

U.S. Economic Outlook

Research and Statistics Group

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The views expressed are those of the New York Federal Reserve Research staff and do not necessarily represent the views of the Federal Reserve Bank of New York nor the Federal Reserve System.

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Growth, AR or Q4/Q4 gth. rate	2010 Q1*	2010 Q2	2010 Q3	2009*	2010	2011
Real GDP						
FRBNY	3.2	3.0	2.8	0.1	3.0	4.3
Consensus**	3.2	3.2	2.9	0.1	3.1	3.1
PCE Deflator						
FRBNY	1.5	1.1	1.0	1.2	1.2	1.4
Core PCE Deflator						
FRBNY	0.6	0.9	1.1	1.5	0.9	1.4
Unemp. Rate (Annual Data is Q4 Average)						
FRBNY	9.7	10.0	10.2	10.0	10.1	8.4
Consensus	9.7	9.6	9.4	10.0	9.4	8.6

*Released Data

**Blue Chip Forecast (4/10/2010)

	Evolution of FRBNY Forecast			
	2010 (Q4/Q4)		2011 (Q4/Q4)	
	10/16/09	5/14/10	10/16/09	5/14/10
Real GDP	2.0	3.0	4.0	4.3
PCE Deflator	1.4	1.2	1.7	1.4
Core PCE Deflator	1.1	0.9	1.5	1.4
Unemp. Rate (Q4 Avg.)	10.2	10.1	8.6	8.4

*Released Data

Outlook Overview

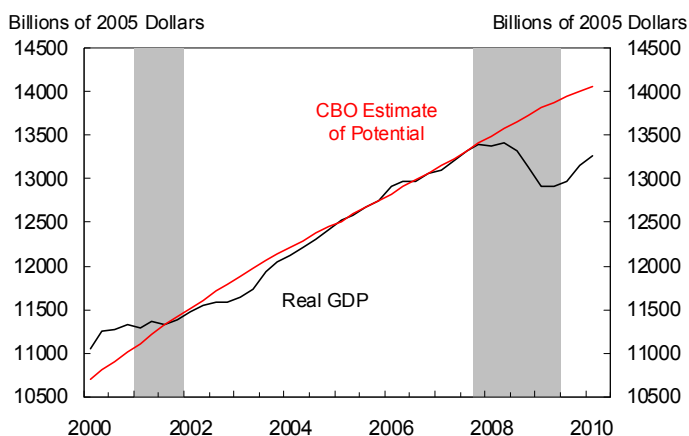
Our modal forecast for 2010 and 2011 has been based on the assessment that the current cycle is qualitatively different from the typical post-WWII cycle such that we are unlikely to experience the robust growth that we otherwise might expect. In addition to its severity, the current downturn is unique in that it was preceded by a global financial crisis which was due in large part to excessive leverage and excessive investment in real estate assets, both of which will take time to unwind. Therefore, even though we have moved our point forecast for growth of real GDP in 2010 upward to 3% (Q4/Q4), it is still the case that growth in 2010 is likely to be only roughly equal to the economy's potential growth rate. This is well below the rates of growth experienced during the initial stages of recovery from previous severe recessions and implies that the excessive slack in overall resource utilization will be absorbed only gradually.

A key reason for expecting a relatively muted recovery in the near term is that consumer spending still faces substantial headwinds. The

household sector has suffered very large negative shocks to both income and wealth and has a substantial debt overhang. In addition, a second key feature of our modal forecast is that while it appears that the correction in housing production is over, it is unlikely that we will experience the surge of residential investment typical of the early stages of post-WWII recoveries. By our estimates there are nearly 3 million excess vacant housing units, with more coming onto the market over the forecast horizon due to the unusually high volume of homes in the foreclosure process. At the same time, mortgage underwriting standards have been significantly tightened.

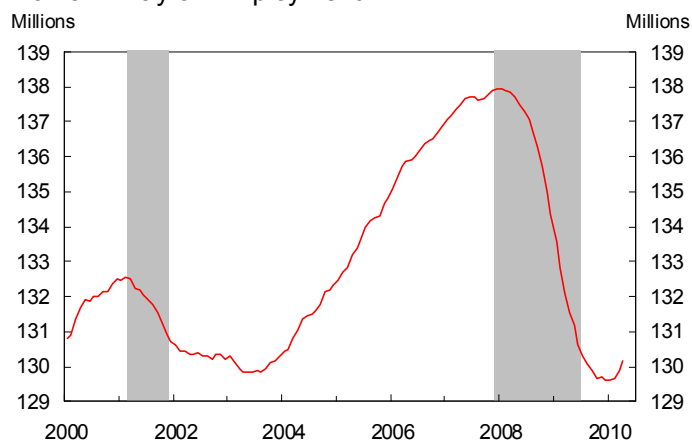
With the two main drivers of final demand—consumption and residential investment—on a relatively muted growth trajectory, recovery of business fixed investment is likely to be delayed. This is particularly true given that manufacturing capacity utilization rates remain low while retail and office vacancy rates continue to rise. Also contributing to the relatively tepid growth

Real and Potential GDP



Source: Bureau of Economic Analysis and Congressional Budget Office

Nonfarm Payroll Employment



Note: Throughout text, shading represents NBER recessions and current episode is assumed to have experienced trough in 2009Q2.

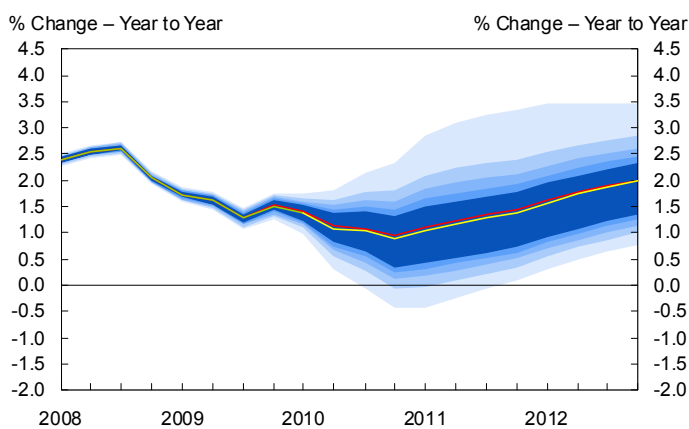
expected during this recovery is the ongoing structural adjustment taking place in state and local governments, which is expected to result in significant declines in employment and outlays in this sector. Finally, while growth prospects for our trading partners have generally improved, suggesting a continued rebound of exports, the modest upgrade in final demand as the US recovers will be associated with rising imports. Thus, while net exports will not be a major drag on growth, they are unlikely to be a major positive contributor to growth over the forecast horizon.

Going into 2011 we expect the underlying fundamentals of the recovery to improve such that growth rises to the 4% to 4 ½% range with the unemployment rate steadily declining. Underlying this projection is the expectation that financial market functioning remains normal and that consumer and business confidence and the general appetite for risk continue to recover. With household income and balance sheets improving and credit flowing more normally, the substantial

pent-up demand for consumer durables, housing, and business equipment and software will start to be satisfied. Moreover, the structural adjustments of state and local governments and of the commercial real estate sector will likely have run their course by that time.

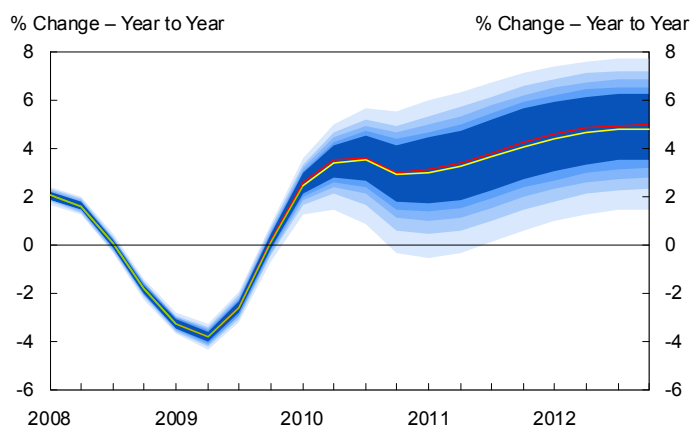
Barring a significant decline in the level of the economy's potential output or its potential growth rate, this point forecast implies that a large output gap will persist over most of the forecast horizon. Accordingly, we expect core inflation to slow to around 1% (Q4/Q4) in 2010. But by late 2011 and into 2012, as final demand firms within the context of anchored inflation expectations, we expect core inflation to move up to within the "mandate consistent" range.

Core PCE Inflation Forecast Distribution



Note: Shading represents 50, 60, 70, 80, and 90% confidence intervals.

Real GDP Growth Forecast Distribution



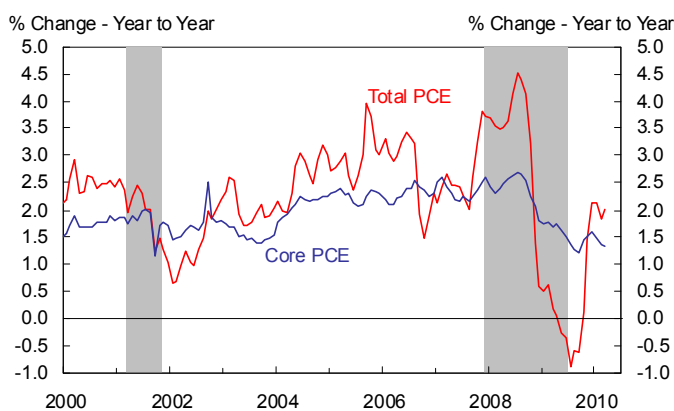
Note: Shading represents 50, 60, 70, 80, and 90% confidence intervals.

Risks Overview

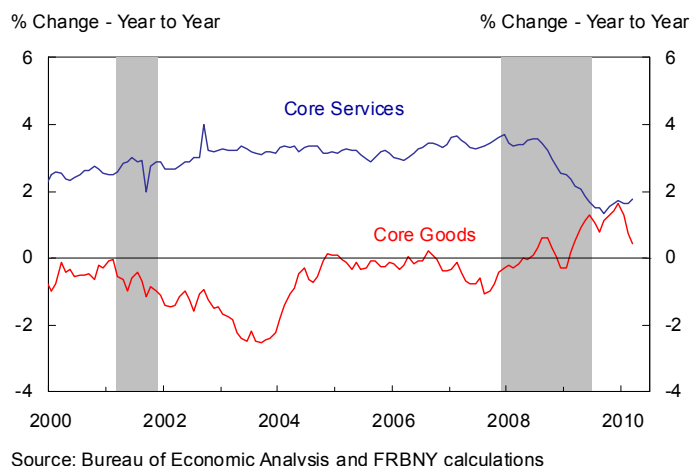
Inflation. Since October, the downside risks to the inflation outlook have declined, as we have lowered the weights on the *Global Deflation* and *Global Credit Crunch* scenarios. The risks to the inflation outlook are still skewed modestly to the downside over the near term and are roughly balanced over the medium term. A near-term downside risk is that a weaker-than-expected recovery will put further downward pressure on inflation. Continued robust productivity growth (as in the *Productivity Boom* scenario) is another downside inflation risk, because it exerts downward pressure on costs. One near-term upside risk is that concerns about fiscal sustainability lead to an increase in inflation expectations (a part of the *Fiscal Consolidation* scenario). Another upside risk is that accommodative policy begins to raise inflation expectations (as in the *Loss of Credibility* scenario). The height of the 95th percentile of our inflation distribution (the highest part of the light-blue area above) reflects the possibility that inflation expectations could become uncontained.

Real activity. Since October, the downside risks to the real activity outlook have declined and the upside risks have increased; nevertheless, the risks are still skewed modestly to the downside. One downside risk is that tight credit conditions persist and restrain real activity (the *Global Credit Crunch* scenario); improved financial conditions and stronger consumer spending have led us to reduce this scenario's weight, but the risks of contagion from the European sovereign debt crisis has mitigated this reduction. Another downside risk is that concerns about fiscal sustainability will lead to a US fiscal consolidation at a time when aggregate demand remains weak, thus slowing real activity (the *Fiscal Consolidation* scenario). One other downside risk is that recent gains in productivity growth are reversed (the *Productivity Slump* scenario). The primary upside risk to our forecast is that the rapid productivity growth of 2009 continues into 2010 and beyond, leading to higher-than-expected GDP growth. This risk is encompassed in the *Productivity Boom* scenario, whose weight has increased and is our most likely alternative scenario.

Total and Core PCE Deflator



PCE: Core Services and Core Goods



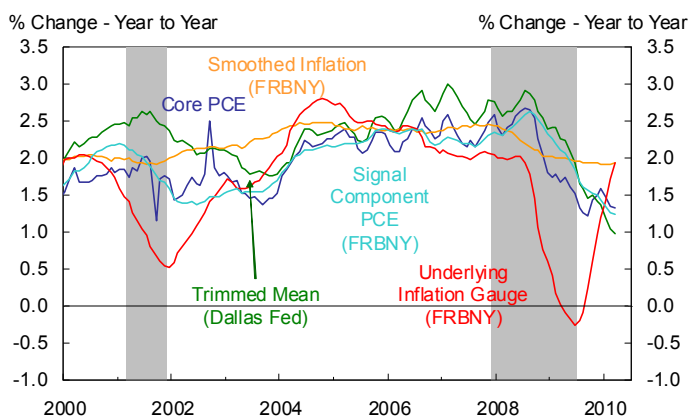
Inflation

Developments. Inflation as measured by the core PCE deflator, our standard measure of trend inflation, has been decreasing steadily since the middle of 2008. Core PCE inflation had drifted upward gradually between 2004 and mid-2008, reaching a high of 2.7% (all inflation numbers in this section reported as year-to-year changes) in July 2008, which is well outside of the “mandate-consistent” range (1½ - 2%); but it has retreated rapidly since then, reaching as low as 1.2% in September 2009. After a brief recovery in the fourth quarter of 2009, this measure was 1.3% in March. Overall PCE inflation, in the meantime, underwent an even more pronounced swing, falling from around 4.5% in the middle of 2008, when petroleum prices hit record highs, all the way to negative territory over the summer of 2009. It recovered in the last few months and, at 2%, is currently somewhat above the level of core inflation. Another notable feature of the inflation landscape during this recession is the pronounced deceleration in core service prices, whose inflation rate went from close

to 4% in mid-2008 to below 2% currently. This turnaround is remarkable, because service prices tend to be quite stable and in fact had been moving in a fairly narrow range since 2000. Moreover, they are often thought of as conveying a particularly useful signal for monetary policy, because they are influenced mostly by domestic economic developments. At the same time, however, inflation in core goods increased fairly steadily through the recession, from negative levels in 2007 to around 1.6% in December 2009, before falling rapidly in 2010Q1. The pattern of relative inflation rates of services and goods observed through December 2009 is opposite of what was observed in 2003, when low levels of core inflation very similar to those we are experiencing today were driven instead by a fall in the inflation rate of core goods.

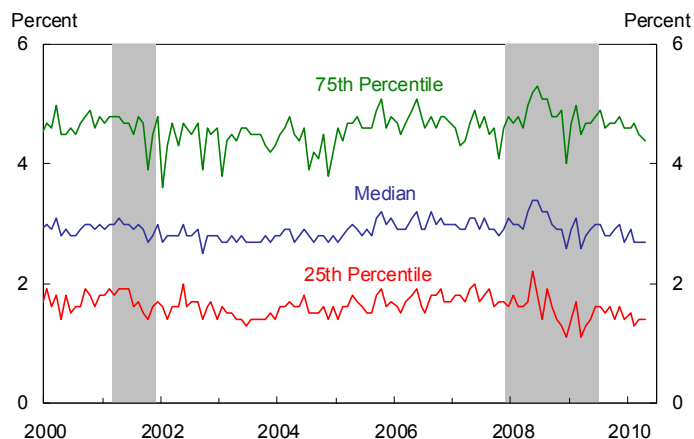
One important factor in the pronounced disinflation in service prices over the recession has been the slowdown in housing costs (tenants’ and owners’ equivalent rents), which have been driven lower by the weakness in the housing market. Some

Measures of PCE Inflation Since 1999



Source: Bureau of Economic Analysis, Dallas Fed, FRBNY and Bank of Switzerland

Michigan Survey Inflation Expectations: 5-10 Years Ahead



Source: University of Michigan

commentators have expressed doubts about the reliability of these developments as a signal of moderation in underlying inflation, since owner's rental costs are imputed and not market-based, and they represent a very large fraction of core inflation. However, research by staff at the San Francisco and New York Fed ([The Housing Drag on Core Inflation](#), FRBSF Economic Letter 2010-11, by Bart Hobijn, Stefano Eusepi and Andrea Tambalotti) has shown that the weakness in housing costs is representative of a broad pattern of subdued price increases across most consumption goods and services and is therefore unlikely to be distorting the downward trend in core inflation.

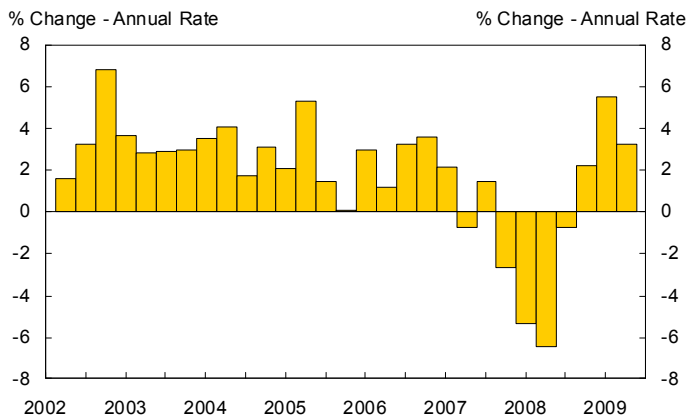
Besides core measures, we look at several alternative measures of underlying inflation: median, trimmed mean, smoothed measures, our underlying inflation gauge (UIG), and our signal-component indicator (for PCE inflation). Most of these measures have been falling since the fall of 2008, thus confirming the impression of considerable slowing of underlying inflation that is conveyed by the simple ex-food and energy core measure. (The UIG, which has rebounded from its

mid-2009 low, has increased recently mostly as a result of the real activity variables included in its calculation.)

Outlook and Risks. Our central projection for 2010-11 has inflation essentially flat at around 1% into 2010 and slowly recovering toward 1.5% in 2011. This forecast is based on the low levels of resource utilization that still seem to prevail in the economy (a condition that we see persisting for some time), on the continued weakness in unit labor costs, and on the broad stability of long-term inflation expectations.

Around this central scenario, risks are currently roughly balanced over the medium term. On the one hand, the still somewhat precarious hold of the recovery, amid household deleveraging and the continued contraction in credit, and our expectation that the upturn will be initially moderate suggest that inflation might continue on its recent downward trajectory. On the other hand, the unprecedented scope of the fiscal and monetary stimuli put in place in the last year raises the possibility of a rapid return of inflation.

Quarterly Real GDP Growth



Source: Bureau of Economic Analysis

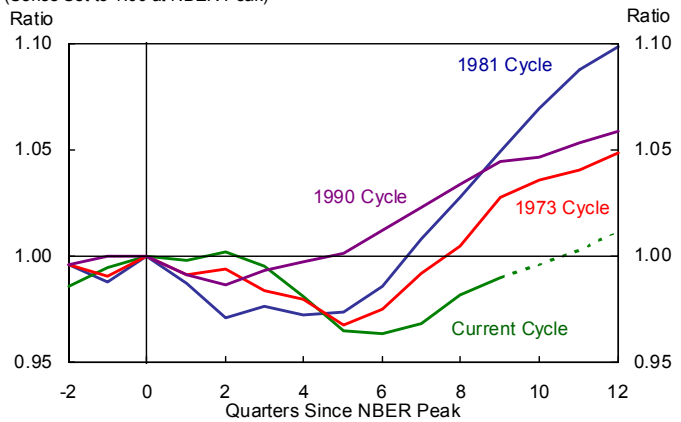
Real Activity

Developments. From 2008Q2 through 2009Q2, real GDP declined by 3.8%, the deepest four-quarter decline of real GDP since the Great Depression. The unemployment rate, which had been 4½% over the first half of 2007, reached 9½% by mid-2009. Over the four quarters ending in 2009Q2, hours worked in the nonfarm business sector fell 8.1%, the steepest four-quarter decline of the post-WWII period.

It now appears that the “Great Recession” ended in mid-2009. Over the past three quarters real GDP has increased at a 3.7% annual rate, aided by aggressive fiscal and monetary policy. However, growth of real final sales over that period was a muted 1.6% (annual rate), with the remainder being contributed by an unusually sharp inventory cycle, particularly for motor vehicles. Moreover, over this period productivity increased at a remarkable 5.9% annual rate, such that hours worked in the nonfarm business sector actually declined at a 1.3% annual rate. While payroll employment has increased of

Level of Real GDP

(Series Set to 1.00 at NBER Peak)



Source: Bureau of Labor Statistics

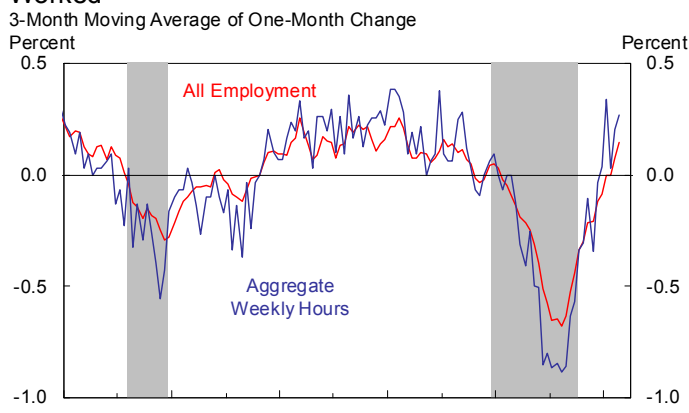
Note: Dashed line represents FRBNY modal forecast.

late, it is actually still lower than it was in mid-2009.

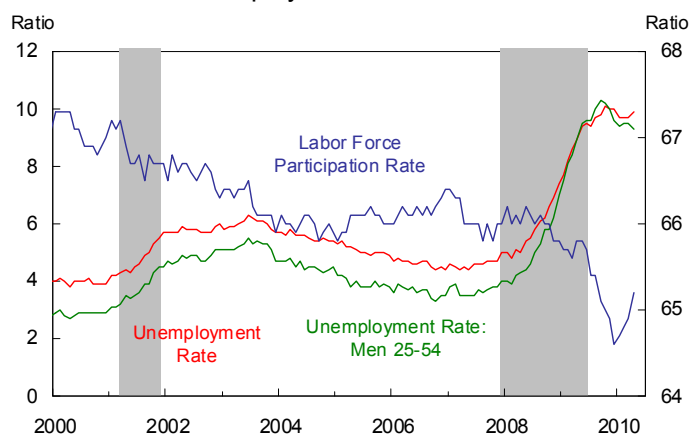
Outlook and Risks. Over 2010Q2 and 2010Q3 we expect growth close to our estimate of the economy’s potential growth rate of 2¾%. It appears that the inventory cycle is largely completed, such that growth will be led by the modest recovery of final sales. In late-2010 and into 2011 many of the headwinds confronting the economy are expected to fade so that a more vigorous cyclical rebound can take hold with growth solidly above potential. However, the risks and uncertainty around this forecast remain greater than usual.

Over the forecast horizon we expect output per hour in the nonfarm business sector to increase at 1¾%, our estimate of trend. All else equal, this should bring the unemployment rate down to near 8% by the end of 2011. However, it is quite possible that as the economy improves the labor force participation rate and average weekly hours will increase more than anticipated, keeping the unemployment rate on a more gradual descent.

Private Nonfarm Payroll Employment and Total Hours Worked



Measures of the Employment Situation



Labor Market

Developments. Labor market conditions in the United States deteriorated dramatically during the recession. The labor market was very weak in 2009, as nonfarm payroll employment fell 3.6%. The pace of deterioration was very rapid in the first half of the year: the average monthly decline was 615,000. The monthly declines moderated markedly in the latter half of 2009 with an average monthly fall of 175,000. Still, November 2009 was the only month since December 2007 with positive employment growth. The labor market started to gradually recover in 2010. Payroll employment increased in total by 283,000 in the first quarter of 2010.

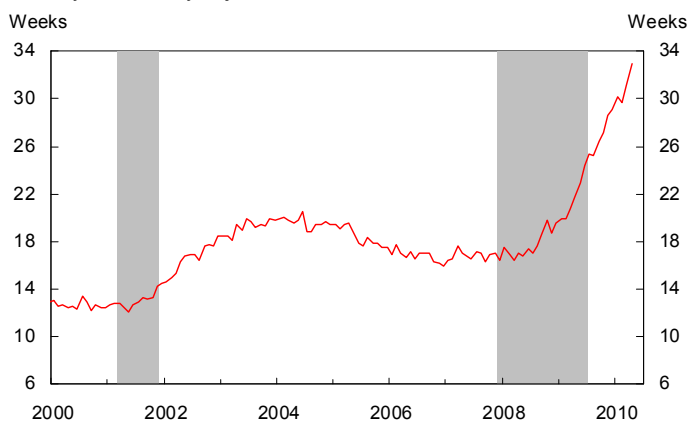
Consistent with the fall in employment, there was a drastic drop in total hours, which declined 5.2% between December 2008 and October 2009. Hours started to recover in November 2009 and have risen by 1.6% from October 2009 to April 2010.

