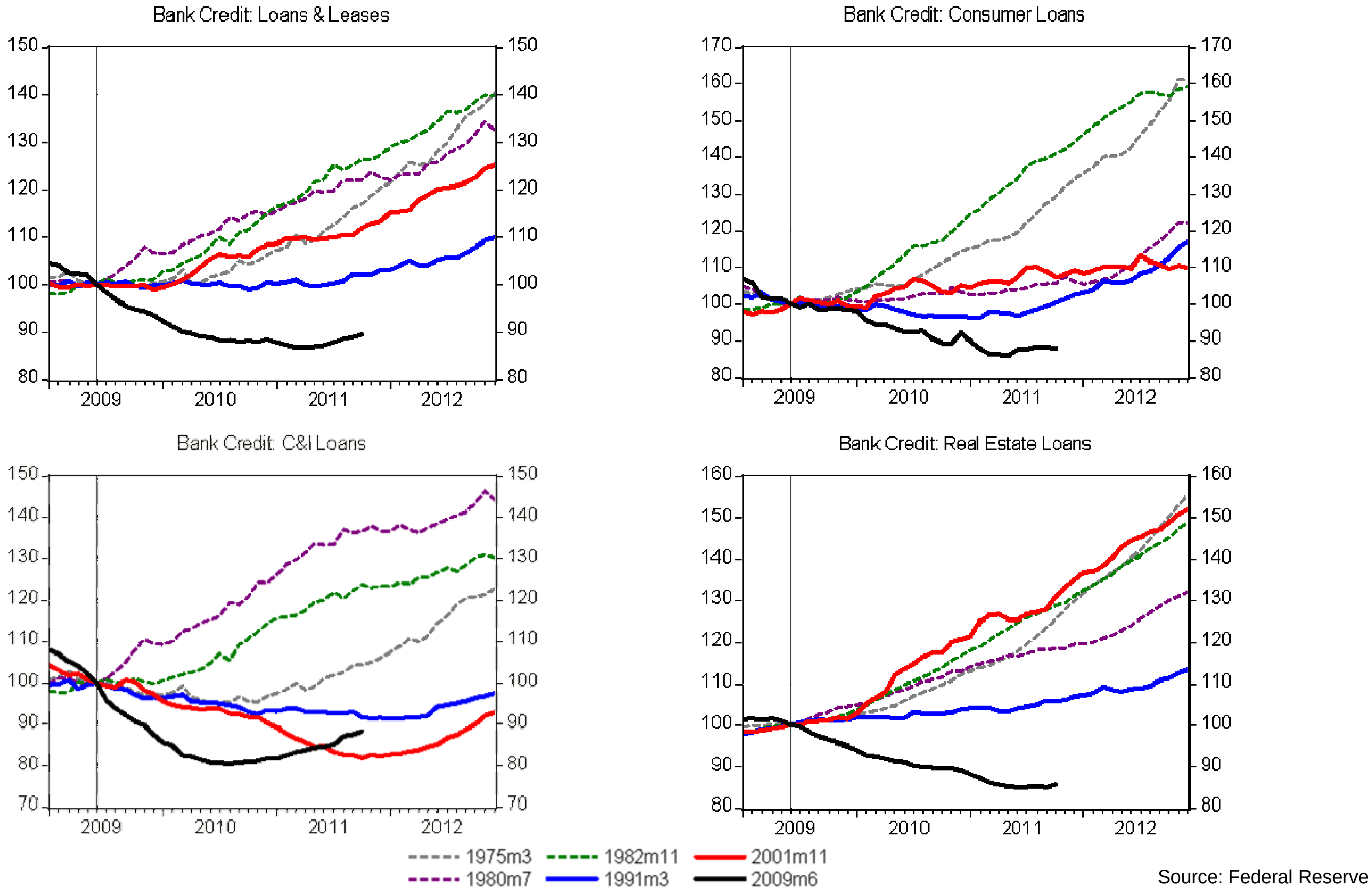
Borrowers

High levels of corporate cash may be lowering demand for bank loans.



Borrowers

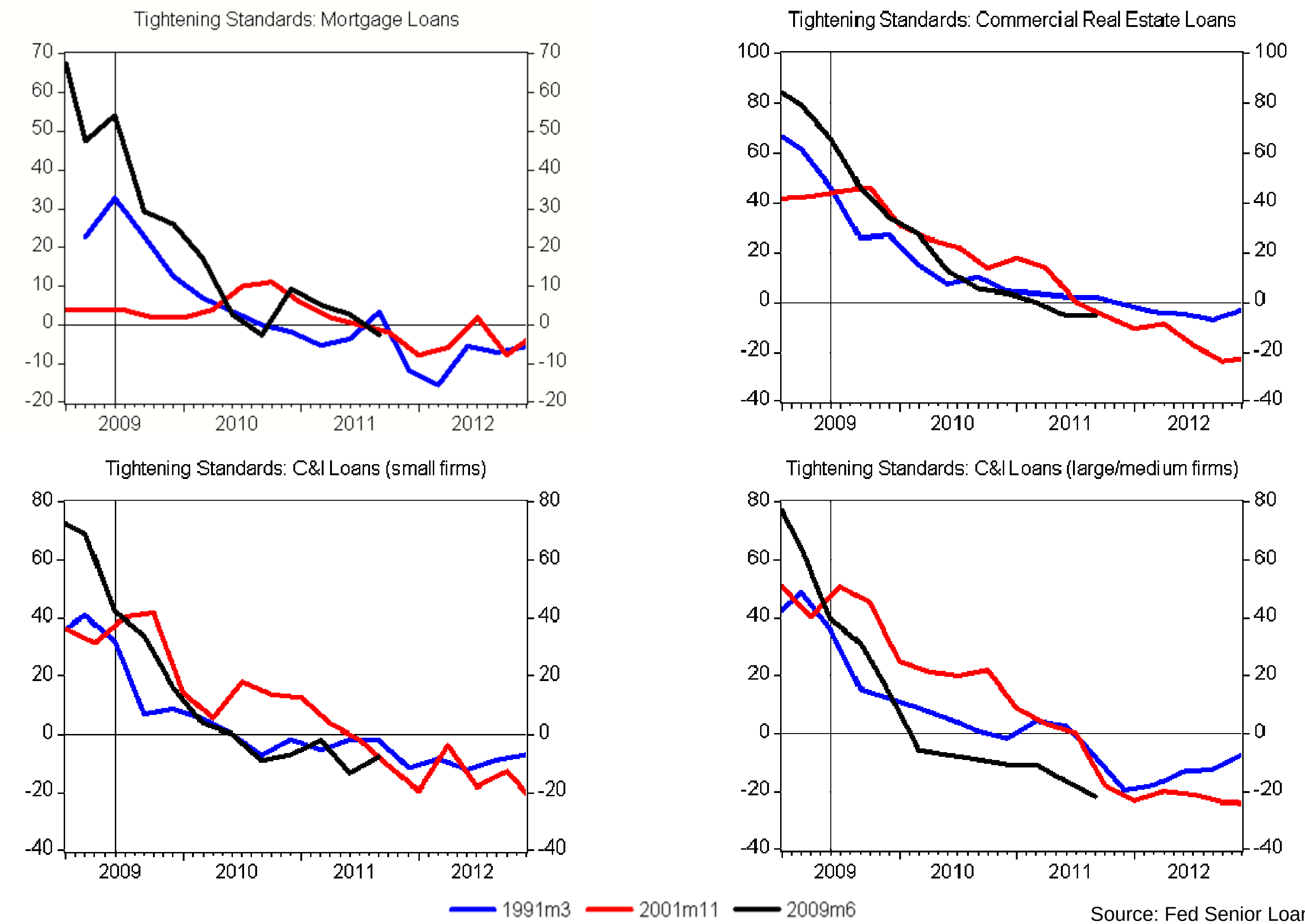
All forms of bank credit trailing past recoveries



Source: Federal Reserve

Borrowers

Lending standards gradually loosening, in line with previous recoveries

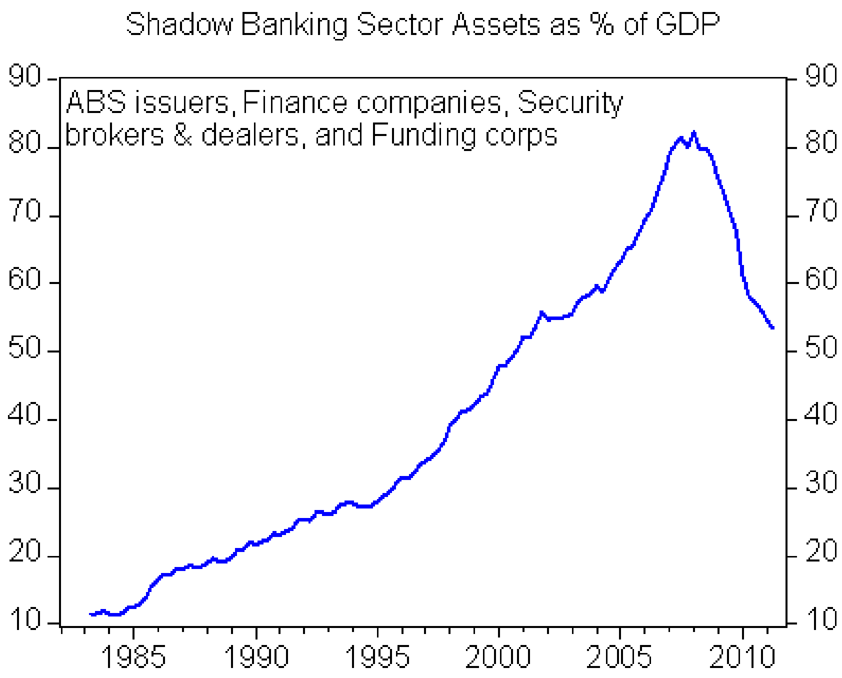


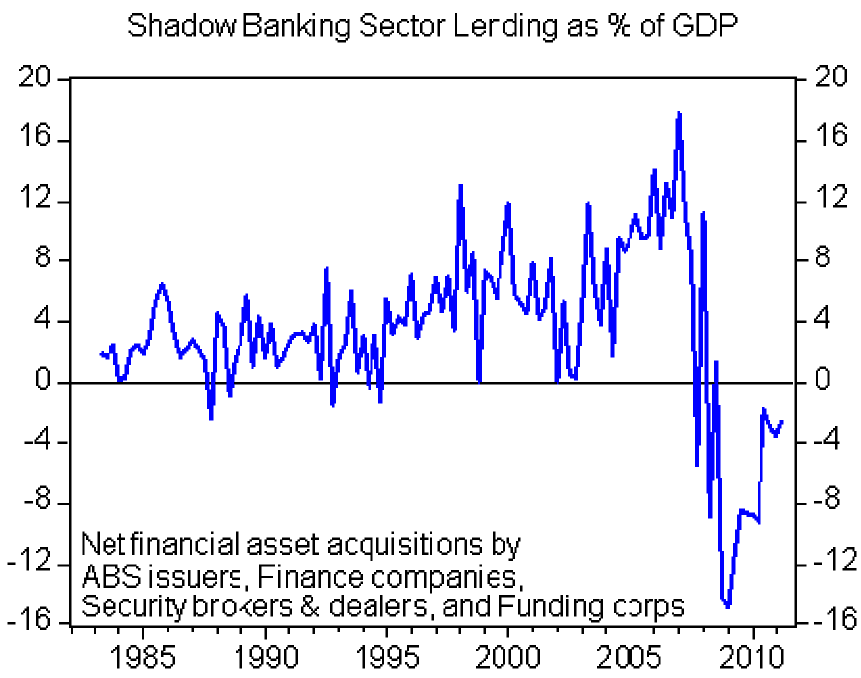
Source: Fed Senior Loan Office Survey

Borrowers

The “shadow banking sector” has shrunk as well

- The unprecedented growth of the shadow banking sector 2000-2008 has contracted meaningfully





Source: Federal Reserve Flow of Funds report, Bureau of Economic Analysis

Long-Duration Fixed Income Managers

Question:

Are there signs that institutional investors are reaching for yield by taking on more duration and/or credit risk?

Conclusion:

Index tracking managers have some leeway to extend duration vs. taking on credit risk. International diversification may be an attractive option. Long liability managers are taking more duration risk and increasing credit exposure.

Discussion:

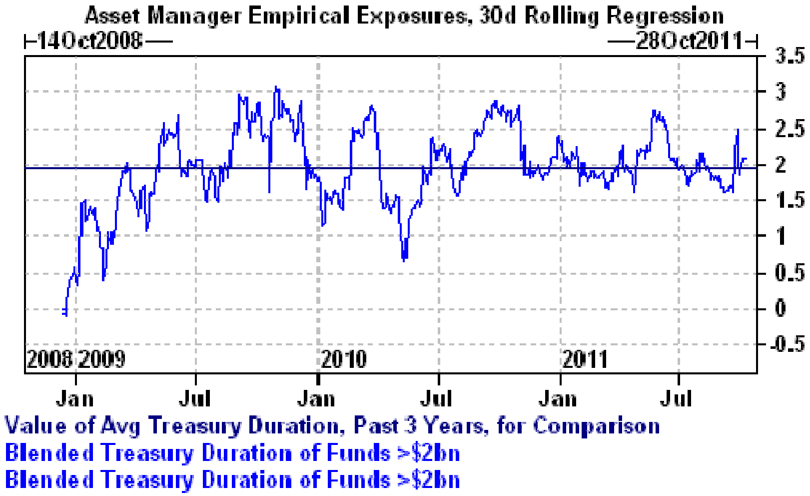
- For managers that tend to track an index, there is greater ability to go long or short duration versus that index as opposed to increasing credit risk. Managers that have credit exposure tend to move up in quality in times of market stress, so much will depend on the liquidity situation at the time. There may be a desire to diversify not via duration or credit, but by investing in higher yielding foreign bonds.
- After Operation Twist, money managers extended to 30yr maturities, as evidenced by the 10s-30s Treasury curve flattening from 136bps to 96bps in two weeks**.**
- Asset manager exposure in 2011 has overall shifted to an increased exposure to credit (following page).

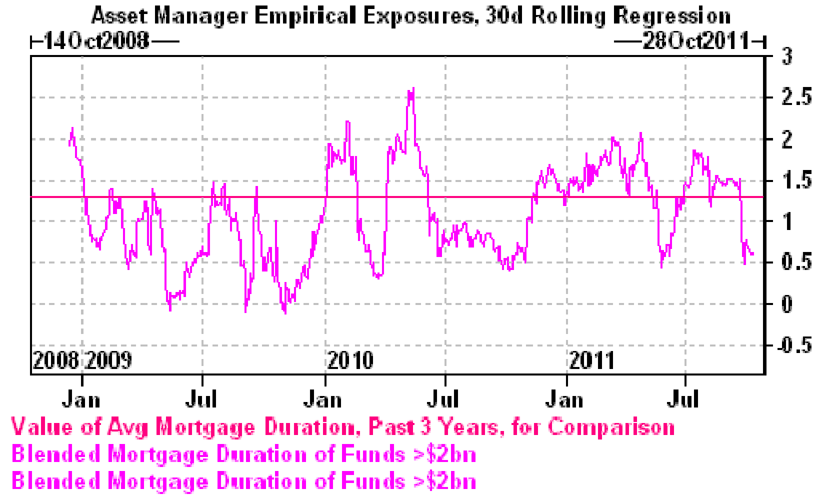
Long liability managers (pension and insurance):

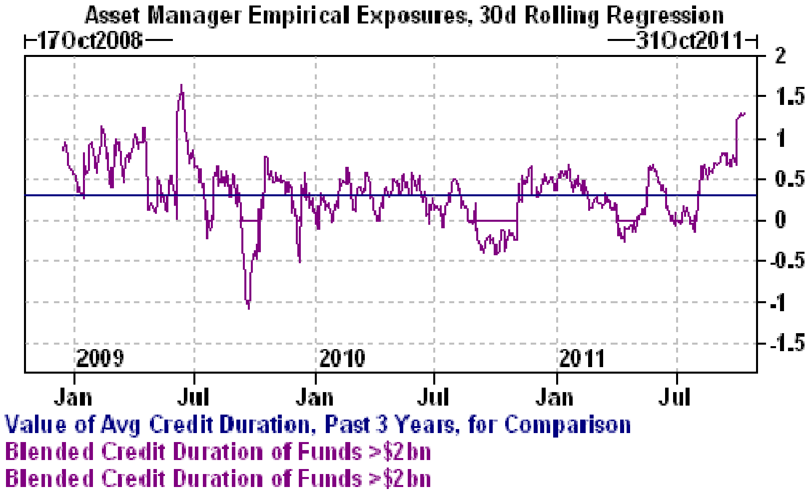
- Pension and Insurance accounts are taking on more duration risk and also have been increasing their credit exposure. Additionally, where risk is appropriate, they are extending into longer duration credit instruments.

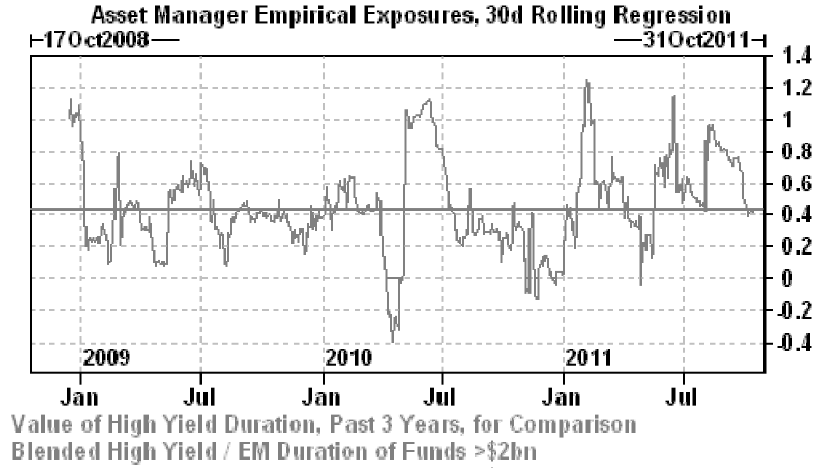
Long-Duration Fixed Income Managers

2011 duration extension has been in Investment Grade credit, recently rebalanced some to US Treasuries









Source: Bloomberg

Money Market Funds

Question:

What do low rates mean for the profitability and viability of money funds? Will there be more consolidation in this industry?

Conclusion:

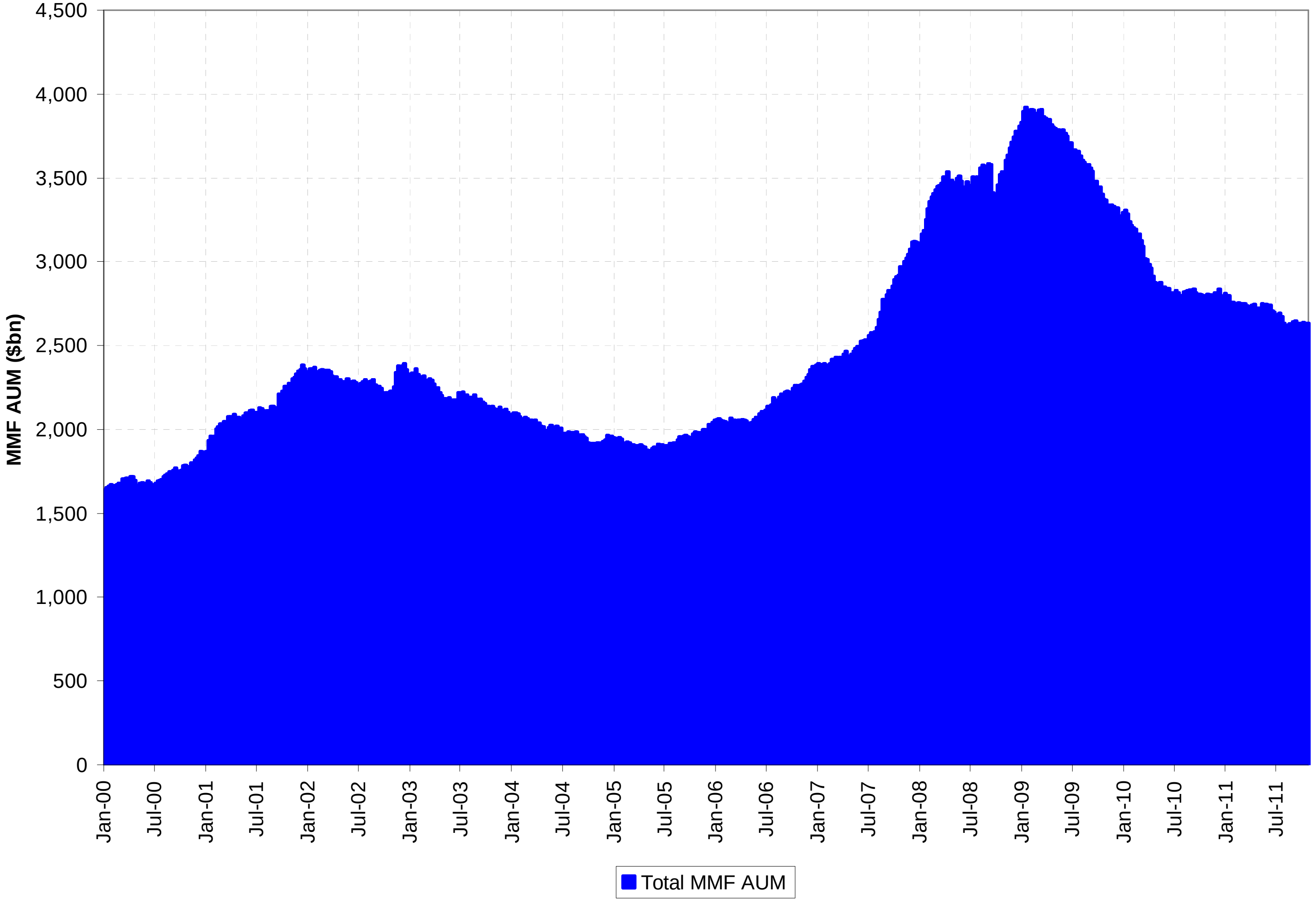
Money market funds will face increasing challenges as margins remain small, if positive at all. Consolidation has been slow, more consolidation is expected.

Discussion:

- The money market fund (MMF) business model has been under pressure. MMFs barely return over their fee structure. Prime funds are still profitable, Treasury-only not and are often subsidized by other arms of the institution. A flat yield curve exacerbates narrow margins.
- Consolidation has been limited thus far, but more consolidation is expected. Historically, MMF business has been highly profitable, so firms are reluctant to exit. Smaller firms have a harder time subsidizing the business. Larger MMF's have difficultly leaving the parent because the business will no longer have the support of the parent. Also, 2a7 Fund Assets Under Management (AUM) is $1.7tn. AUM is estimated to grow to $1.8tn by 2014. 20 Fund complexes account for ~80% of the 2a7 AUM. AUM is already highly concentrated.
- Margins are small, if positive at all. Since 2008, the trend has been to de-risk the portfolio, assisted by regulation. For example, SEC rule 2a7 caused MMF's to shorten WAM's and WALA's. This has also narrowed margins. However, the benefit is that only a major systemic event would cause a fund to "break the buck," to the tune of spreads moving ~4-5 times 2008 moves.
- Due to low rates, some MMFs see redemptions as investors take out low-yielding funds and deposit them in bank accounts to at least gain FDIC insurance.
- If the Fed was to lower the Interest on Overnight Excess Reserve (IOER) rate, it would further pressure MMFs. Typically, money funds have an operation cost of around 15 to 20 basis points. Lower front end rates would exacerbate their stress and could lead to a loss of AUM.
- Note a cut in the IOER could lead to a higher effective fed funds rate. Since the FDIC charge was introduced, domestic banks have reduced their participation in the fed funds market. If the IOER were cut, foreign banks would also find it less attractive to participate in the Fed Funds market (i.e. since the return from borrowing funds cheaply overnight and putting them to the Fed would be reduced). Thus, the only participants left in the funds market might be those considered less creditworthy - those who pay a higher rate to borrow.