Over the final three quarters of 2009, the drop in hours and employment was accompanied by a substantial increase in productivity. Output per hour in the nonfarm business sector grew at an annualized average rate of 5.7% in 2009. In the first quarter of 2010, productivity growth still remained robust even though it slowed down to 3.6%.

The unemployment rate rose rapidly over 2009. The rate increased from 7.4% in December 2008 to a peak of 10.1% in October 2009 (its highest level since 1983), but it declined to 9.7% in January 2010. After remaining unchanged in the first quarter of 2010, the unemployment rate increased to 9.9% in April 2010. There was also a dramatic increase in the prime-age male unemployment rate in 2009. For the first time in postwar history, the prime-age male unemployment rate exceeded the total unemployment rate: it peaked at 10.3% in September 2009, and has since fell to 9.3% in April 2010.

Average Duration of Unemployment

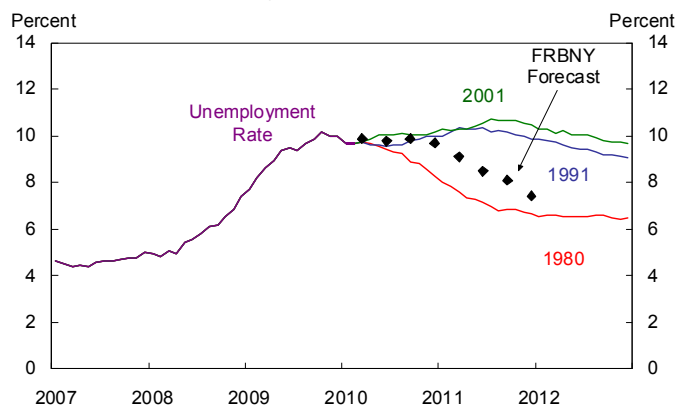
Monthly, Seasonally Adjusted



Source: Bureau of Labor Statistics

Four Alternative Paths for Unemployment

Simulation based on historical growth rates of inflow and outflow rates



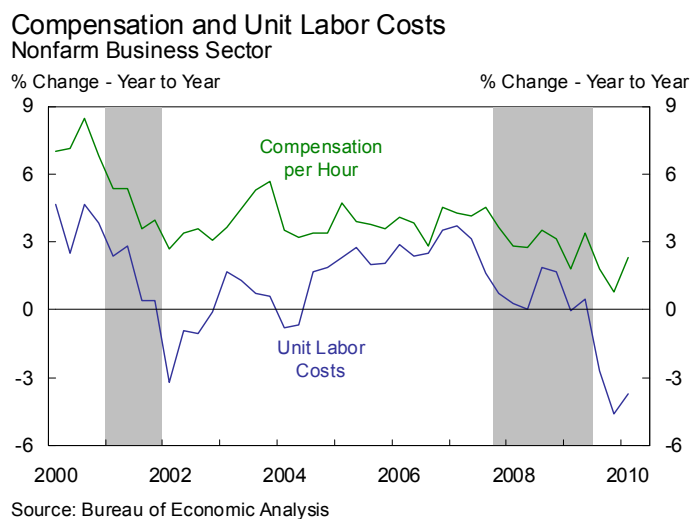
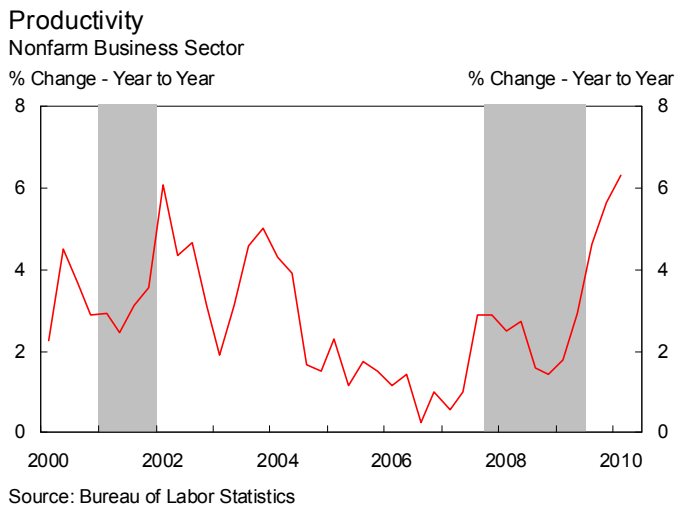
Source: Bureau of Labor Statistics, Author's Calculation

The labor force participation rate declined 1.2 percentage points over 2009 to 64.6%, while the employment to population ratio fell 2.7 percentage points to 58.2% (the lowest since 1983). Both the labor force participation rate and the employment to population ratio increased in each of the first four months of 2010. The labor force participation rate bottomed out in December 2009 at 64.6% and increased to 65.2% in April 2010. The employment to population ratio has increased to 58.8% from its December 2009 low.

Outlook and Risks. Labor market developments in 2010 indicate that the recovery in the labor market has begun. We project that the unemployment rate will persist near 10% in 2010 while employment growth will be sluggish around 50,000 per month. In addition to slow employment growth, we expect that there are many factors that might delay a significant fall in the unemployment rate. A reduction in the mobility of workers because of continued problems in the housing market and skill and location mismatches between job vacancies and unemployed workers reflect risks that might contribute to a slow decline in the unemployment

rate. Another important issue is long-term unemployment. The average duration of unemployment stands at a record high of 33.0 weeks. The duration distribution of unemployment is becoming more skewed towards the long-term unemployed. The fraction of unemployed workers who have been unemployed for 27 or more weeks increased from 18.7% in March 2007 to 45.9% in April 2010. An important feature of unemployment flows in the U.S. is that average exit rates from unemployment decline with the duration of unemployment spells—so called negative duration dependence. The interaction of long-term unemployment and negative duration dependence is likely to be an important risk factor in the labor market in the near-term since the long-term unemployed leave unemployment slowly.

In 2011, we expect the structural issues to subside, leading to a labor market recovery that is more robust than those following the 1990-91 and 2001 recessions. We project payroll employment to increase by approximately 325,000 jobs per month, which should lead the unemployment rate to fall gradually throughout 2011 to around 8¼% by the end of the year.



Productivity and Costs

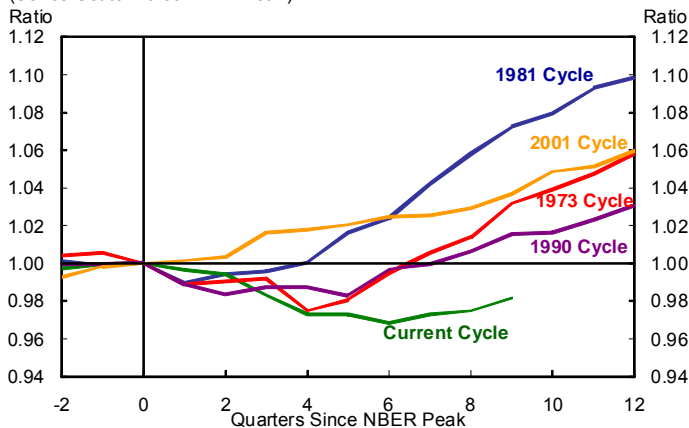
Developments. Productivity growth continues to display surprising strength. Output per hour grew at a rate of 3.6% (annualized) in 2010Q1, after increasing at an extremely strong 7.8% (annual rate) in 2009Q3 and 6.3% in Q4. The recent increases are well above our estimate for trend productivity growth (around 1.7%). On a year-over-year basis, Q1 productivity grew 6.3%, its fastest rate of growth since 1962.

The ongoing strength in productivity in 2010Q1 and its outsized increases during 2009 are an unusual occurrence. Unlike recent downturns, when productivity declined and then rebounded, it kept growing throughout the past recession. The principal force driving the increase was a steep decline in hours worked that began in 2007Q3, just before the onset of the NBER recession. The last two quarters have witnessed a rise in hours worked, although at annual rates of 0.7% and 0.8% for 2009Q4 and 2010Q1, respectively, the increase thus far is quite weak.

Labor compensation growth also remains very weak: it rose 1.9% (annualized) in 2010Q1, after rising only 0.4% in 2009Q4 and falling 0.4% in Q3. The combination of robust productivity growth and weak compensation growth led to ongoing declines in unit labor costs. Unit labor costs declined by 1.6% (annualized) in 2010Q1, following declines of 7.6% and 5.6% in 2009 Q3 and Q4, respectively.

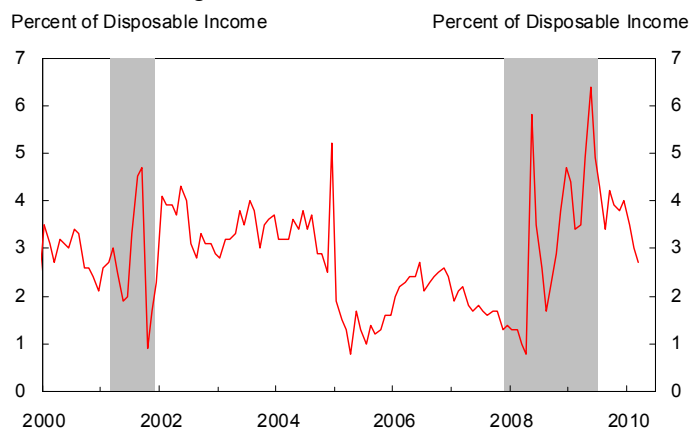
Outlook and Risks. A critical question concerns the recent behavior of productivity and its implications for the productivity growth outlook. In particular, is the strong productivity growth witnessed since 2009 a harbinger of a sustained increase as occurred in 1997, or should we expect a return to more modest growth as occurred in 2004? Evidence from a model developed to analyze this issue indicates there is a high probability that productivity is experiencing a shift to a higher trend growth rate. This judgment is made with some caution given the extraordinary decline in hours worked, which is unusual for a period of robust productivity growth.

Real PCE per capita (Series Set to 1.0 at NBER Peak)



Source: Bureau of Labor Statistics

Personal Saving Rate



Source: Bureau of Economic Analysis

Consumption

Developments. After declining sharply over the six quarters ending in mid-2009, real personal consumption expenditures (PCE) began to grow again in the second half of 2009. That recovery gathered momentum in 2010Q1, although the level of real PCE still remains well below its previous peak, and the pace of recovery continues to lag that of previous severe recessions. As is typically the case in recessions, the downturn and subsequent recovery of consumer spending has been most pronounced in durable goods, particularly for motor vehicles. However, in the current episode, constant-dollar consumer spending on services also declined on a year-over-year basis, something that had not happened before in the post-WWII period.

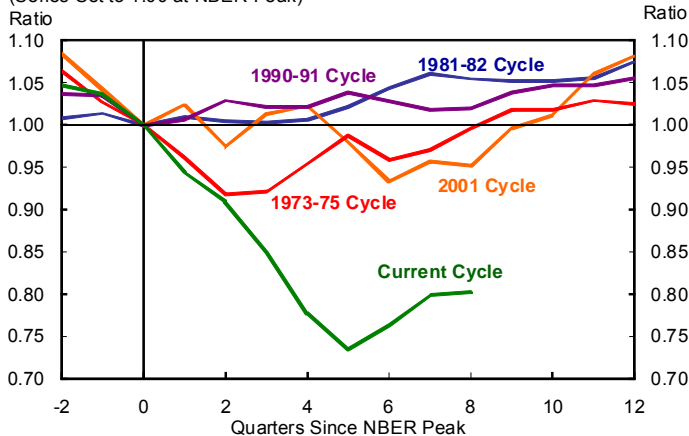
Over the three quarters during which consumer spending has begun to recover, growth of nominal PCE has exceeded that of nominal disposable income such that the personal saving rate has declined after reaching a recent high of 5.4% in 2009Q2. For 2010Q1 the personal saving rate is

currently estimated to be 3.1%, although this estimate is likely to be revised as more accurate information, particularly for tax payments, is incorporated. Nonetheless, a decline in the personal saving rate is at odds with expectations given the steep decline in household net worth that has occurred over this business cycle. Most forecasts for the US economy have assumed either a flat personal saving rate or a gradually increasing personal saving rate due to this adverse shock to wealth.

Outlook and Risks. Given the recent forward momentum, we have boosted somewhat the assumed growth path of real PCE for the next few quarters. However, we have retained a gradual uptrend of the personal saving rate. There are many potential reasons why the saving rate may have declined recently but will rise over the forecast horizon. This has been a long and deep downturn over which many purchases were no doubt postponed. As the economic outlook has begun to improve somewhat, we suspect that there is substantial pent-up demand. It is also worth

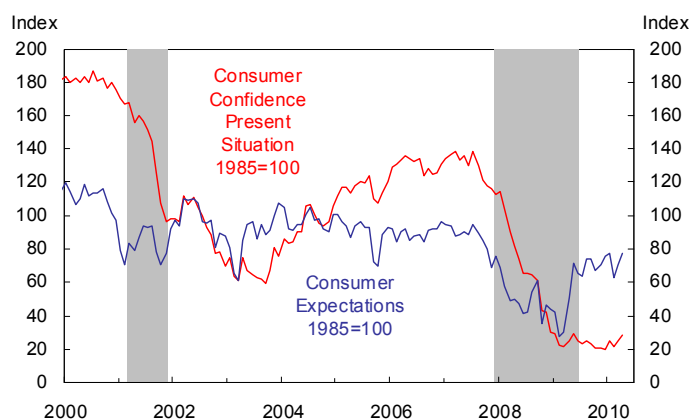
Real Per Capita Household Net Worth

(Series Set to 1.00 at NBER Peak)



Source: Federal Reserve Board, Bureau of Economic Analysis, Census Bureau

Components of Conference Board Index



Source: The Conference Board

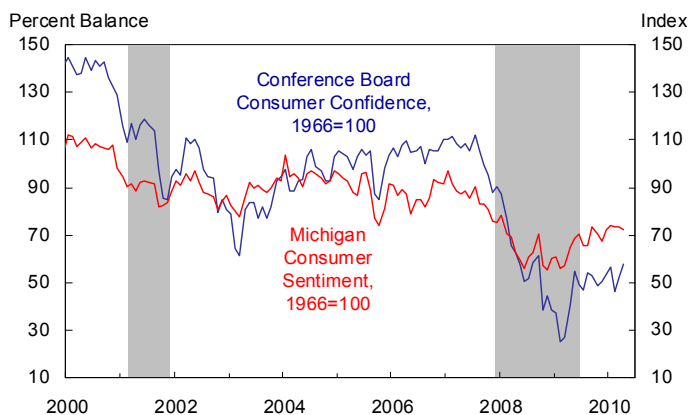
noting that government transfers to households, out of which the marginal propensity to consume is estimated to be relatively high if not one, now represent 20% of disposable personal income, up from 16% at the previous business cycle peak. Finally, while real household net worth remains 20% below its value at the NBER peak, it has recovered somewhat in recent quarters. Under our assumptions for equity and home prices, we anticipate only a very gradual further increase in household net worth over the forecast horizon.

Consumer Confidence

Developments. At the depths of the recession in late 2008 and early 2009, the three major measures of consumer confidence—based on monthly surveys by the University of Michigan and the Conference Board, and a weekly survey by ABC—all stood at or near record lows. All three of these measures rebounded somewhat in 2009Q2 but then fluctuated within a relatively narrow range over the second half of the year and into early 2010. As of April, the Conference Board and Michigan indexes were at the high end of their respective ranges, but the ABC measure was at the low end of its range. All these confidence measures remain at levels typically associated with recession.

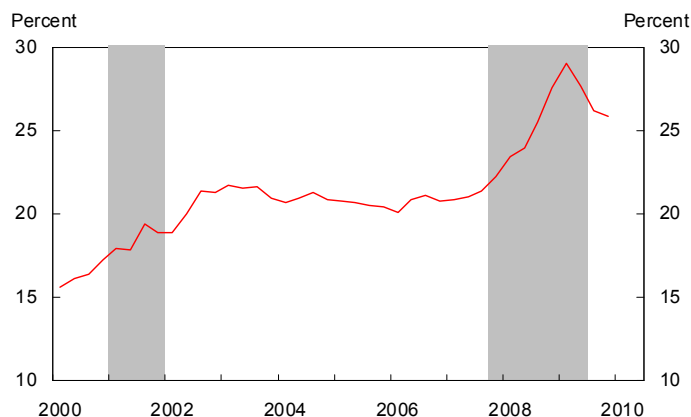
The components of the Conference Board's index reveal a noteworthy dichotomy: while the Expectations measure has recovered considerably from its 2009 low, the Present Situation component—largely reflecting people's assessment of the job market—has only recently begun to move up from its lows.

Consumer Confidence/Sentiment Indices



Source: University of Michigan and the Conference Board

Leverage Ratio: Liabilities as a Percent of Net Worth



Source: Flow of Funds, Federal Reserve Board

Household Financial Conditions

Developments. Household leverage, as measured by the ratio of total household liabilities to net worth, declined in 2009 due to both a fall in household debt and an increase in net worth. Nonetheless, household leverage remains high by historical standards. Other measures of household financial obligations, such as the ratio of debt service over disposable income, also indicate steady improvement over the course of 2009 but continued high levels relative to historical standards.

Even though households have made some progress in deleveraging, the income and employment shock suffered by households during the recession continues to impede the ability to make timely payments on debt obligations. Based on data obtained from Equifax, serious delinquencies continued to increase through 2010Q1, although the most recent gain was the smallest percentage increase in serious delinquencies since 2006Q2. The table on the next page presents the payment status on the total

Outlook and Risks. Although consumer confidence is not the predominant determinant of consumer spending, it has been shown to have some effect; thus it is likely that the persistently low levels of confidence have held back consumption somewhat. Given that job market perceptions are a factor influencing consumer confidence, it is a channel through which a pickup in the labor market would buoy consumer spending. The rebound in the economy since mid-2009 occurred with little change in consumer confidence, which is still at an exceptionally low level by all measures. Thus, it would seem that there is more upside than downside risk to the economy stemming from shifts in consumer confidence. Moreover, monitoring the Conference Board's Present Situation component index may be helpful in identifying incipient shifts in the job market before they show up in the employment numbers. This series tends to correlate closely with the unemployment rate, often with a slight lead—partly due to its early release.

Total Debt by Payment Status, Billions of Dollars

Status	2005-Q1		2008-Q3		Percent Change from Previous Period	2010-Q1		Percent Change from Previous Period
	Amount of Total Debt by Payment Status	Percent of Total Debt	Amount of Total Debt by Payment Status	Percent of Total Debt		Amount of Total Debt by Payment Status	Percent of Total Debt	
Current	8700.0	95.9%	11400.0	91.4%	31.0%	10430.0	88.1%	-8.5%
30 Days Late	136.0	1.5%	289.0	2.3%	112.5%	246.4	2.1%	-14.7%
60 Days Late	37.4	0.4%	138.0	1.1%	269.0%	123.9	1.0%	-10.2%
90+ Days Late	197.9	2.2%	641.5	5.1%	224.2%	1043.2	8.8%	62.6%
Total	9071.3	100.0%	12468.5	100.0%	37.4%	11843.5	100.0%	-5.0%

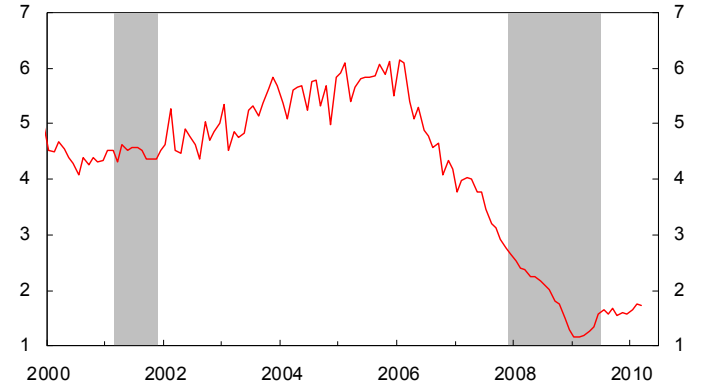
Source: FRBNY Equifax Panel Dataset

Ratio of Housing Starts to Population

Single-Family Homes

Starts per 1,000 people

Starts per 1,000 people



Source: Census Bureau

outstanding stock of household debt, with the delinquency rate expressed as the dollar balance of all delinquent accounts over the total stock of debt.

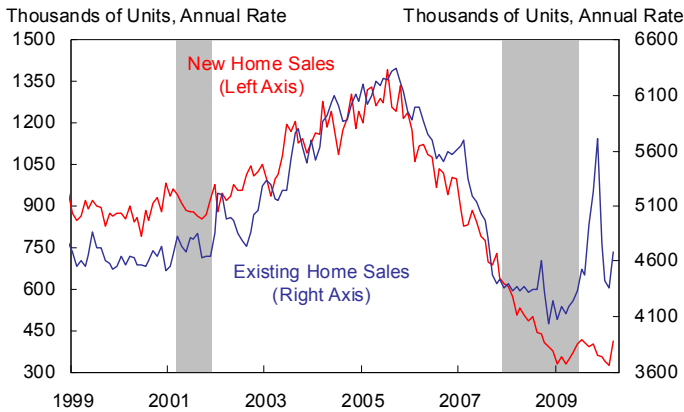
Outlook and Risks. It is widely expected that households will continue the process of deleveraging in 2010 and 2011, though the pace of that process is uncertain. In addition, with serious delinquencies and charge offs continuing to increase, at least in the near term, lending standards are likely to remain relatively restrictive. All else equal, these factors would tend to impede growth. However, there is substantial endogeneity. Stronger growth with more rapid gains in employment and income would allow the deleveraging process to occur faster and with less restraint on spending.

Housing

Developments. After declining for over three years, single-family housing starts have been on a gradual uptrend over the past year. From a trough of 358,000 (seasonally adjusted annual rate) in 2009Q1, single-family starts averaged 525,000 units in 2010Q1, a 46% increase. Nonetheless, the 2010Q1 level was still less than one-third the level of the second half of 2005. Over that period residential investment fell from a little over 6% of GDP to around 2¾%. At this point, even a strong increase in housing starts contributes relatively little to economic growth.

Several factors contributed to this rebound. By early 2009 mortgage interest rates were 125 to 150 basis points below the levels that prevailed in 2008Q3. This reduction was due in large part to the Fed's purchase of large quantities of agency MBS and debt. In addition, in several markets home prices had fallen substantially from their peak levels. Finally, the stimulus bill enacted in early 2009 modified and expanded a tax credit for first time home buyers. Combined, these factors greatly

Single-Family Home Sales



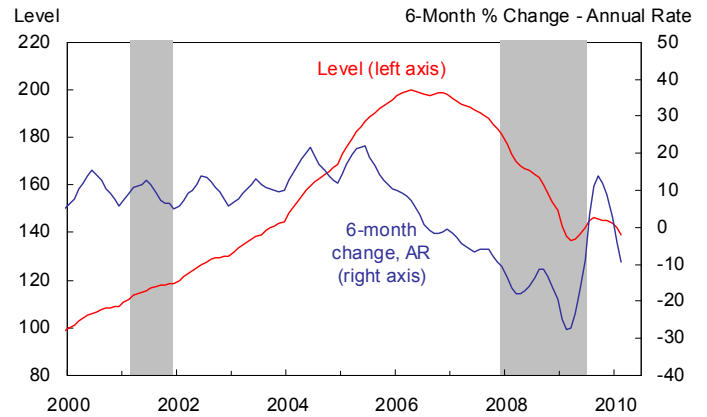
Source: Census Bureau

improved cash flow affordability and helped to overcome, at least in part, the substantial tightening of mortgage underwriting standards that had been inhibiting recovery of the housing market.

Home Prices. The increase in housing demand that took place in 2009 was associated with a stabilization of several national home price indices after more than two years of steady and steep declines. Another factor supporting home prices was a decline in so-called “distressed sales” or sales of “real estate owned” (REO) properties by lenders who had taken ownership at the end of the foreclosure process. The decline in distressed sales was the result of foreclosure moratoria enacted in late-2008 and extending well into 2009, a general lengthening of the time required to foreclose due to the sheer volume of that activity, and an increase in trial loan modifications.

Outlook and Risks. In the very near term housing market activity is being boosted by the extension and expansion of the home buyer tax credit that occurred in November of 2009. To be eligible for this extended credit, contracts for sale of a property

Loan Performance Index

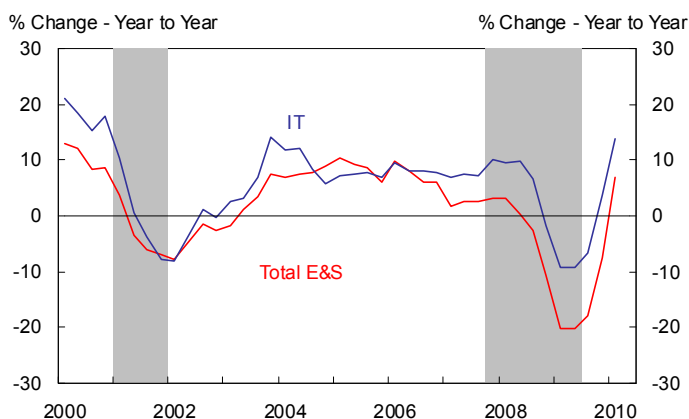


Source: LoanPerformance

had to be signed no later than April 30 and transactions closed before the end of June. Sales of new and existing homes rose sharply in March and will likely do so again in April, to be followed by a lull for a few months. It will not be until 2010Q3 that we get a clear sense of the strength of demand absent this tax credit.