Money Market Funds

Total MMF assets have stabilized, expected to remain stable and grow slightly.



Source: ICI

Money Market Funds

De-risking has been substantial since the crisis.

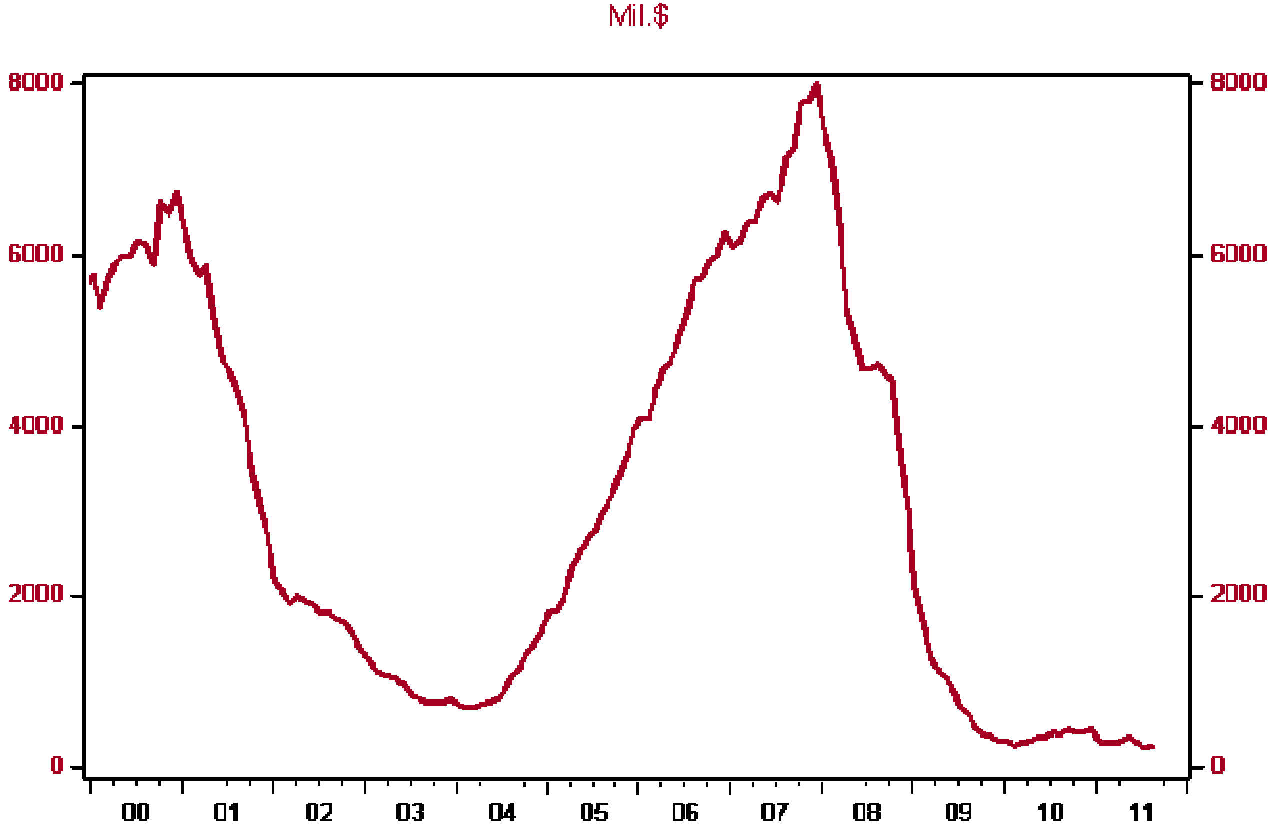
Treasury Securities as % of MMF Assets (Taxable)

Commercial Paper as % of MMF Assets (Taxable)

Money Market Funds

Reinvested Dividends: one measure of profitability

Money Market Mutual Funds: Reinvested Dividends



Source: Investment Company Institute/Haver Analytics

Money Market Funds

Question:

Will this have an impact on short-term credit availability for corporations (e.g. CP issuance, etc)?

Conclusion:

No.

Discussion:

- While margins are under pressure, AUM will be stable to growing. Thus, MMFs will continue to seek yield and thus provide ample short-term credit availability to corporations. This also provides desired diversification. With assets stable, MMFs will seek yield in a low rate environment.
- There is currently a supply/demand imbalance as corporations are cash rich, lowering supply and demand for yield is large. This is unlikely to change.
- Recent risk aversion is likely to reverse somewhat over a medium term horizon as MMFs are forced to add yield.

Foreign Investors

Question:

What impact will low rates have on foreign investors, particularly foreign reserve managers? Are these investors extending duration? Are they moving away from Treasuries? If they are moving away from Treasuries, where are the flows going – other sovereigns, real assets, equities?

Conclusion:

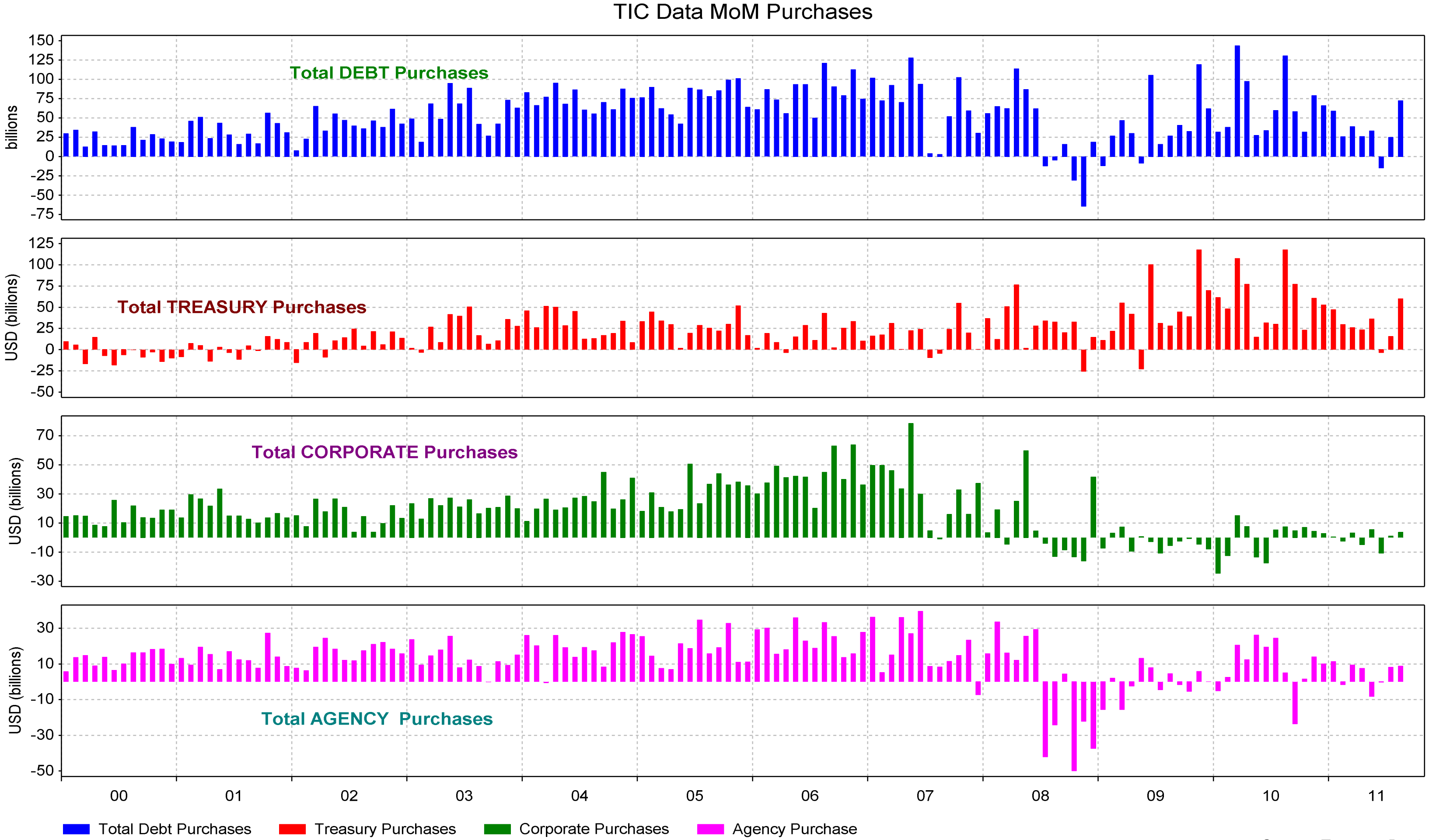
Diversification has been ongoing, but limited by lack of deep and liquid foreign bond markets. Recent central bank activity has been primarily currency-related. Demand for Treasuries has remained firm.

Discussion:

- TIC data shows continued net buying of US debt, especially US Treasuries. Post 2008, foreign investors have shied away from corporate debt.
- Custody holdings have been falling recently, but this appears currency related as monetary authorities actively influence their exchange rates. Managed currencies that are artificially weakened (due to intervention or pegs) leads to dollar accumulation and US Treasury purchases.
- Diversification into foreign bond markets has been happening (Canada, Australia in particular), but liquidity and depth is an issue. The total size of Canadian government bond market is ~$610bn and Australia ~$225bn. US Total Marketable Debt as of August 31st is $9.5tn. There has been some evidence foreign investors were selling into the post-Operation Twist decline in US rates.
- Developed market rates are low globally, if rates rise outside the US, but US rates stay low, it could fuel further diversification as we saw in Japan.

Foreign Investors

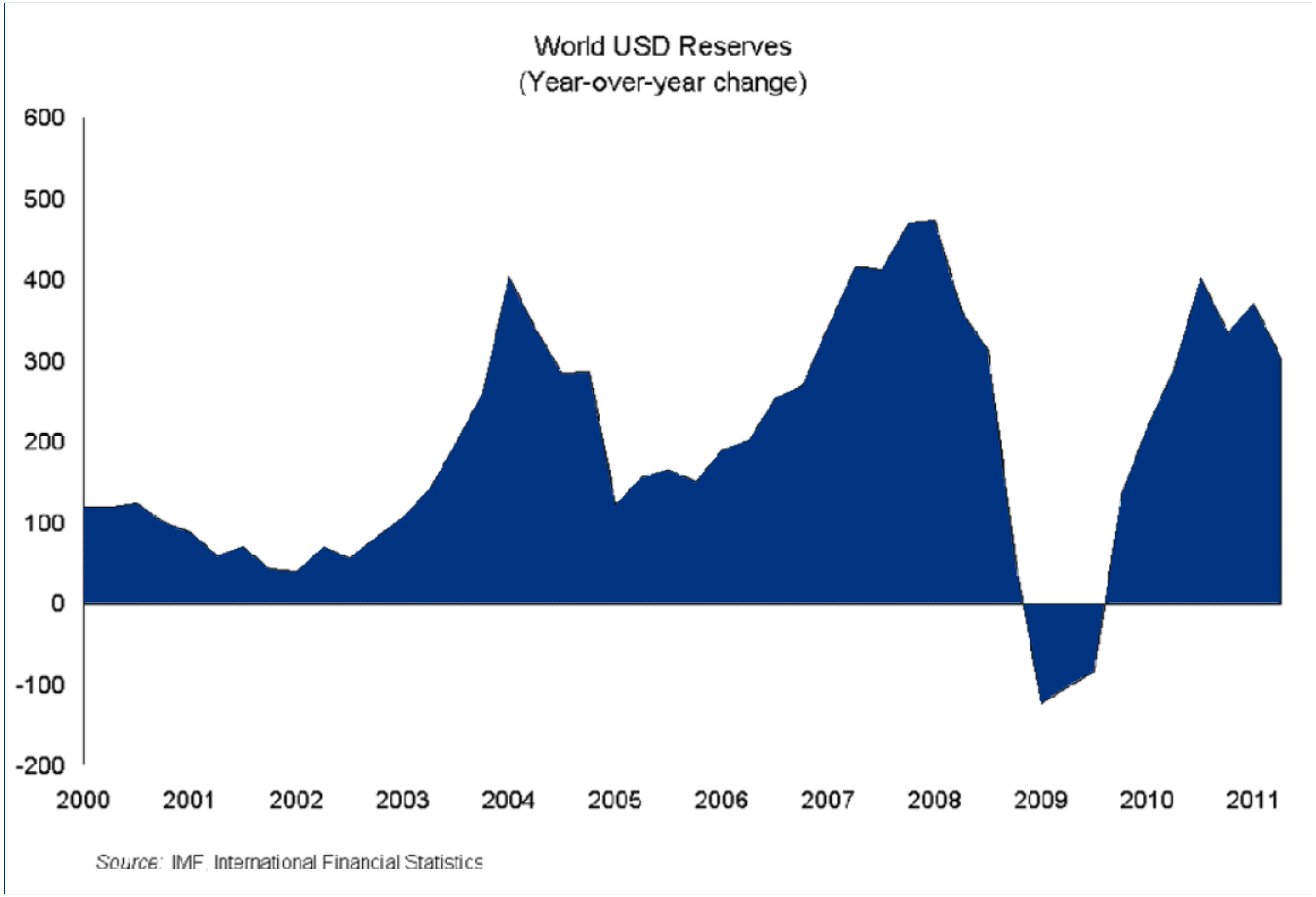
TIC data shows healthy US Treasury inflows, and foreign investors credit averse post 2008. A potential risk is a shift back.



Source: Treasury Dept.

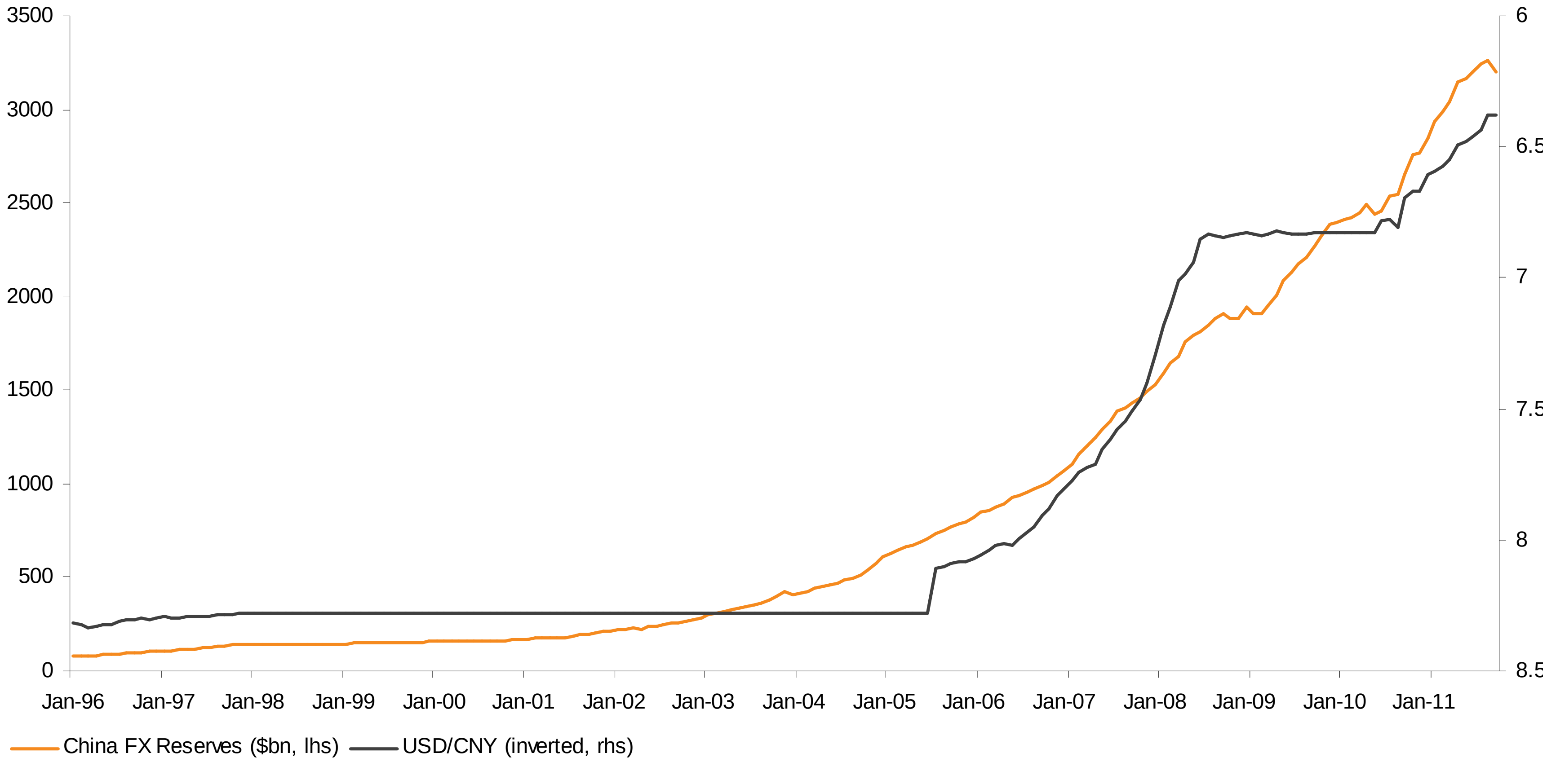
Foreign Investors

World USD reserves continue to climb.



Foreign Investors

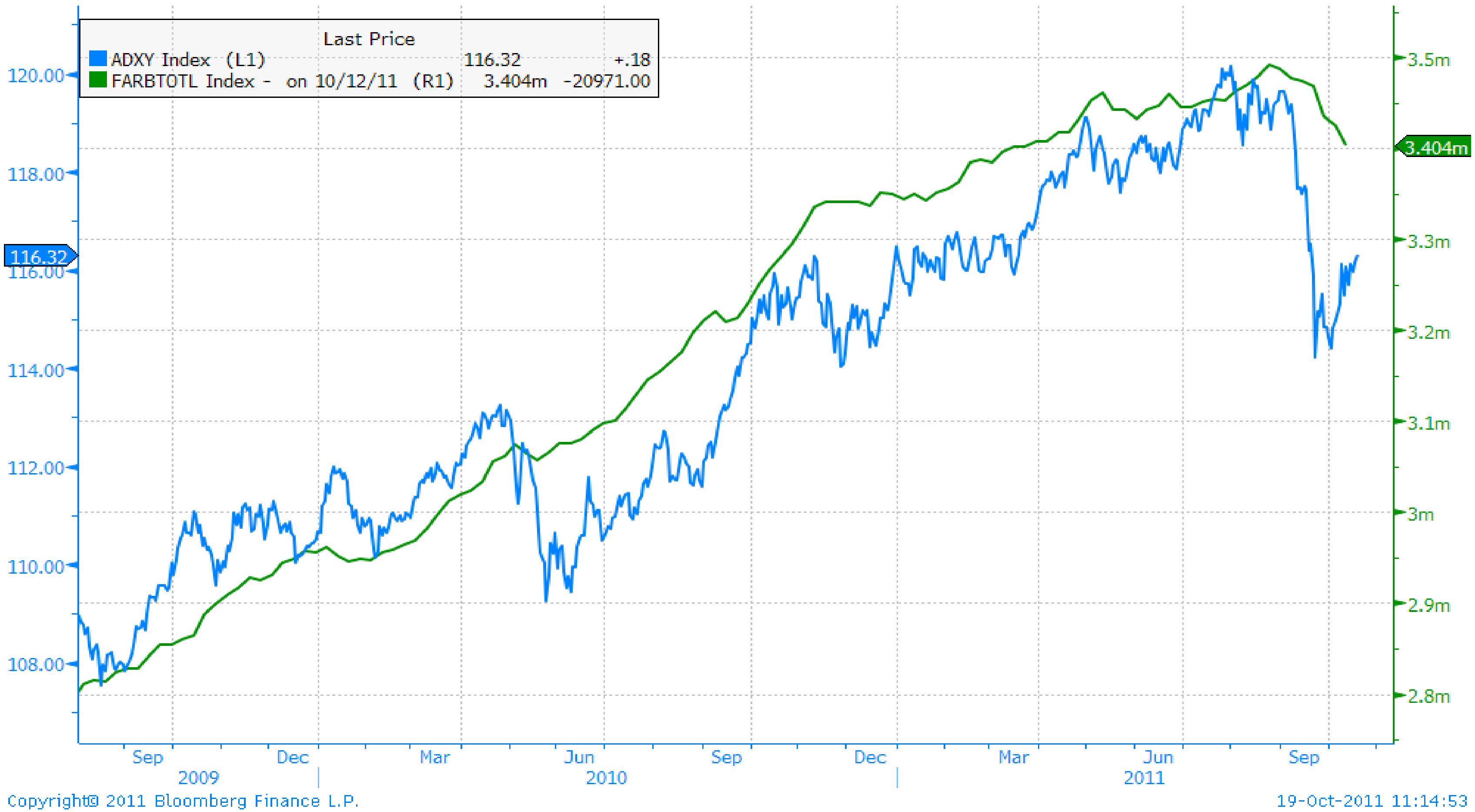
Reserve accumulation tied to currency policy.



Source: Bloomberg

Foreign Investors

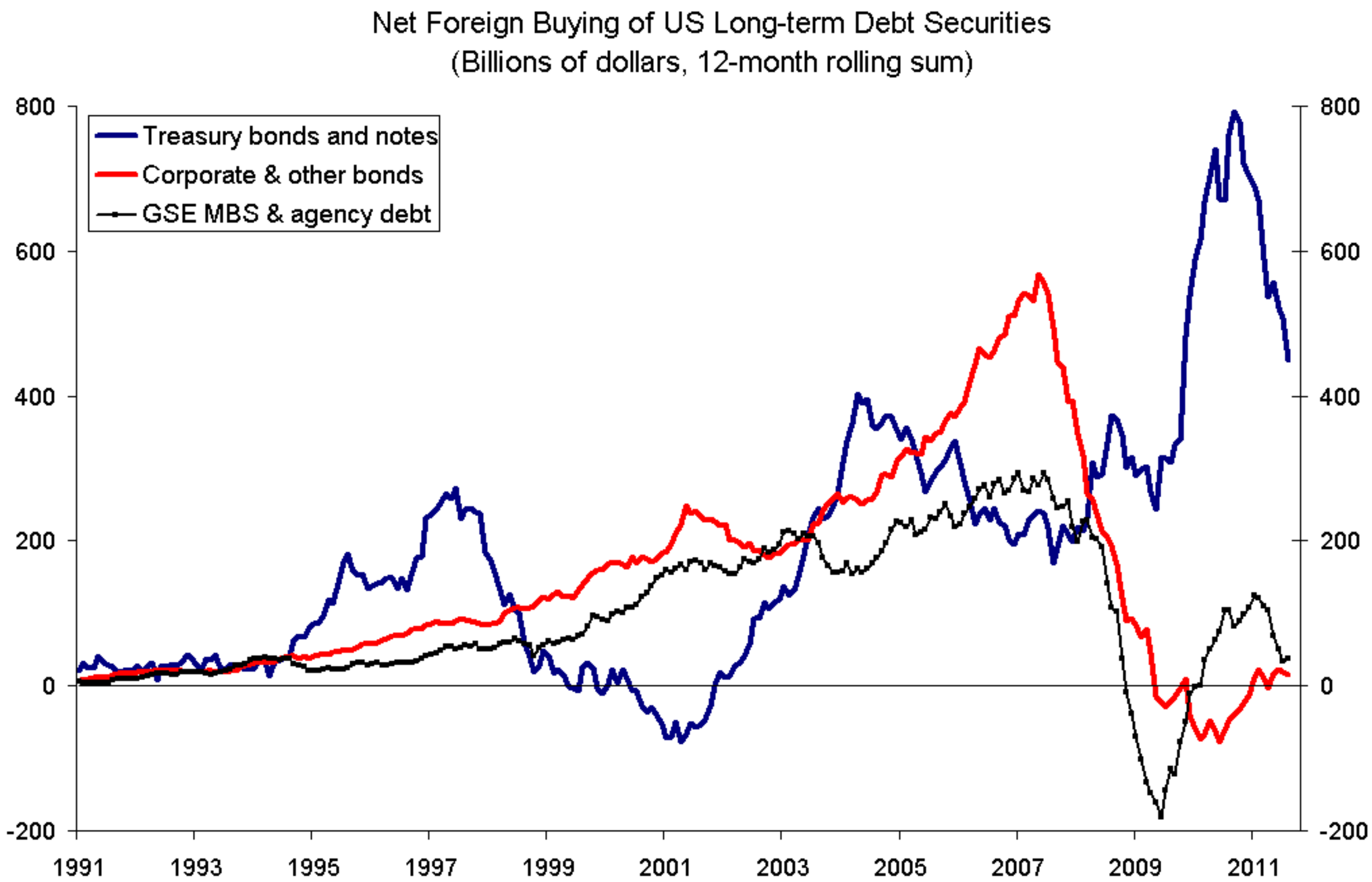
Asian Dollar Index (ADXY) versus US marketable securities held in custody for foreign official and international accounts.