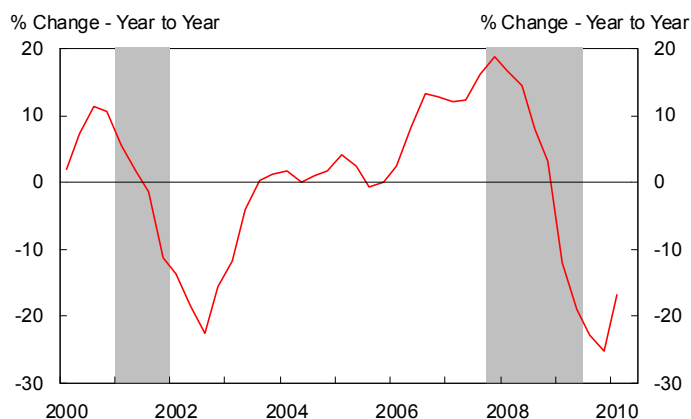
Our modal forecast envisions a gradual uptrend in housing starts over 2010 and 2011 with single-family starts around 600,000 at the end of 2010 and in the 800,000 to 900,000 range by the end of 2011. Thus, by the standards of past recoveries, the growth contribution from residential investment is expected to be muted. Home prices are expected to be essentially flat over the forecast horizon, with some downward pressure remaining in 2010 due to an increasing volume of distressed home sales due to the large stock of homes in the foreclosure process.

Real Business Investment: Equipment and Software



Source: Bureau of Economic Analysis

Business Investment in Nonresidential Structures



Source: Bureau of Economic Analysis

Investment and Inventories

Developments—Equipment and Software. Real spending on equipment and software grew at double-digit rates in both 2009Q4 and 2010Q1. Despite the recent surge, the level of real outlays in 2010Q1 is still well below the levels that prevailed from 2005-2008. The recent gains have been centered in computers and software and light-weight motor vehicles—items in which business can quickly devote enhanced cash flow to catch up to spending deferred during the worst of the recession. However, real expenditures on other items have recently leveled-off.

It had been widely expected that the 2009 year-end expiration of bonus depreciation would be followed by some retrenchment in capital spending. In that regard, the strength in spending in 2010Q1 suggests that some substantive momentum has developed, and the data on capital goods orders suggests that spending growth is likely to be sustained through at least mid-year, and that increases will spread to a wider range of items.

Nonresidential Structures. Nonresidential construction is in a profound slump. 2009 saw a record drop in real outlays, measured by the Q4-over-Q4 change, and 2010Q1 saw only a small moderation in the rate of decline. Outlays have been depressed by rising vacancy rates, tightened credit conditions, and, in the deepest part of the recession, by lower energy prices (which worked to reduce spending on energy-extracting structures such as mines and wells).

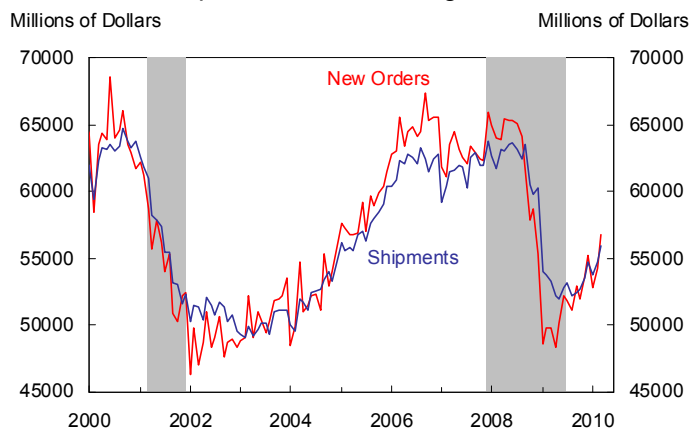
Utilities have been the one area which has resisted the collapse. Outlays in this sector remained at, or near, their cyclical high throughout the whole of 2009. More recently, there has been some recovery of spending on energy-extracting structures, as energy prices have rebounded. However, spending on other types of nonresidential structures appears to be continuing to fall rapidly.

Inventory / Sales: Total Business



Source: Census Bureau

Nondefense Capital Goods Excluding Aircraft



Source: Census Bureau

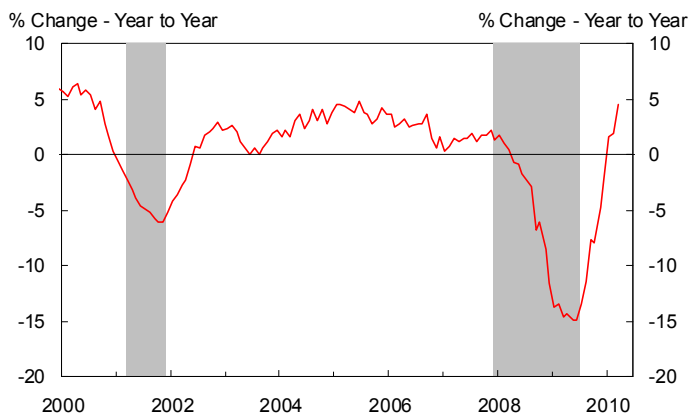
Inventories. After a prolonged period of liquidation, business has started adding to inventories, with 2010Q1 seeing the first increase in real stocks in two years. The swing from massive liquidation to accumulation, which started in 2009Q3, has meant that inventory investment has recently been a major source of real GDP growth, even during the period in which there was still liquidation. (A lessening of inventory liquidation means that a greater share of demand is being met by current production, rather than from sales out of existing stocks, and is hence a positive for GDP growth, all else equal).

The swing from liquidation to accumulation reflected the peaking of the inventory-sales ratio. As sales firmed and inventory overhangs were reduced, firms reduced the pace of liquidation and began to accumulate inventories. The monthly book value numbers show some cautious increases in the dollar value of business inventories since the summer of 2009, and the aggregate inventory-sales ratio has stabilized near its pre-recession level.

Outlook and Risks. We anticipate that inventory investment will cease to be an independent source of GDP growth, meaning that inventory stocks will trend up with sales. The expansion in equipment and software spending is expected to be sustained as the expansion matures, though we think its growth will, in the near term, fall back from its very rapid recent pace. We also project that spending on nonresidential structures will bottom out in 2010 and be a source of modest strength to the outlook in 2011.

The risks to the inventory and equipment and software outlooks are comparable to those of the general outlook. For nonresidential structures the risks are concentrated to the downside, in light of continuing financial problems and downward pressures on property values.

Manufacturing Output Growth



Source: Federal Reserve Board

ISM Manufacturing Index



Source: Institute for Supply Management

Manufacturing

Developments. The strong rebound in manufacturing output was sustained in late 2009 and in the first quarter of 2010. In recent months, the expansion has been evident in most industries; printing is the only large sector where a noticeable downtrend is still evident. A number of durable goods industries—such as primary metals, machinery, motor vehicles, and computers—have seen output increases of more than 10 percent since their troughs.

Despite the strength of the recent increases, production in most industries remains well below earlier peaks (food processing is the one exception). The capacity utilization rate in manufacturing remains quite low, standing at 70% in March 2010. The utilization estimates incorporate an assumption that manufacturing capacity has been falling fairly rapidly—at an annual rate of around 1½% in early 2010—reflecting the limited levels of capital spending in the sector.

Outlook and Risks. Robust data from manufacturing surveys in early 2010, as well as solid growth in orders, suggests that manufacturing will continue to grow through the middle of 2010.

Manufacturing output should continue to expand as the economic recovery unfolds. In particular, rapid growth of exports should help U.S. producers, as will the emergence of a solid recovery in capital spending. However, downside risks for some industries will stem from the problematic outlook for nonresidential structures, as well as continued intense competition from foreign producers. Finally, given the shrinkage in capacity, the potential for capacity bottlenecks to hinder expansion in the sector could emerge.

GDP Growth			
Percent Change (Q4/Q4)			
	2009	2010	2011
Euro Area	-2.2	1.6	2.4
Japan	-1.4	2.1	1.2
U.K.	-3.1	1.9	2.7
Canada	-1.2	3.4	3.0
China	10.7	10.0	8.5
Asia-4 NIEs	6.3	5.8	5.8
Mexico	-2.3	3.3	4.4
Foreign Economies	0.3	3.4	3.4

Inflation			
Percent Change (Q4/Q4)			
	2009	2010	2011
Euro Area	0.4	1.0	1.4
Japan	-2.0	-1.3	-0.1
U.K.	2.1	2.4	2.0
Canada	0.8	2.0	2.0
China	1.9	4.0	3.0
Asia-4 NIEs	2.3	2.6	2.6
Mexico	3.6	5.0	3.8
Foreign Economies	0.6	1.5	1.6

Foreign Outlook

The global economy is rebounding, with advanced economies expected to return to near their trend rate in 2010 after two years of steep declines while Emerging Asia is set to slow after a strong performance last year. Broad-based improvements in business confidence and strong export data represent upside risks. High unemployment in advanced economies and financial market reactions to the Greek crisis are downside risks.

Euro area: Growth in the second half of 2009 was disappointing. Consumption was weak, investment spending fell and the boost from the inventory cycle was surprisingly modest. There is some momentum entering 2010 with production steadily improving and business confidence measures improving through April. The problem is consumption which looks to stay weak with low consumer confidence readings and unemployment at 10.0%.

U.K.: GDP did not start growing again until 2009Q4. Confidence measures indicate growth continued in Q1, helped by the weak currency. Unemployment is steady at 7.8%.

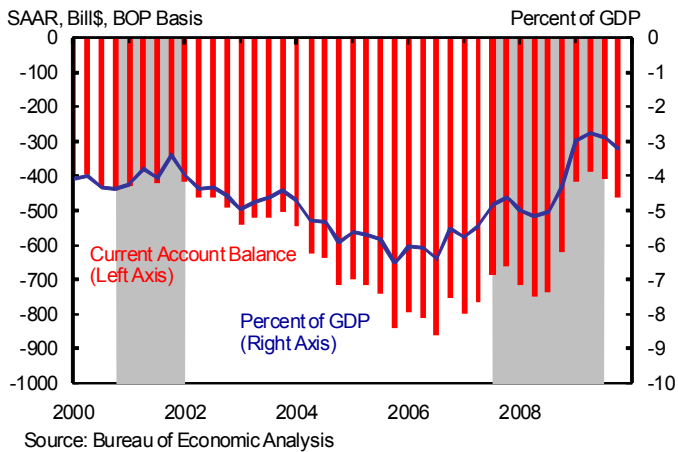
Japan: Exports fell sharply during the global recession and the rebound last year supported GDP growth. The Tankan survey in March showed improvement in the outlook of Japanese firms, although the relatively weak responses of domestically-oriented firms continue. Production and exports were flat in February and March, suggesting the boost from the global recovery is diminishing. Core prices are falling at a 1.0% rate.

China: Q1 GDP was stronger than expected, with output up 11.9% over the year. Growth was led by domestic demand, which was propelled by policy lending. Production, exports and confidence measures point to another strong GDP number for Q2. Elsewhere in Asia, countries reported robust data on both exports and domestic demand in Q1.

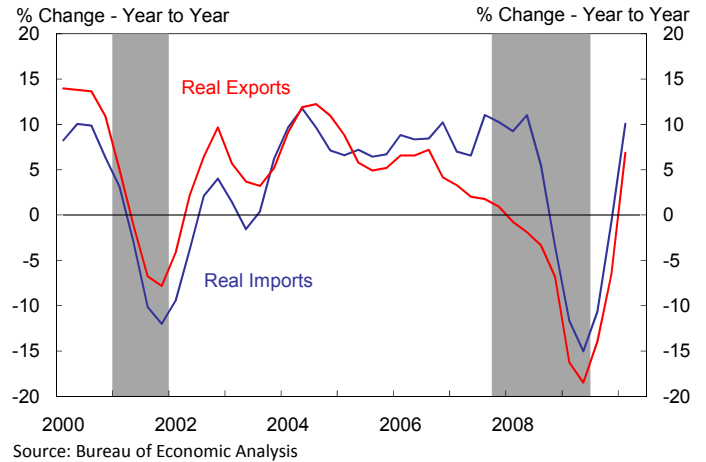
Brazil: The industrial sector is booming and unemployment is at a record low. Inflation pressures are building.

Mexico: Output is being helped by a rebound in exports to the US market, but consumer demand continues to face headwinds from tight consumer credit and declining real income.

Current Account Balance



U.S. Trade



Trade

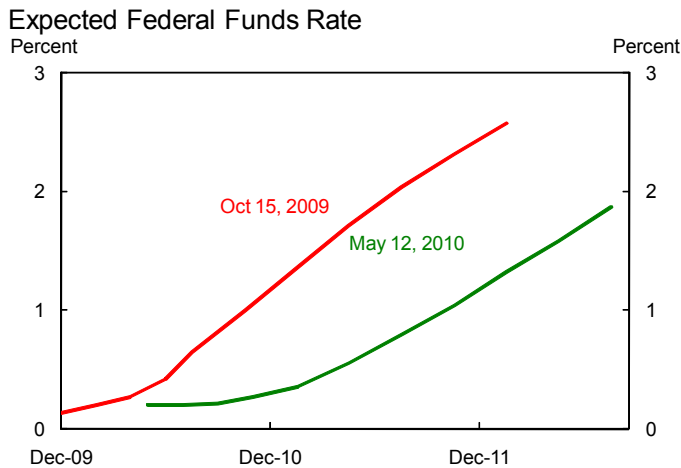
Developments. The US current account deficit narrowed significantly in 2009, falling from \$706 billion in 2008 to \$420 billion in 2009, mostly due to a decline in oil imports. Preliminary data for 2010Q1 suggests the current account deficit will widen to \$515 billion (annual rate), 3.5% of GDP, still much lower than the 2008 share of 4.9%. Most of this widening appears to be due to higher oil prices and imports of goods and services rebounding faster than exports.

Real exports of goods and services increased 5.8% (annual rate) in 2010Q1, compared to an increase of 22.8% in 2009Q4. Real imports of goods and services increased 8.9% in 2010Q1, compared to an increase of 15.8% in 2009Q4. Both imports of oil and nonoil goods increased in 2010Q1 whereas oil imports plunged in 2009Q4. Net exports subtracted 0.6 percentage points from GDP growth in Q1, following a positive net export contribution of 0.3 percentage points in the previous quarter.

Outlook and Risks. Going forward, the outlook is for export growth to be higher than import growth, in line with the assumption that the recovery in major export markets will be somewhat stronger than the US recovery. Because the level of US exports is less than the level of US imports, these expected growth rates would result in only a small net export growth contribution to GDP of 0.1 percentage point over 2010.

The current account deficit is forecast to widen from 2.9% of GDP in 2009 to 3.7% of GDP in 2010, mainly due to the assumption of higher oil prices.

The risk for net exports is largely tied to the U.S. and foreign growth outlooks. In particular, our outlook for trade depends on a relatively faster growth path for major export markets than for US domestic demand.

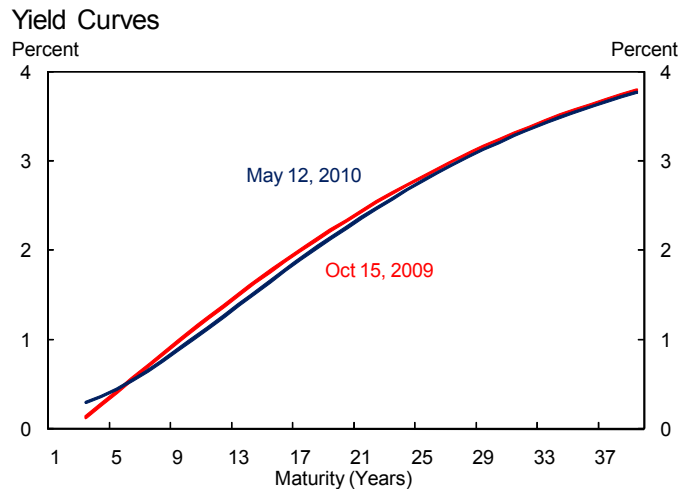


Source: Federal Reserve Board

Financial Markets

Expected Policy Rate Path. The expected path of the fed funds rate has shifted down since October 2009 as the FOMC has maintained the target range for the rate at 0 to ¼% along with the language that “economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period.” The particular wording guiding policy expectations has varied somewhat since the FOMC first cut the funds rate to the 0 to ¼% range in December 2008, with the November 2009 FOMC statement indicating the particular conditions warranting the low levels of the funds rate as “low rates of resource utilization, subdued inflation trends, and stable inflation expectations.” This same language has appeared in every statement since November.

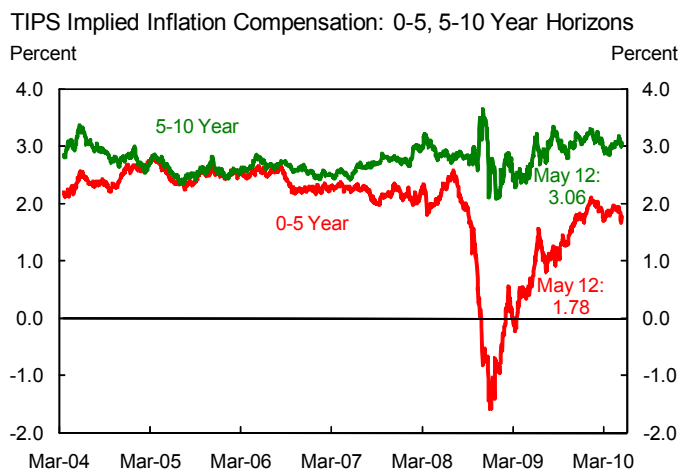
Market expectations currently suggest that the target fed funds rate will remain unchanged through the summer, and then rise to about 0.5% in early 2011, 1.25% in late 2011, and 2% in mid-2012.



Source: Federal Reserve Board

Nominal Interest Rates. After steepening sharply over much of 2009, the yield curve is little changed, on net, since October 2009. Improving economic and financial market conditions drove the 2009 steepening, with the yield on the 10-year Treasury note rising from 2.2% at the end of 2008 to about 3.5% in mid-October 2009. The yield hit 4% in April 2010, before settling back to 3.6% as of May 4. The yield on the 2-year note, driven more by near- and medium-term policy expectations, rose more modestly, from 0.8% at the end of 2008 to 0.9% in mid-October 2009. The yield reached about 1.2% in April 2010, before settling back to 0.9% as of May 4.

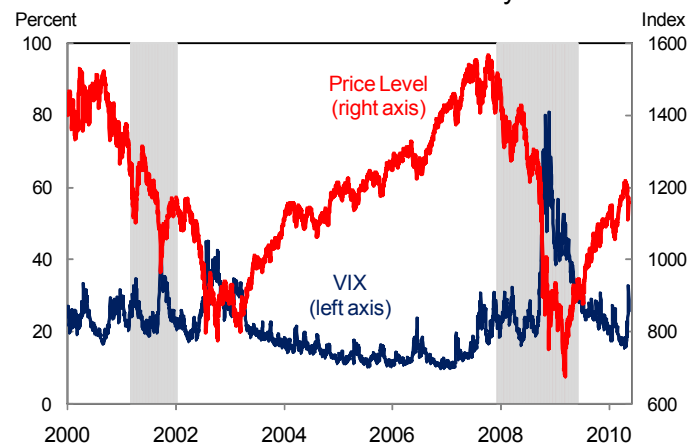
Option implied yield volatility in Treasury and swap markets as measured by the 3-month MOVE and SMOVE indices declined substantially from levels of 125 and 140 respectively in mid-October 2009 to levels of 85 and 90 respectively in early May 2010, their lowest levels since October 2007.



Source: Federal Reserve Board

Note: Carry-adjusted.

S&P 500 Index: Price Level and Volatility



Source: Haver, Datastream

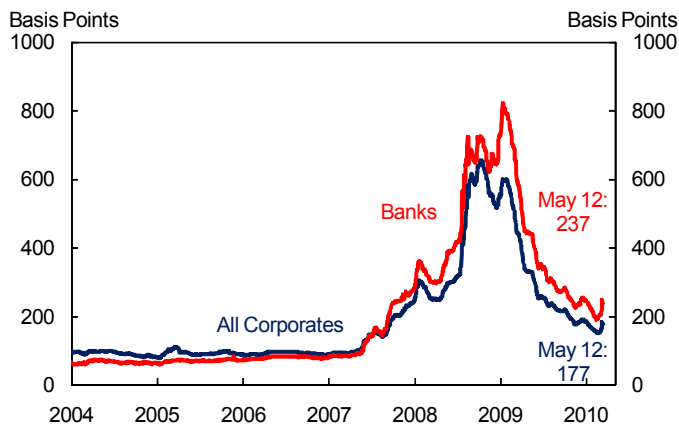
Inflation Compensation. Improved economic and financial market conditions (including lower liquidity premiums to hold TIPS) drove increases in short-term market-based measures of inflation expectations since October 2009 with 0-5 year inflation compensation rising 30 basis points to 1.83%. The 0-5 year measure, gauging inflation expectations over the next five years, had fallen as low as -1.6% prior to the December 2008 FOMC meeting. The increases for the measures of near-term price changes over the course of 2009 were thus welcome, as they had been indicating an expectation of modest deflation.

The 5-10 year measure, gauging expected inflation 5-10 years out, is unchanged, on net, since October 2009. This measure also bottomed out in late 2008, at 2.1%, but rose above 3% again by mid-2009. At 3.07% on May 4, the measure remains close to the top of its historical range, so that this and other measures of inflation expectations deserve close watching.

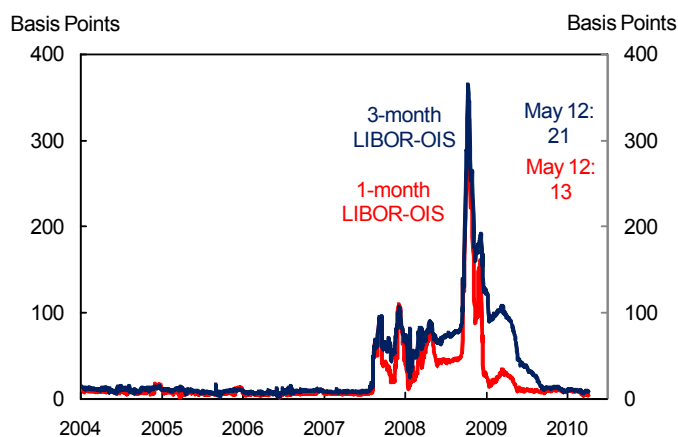
Equity Markets. Equity markets continued their strong recovery in the fourth quarter of 2009 and into the spring of 2010, as economic and financial market conditions continued to improve and concerns about the financial sector lessened further. As of May 4, the S&P 500 had risen 7% since October 15, 2009 and 73% from its March 9, 2009 low, but remained 25% below its October 2007 high.

Implied equity volatility as measured by the VIX trended lower over the last quarter of 2009 and into early 2010, interrupted by brief spikes associated with uncertainty about financial regulatory and sovereign risk. After reaching its lowest level in 2½ years in early April, the VIX reverted back to the levels seen in October 2009. At 24% on May 4, the S&P 500 implied volatility remains far below the crisis levels of 60-80% of late 2008 and early 2009 and well within the pre-crisis historical range.

Credit Spreads



Libor-OIS Spreads



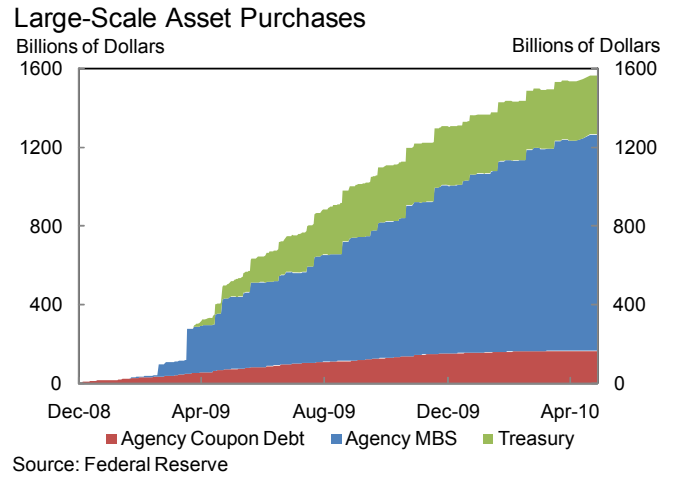
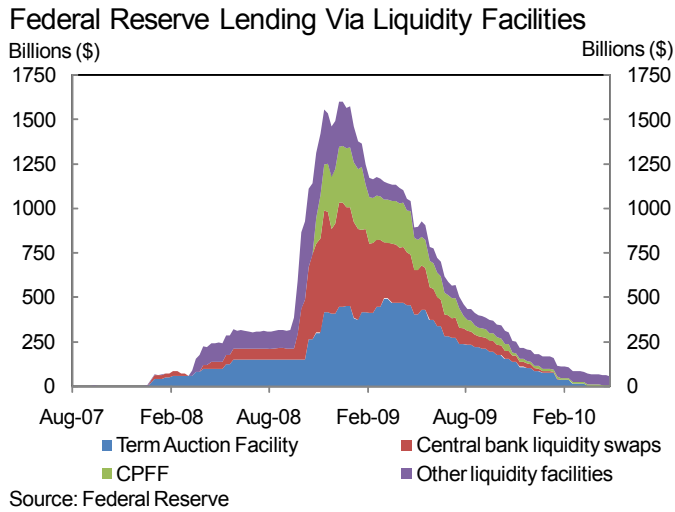
Credit Spreads. Improved economic and financial market conditions caused credit spreads and estimates of credit risk premiums to narrow considerably over much of 2009 and into 2010. By May 2010, corporate credit spreads across ratings categories were roughly at late 2007 levels, signaling much improved credit conditions.