Source: Bloomberg

Foreign Investors

Foreign investors are still buying Treasuries, though less than 2009-2010.

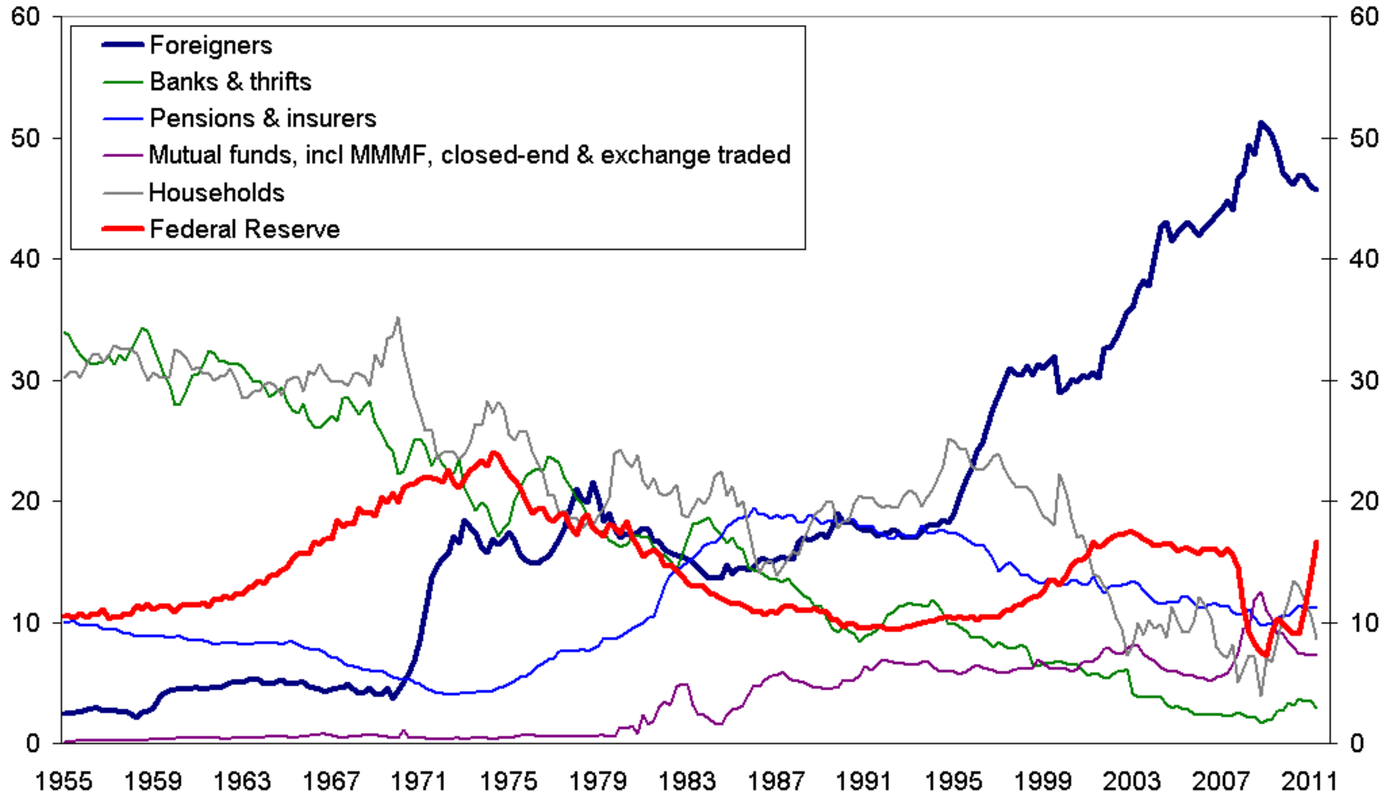


Source: U.S. Treasury TICs data

Foreign Investors

Foreign Investors own almost half of US Treasury debt outstanding.

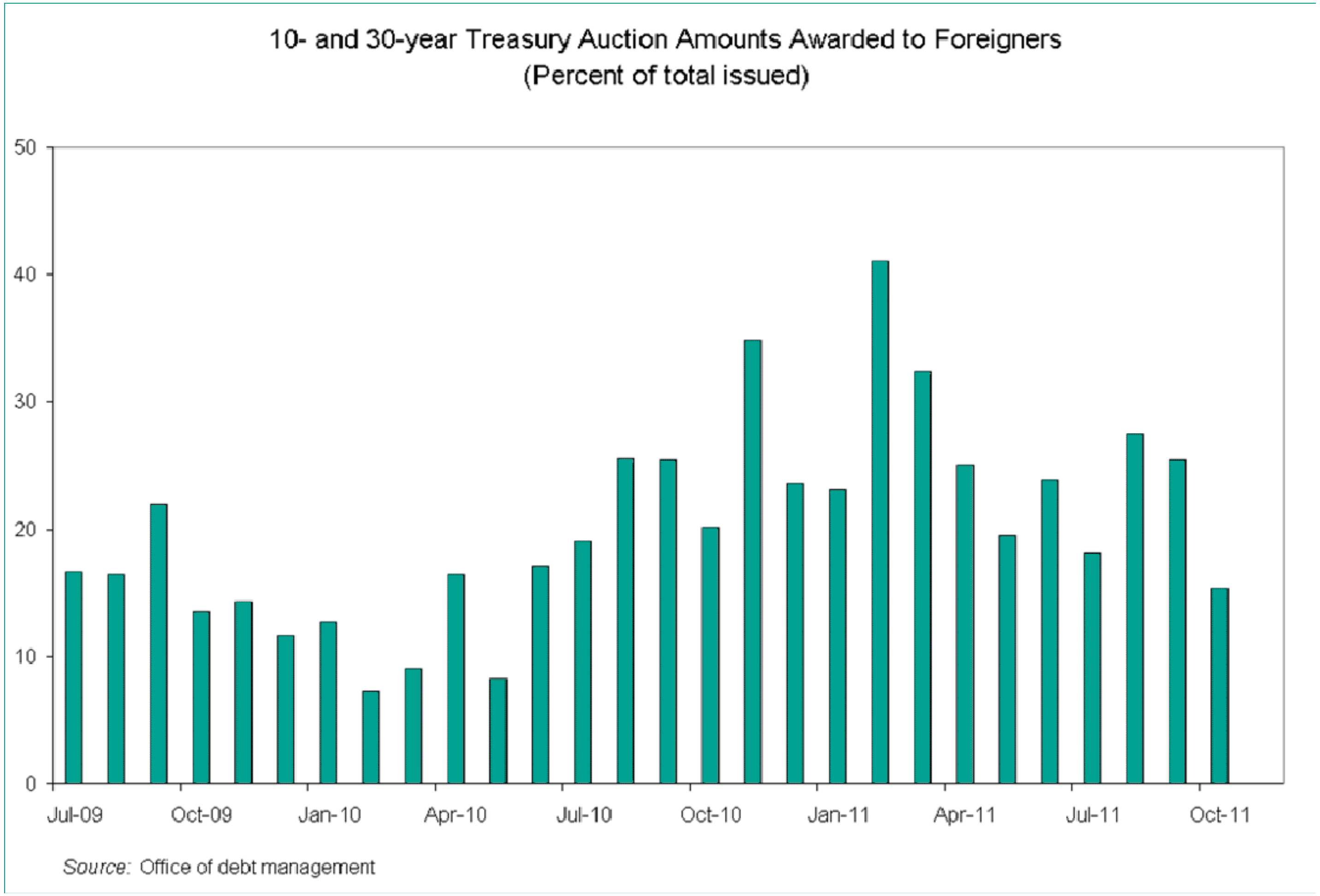
Treasury Holdings as % of Treasury Debt Outstanding



Source: Federal Reserve Flow-of-Funds

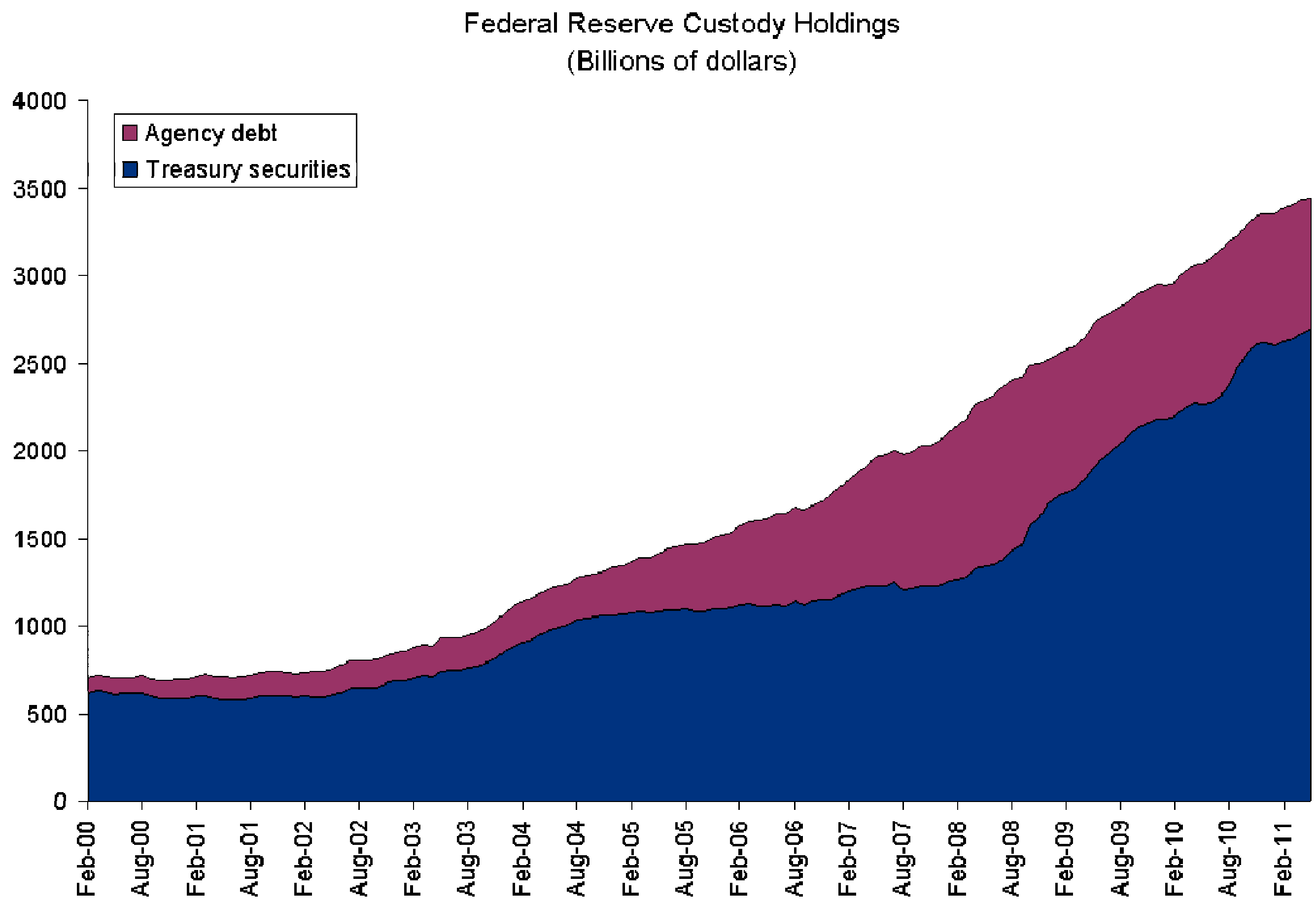
Foreign Investors

Foreign participation in 10- and 30-year auctions has been consistent.



Foreign Investors

Despite recent fall, Fed custody holdings have been trending higher.



Source: Federal Reserve

Banks

Question:

Discuss the impact on net interest margin and overall bank profitability. Does a low-rate environment impact small banks differently than large banks? Domestic banks vs. foreign banks?

Conclusion:

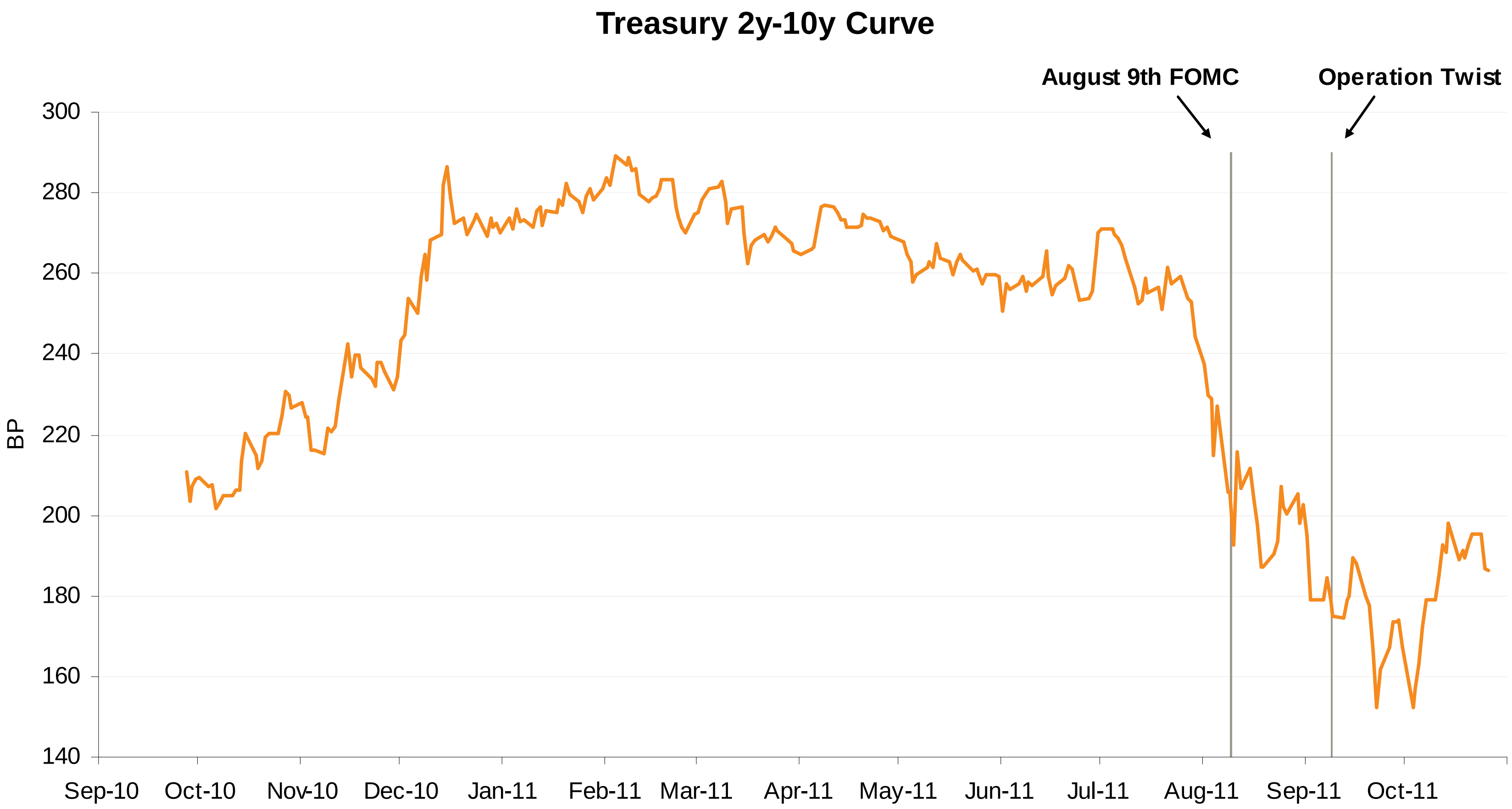
Net interest margins (NIMs) will be under pressure. Larger banks' greater diversification will lower their sensitivity to NIM in comparison to smaller banks. Domestic vs. foreign is a function of the shape of individual foreign yield curves.

Discussion:

- Liabilities on bank balance sheets tend to be shorter in duration than assets, thus when the yield curve flattens or inverts, net interest margins could decline as the cost of funds rises more rapidly than the income from earning assets.
- To the extent funding rates fall at the same rate as lending rates, NIM is maintained. However, lending is not growing and bank portfolios are shifting from higher margin lending to lower margin lending and investment grade securities. This is pressuring NIM. Will regulations force margins even tighter?
- During the crisis, as rates fell quickly, legacy loans caused NIM to improve (chart next page). That cycle is over as loan volumes are off and investment rates lower.
- Additionally, for some banks, the interest earned on loans may be tied to U.S.-denominated interest rates such as the federal funds rate while the interest paid on debt may be based on international rates such as LIBOR. If those spreads fail to compress, this could lower the net interest margin and net interest income.
- Moody's (8/11): "Fed's decision to announce expectation of 0-0.25% Fed Funds Target rate through mid 2013 is credit negative for banks as it erodes NIMs at a time when non-core portfolios are being rundown, non-interest income is eroded by regulation, and negligible loan growth is expected on weak economy."
- Top 8 US banks saw NIM in 3Q11 fall to an average of 3.39%, from 3.48% in 2Q11, and 3.57% in 3Q10.

Banks

Yield curve has flattened this year in response to Fed policy

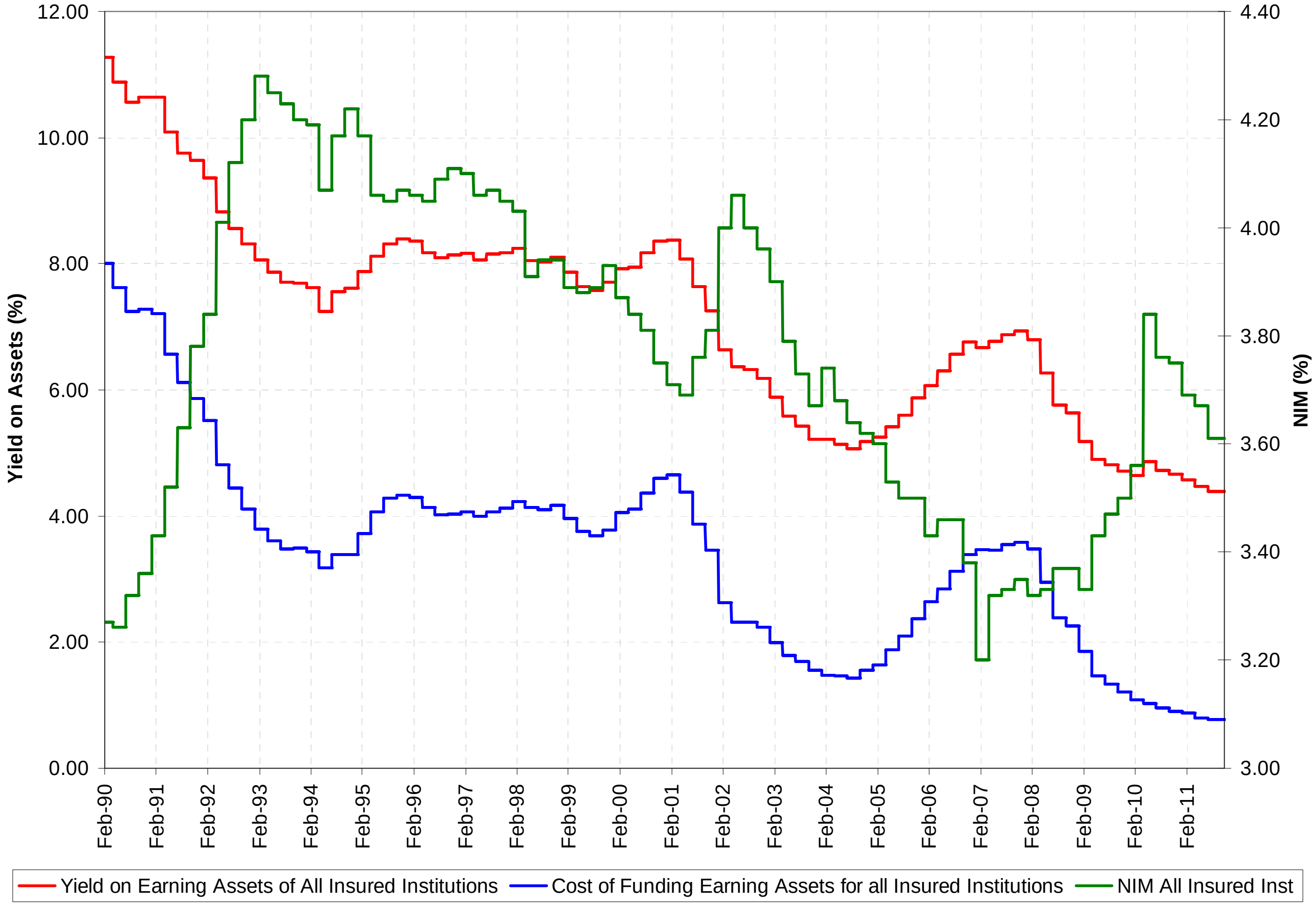


Source: Bloomberg

Banks

Net Interest Margins – all insured institutions.