Despite the narrowing credit spreads, measures of banks' commercial and industrial as well as commercial real estate lending continued to decline throughout 2009 and early 2010 even as macroeconomic conditions improved. The Federal Reserve's Senior Loan Officer Opinion Survey suggests that banks continued tightening lending standards during 2009 and early 2010 with the latest data suggesting that the cycle of tightening that started in 2007 has finally come to an end. However, as of April 2010, lending standards remain very tight.

Money Markets. Money market functioning has remained stable since October 2009 after improving significantly after late 2008. Libor-OIS spreads thus returned to pre-crisis levels in late 2009 after peaking in October 2008. Similar patterns are observed for commercial paper spreads to OIS and for repo spreads.

While the improvement in short term credit spreads was arguably driven by the Federal Reserve's extraordinary interventions to support the sector through new and expanded facilities and through efforts to address the stability of financial institutions, it is reassuring that these spreads have remained narrow even as lending through the Fed's facilities has tapered off.

Despite the narrowing of short term funding spreads, conditions have not fully normalized. Commercial paper outstanding, in particular, remains well below the level outstanding prior to the Lehman Brothers bankruptcy.



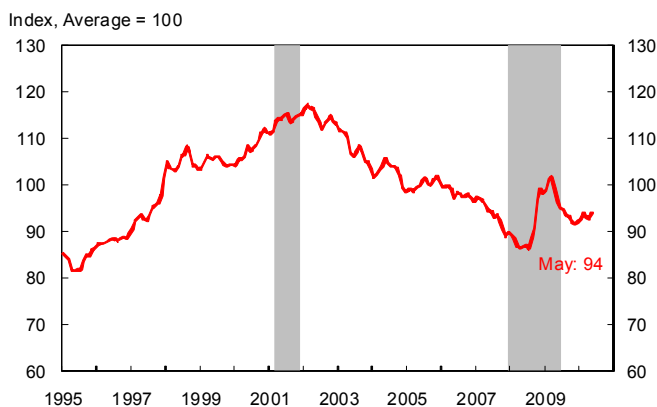
Liquidity Facilities. Credit extended through the Federal Reserve’s liquidity facilities continued to decline through late 2009 and early 2010 as money market conditions remained stable, culminating in the termination of many liquidity programs on February 1, 2010. The final Term Auction Facility auction was held March 8, 2010 and the last commercial paper issued via the Commercial Paper Funding Facility was paid down April 26. Extension of credit through the Term Asset-Backed Securities Loan Facility expires June 30, 2010 for loans backed by newly issued commercial mortgage-backed securities and expired March 31, 2010 for loans backed by other eligible asset-backed securities.

Aside from improving market functioning, the new liquidity facilities have provided about \$20 billion in income to the Federal Reserve since their inception, substantially more than estimates of the opportunity costs of the lent funds.

Large-Scale Asset Purchases. The Federal Reserve completed its large-scale asset purchases in March 2010. In total, the Fed purchased over \$1.7 trillion in securities over the course of the program, including \$300 billion in Treasury securities, \$1.25 trillion in agency mortgage-backed securities (MBS), and \$175 billion in agency debt securities.

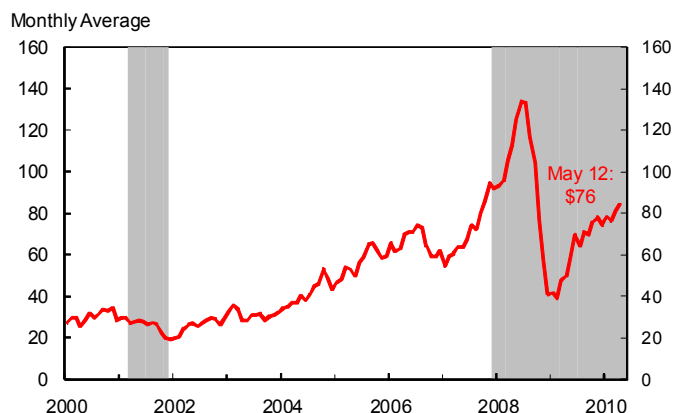
Strong evidence – including sharp declines in yields on program announcement dates – suggests that the program effectively met its objectives of reducing the cost and increasing the availability of housing credit and private credit more generally, thereby supporting housing markets and financial market conditions. Moreover, as might be expected, the cessation of purchases did not in itself result in any discernible reversion of yields or spreads, with Treasury yields basically unchanged since purchases stopped in October 2009 and MBS spreads remaining narrow since MBS purchases ended in March 2010.

Nominal Broad Dollar Index



Source: Federal Reserve Board

Oil Prices



Source: Department of Energy

Foreign Exchange. The trade-weighted dollar index is only 5% below its average of the last fifteen years. During the financial crisis, the demand for dollar-denominated assets supported the exchange value of the dollar and reversed much of the depreciation since 2002. The subsequent improvement in market stability starting in March 2009 coincides with a retreat in the dollar to a level near its pre-crisis level. More recently, there has been a modest uptick in the dollar's value, reflecting the rise in U.S. long-term rates relative to rates in other major industrial countries and concerns about Greek debt in the euro area.

Of particular interest going forward is the potential for a change in China foreign exchange policy. From 2005 to mid-2008, the yuan appreciated 21% against the dollar. Concerns about the global economy then caused a shift back to a policy of keeping the currency tied to the dollar. The upward pressure on the yuan is considerable; monetary authorities bought \$400 billion in foreign assets in 2008 and \$450 billion in 2009 to help maintain the exchange rate.

Petroleum Prices. The WTI benchmark oil price has steadily increased over the past year in line with the global recovery. Prices are now around \$85 per barrel, which is near the average price over the past three years.

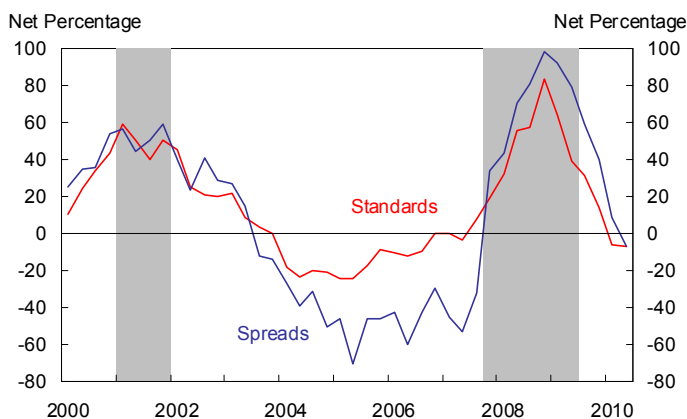
Oil demand declined 1.5% last year with big drops in the United States, Europe, and Japan partially offset by higher demand from China and the rest of Emerging Asia. Prices would have fallen more sharply if not for substantial cuts in OPEC production, with Saudi Arabia producing 1 million fewer barrels per day in 2009 than it did in 2008.

The risks to oil prices are on the upside as global demand is projected to increase 1.9% this year while oil production in Europe and North America is expected to fall.

Other Commodities. Industrial metals have also moved higher with the global recovery and are almost back to pre-crisis levels.

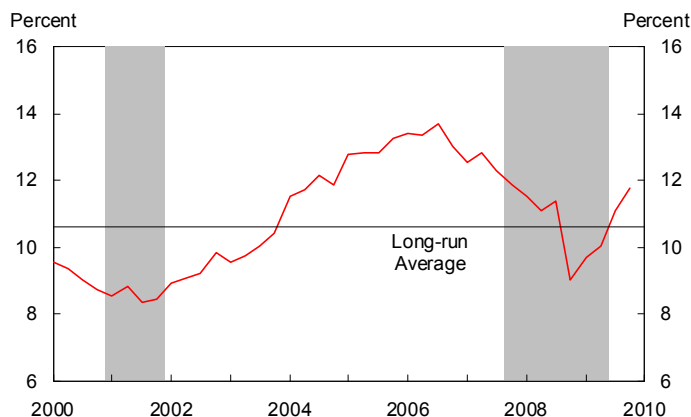
Wheat and corn prices have been relatively stable since late 2008 at levels roughly 50% percent above their 2005 averages.

Banks Tightening Terms and Standards for Business Loans to Large and Mid-Sized Firms



Source: FRB Senior Loan Officer Opinion Survey

Corporate Profits as a Percent of National Income



Source: Bureau of Economic Analysis

Bank Lending Standards

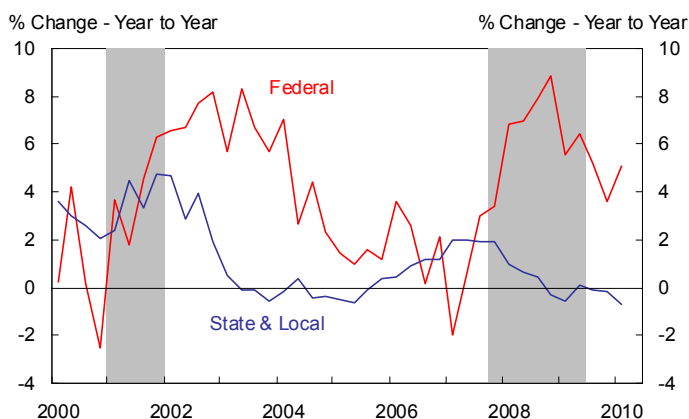
The net percent of loan officers reporting tightening standards declined to -7.4 in 2010Q2, from -5.5 percent the quarter before. Last quarter marked the possible end of the record tightening witnessed during the recession and credit crises but this quarter marks the first time since 2006Q3 that standards eased in two consecutive quarters. The consecutive net easing is evidence that the headwinds of tight credit are waning. While it will take several more quarters of net easing to return standards to their pre-crises level, research at FRBNY indicates that the direction of change in standards are a leading indicator of credit and GDP growth, with easing standards presaging faster credit and economic growth. Thus, the second net easing observed this quarter is another signal of improved near-term growth prospects.

Corporate Profits

The most recent peak in corporate profits expressed as a share of national income was 13.7% in 2006Q3—the highest profit share since the early 1950s. As typically happens late in a business cycle, corporate profits fell from mid-2006 through mid-2008 as unit labor costs began to rise and labor’s share of national income increased. The financial crisis and ensuing sharp decline in economic activity then led to a further sharp drop of corporate profits, led by financial firms.

In 2009 corporate profits rebounded, particularly for financial firms. Moreover, productivity growth has been quite strong while the rate of increase of labor compensation has slowed, leading to declining unit labor costs. By 2009Q4 corporate profits were back up to 11.8% of national income, just shy of their mid-1990s peak. Available data suggest a further increase to 12.2% in 2010Q1. This increase is consistent with historical experience where the first few years of recovery have been associated with rapid growth of corporate profits.

Real Government Consumption and Gross Investment



Source: Bureau of Economic Analysis

	FY2008*	FY2009*	FY2010	FY2011
Receipts				
\$ Billions	2,524	2,105	2,176	2,671
% of GDP	17.5	14.8	14.9	17.8
Outlays				
\$ Billions	2,983	3,518	3,545	3,669
% of GDP	20.7	24.7	24.3	24.5
Balance				
\$ Billions	-459	-1,413	-1,369	-997
% of GDP	-3.2	-9.9	-9.4	-6.7
Debt Held by the Public				
% of GDP	40.2	53.0	61.8	65.8

Government Spending

The rate of growth of real federal spending increased markedly in 2008 in both defense and non-defense categories. Over the course of 2009 it slowed somewhat but continued to be an important contributor to growth. Under current policy, federal spending is expected to continue to slow over 2010 and 2011.

In contrast, the growth of real outlays by state and local governments slowed over the course of 2008, was slightly negative in 2009, and has declined at a faster rate in 2010Q1. The fiscal condition of state and local governments has deteriorated noticeably during this economic downturn. Tax receipts have fallen sharply due to steep declines in retail sales and nominal incomes. Increased transfer payments from the federal government, an important part of the fiscal stimulus bill enacted early in 2009, have buffered this decline, but are not sustainable at current levels. State and local governments have responded to the situation by cutting employment and spending, and are expected to continue to do so in 2010.

Federal Fiscal Outlook

The federal budget deficit increased to \$1.4 trillion (9.9% of GDP) during FY2009, up from \$459 billion or 3.2% of GDP in FY2008. Expressed as a percent of GDP, the deficit in FY2009 was the largest since World War II. Total federal receipts fell 16.6% in FY2009, the largest percentage decline since the 1930s. Debt held by the public expressed as a percent of GDP rose 13 percentage points to 53%.

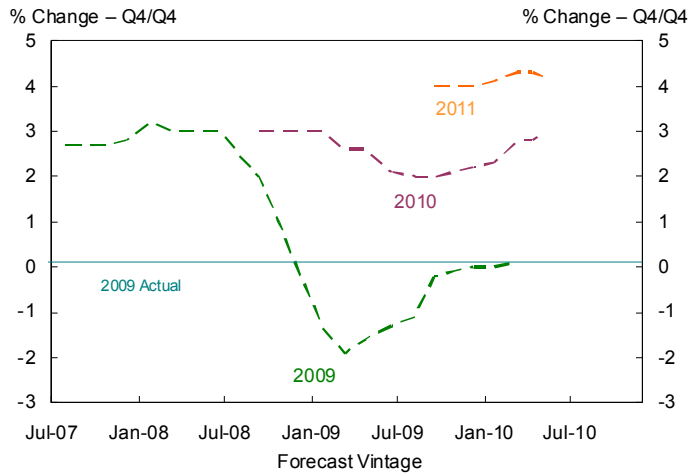
Based on current policy, the federal deficit will remain quite large for at least the next few years. For FY2010 the CBO projects a deficit of \$1.37 trillion followed by a deficit of \$1 trillion in FY2011. By the end of FY2011 the debt to GDP ratio would be nearly 66%. This projection presumes that the tax cuts enacted in 2001 will expire on schedule at the end of the current calendar year. As that outcome looks increasingly less likely to occur, the deficit in FY2011 could be as much as \$350 to \$400 billion higher than the current policy baseline.

FRBNY Forecast Summary

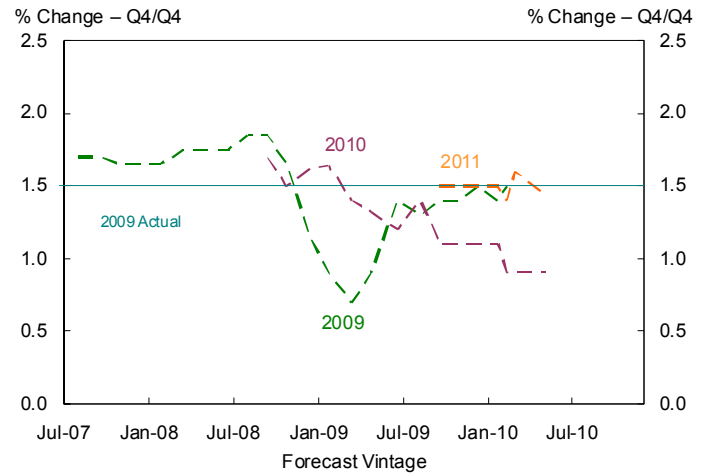
	2010 Q1	2010 Q2		2010 Q3		2010 Q4/Q4		2011 Q4/Q4	
	<i>Advance</i>	10/16	5/14	10/16	5/14	10/16	5/14	10/16	5/14
Summary									
Real GDP	3.2	1.5	3.0	2.3	2.8	2.0	3.0	4.0	4.3
Total PCE Deflator	1.5	1.3	1.1	1.4	1.0	1.4	1.2	1.7	1.4
Core PCE Deflator	0.6	1.0	0.9	1.1	1.1	1.1	0.9	1.5	1.4
Fed Funds Rate Target*	0-0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	1.0-2.0
Nonfarm Business Sector									
Output	4.4	3.9	3.6	2.9	3.4	-0.6	3.8	-0.6	5.3
Hours	0.8	0.2	2.3	2.2	2.1	-4.9	1.9	-4.9	3.6
Productivity Growth	3.6	3.7	1.3	0.7	1.3	4.3	1.9	4.3	1.7
Compensation	1.9	5.8	1.3	6.6	1.3	0.0	1.5	0.0	1.7
Unit Labor Costs	-1.6	2.0	0.0	5.9	0.0	-4.3	-0.4	-4.3	0.0
Real GDP Growth Contributions**									
Final Sales to Domestic Purchasers	2.3	0.7	2.3	1.7	2.4	1.3	2.4	3.7	3.8
Consumption	2.6	0.6	1.9	0.9	1.8	0.8	2.0	1.7	1.9
BFI: Equipment and Software	0.8	0.0	0.5	0.3	0.3	0.1	0.5	0.8	0.9
BFI: Nonresidential Structures	-0.4	-0.2	-0.3	0.1	-0.2	0.0	-0.3	0.3	0.2
Residential Investment	-0.3	0.1	0.2	0.2	0.4	0.2	0.1	0.5	0.5
Government: Federal	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Government: State and Local	-0.5	0.0	-0.2	0.1	0.0	0.0	-0.2	0.3	0.2
Inventory Investment	1.6	0.7	0.6	0.3	0.2	0.7	0.5	0.4	0.2
Net Exports	-0.6	0.1	0.0	0.3	0.1	0.1	0.1	0.0	0.2
Real GDP Components' Growth Rates									
Final Sales to Domestic Purchasers	2.2	0.7	2.2	1.7	2.4	1.2	2.4	3.6	3.7
Consumption	3.6	0.9	2.7	1.3	2.5	1.1	2.8	2.4	2.7
BFI: Equipment and Software	13.4	0.0	8.0	5.0	5.0	2.3	8.6	14.2	13.0
BFI: Nonresidential Structures	-14.0	-5.0	-10.0	5.0	-6.0	-0.8	-8.3	9.0	7.4
Residential Investment	-10.9	5.0	10.2	7.5	14.8	6.9	5.4	18.1	20.2
Government: Federal	1.3	1.5	2.0	1.5	1.8	1.5	1.7	1.5	1.5
Government: State and Local	-3.8	-0.2	-2.0	0.4	0.2	0.3	-1.3	2.5	1.4
Inventory Investment	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Net Exports	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Exports	5.8	10.7	13.4	11.0	11.3	10.9	10.5	11.9	12.7
Imports	8.9	7.6	9.8	6.3	8.0	7.7	7.7	9.8	8.6
Labor Market									
Nonfarm Payroll Employment (Average per Month, Thousands)	2	241	281	113	-35	-374	101	-374	101
Unemployment Rate***	9.7	10.3	10.0	10.3	10.2	10.2	10.1	8.6	8.4
Income									
Real Disposable Personal Income	0.0	1.1	2.7	1.6	2.9	1.5	2.1	3.6	4.3
Personal Saving Rate***	3.1	3.8	3.1	3.9	3.2	4.2	3.3	5.4	4.8

Evolution of FRBNY Forecasts

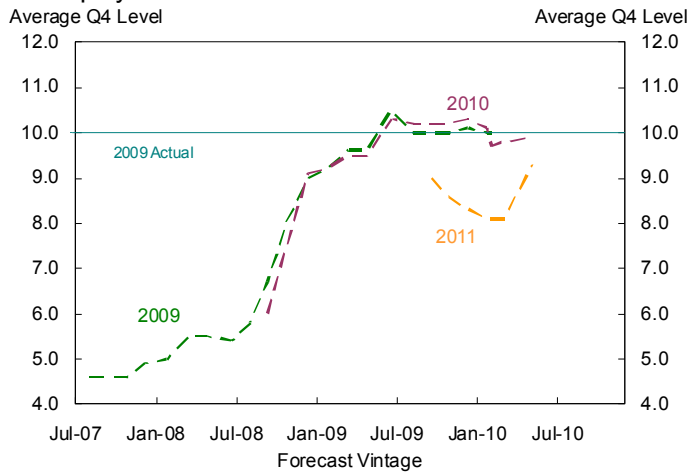
Real GDP Growth



Core PCE Inflation



Unemployment Rate



Note: Forecast vintage represents date at which forecast was produced.

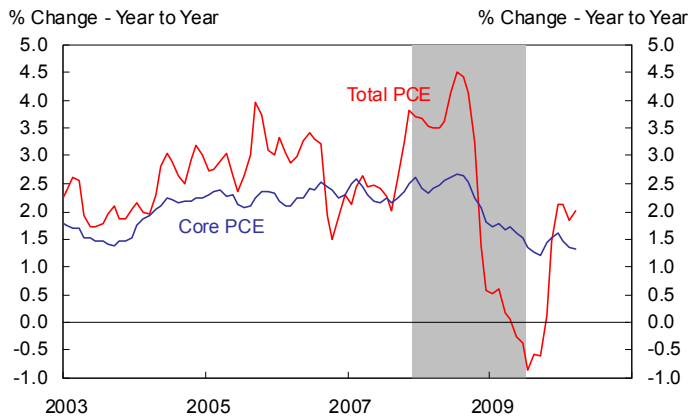
Alternative GDP and Inflation Forecasts

Real GDP Growth					
	Release Date	2010Q2	2010Q3	2010 Q4/Q4	2011 Q4/Q4
FRBNY	5/14/2010	3.0	2.8	3.0	4.3
Blue Chip	5/10/2010	3.2	2.9	3.1	3.1
Median SPF	2/12/2010	2.7	2.7	2.7	--
Macro Advisers	5/12/2010	3.6	3.7	3.7	3.9
Core PCE Inflation					
	Release Date	2010Q2	2010Q3	2010 Q4/Q4	2011 Q4/Q4
FRBNY	5/14/2010	0.9	1.1	0.9	1.4
Median SPF	2/12/2010	1.3	1.3	1.3	1.5
Macro Advisers	5/10/2010	0.8	0.9	0.8	0.9
CPI Inflation					
	Release Date	2010Q2	2010Q3	2010 Q4/Q4	2011 Q4/Q4
FRBNY	5/14/2010	1.0	1.4	1.4	1.9
Blue Chip	5/10/2010	1.3	1.9	1.6	2.0
Median SPF	2/12/2010	1.4	1.8	1.7	2.1
Macro Advisers	5/10/2010	0.2	1.8	1.1	1.0
Core CPI Inflation					
	Release Date	2010Q2	2010Q3	2010 Q4/Q4	2011 Q4/Q4
FRBNY	5/14/2010	0.9	1.1	0.8	1.7
Median SPF	2/12/2010	1.4	1.5	1.4	1.7
Macro Advisers	5/10/2010	0.8	1.1	1.1	1.0

Source: FRBNY, Blue Chip Consensus Forecasts, Survey of Professional Forecasters, and Macro Advisers

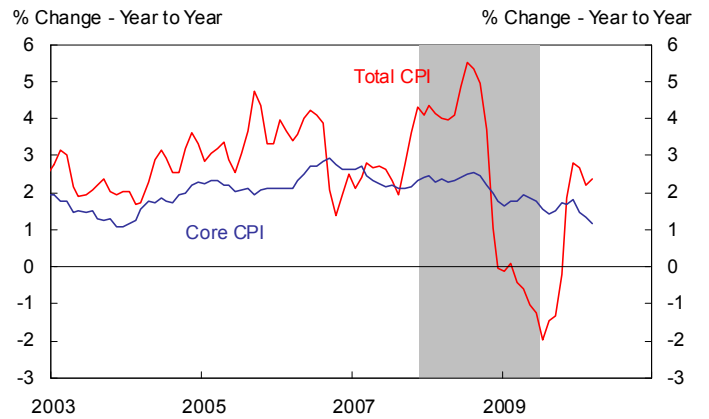
PCE and CPI Measures of Inflation since 2003