- Due to lag of legacy loans rolling off, NIM is still currently higher than late 2006



Source: FDIC

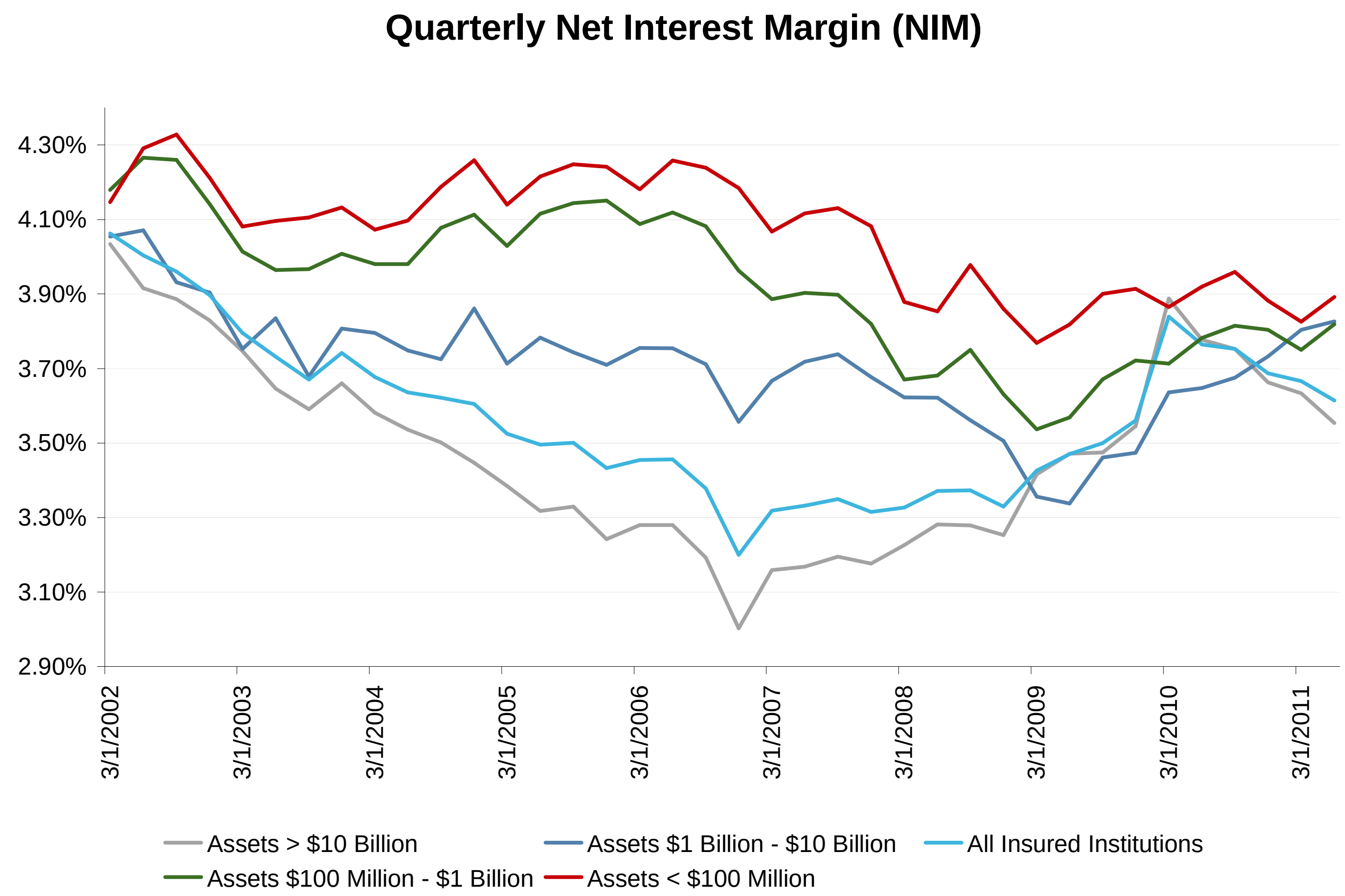
Banks

Discussion – Large versus small.

- FDIC (2005): “Larger and more diversified institutions and credit card specialists appear to be less vulnerable to interest-rate and term-structure shocks, but still sensitive to credit shocks. Both of these relationships may reflect the greater use of off balance-sheet instruments that help these institutions hedge their interest-rate risk. In comparison, agricultural banks, mortgage specialists, commercial loan specialists with real assets less than $300 million, and small non-specializing banks with real assets less than $300 million are sensitive to all three types of shocks examined in this paper—credit, interest-rate, and term structure shocks.”
- Larger banks would have greater diversification which reduces their sensitivity to NIM. With other core business revenues down, however, sensitivity to prolonged low rates is higher. Fees on other businesses (credit cards) have given support.
- Smaller banks generally more dependant on NIM. The chart the next page shows smaller banks have been able to preserve NIM, likely due to legacy loans. Without diverse revenue streams, small banks will likely be impacted to a greater degree in the future if rates remain low.
- Dominion Bond Rating Service (3/07): DBRS found an inverse relationship between banks’ AUMs and NIM. The relationship is driven more by higher loan yields and asset mix of smaller banks rather than funding costs and funding mix. Smaller banks have smaller loans that have higher yields due to greater risk of losses and similar labor-intensive booking process. Smaller banks had more core deposits and less reliance on wholesale funding so overall cost of funding was lower than for larger banks. Large banks benefited more from Fed cutting rates rapidly from 2001-2004 due to their higher reliance on wholesale funding.

Banks

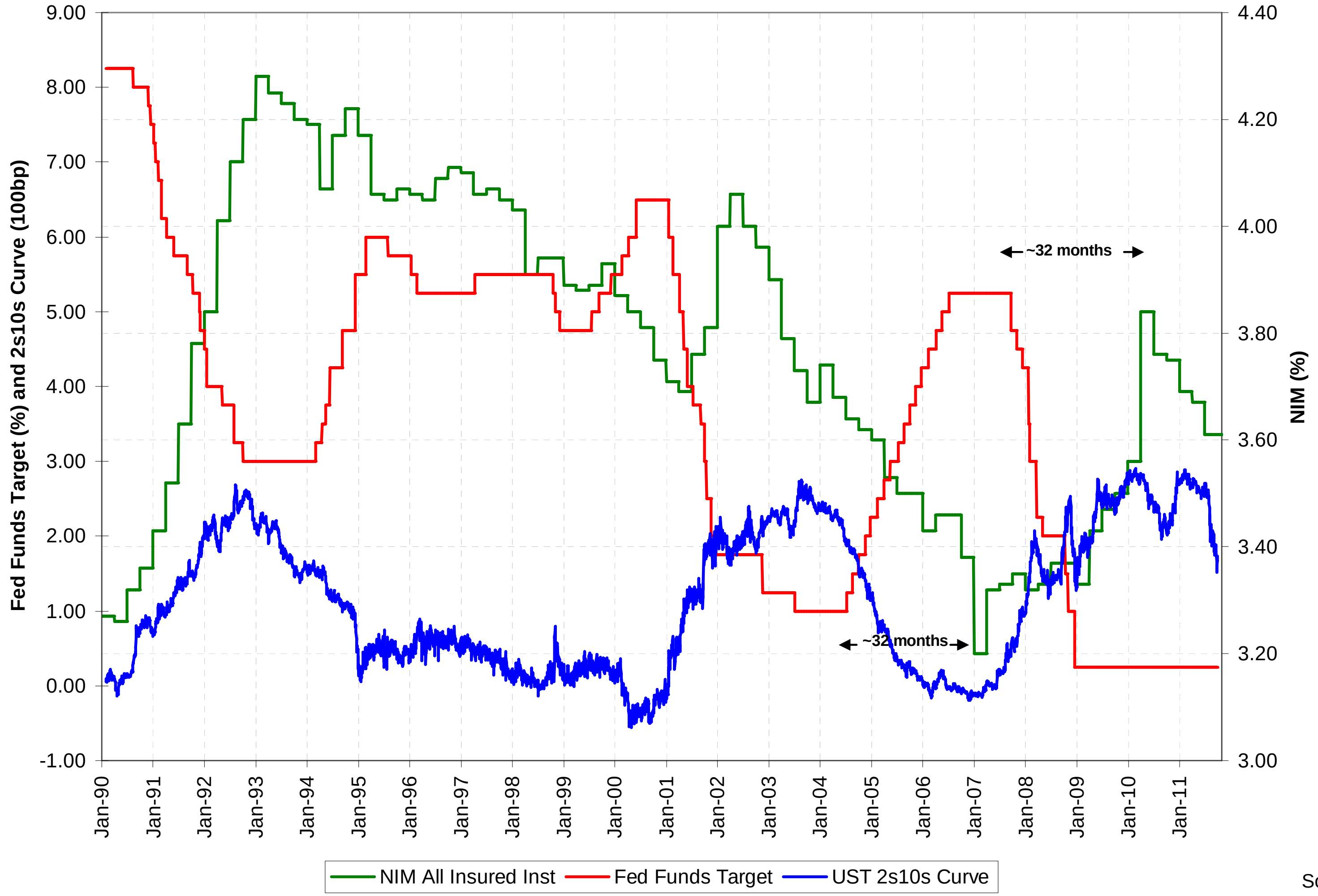
Net Interest Margins – all insured institutions by size



Source: FDIC

Banks

Net Interest Margins – approximate three year lag (32 months)



Source: FDIC

Securities Dealers/Repo Trading

Question:

Will low rates impact the liquidity of Treasury securities, particularly if carry becomes compressed? How will this impact repo markets?

Conclusion:

Ample Treasury supply should serve to keep the Treasury market deep and liquid. Regulatory requirements raises bank demand for Treasuries, which will keep supply to repo market high.

Discussion:

- At current auction sizes, liquidity should not be a problem even as investors adopt carry and rolldown strategies. Even as these trades become popular, the overall size of Treasury supply should serve to keep the Treasury market deep and liquid. If auction sizes are heavily cut within a low rate environment then liquidity may drop, but considering the cyclicality of issuance this is unlikely.
- Bid-ask spreads in highly liquid products remain relatively tight. However, in times of stress, liquidity premiums for less liquid products may rise. E.g. in Japan, liquidity premiums rose sharply for inflation-linked and floating-rate Japanese debt.
- Banks are major lenders of US Treasuries, MBS, and Corporates. Banks currently hold ~$1.8tn in US Treasuries and MBS. Basel III and other regulatory requirements will necessitate additional ownership of between $400 and $800bn of high quality zero-weight securities. This will keep lending markets liquid. If banks hold fewer Treasuries, high cash levels will drive repo rates lower.
- Collateral requirements to support centrally cleared transaction and OTC transactions by 2015, when combined with Liquidity Coverage Ratio requirements, will be between $1.6tn and $5.5tn (median estimate $3.5tn). Current estimates of OTC margin requirements (2010) is $1.5tn. This collateral will consist mainly of government debt.

Insurance Companies

Question:

How will low rates impact the profitability of insurers? What challenges do low rates pose in terms of asset-liability management, risk-based capital, investor policy redemptions, and product demand?

Conclusion:

Inability to match long liabilities with fixed income stream will shift allocations into higher yielding assets.

Discussion:

- Insurance companies seek returns against long duration liabilities such as universal life and fixed annuities.
- Near term (6 months), insurance companies generally do not plan on changing the duration of their bond portfolio
- In a lengthy period of low for longer, insurance companies would increase their exposure to IG credit, HY credit, real estate, alternative investments, structured products, hard assets, and derivatives. Generally, this will be at the expense of US Treasuries.
- Approximately half expect modest pressure on their credit ratings, and most see some change necessary to their overall business strategy and product line emphasis.

Insurance Companies

Discussion continued – Moody’s report (August 19th 2011)

- “While US life insurers are not expected to incur significant near-term losses from the current low interest rate environment, low rates over a long period (5+ years) would subject them to substantial losses that could result in downgrades, some multi-notch.
- An extended period of low interest rates would lead not only to significantly lower investment income, but also to higher statutory reserve requirements and meaningful DAC (Deferred Acquisition Cost) writedowns (on GAAP financials), weakening companies’ profitability, capital adequacy and financial flexibility.
- Most affected would be issuers that have sizable exposure to fixed-rate immediate and deferred annuities, universal life and interest sensitive insurance policies with high minimum crediting rates, variable annuities with lifetime guaranteed income benefits, long-term care and long-term disability.
- Least affected would be issuers of primarily participating whole life, term life, group life, pensions, and non-guaranteed variable life and annuities. Generally, these products have interest crediting rates that are minimal or not guaranteed.
- Few insurers have bought protection against lower interest rates, either because of the high cost of doing so or because they deem the risk to be remote. Exceptions are the minority of companies that have bought interest rate floors, insurers with interest rate hedging programs for variable annuity lifetime income guarantees, and companies that have locked in interest rates on the investment of future premiums for products such as no-lapse universal life and long-term care.
- Our review of the 2008–10 regulatory cash flow testing filings for a representative group of US life insurers showed that when interest rates declined, insurers saw a material worsening of reserve margins, with several companies needing to post additional statutory reserves. As expected, results showed that insurers performed much worse under declining rate scenarios than under increasing scenarios.”