Total and Core PCE Deflator



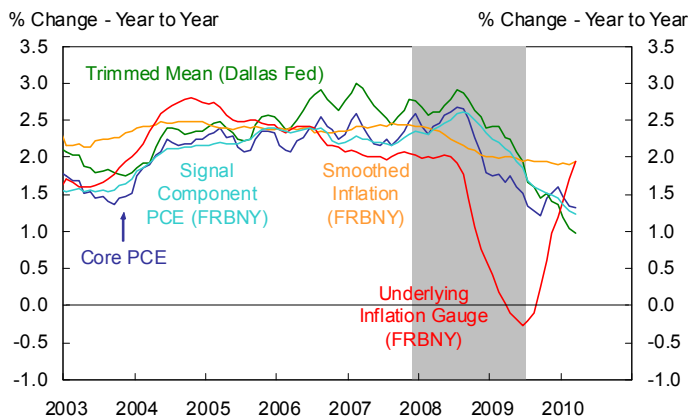
Source: Bureau of Economic Analysis

Total and Core CPI



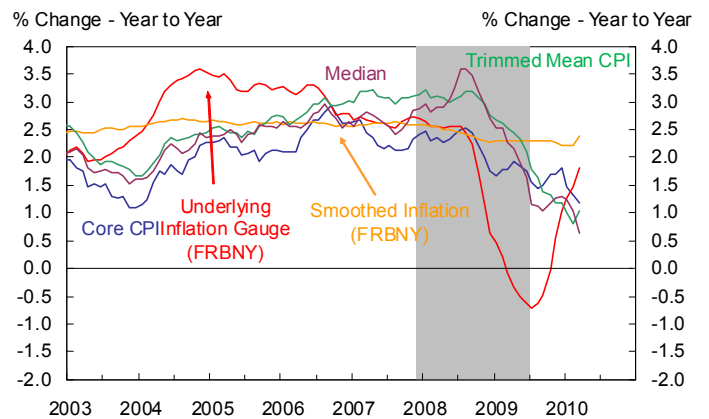
Source: Bureau of Labor Statistics

Measures of PCE Inflation Since 2003



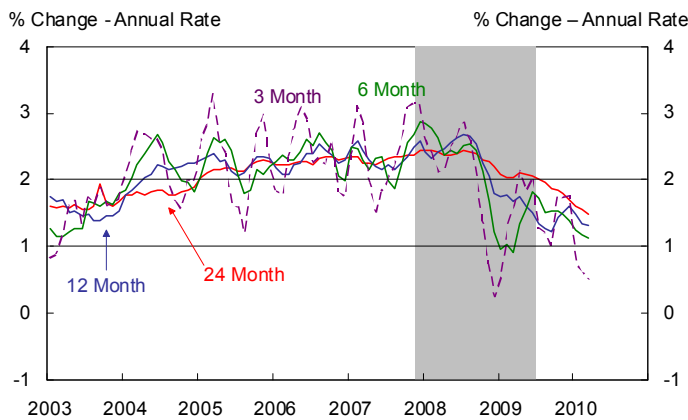
Source: Bureau of Economic Analysis, Dallas Fed, FRBNY and Bank of Switzerland

Measures of CPI Inflation Since 2003



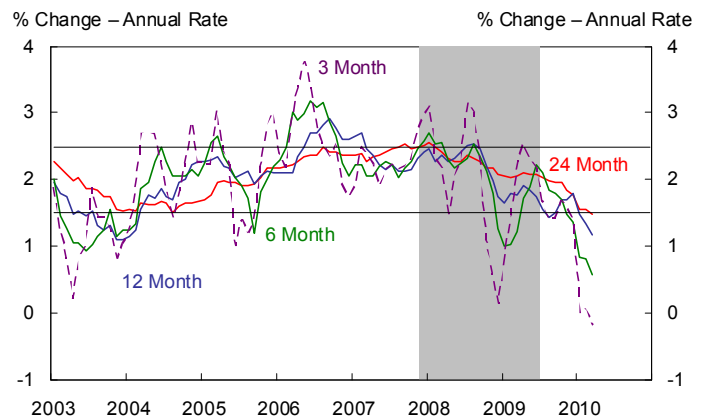
Source: Bureau of Labor Statistics and FRBNY

Core PCE Inflation over Various Horizons



Source: Bureau of Economic Analysis

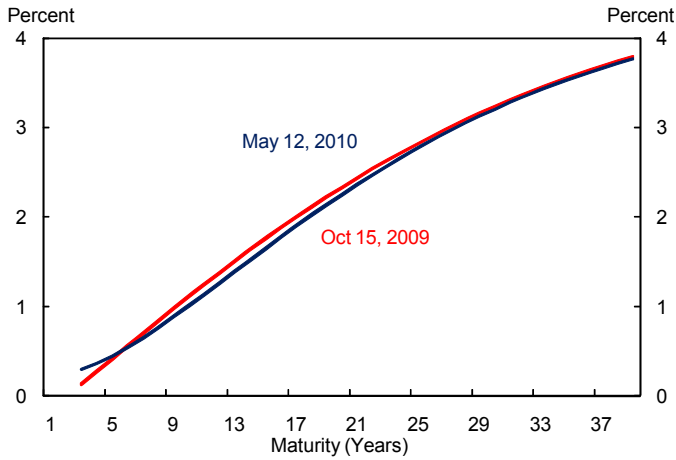
Core CPI Inflation over Various Horizons



Source: Bureau of Labor Statistics

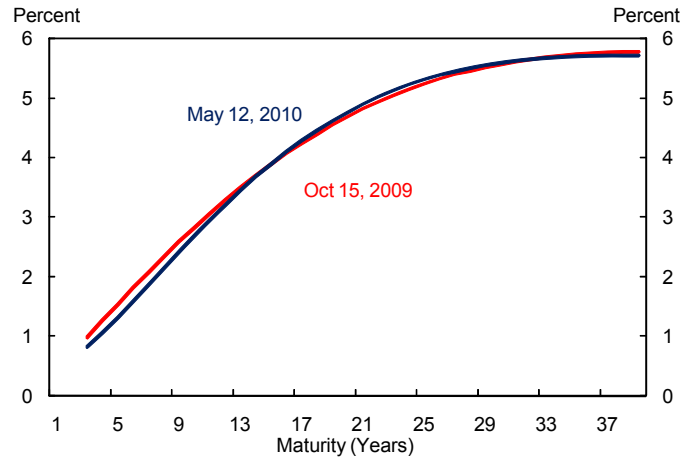
Treasury Yields and Inflation Expectations

Yield Curves



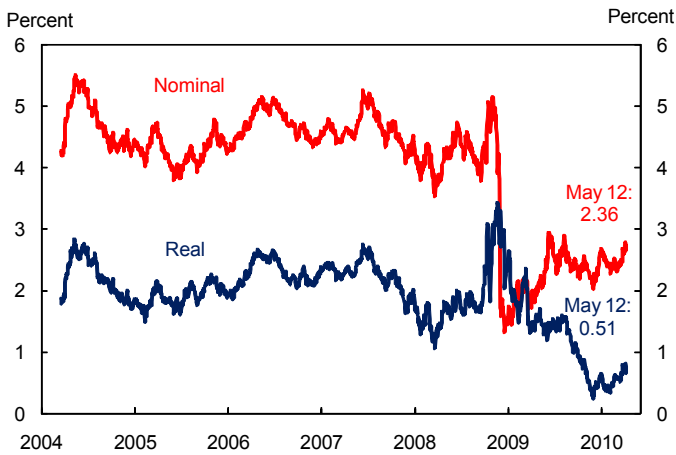
Source: Federal Reserve Board

Yield Curves: One-Year Forward Rates



Source: Federal Reserve Board

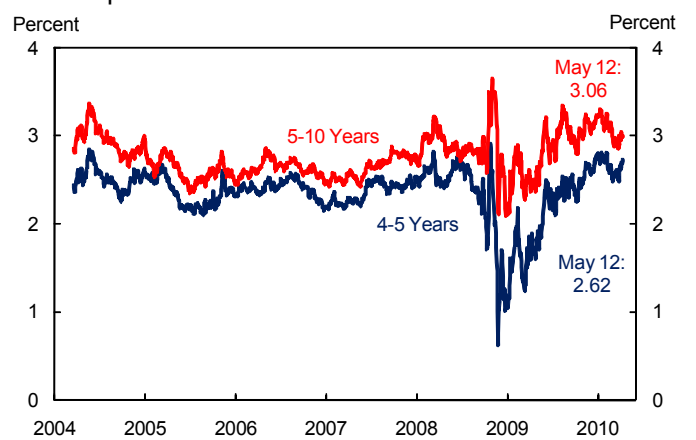
4-5 Year Forward Rates



Source: Federal Reserve Board

Note: Carry-adjusted

TIPS Implied Inflation: 4-5 and 5-10 Year Horizons



Source: Federal Reserve Board

Note: Carry-adjusted.

Short- and Long-Term Treasury Yields

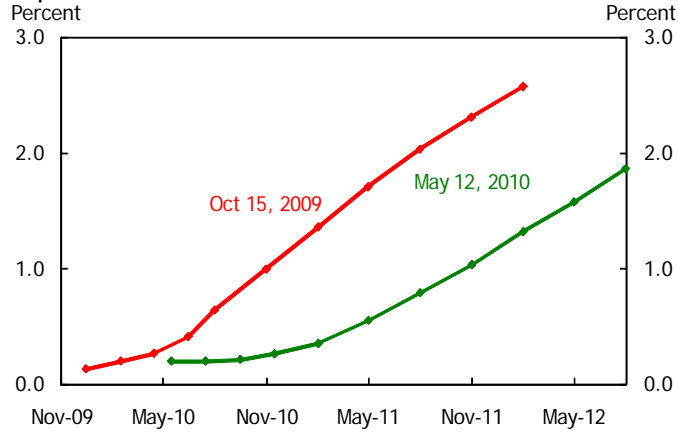


Source: Bloomberg

Note: On-the-run securities.

Market Policy Expectations and Uncertainty

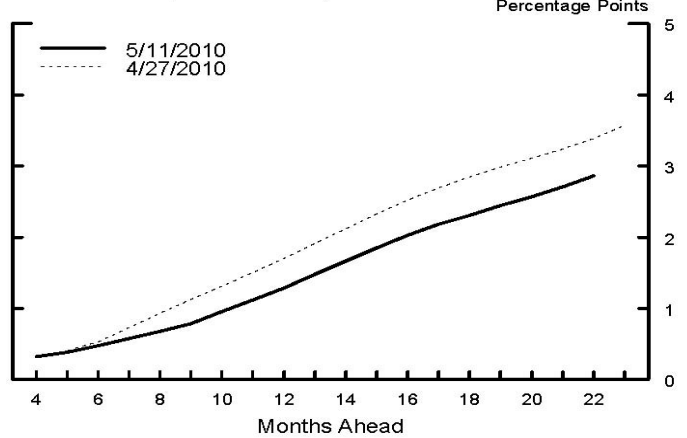
Expected Federal Funds Rate



Source: Federal Reserve Board

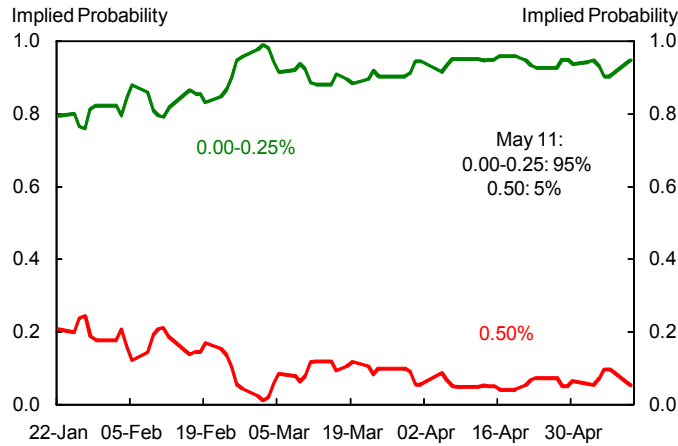
Note: Curves estimated using Fed Funds and Eurodollar futures.

Eurodollar Implied Volatility Term Structure*



*Width of a 90 percent confidence interval computed from the term structures for the expected federal funds rate and implied volatility.

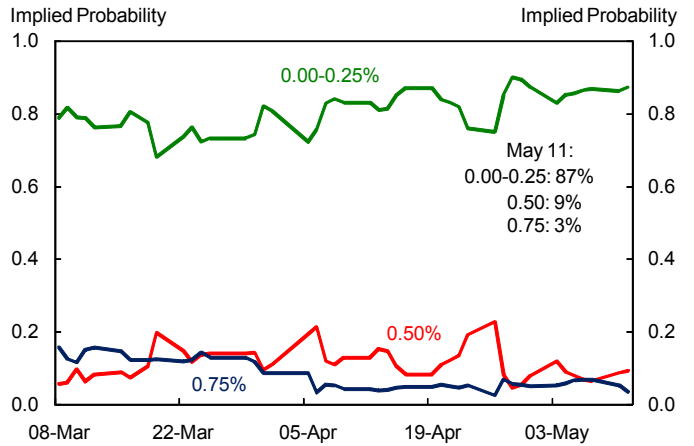
FOMC Target Probabilities: June 2010 Meeting



Source: Cleveland FRB

Note: Estimated using options on fed funds futures.

FOMC Target Probabilities: August 2010 Meeting



Source: Cleveland FRB

Note: Estimated using options on fed funds futures.

Long-Term Interest Rate Volatility

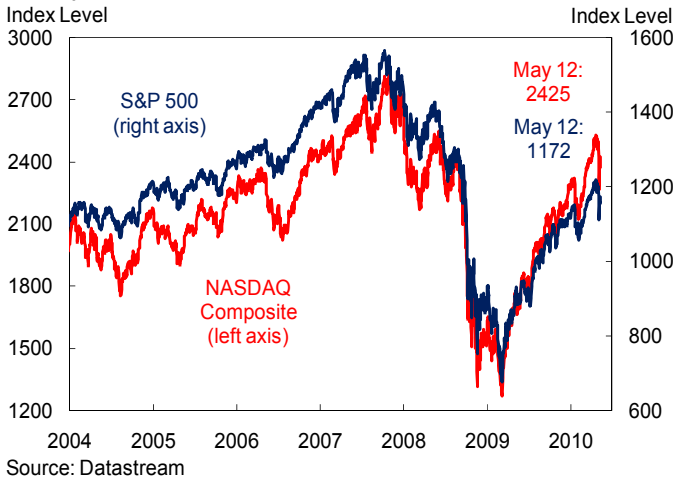
Width of 90% Confidence Interval Implied by Swaptions



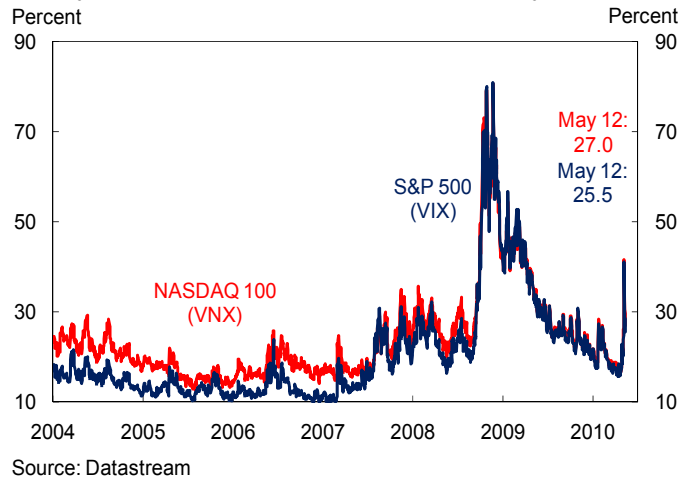
Source: Datastream, FRBNY calculations

Equity Markets and Corporate Credit Risk

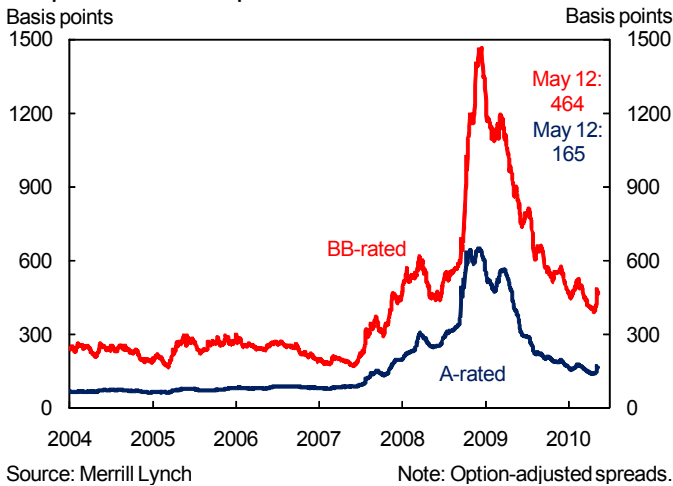
Equity Indices



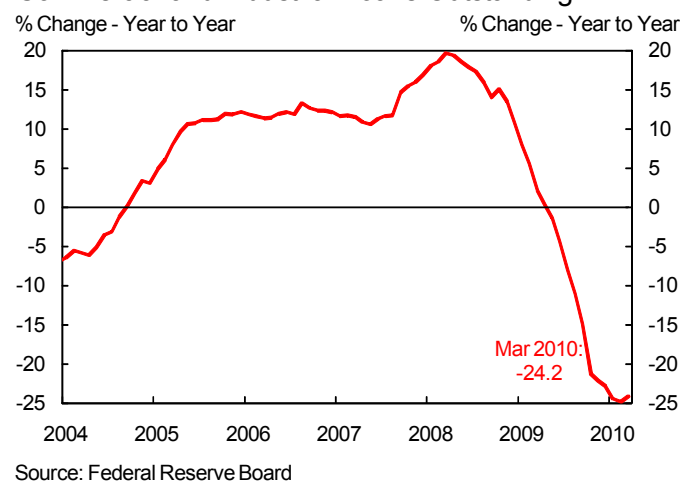
Equity Indices: One-Month Implied Volatility



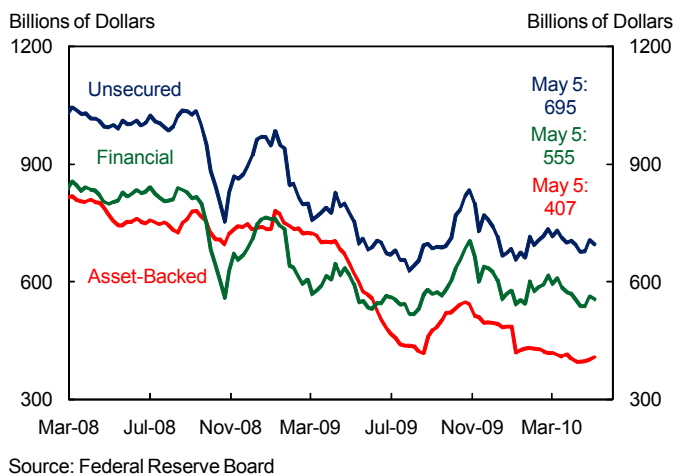
Corporate Credit Spreads



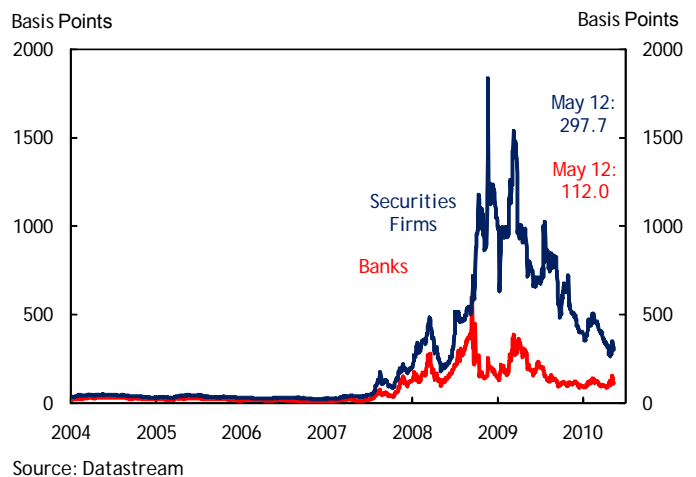
Commercial and Industrial Loans Outstanding



Commercial Paper Outstanding

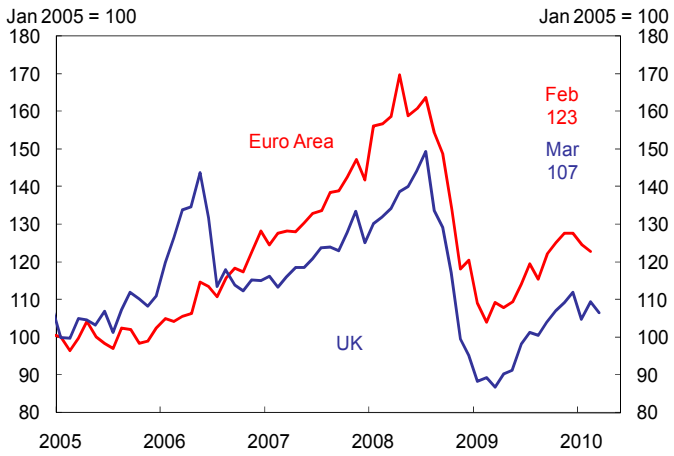


Sector CDS Spreads



Exports and Industrial Production

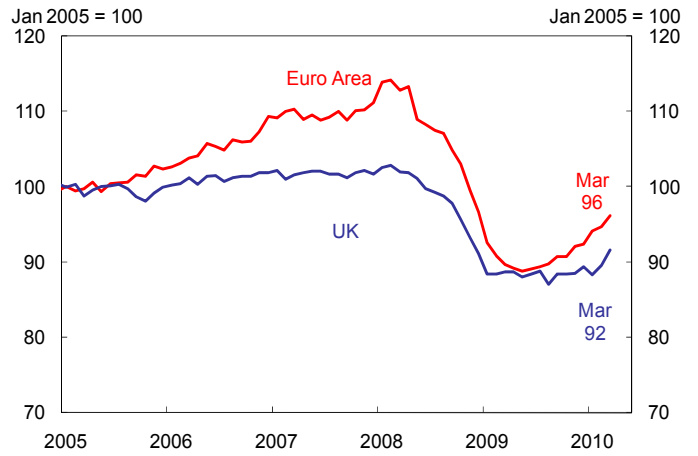
Exports



Source: Haver

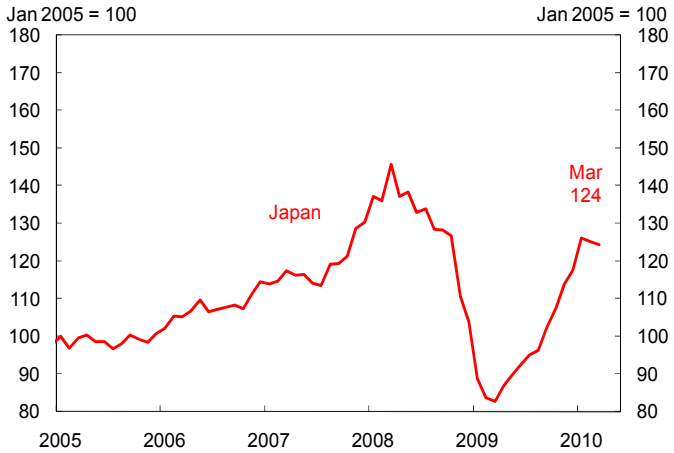
Note: In Dollar Terms

Industrial Production



Source: Haver

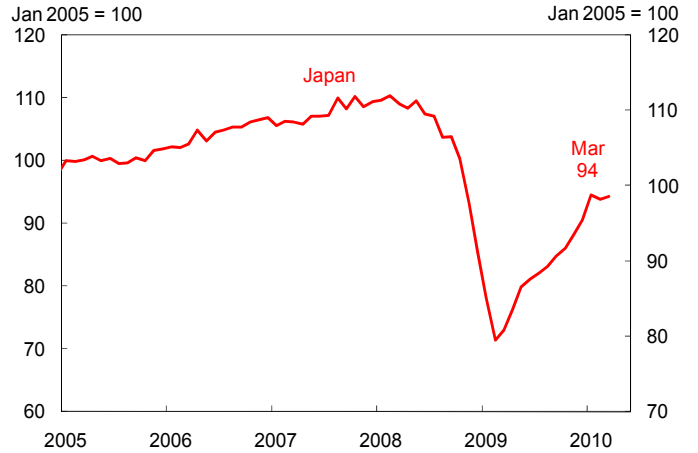
Exports



Source: Haver

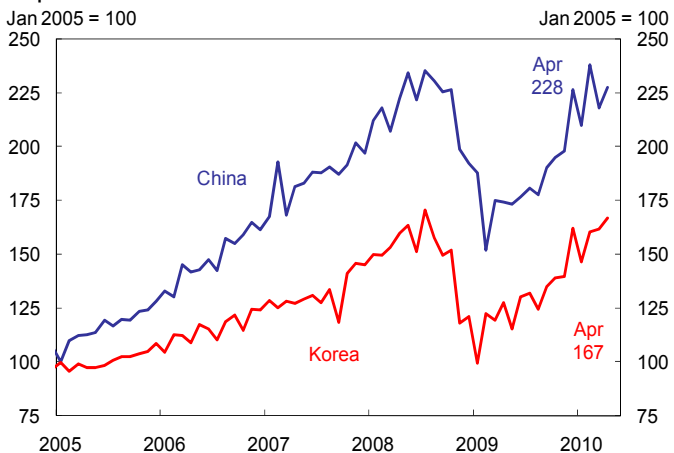
Note: In Dollar Terms

Industrial Production



Source: Haver

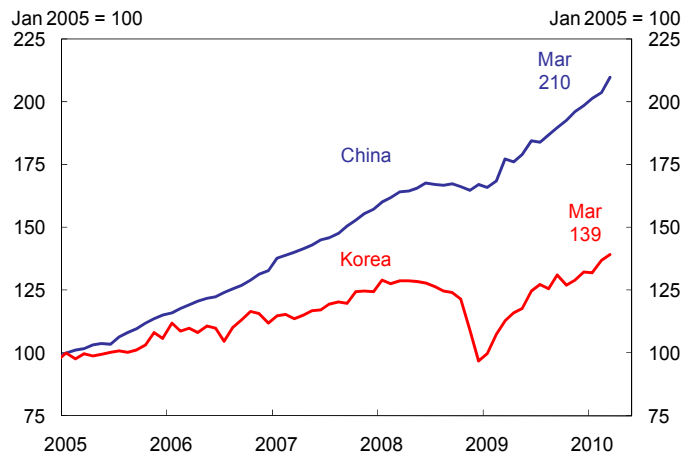
Exports



Source: Haver

Note: In Dollar Terms

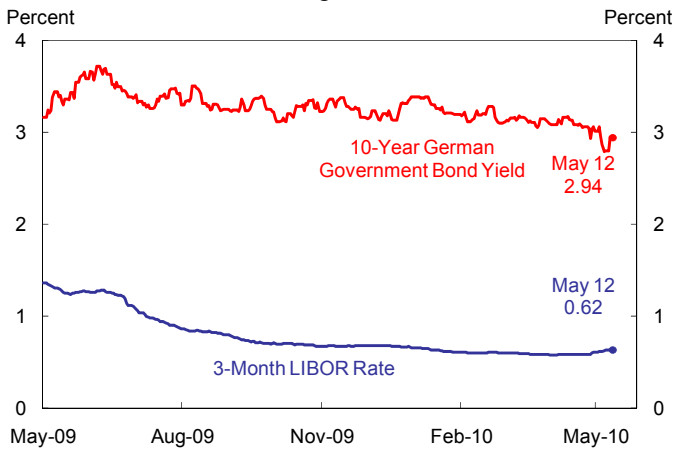
Industrial Production



Source: Haver

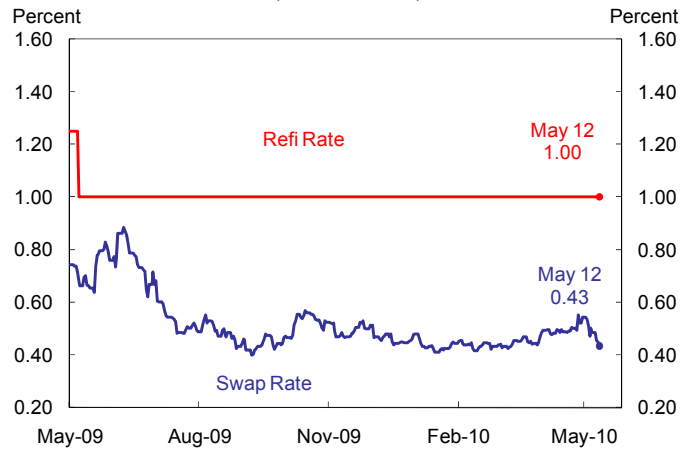
Global Interest Rates and Equity Markets

Euro Area Short- and Long-Term Interest Rates



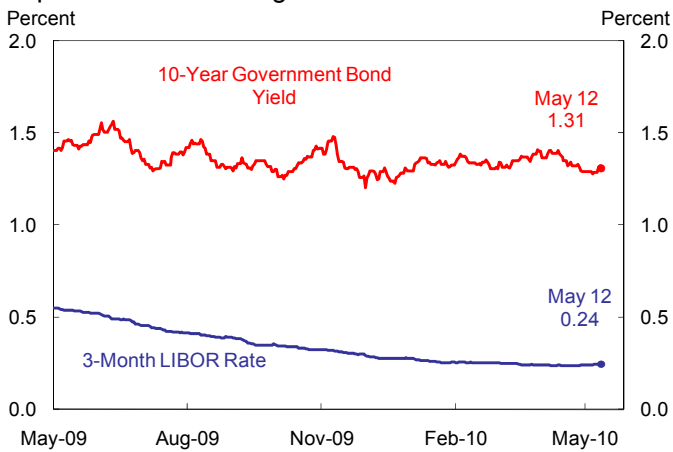
Source: Bloomberg

Euro Area: OIS Rate (Six Months)



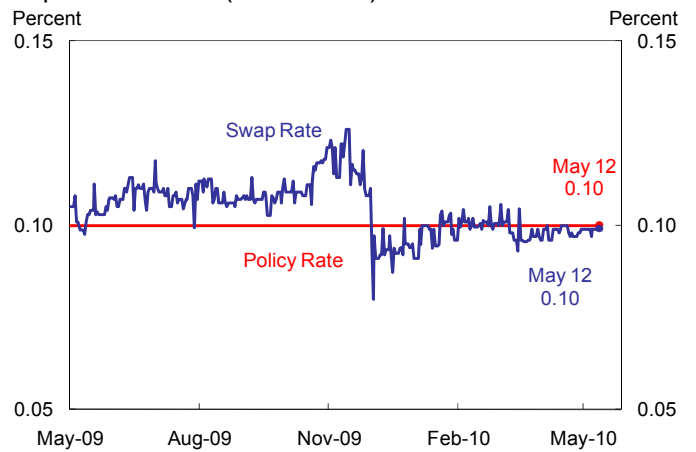
Source: Bloomberg

Japan Short- and Long-Term Interest Rates



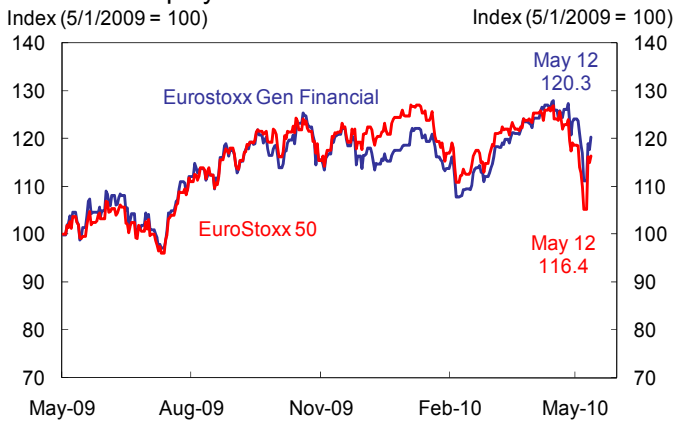
Source: Bloomberg

Japan: OIS Rate (Six Months)



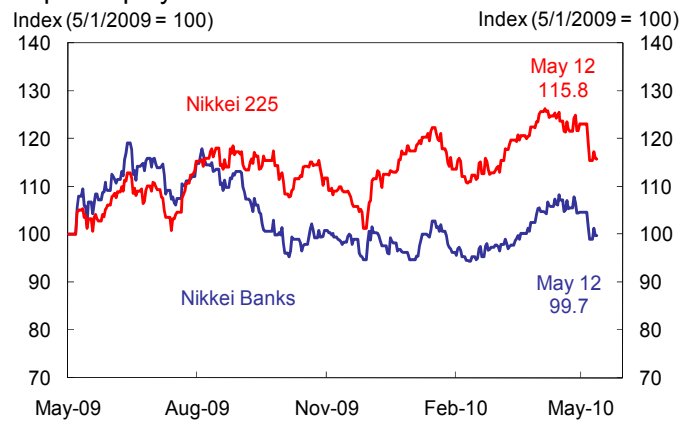
Source: Bloomberg

Euro Area Equity Price Indices



Source: Bloomberg

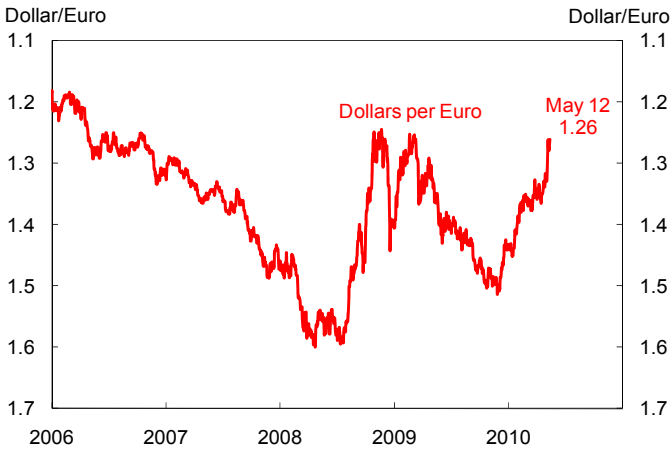
Japan Equity Price Indices



Source: Bloomberg

Exchange Rates

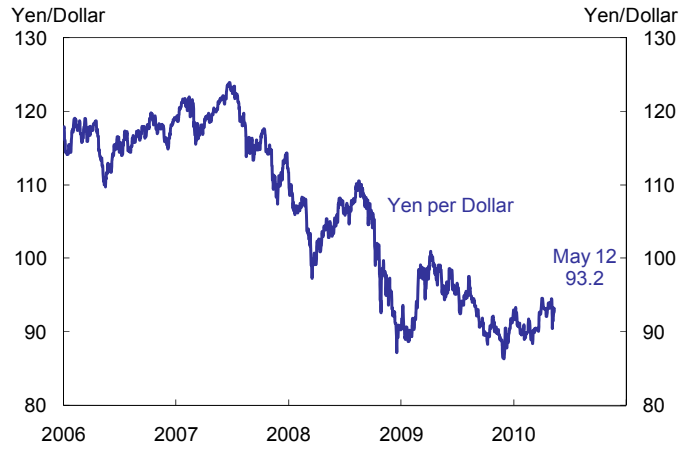
Dollar-Euro Exchange Rate



Source: Bloomberg

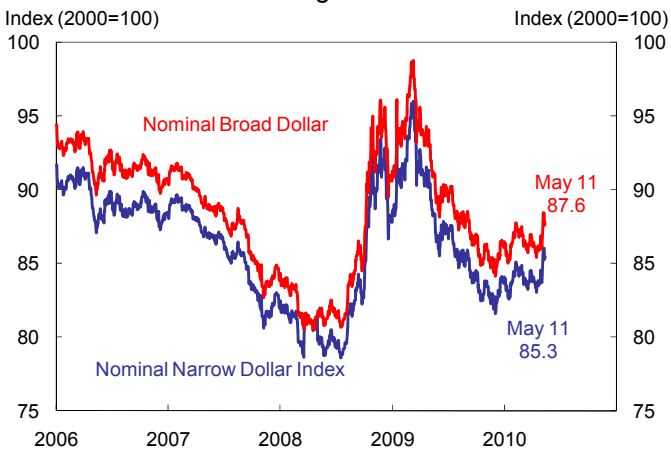
Note: Exchange rate scale is inverted.

Yen-Dollar Exchange Rate



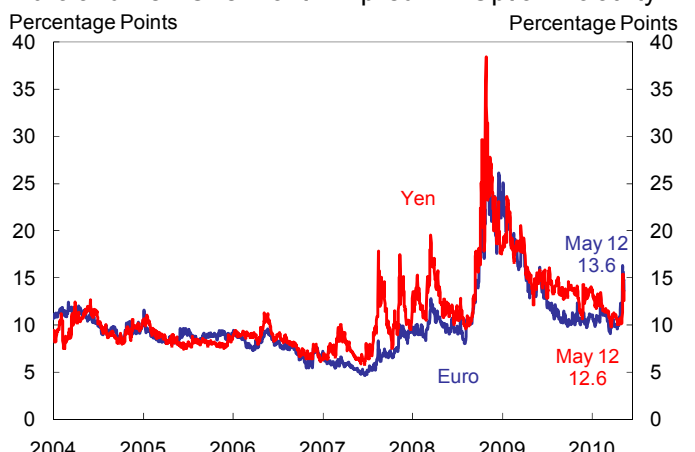
Source: Bloomberg

Nominal Effective Exchange Rates



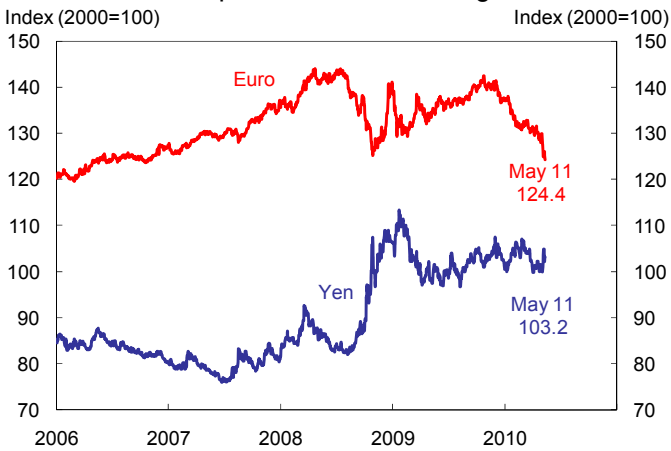
Source: Bloomberg and JPMorgan

Euro and Yen One-Month Implied FX Option Volatility



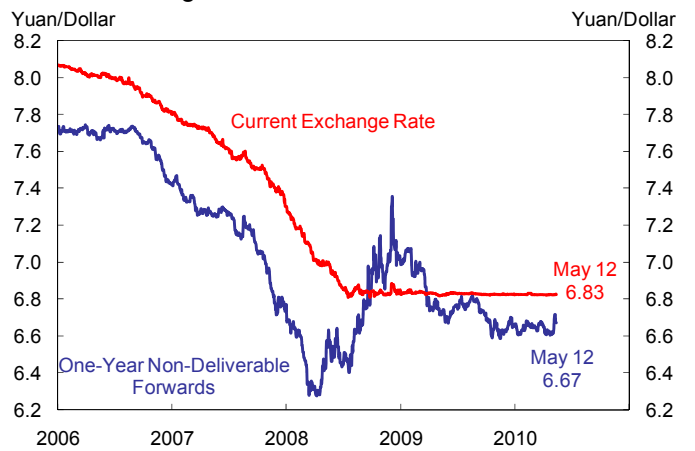
Source: Bloomberg

Euro Area and Japan Effective Exchange Rates



Source: Bloomberg and JPMorgan

China Exchange Rates



Source: Bloomberg

Some Measures of the Current Stance of Monetary Policy

Vasco Curdia, Marco Del Negro, Simon Potter, Argia Sbordone

We examine five alternative measures of the stance of monetary policy:

1. Prescriptions of contemporaneous feedback rules -- using 2010Q1 data -- with response coefficients to output and inflation gaps as in Taylor's original work.
2. Prescriptions of forecast-based rules -- using 2011Q1 projections -- with response coefficients to output and inflation gaps taken from Taylor's original work. The forecasts are set equal to either the FRBNY central scenario projection or the FRBNY forecast taking into account our risk assessment.
3. Prescription of two difference rules, where the change in interest rate is related to the inflation gap and to output growth above potential. In these rules no assumption is required about the level of the nominal neutral rate and the output gap. In the first rule inflation gap and output growth are contemporaneous values, in the second they are computed from FRBNY central scenario projections. Such rules prescribe changes in the fed funds rate, thus they do not directly address the zero bound issue.
4. Counterfactual simulations from i) a Bayesian vector autoregression with a prior generated by a small Dynamic Stochastic General Equilibrium (DSGE-VAR) and ii) a medium-scale DSGE model. The DSGE-VAR model is estimated using data from the last 25 years on GDP and core PCE deflator with the average target FFR in the 3rd month of the quarter as the policy rate. In addition to GDP and core PCE deflator, the DSGE is estimated using data on total hours and the labor share. The counterfactual is constructed by setting the shock to the policy rule to zero.
5. Optimal interest rate policy computed from a small DSGE model with credit frictions. In addition to GDP, GDP deflator and FFR rate, the model is estimated with data on commercial and industrial (C&I) loans rate spread relative to the FFR as a measure of credit spread, and a measure of bank lending (C&I and consumer loans). This model is estimated on data for the period from 1986Q3 to 2010Q1. Optimal interest rate policy is computed without imposing the zero lower bound on the nominal interest rate.

These measures are not intended to span the prescription of all policy type rules, optimal policy or robust control.

Specifically, none of the rules takes into account the large scale asset purchase program. There are a range of estimates of the effects of this program on long-term yields (some of these estimates are zero by assumption). Estimates based on the portfolio balance effect suggest a decrease in long-term Treasury yields of around 50-80bps. It is difficult to reliably translate these effects into the same metric as the standard feedback rules but some simple rule of thumbs can be used. For example, if one looks at evidence from vector autoregressive models on the effects of shocks to the fed funds rate, an equivalent decrease in long-term yields could be obtained by a 250-400 bps one-time surprise decrease in the fed funds rate. Alternatively, one can consider more sustained movements in the fed funds rate in which case the 10 year yield change could map into a 100-160 bps change in the short-rate.

In Taylor's original formulation the policy rate is moved by 1.5 times the size of the inflation gap and 0.5 times the size of the output gap. We assume a 2% objective for core PCE inflation. This leaves the value of intercept (often called the nominal neutral rate) to be determined. It is difficult to obtain precise estimates of this time varying value. In the past we have assessed the plausible range of values to be between 3.0 and 5.5%. Because of lingering effects of the financial crisis, the neutral rate is likely to be somewhat lower. Thus we focus on policy prescriptions obtained using a range of 3.0 to 4.5% for the neutral rate. A summary of the results is presented in the table at the end of this note.

Using the lower measure for the neutral rate, the contemporaneous feedback rule prescribes a policy rate about 380 bps below the neutral rate, mainly as a result of an output gap estimated to be larger than 5%. Using the forecast based rule with the FRBNY modal projections for 2010, the prescription falls marginally, to about 390 bps below the neutral rate. Taking into account the balance of risks around the FRBNY projection prescribes an additional 20 bps of easing.

The difference rule prescriptions pick up the improvement in economic conditions, and suggest an increase in the fed funds rate of around 10-40 bps.

The calculations above assume no inertia in the adjustment of the policy rate. The counterfactuals generated by the estimated vector autoregression and by the DSGE model capture instead some of the inertia observed in the policy rates over the last 25 years, as well as the average neutral rate over this period and estimated response coefficients to inflation and output gap. The counterfactual prediction for the FFR in 2010Q1 is at 50 bps according to the DSGE-VAR and 1% according to the DSGE model. According to the DSGE model the effect of past policy shocks on the FFR wanes in the coming quarters, and the FFR remains at very low levels (below 1%), as it responds to the forecasted low levels of inflation. More details on the DSGE model are provided in the FRBNY DSGE Newsletter.

Finally, the optimal interest rate is computed from an estimated small scale DSGE model with credit frictions, minimizing a model consistent loss function. Optimal policy prescribes an FFR of 90 bps in 2010Q1. Notice that because the calculation ignores the

zero lower bound for the FFR, it is likely that the optimal level for the FFR would be lower in the current quarter. Therefore we report a range for the optimal FFR between zero and 90 bps.

Policy Rule	Rate Prescription
Taylor rule, Contemporaneous Feedback	-0.8 to 0.7
Taylor rule, Forecast-Based	-0.9 to 0.6
Taylor rule, Forecast-Based with Risks	-1.1 to 0.4
Contemporaneous Difference Rule	0.1 increase
Forecast-Based Difference Rule	0.4 increase
Counterfactual with DSGE-VAR	0.5
Counterfactual with DSGE	0 to 1
Optimal rate in DSGE with credit frictions	0 to 0.9

Summary of Recent Support Measures for Europe

In the face of rapidly deteriorating financial conditions, not just in Europe, but more globally, the EC, ECB, and the Federal Reserve announced a set of significant stabilization measures at 3 am European time the morning of May 10. The announced support totals up to to €720 billion, not including the reopening of central bank foreign currency swap lines. Below is a summary of the key elements of the program.

European Commission

- Euro-area (EA) members finalized approval of Greek package
 - First tranche to be distributed before May 19.
- Ecofin members reaffirmed commitment to fiscal sustainability and growth.
 - Consolidation and structural reforms will be accelerated “where warranted.”
 - Spain and Portugal have agreed to present a revised fiscal plan to the ECOFIN council on May 18 with possible announcements earlier.
- European Financial Stabilization Mechanism (up to €60 billion)
 - Based on Article 122(2) of EU Treaty which “foresees financial support for Member States in difficulties caused by exceptional circumstances beyond Member States’ control.”
 - Mechanism will stay in place as long as needed to safeguard financial stability.
 - Lending will have strong conditionality and be in the context of a joint IMF/EU program with terms and conditions similar to the IMF’s.
 - €60 billion represents entire amount available to EC in existing budget (might be able to be increased in the next budget cycle.)
- Special Purpose Vehicle (up to €440 billion from EA members)
 - Guaranteed on a pro rata basis by participating (euro area) Member States in a coordinated manner.
 - Expires after three years.
 - Respects members’ national constitutional requirements.
 - Details sparse – being further designed today
- Potential IMF funding (EC hopefully announced of up to €220 - €250)
 - Amount chosen on ratio 2/3 EA - 1/3 IMF funding used in earlier agreements
 - Lent as part of standard IMF programs for member countries (e.g. Standby, High Access Precautionary Arrangements, Flexible Credit Line)
 - Strauss-Kahn “Our contribution will be on a country-by-country basis, through the whole range of instruments we already have at our disposal.”
- Strengthen the structure of the euro area
 - Enhance existing framework to ensure fiscal sustainability and establish a permanent crisis resolution framework
 - Based on the Commission Communication to be adopted on 12 May 2010.
 - Intensify reforms of financial market regulation and supervision, specifically,
 - Regulation of the derivative markets and the role of rating agencies.

- Implementing measures such as the stability fee, which aim at ensuring that the financial sector shall in future bear its share of burden in case of a crisis
- Exploring the possibility of a global transaction tax.

European Central Bank

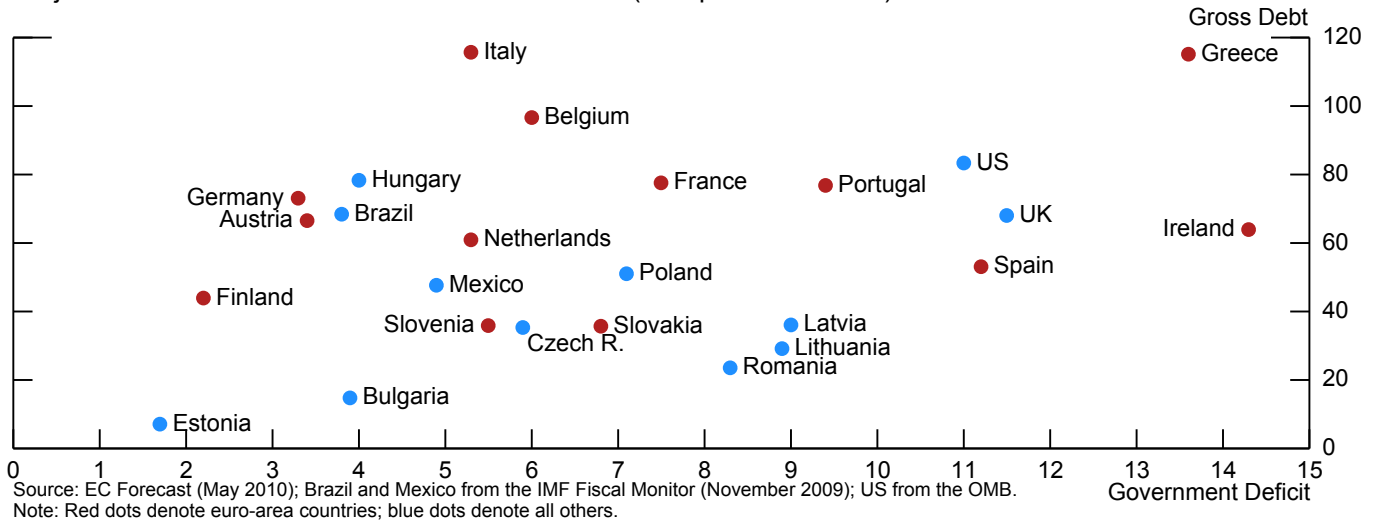
- Securities Market Program – intervention in securities markets to ensure depth and liquidity
 - The scope of the interventions will be determined by the Governing Council.
 - Intervention in public and private securities markets
 - Interventions will be sterilized
- Liquidity provision
 - Fixed-rate tender procedure
 - Full allotment in the regular 3-month longer-term refinancing operations (LTROs)
 - Scheduled for May 26 and June 30 2010.
 - Long-term refinancing operation
 - 6-month LTRO with full allotment
 - On May 12, 2010
 - The rate will be fixed at the average minimum bid rate of the main refinancing operations (MROs) over the life of this operation.
 - Dollar liquidity
 - Reactivate the temporary liquidity swap lines with the Federal Reserve
 - Resume US dollar liquidity-providing operations at terms of 7 and 84 days.
 - The operations will take the form of repurchase operations against ECB-eligible collateral and will be carried out as fixed rate tenders with full allotment.
 - The first 7-day operation will be carried out on May 11, 2010 and 84 day will be held on May 18.