Pensions

Question:

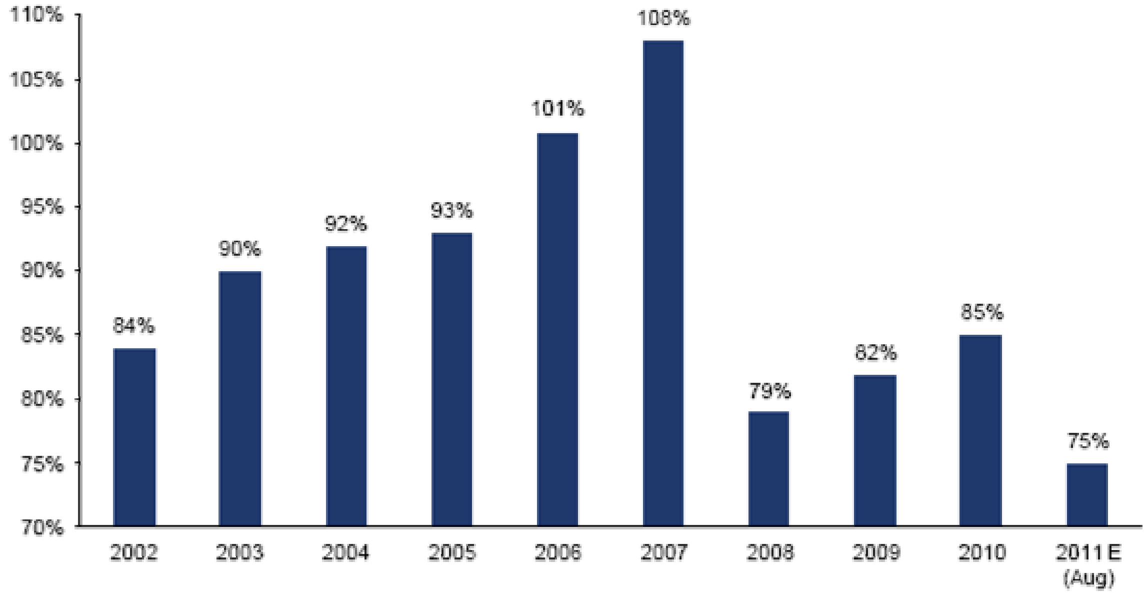
How will low rates impact pensions' asset/liability framework?

Conclusion:

Pension funds have become increasingly underfunded. They are highly sensitive to the level of corporate bond yields. If low rates cause investors to reach for yield and buy corporates (lowering their yield), it will hurt pension funds.

Discussion:

- Goldman Sachs estimates that as of August 2011, Aggregate Pension Funded Status was 75% (S&P 500 Companies, US Plans)[1]



1: Source: Goldman Sachs Research, Capital IQ, Company reports. US plans sponsored by S&P 500 companies. 2011E as of mid August.

Funded Status Sensitivity

Pension Funded Status Sensitivity[1]

		Corporate Bond Yields								
		3.0%	3.5%	4.0%	4.5%	5.0%	5.5%	6.0%	6.5%	7.0%
S&P 500	700	53%	55%	57%	60%	63%	66%	70%	74%	80%
	750	54%	56%	59%	61%	64%	68%	72%	76%	82%
	800	55%	57%	60%	63%	66%	69%	74%	78%	84%
	850	56%	59%	61%	64%	67%	71%	75%	80%	86%
	900	58%	60%	63%	66%	69%	73%	77%	82%	88%
	950	59%	61%	64%	67%	71%	74%	79%	84%	90%
	1000	60%	63%	65%	69%	72%	76%	81%	86%	92%
	1050	61%	64%	67%	70%	74%	78%	82%	88%	94%
	1100	63%	65%	68%	71%	75%	79%	84%	90%	96%
	1150	64%	67%	70%	73%	77%	81%	86%	92%	98%
	1200	65%	68%	71%	74%	78%	83%	88%	93%	100%
	1250	66%	69%	72%	76%	80%	84%	89%	95%	102%
	1300	68%	70%	74%	77%	81%	86%	91%	97%	104%
	1350	69%	72%	75%	79%	83%	88%	93%	99%	106%
	1400	70%	73%	76%	80%	84%	89%	95%	101%	109%
	1450	71%	74%	78%	82%	86%	91%	96%	103%	111%
	1500	72%	76%	79%	83%	87%	93%	98%	105%	113%

1: Source: Goldman Sachs Sales & Trading. For illustrative purposes. Assumes a 75% funded status at a corporate bond yield level of 4.57% and S&P 500 level of 1204 (i.e. market conditions as of mid-August 2011). Assumes a liability duration of 12 years and a 13% interest rate hedge ratio from fixed income assets. Assumes a 47% allocation to equity and that the equity assets have the same return as the S&P 500.

Mortgage Lenders/REITS/Servicers

Question:

How will low rates impact mortgage <u>originators</u>' balance sheets, profitability, and capital? Will a flatter curve alter borrowers' preferences for mortgage products?

Conclusion:

Lower rates and a flatter curve will spark origination, but a sustained low rate environment could lead to refi burnout. There is great legislative uncertainty. A flatter curve should incentivize borrowers to extend.

Discussion:

- Lower yields will spark origination as borrowers lock in lower rates, either for purchase or refi. A flat curve also encourages borrowers to lock in these rates for longer, so we see ARM to fixed refis.
- In a sustained low rate environment, to protect profitability originators may not reduce the primary and secondary spread they earn on originations in order to maintain profitability. This may reduce or impair the benefit to the consumer from low rates.
- Initially in a low rate environment as refis increase, originators may face capacity constraints (this constraint may further motivate keeping spreads wide – lower volumes require wider spreads). If rates remain low for a sustained period of time, we could start to see a burnout effect in refinancing, which would slow down the volumes for originators and also hamper profitability.
- Due to still high levels of uncertainty in the market regarding HARP, originators are likely to be cautious until there is evidence that the changes result in sustained borrower demand.

Mortgage Lenders/REITS/Servicers

Question:

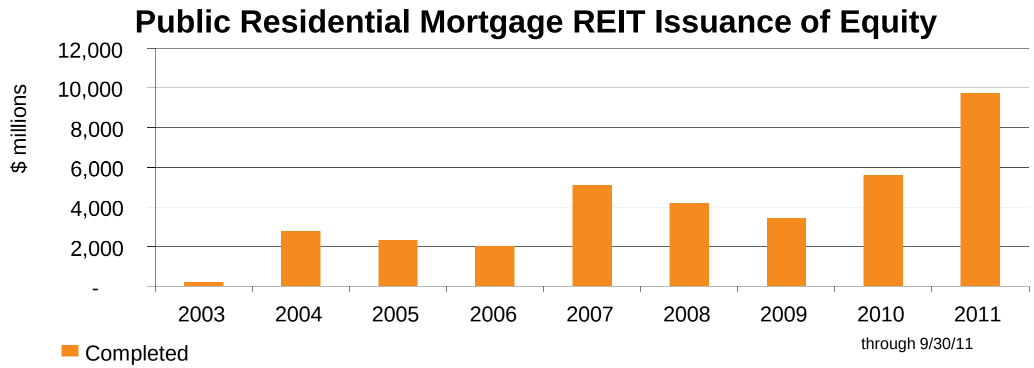
How will REITs respond if rates fall and the curve flattens?

Conclusion:

A low, flat yield curve will lower carry and trigger pre-payments, hurting REIT profitability. Capital raising will also be challenged. REIT activity will likely slow overall in a prolonged low rate environment.

Discussion:

- As of June 2011, REITs held $185 Billion in Agency MBS. For perspective, REITs held only $65B in Agency MBS in June 2010. REITs market share of Agency MBS is up to 3.0%, from 1.0% last year. The biggest holders of MBS remain commercial banks (20%), the US government (Fed and Treasury, 15%), foreign investors (13%), and the GSEs (11%).
- REITs aggressively raised capital in 2011. YTD capital raises by publically traded mortgage REITs are $9.732 Billion, this is $4.11B more than in full year 2010 (the next highest year)
- Assuming a 6:1 leverage ratio—which we figure is relatively conservative for REITs—this $9.7B translates to almost $60B in buying power. This was a positive for the MBS basis in early 2011, as REITs were active purchasers of Agency ARMs and Pass-throughs. It is believed most of this has been invested.



Mortgage Lenders/REITS/Servicers

Discussion continued

- REITs generally fund at the short end (usually through short term repo) and buy out the curve. Consequently a steep curve is beneficial because REITs can finance at low rates and earn good carry. The Fed's pledge to keep short rates under 0.25% until mid-2013 is a strong positive for REIT financing, assuming there is bank balance sheet available. However, if bank balance sheet were to dry up, REITs would be pressured to sell. REIT funding is mostly short term facilities (as opposed to lines of credit) so funding is typically not available in crisis. Since most REITs are 6-8 times levered, if the repo facilities were to be pulled, capital raises would be difficult and asset sales may occur.
- Furthermore, the chance of a bull flattening or any rally in the back end is a negative for REIT, as it hurts the carry trade and lower rates will likely trigger prepayments in Agency MBS.
- An increase in prepayments will likely occur as a result of lower rates. Additionally, there remains much uncertainty as to the scope and magnitude of government changes on refinancing. However, any market or legislative force that increases prepays would eventually put cash back to the REITs, which would likely reinvest in Agency Pass-throughs and ARMs (in turn pressuring rates lower).
- A drop in rates will likely curb REIT capital raises, as REITs may find levels unattractive. In addition, any curve flattening will hamper ARM creation - a favored investment vehicle for REITs is whole pools of Agency ARMs. If the drop is significant enough to put banks in balance-sheet-reduction mode, then REITs will no longer have accessible financing and may be pressured to sell assets.
- For the majority of mortgage REITs, the latest price/book ratios are at or below 1 (table above). As a result, capital raises look to be difficult in Q4 2011. Furthermore, REIT dividends per share were either flat or below Q1 levels. In general, these numbers indicate a slowdown in REIT activity.

Mortgage Lenders/REITS/Servicers

Question:

How will low rates impact mortgage <u>servicers</u>' balance sheets, profitability, and capital? Will a flatter curve alter borrowers' preferences for mortgage products?

Conclusion:

Servicers will see their Mortgage Servicing Rights (MSRs) impacted during a period of refinancing/prepays. As with originators, there is great legislative uncertainty.

Discussion:

- For larger banks, often the lending bank and the servicing bank are the same. The activity of the originator will likely dictate the activity of the servicer.
- With any decline in rates, servicers are likely to be the most impacted as the MSR they hold is highly leveraged to prepayments. Currently, there is $10.385tn of mortgage debt outstanding.
- Servicers receive mortgage servicing rights as compensation for servicing the loan. MSRs are similar to a stream of IO. When a loan prepays in full, that stream of income is cut off. So when prepayments increase, the value of MSRs diminishes. This valuation can maybe be offset if the servicer becomes the servicer on the new loan (assuming refi).
- If there is a refi burnout effect with rates low for a long time, servicer profitability is maintained.
- Note the FHFA is exploring changes to servicer compensation, likely reducing the maximum amount a servicer is required to hold. So overall, we expect servicers to gradually lighten up on MSRs ahead of these changes.

Treasury Financing

Question:

What, if anything, should Treasury do in response to an extended low rate environment?

Conclusion:

Treasury should continue to investigate new product alternatives in order to diversify its investor base.

Discussion:

- If the Treasury desires more current income, it can borrow short to reduce funding costs.
- If the Treasury is concerned about rollover risk, it can continue to extend the average maturity of the debt. The Treasury will then accept increased incremental funding costs to ensure the long run stability of financing. This can also be achieved, in part, through the issuance of floating-rate notes in lieu of T-bills.
- If investors over time seek out higher yielding assets, it may put pressure on the US Treasury as it seeks to finance the deficit. Introducing alternative products should ease this potential pressure, such as floating rate notes and 50yr strippable bonds.