Federal Reserve

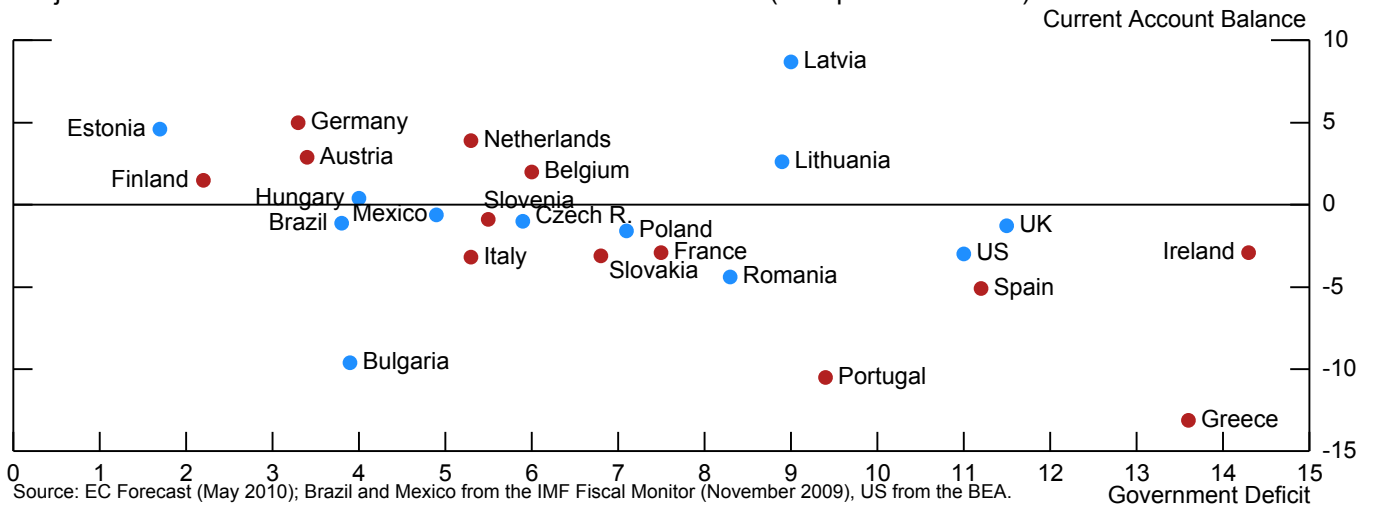
- Reopened temporary reciprocal currency arrangements
 - Participants are the Bank of Canada, Bank of England, ECB, and Swiss National Bank, and the Bank of Japan.
 - BOE, ECB, SNB, BOJ will conduct tenders of US dollars in local markets at fixed rates for full allotment (as in place previously)
 - BOC will be up to \$30 billion (as previously)
 - Arrangements authorized through January 2011

Exhibit 2

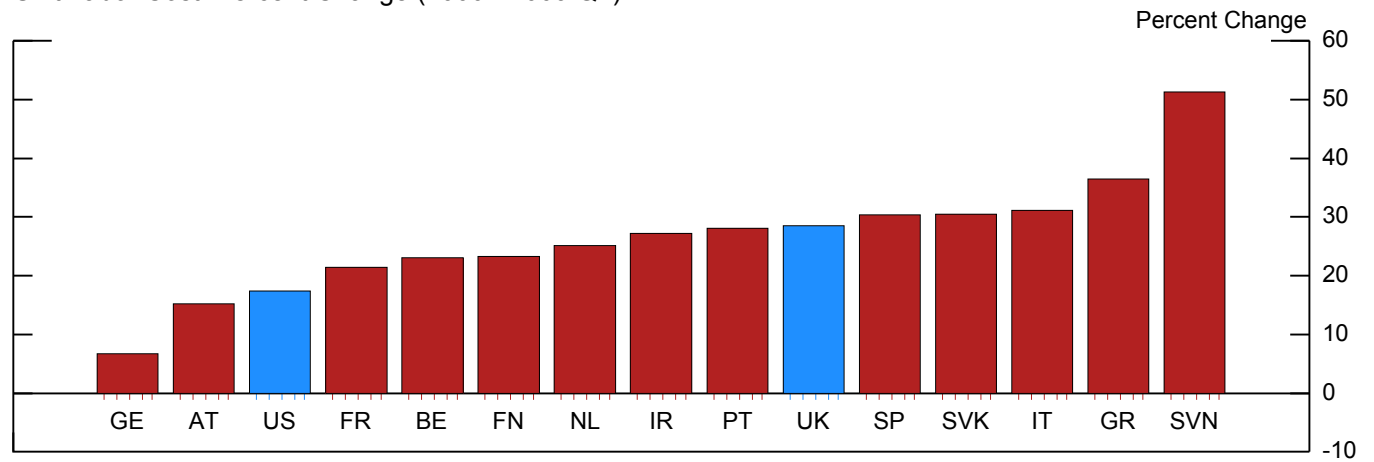
Projected 2009 General Government Debt & Deficit (as a percent of GDP)



Projected 2009 Current Account & General Government Deficit (as a percent of GDP)

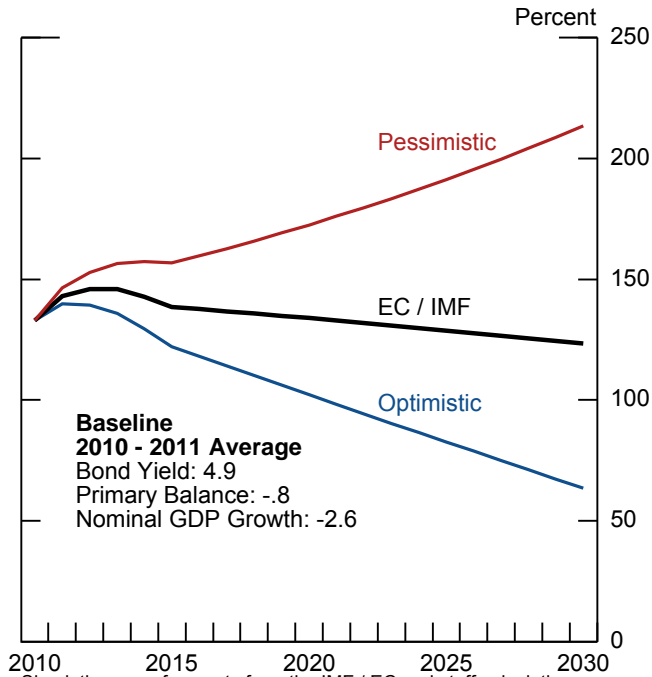


Unit Labor Cost: Percent Change (2000 - 2009:Q4)



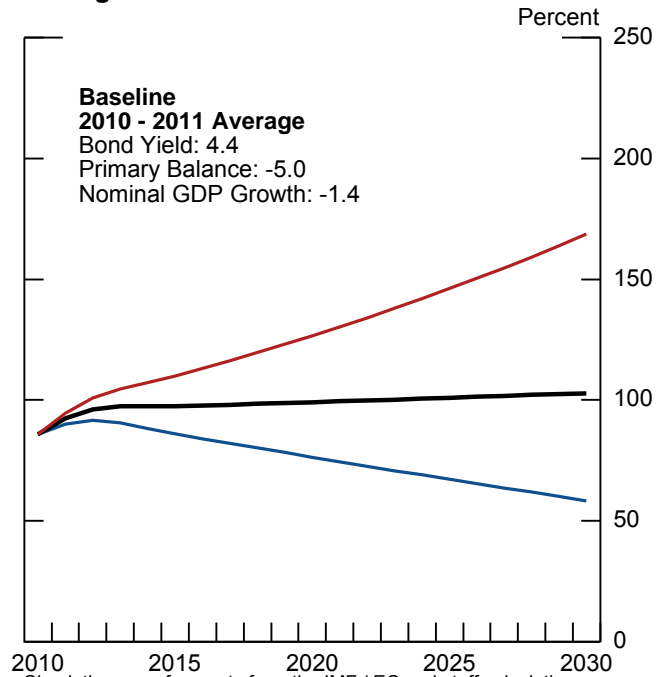
Debt Sustainability

Greece



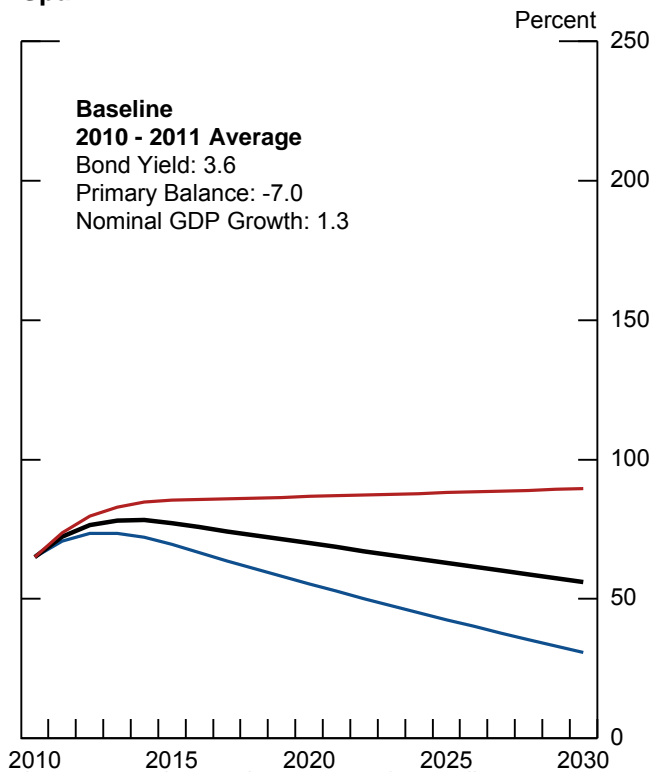
Simulations use forecasts from the IMF / EC and staff calculations;
 For the optimistic / pessimistic scenarios, the inputs are adjusted:
 Bond Yield +/- 1; Primary Balance +/- .5; Nominal Growth +/- 1.

Portugal



Simulations use forecasts from the IMF / EC and staff calculations;
 For the optimistic / pessimistic scenarios, the inputs are adjusted:
 Bond Yield +/- 1; Primary Balance +/- .5; Nominal Growth +/- 1.

Spain



Simulations use forecasts from the IMF / EC and staff calculations;
 For the optimistic / pessimistic scenarios, the inputs are adjusted:
 Bond Yield +/- 1; Primary Balance +/- .5; Nominal Growth +/- 1.

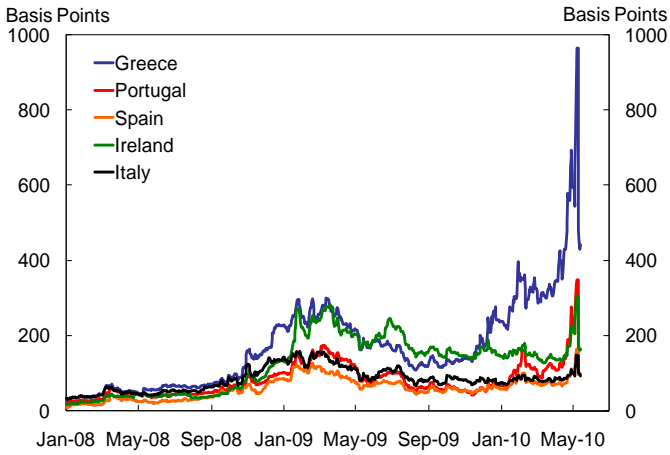
Upcoming Redemptions

	Billions of euros		
	Greece	Portugal	Spain
2010:Q2	20.5	6.9	29.6
2010:Q3	4.5	7.3	37.9
2010:Q4	2.2	2.6	16.8
2011:Q1	10.4	5.9	13.2
2011:Q2	8.8	9.6	20.3
2011:Q3	6.0	0.0	19.8
2011:Q4	5.8	0.0	16.1
Total			
2010:Q2 to 2011:Q4	58	32	154
% of GDP			
2010	13	13	15
2011	13	9	7
% of Revenue			
2010	35	34	35
2011	34	21	18

Source: Redemption data from Bloomberg, GDP and Revenue from EC forecast (May 2010).

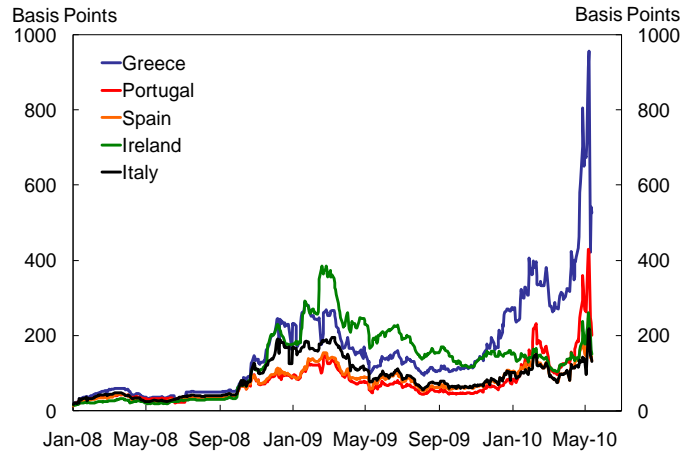
Exhibit 4

10-Year Sovereign Bonds Spreads*



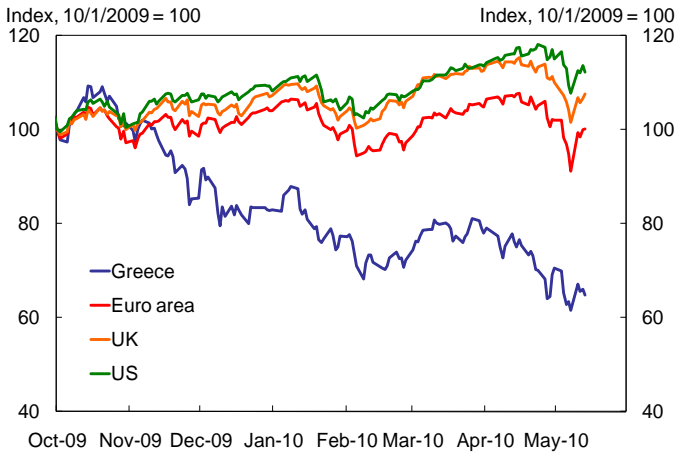
Source: Bloomberg

5-Year Sovereign CDS Premiums



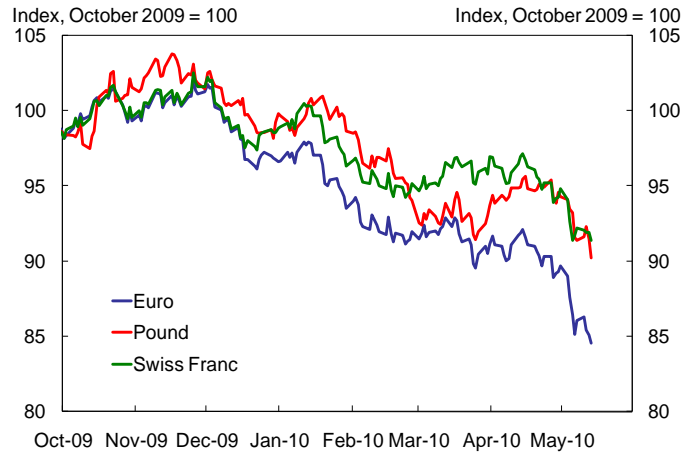
Source: Bloomberg

Stock Prices



Source: Bloomberg

Exchange Rates versus US Dollar



Source: Bloomberg

Sovereign Debt Ratings

	S&P		Fitch		Moody's	
	Rating	Outlook	Rating	Outlook	Rating	Outlook
Greece	BB+	Negative	BBB-	Negative	A3	Negative
Portugal	A-	Negative	AA-	Negative	Aa2	Negative
Spain	AA	Negative	AAA	Stable	Aaa	Stable
Ireland	AA	Negative	AA-	Stable	Aa1	Negative
Italy	A+	Stable	AA-	Stable	Aa2	Stable
France	AAA	Stable	AAA	Stable	Aaa	Stable
Germany	AAA	Stable	AAA	Stable	Aaa	Stable
UK	AAA	Negative	AAA	Stable	Aaa	Stable

Banking System Credit Exposure to Greece, Portugal, Spain, and Italy
(as of end-December 2009, in billions of U.S. dollars and percent of Tier 1 capital)

Banking Systems of:	Greece		Portugal		Spain		Total		Memo: Italy	
	<i>Percent of Tier 1</i>	<i>Percent of Tier 1</i>	<i>Percent of Tier 1</i>	<i>Percent of Tier 1</i>	<i>Percent of Tier 1</i>	<i>Percent of Tier 1</i>	<i>Percent of Tier 1</i>	<i>Percent of Tier 1</i>	<i>Percent of Tier 1</i>	<i>Percent of Tier 1</i>
France	108	36	52	17	248	83	409	137	596	199
Germany	45	13	47	14	238	71	330	98	190	56
Netherlands	13	8	15	10	126	81	155	99	79	50
Spain	2	1	110	38	--	--	112	39	59	20
Switzerland	8	7	6	5	32	31	45	44	40	39
United Kingdom	20	5	32	8	140	35	192	48	106	27
Western Europe	238	11	286	13	944	43	1,468	68	1,200	55
Memo:										
United States	46	5	38	4	181	19	264	27	271	28

Note: Credit exposure is total balance sheet and contingent credit exposures to residents of selected southern European countries of banks headquartered in countries that compile the BIS consolidated banking statistics. Specifically, credit exposure is cross-border claims, foreign-office claims on local residents, counterparty credit exposure from derivatives contracts, the notional value of credit derivatives sold on foreign reference entities, and undrawn credit commitments. Balance sheet exposures are adjusted for third-party guarantees and liquid collateral. For Germany and some other countries included in the Western Europe total, derivatives exposures, credit derivatives sold, and unused credit commitments are not included because the data are unavailable.

Bank capital is Tier 1 capital of domestic banks. Tier 1 capital is estimated for Spain from capital and reserves. For Germany, Tier 1 capital of all banks is used.

Source: BIS consolidated banking statistics.

FRBNY DSGE Newsletter

2010, May Issue

Highlights

- 2010Q1 data releases have modest impact on the forecasts.
- Robust near term growth is not inflationary as mainly driven by productivity.
- Lingering effects of financial shocks keep inflation below target throughout the forecasting period.
- The near-zero policy rate is almost entirely attributable to the response to financial shocks, as opposed to accommodative monetary policy.

Outlook

	Unconditional Forecast					
	2010 (Q4/Q4)		2011 (Q4/Q4)		2012 (Q4/Q4)	
	May	Mar	May	Mar	May	Mar
Core PCE Inflation	0.5	0.7	1.0	1.1	1.5	1.6
	(-0.7,1.4)	(-0.9,2.1)	(-1.1,2.6)	(-1.1,3.0)	(-0.9,3.5)	(-1.0,3.6)
Real GDP Growth	3.8	4.4	3.2	3.0	2.6	2.5
	(-0.2,7.0)	(-1.3,8.9)	(-3.1,8.6)	(-3.6,8.7)	(-3.7,8.8)	(-4.2,8.9)

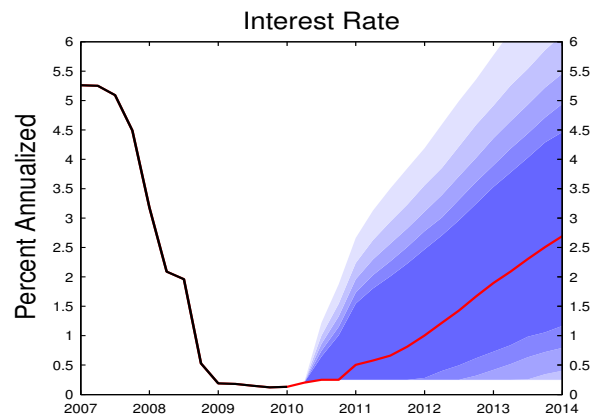
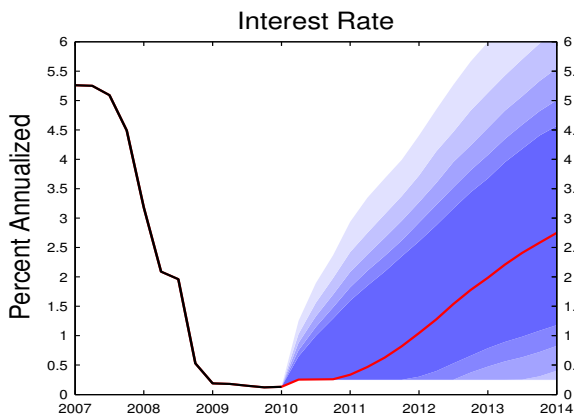
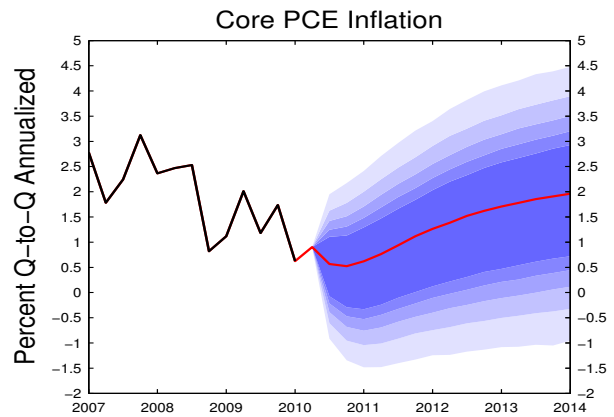
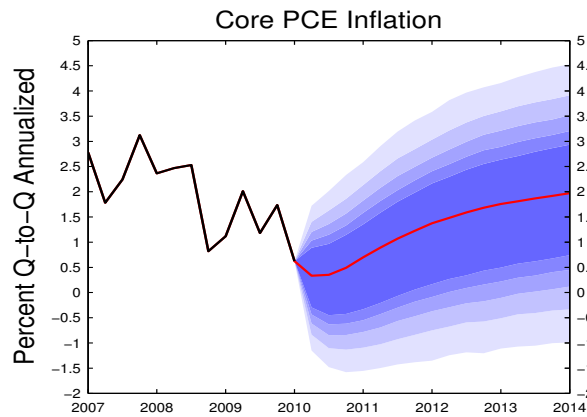
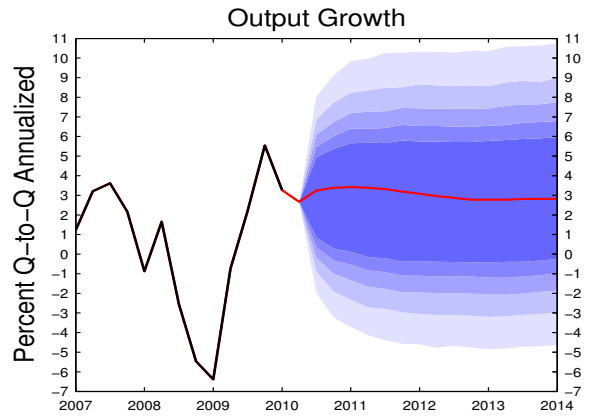
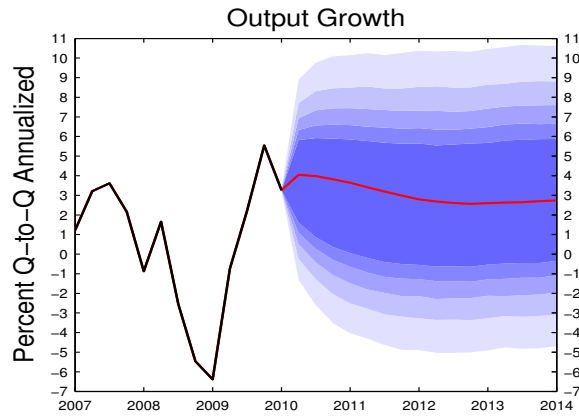
	Conditional Forecast*					
	2010 (Q4/Q4)		2011 (Q4/Q4)		2012 (Q4/Q4)	
	May	Mar	May	Mar	May	Mar
Core PCE Inflation	0.6	0.6	0.9	1.0	1.5	1.4
	(-0.1,1.3)	(-0.5,1.7)	(-1.0,2.5)	(-1.1,2.8)	(-0.8,3.4)	(-1.0,3.5)
Real GDP Growth	3.2	2.3	3.5	2.6	3.0	2.5
	(0.6,5.5)	(-1.9,5.6)	(-2.8,8.5)	(-4.2,7.9)	(-3.8,8.6)	(-4.1,8.8)

*The conditional forecasts treat the FRBNY modal forecast for output, inflation and hours for 2010Q2 as data. Numbers in parentheses indicate 90 percent probability intervals.

Forecasts

Unconditional

Conditional

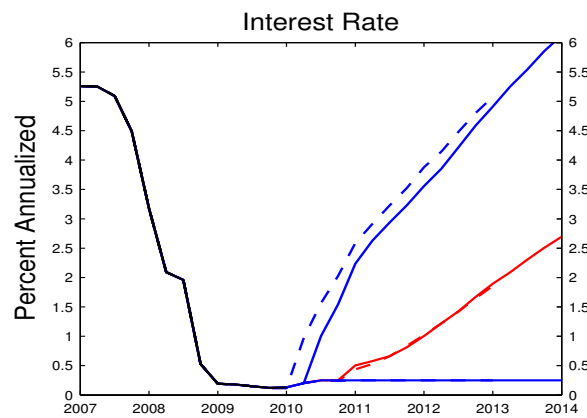
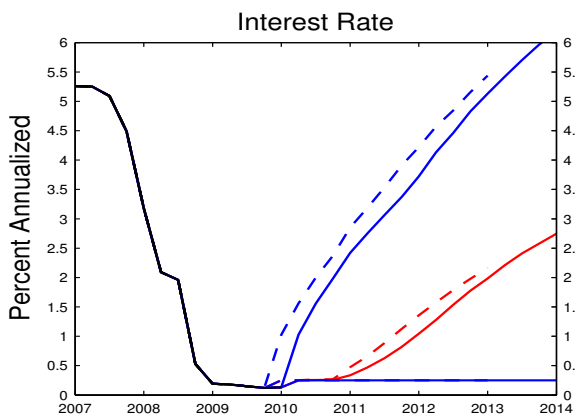
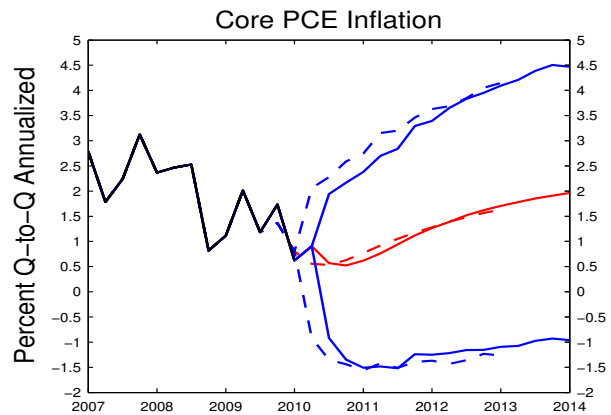
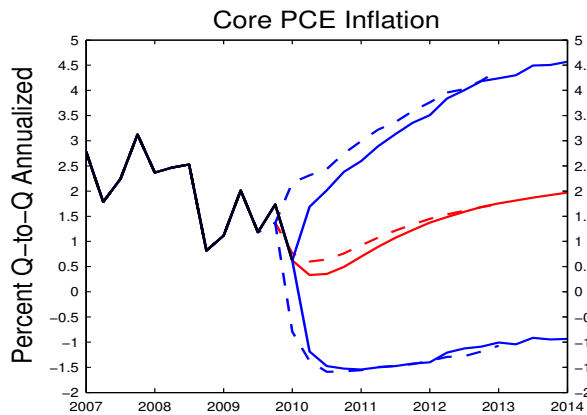
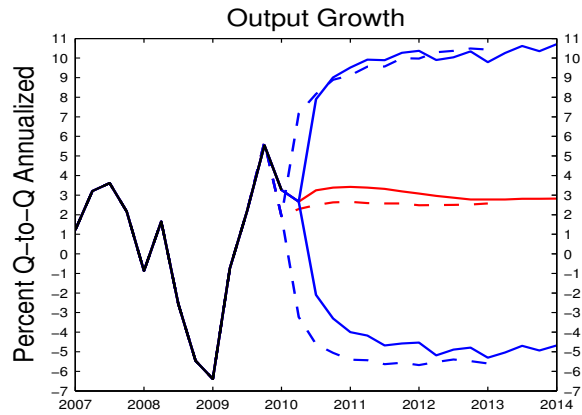
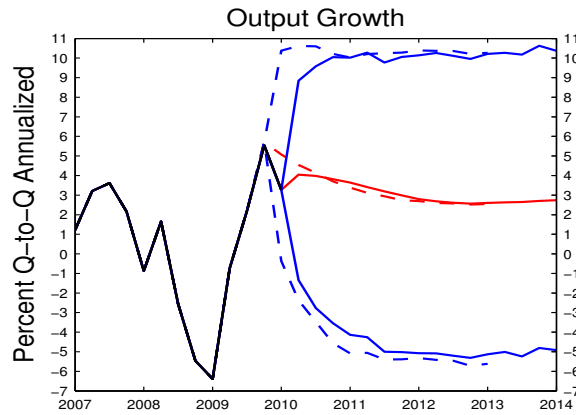


Black lines are data, red lines indicate the mean forecasts, and shaded areas mark the uncertainty associated with it as 50, 60, 70, 80 and 90 percent probability intervals.

Change in Forecasts

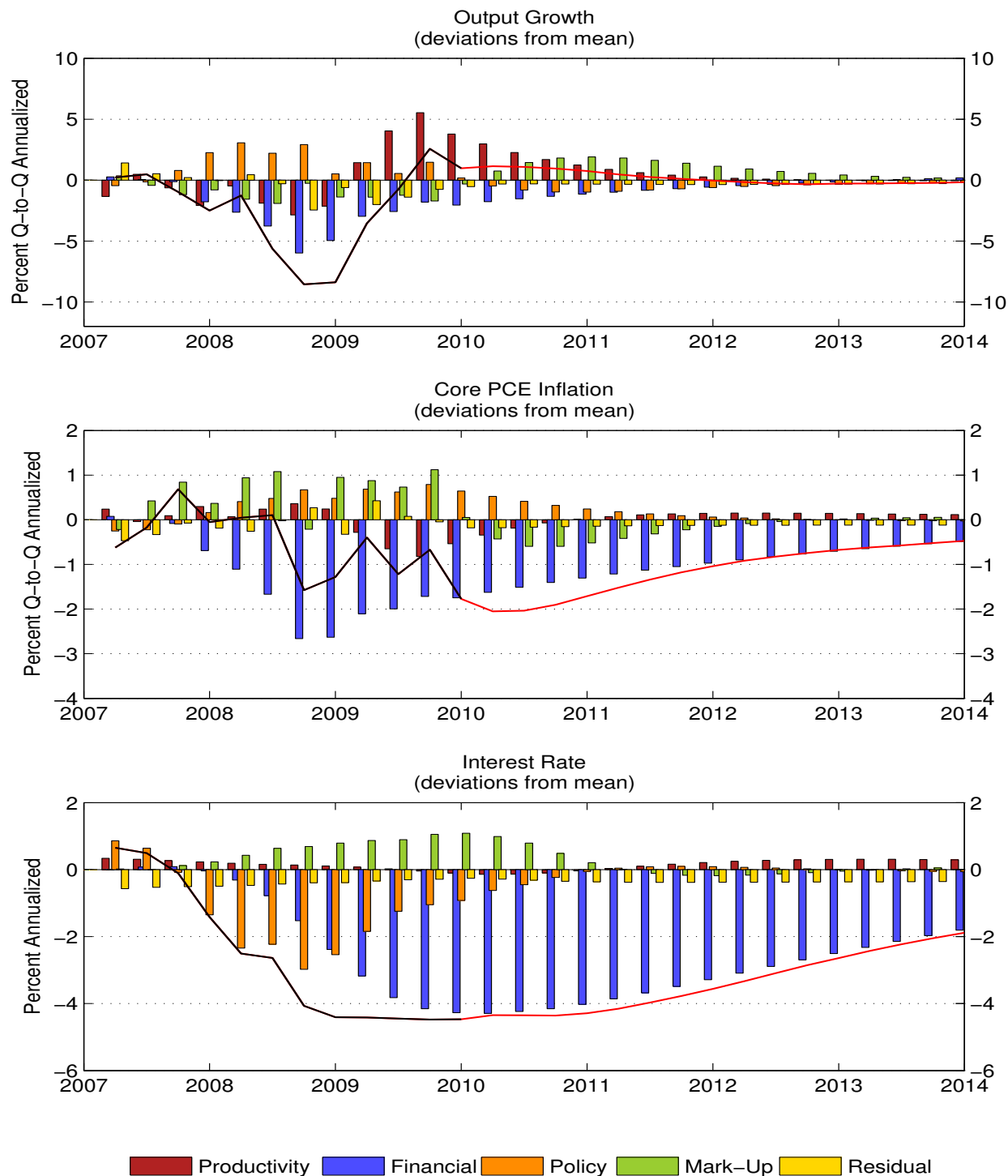
Unconditional

Conditional



Solid and dashed red lines represent the mean for current and previous quarter's forecast, respectively. Solid and dashed blue lines represent 90 percent probability intervals.

Shock Decomposition

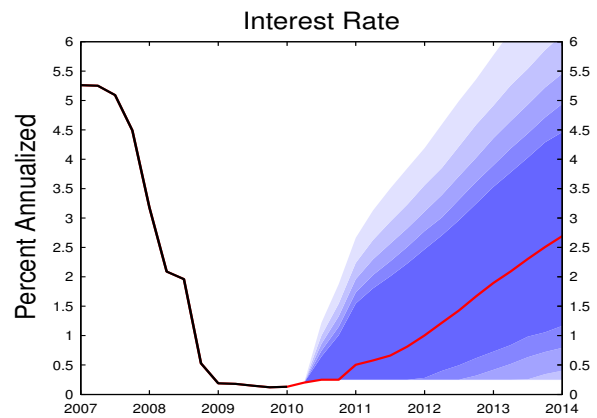
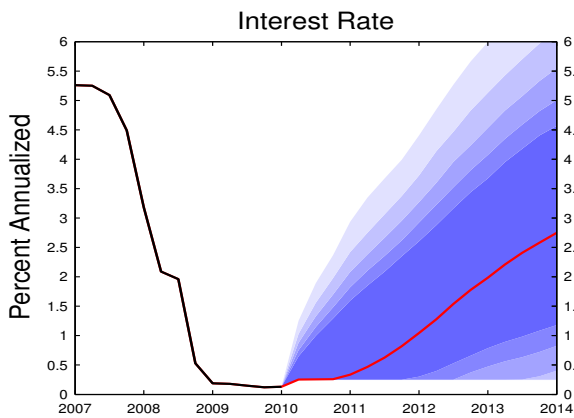
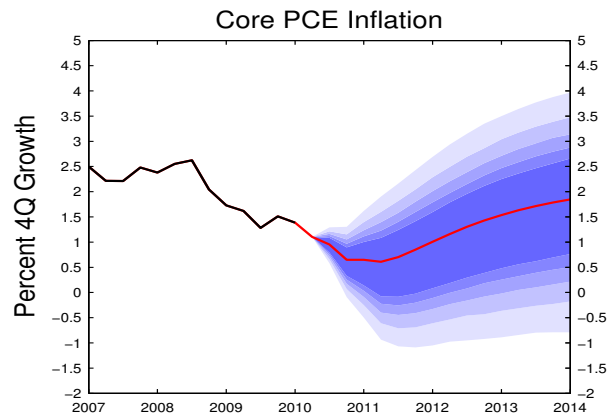
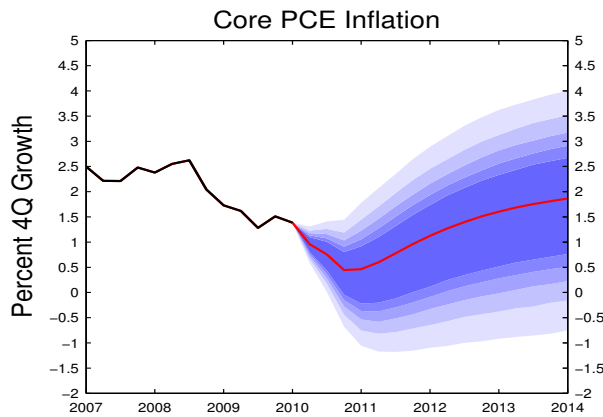
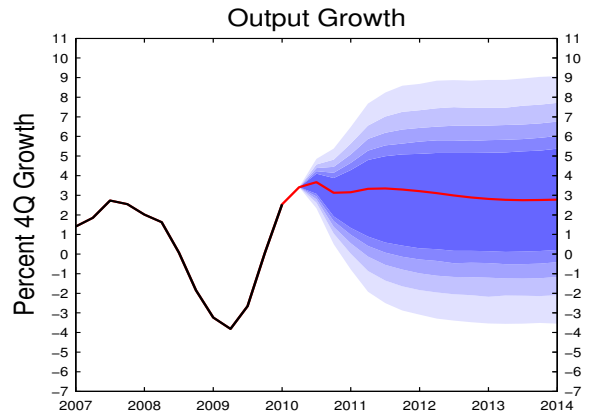
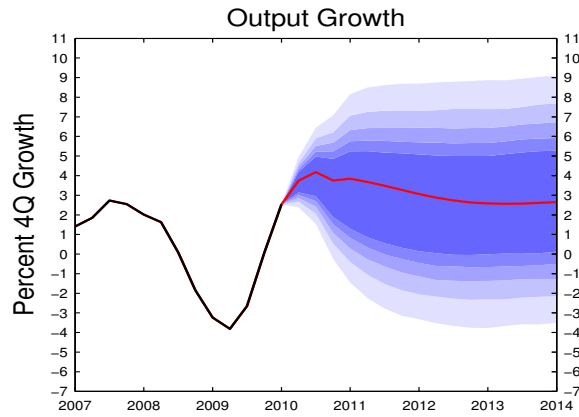


Solid lines (black for realized data, red for the mean forecast) show each variable in deviation from its steady state. The bars represent the shock contributions; specifically, the bars for each shock represent the counterfactual values for the observables (in deviations from the mean) obtained by setting all other shocks to zero.

Four-Quarter Forecasts

Unconditional

Conditional



Black lines are data, red lines indicate the mean forecasts, and shaded areas mark the uncertainty associated with it as 50, 60, 70, 80 and 90 percent probability intervals.

DSGE Model Forecast

This newsletter reports on forecast and policy analysis conducted with the DSGE model. The broad structure of the model is described in the Model Features section. A more extensive description is in the accompanying Documentation file.

Description

We present the model forecast for three main variables: real GDP growth, core PCE inflation and the federal fund rate. To generate the forecast the model also uses information on hours and the labor share (real unit labor costs). The forecasts cover twelve quarters ahead, and we constrain the interest rate to be near zero through the end of 2010. After that, the federal funds rate follows the model policy rule.

We include two sets of forecasts. The *unconditional* forecast starts from 2010Q1, the quarter for which we have the most recent GDP release. In the *conditional* forecast we also include the 2010Q2 FRBNY modal forecast for GDP growth, PCE inflation, and hours as an additional data point (the modal forecasts for 2010Q2 are 2.7% for output growth, 0.9% for core PCE inflation, and 0.7% for hours growth). Treating these modal forecasts as data allows us to inform the DSGE forecast by incorporating current information not captured in our observables (e.g., information about the current quarter).

On the cover page we present Q4/Q4 forecasts for real GDP growth and inflation for 2010 through 2012, with the 90 percent probability intervals. On the following page we include quarterly unconditional (left column) and conditional (right column) forecasts. In these ‘Forecasts’ graphs the black line is data, the red line indicates the mean forecast and the shaded areas mark the uncertainty associated with it as 50, 60, 70, 80 and 90 percent probability intervals. Output growth and inflation are expressed in terms of percent annualized rates, quarter to quarter. The interest rate is the annualized quarterly average. The bands reflect both parameter uncertainty and shock uncertainty. The ‘Change in Forecasts’ graphs compare the mean and the 90% bands for the current set of forecasts (solid lines) with the same quantities in the March issue of the Newsletter (dashed lines), which were obtained with data up to 2009Q4.

The DSGE model forecasts are driven by a number of exogenous shocks. To visualize the importance of these shocks for the evolution of the variables, the figure ‘Shock Decomposi-

tion' decomposes the history of the variables as well as their forecasts into the contribution of four major shocks (*financial, productivity, policy, and mark-ups*) and a *residual* which aggregates the remaining shocks. The interpretation of these shocks is described in the 'Model Features' section. The solid line (black for realized data, red for the mean forecast) shows each variable in deviation from its steady state. The bars represent the shock contributions. Specifically, the bars for each shock represent the counterfactual values for the observables (in deviations from the mean) obtained by setting all other shocks to zero. For each observation, the bars sum up to the solid line.

Finally, the 'Four-Quarter Forecasts' plot shows the implied four-quarter forecast for the variables of interest.

Commentary

We begin the commentary with the description of the unconditional point forecasts. Output growth is forecast to stay between 3 and 4% in 2010, and to hover between 2.5 and 3% thereafter. In March, the model was forecasting stronger growth for 2010Q1 than the advance report. The impact of the forecast error on the forecast distribution is however relatively modest, and essentially affects the projections only for the current year (see the 'Change in Forecasts' chart). Projected output growth for 2010(Q4/Q4) is slightly lower – the mean forecast is down from 4.4% to 3.8%, but the forecasts for the other years are essentially unchanged. From the 'Shock Decomposition' chart we can see that productivity shocks continue to play a major role in supporting robust GDP growth in 2010. Partly because it is driven by strong productivity growth, output growth does not translate into a forecast of high inflation, as we will see next. The lingering effect of financial shocks has instead a negative impact on growth.

The March Core PCE inflation forecast for 2010Q1 was approximately on target with respect to the realized number. As a consequence, inflation forecast is little changed from the previous period. Inflation is forecast to decline to a trough of around 0.5% in mid-2010, before recovering to almost 2% by the end of the forecast horizon. Financial shocks continue to be mostly responsible for keeping inflation low.

The interest rate starts increasing once the constraint to keep it at zero is removed. The increase is gradual, however, and the federal funds rate is forecast to reach 2% by the end of 2012. Note that, according to the model, the low policy rate is entirely attributable to the

response to financial shocks, as opposed to accommodative monetary policy.

Uncertainty around the forecasts is large, especially for the quarter-to-quarter output forecasts. The 25th percentile of the output growth forecast distribution is roughly zero through the forecast horizon, while the 75th percentile is about 6%. Uncertainty about inflation is smaller: In the short run the 50% bands range from -0.5% to 1%, and from 1% to 3% by the end of the forecast horizon. The likelihood of having negative readings of core PCE inflation in the short run is about 25%. In terms of the interest rate forecast, there is only 20% probability that the federal funds rate is going to be higher than 3% by the end of 2012.

The ‘Shock Decomposition’ chart also offers an interpretation of the role of the shocks in the current recession. It is evident that financial shocks played a predominant role in the recession for all three variables. It is interesting to note that the model identifies these shocks as the main drivers of the recession despite the fact that we do not have any measure of financial distress among the observables. Output was also affected by low productivity growth at the onset of the recession, which contributed to pushing up inflation. The model suggests that positive mark-up shocks, which capture relatively high frequency movements in inflation, kept inflation higher than otherwise in 2008-2009.

Turning to the conditional forecast (reported in the graphs on the right hand column, where the additional data point for 2010Q2 is represented as an extension of the solid line, in red color), we observe that the inclusion of the FRBNY modal forecast changes the shape of the GDP and inflation forecasts in the very short run. In particular, the FRBNY modal forecast for inflation in 2010Q2 is a bit higher than the DSGE model mean forecast, which implies that the short-run slump in inflation is less pronounced. The path of the interest rate does not appear much affected by the inclusion of the modal forecast for 2010Q2.

Model Features

The FRBNY DSGE model is a medium scale, one-sector dynamic stochastic general equilibrium model. It builds on the neo-classical growth model by adding nominal wage and price rigidities, variable capital utilization, costs of adjusting investment and habit formation in consumption.

The economic units in the model are households, firms and the government. Households consume a final good, accumulate capital and supply labor services. Monopolistically competitive firms produce intermediate goods, which a competitive firm aggregates into the single final consumption good. The government sector is composed of a monetary authority that sets short-term interest rates according to a Taylor-type rule and a fiscal authority that sets public spending.

Economic fluctuations are generated by a number of exogenous processes, which have different degrees of persistence and are affected by random disturbances. *Financial shocks* are disturbances to the process affecting the rate of transformation of general output into capital goods. We interpret these shocks as resulting from disruptions in credit markets that affect the efficiency with which savings can be transformed into investment (these shocks are commonly known as disturbances to the marginal efficiency of investment). *Productivity shocks* shift the growth rate of productivity (the model has a stochastic trend driven by productivity). *Policy shocks* capture deviations of the interest rate from a feedback Taylor-type rule. *Mark-up shocks* capture exogenous variations to the desired price markup. The so-called *Residual shocks* consist of demand shocks, which have mostly a high frequency impact on output and inflation, and shocks to the preference for leisure, which mostly affect hours. Except for the monetary policy shocks, which are i.i.d., all other exogenous processes are modeled as AR(1) processes and exhibit varying degrees of persistence.

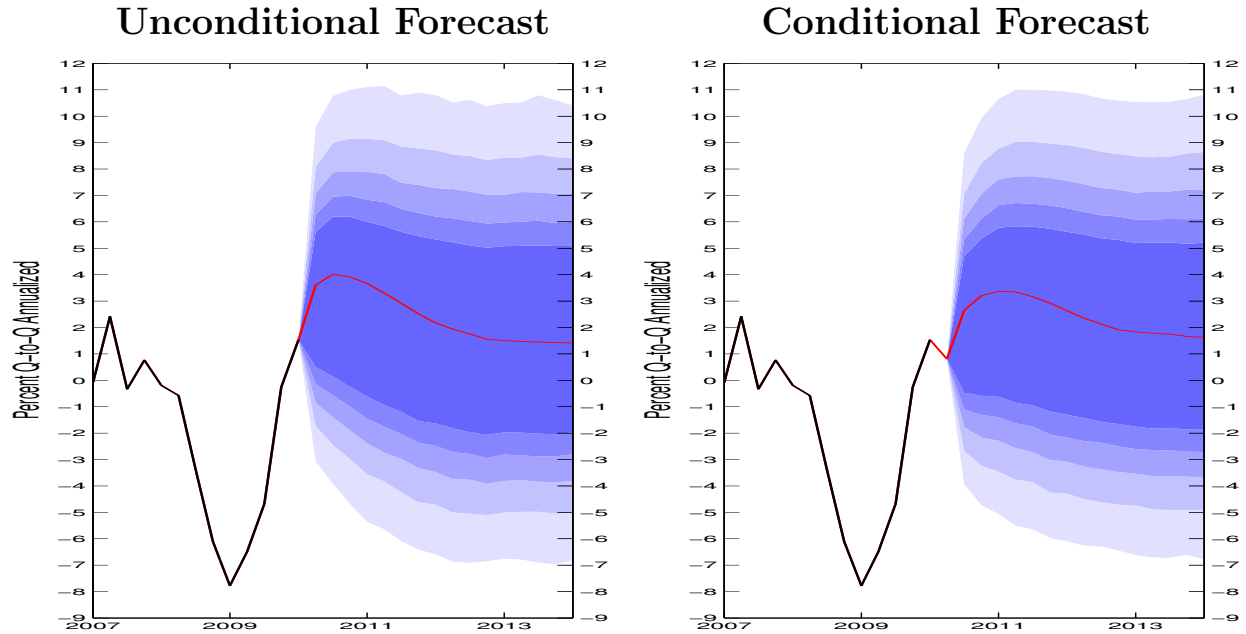
In order to impose the near-zero path on the nominal interest rate we use the approach proposed by Laseen and Svensson (2009). This approach involves adding anticipated monetary policy shocks to the Central Bank's reaction function so that the expectations for the policy rate are equal to the target (here, 25bp) for the desired period.

The data used in the estimation are quarterly data on real GDP growth, core PCE inflation, the labor share, aggregate hours and the effective federal funds rate. Essentially all model parameters are estimated from 1984Q1 to the present with Bayesian methods. A formal exposition of the model is in the accompanying 'FRBNY DSGE Model Documentation'

note, which also gives more details on data sources and results of the estimation procedure (e.g., parameters estimates, impulse responses, and variance decomposition).

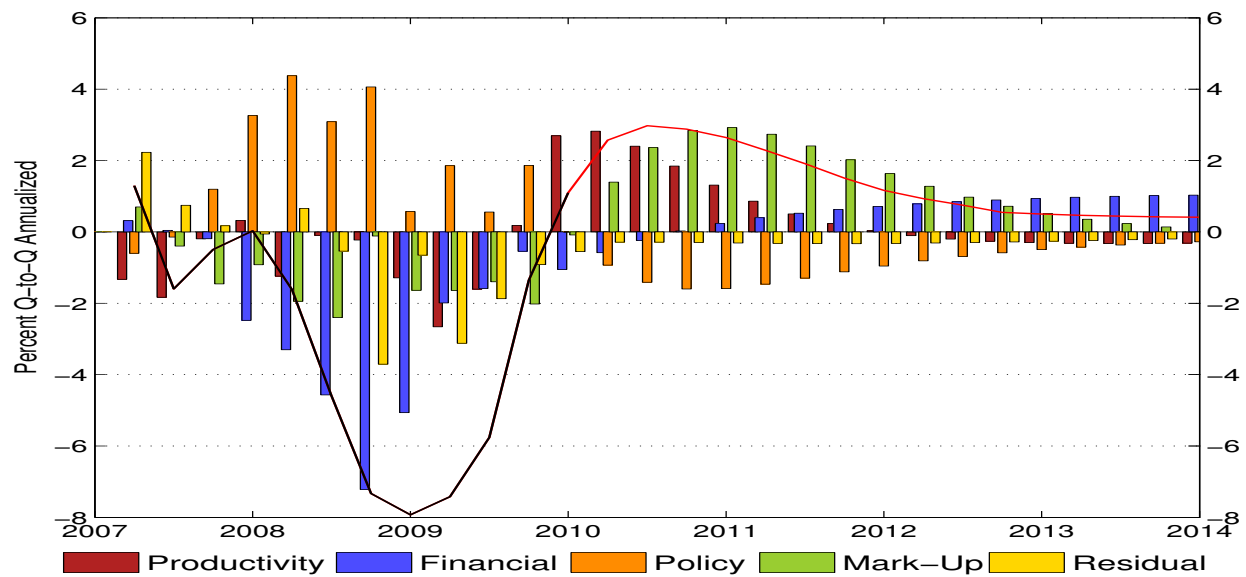
The results we report in this newsletter are obtained from a version of the model where there is no indexation of prices and wages. To assess robustness of our conclusions, we have also experimented with a much wider class of models, which include indexation, additional shocks such as inter-temporal preference shocks, and a time-varying inflation target. The results from those models are largely consistent with those presented here.

Aggregate Hours Growth



Black lines are data, red lines indicate the mean forecast, and shaded areas mark the uncertainty associated with it as 50, 60, 70, 80 and 90 percent probability intervals.

Shock Decomposition



The solid line (black for realized data, red for the mean forecast) shows hours growth in deviation from its steady state. The bars represent the shock contributions; specifically, the bars for each shock represent the counterfactual values for hours (in deviations from the mean) obtained by setting all other shocks to zero.