FRBNY BLACKBOOK UPDATE

RESEARCH AND STATISTICS GROUP

FOMC Background Material April 2013

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FRBNY BLACKBOOK UPDATE April 2013

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1. Policy Recommendation and Rationale

The economic and financial market developments since the March Blackbook have led to no change in our policy recommendation. We recommend maintaining the state-contingent forward guidance regarding the federal funds rate and continuing the asset purchases at the current pace until the outlook for the labor market has improved substantially, which we expect to happen around the end of 2013.

Overall, the recent domestic and foreign data releases have been soft, suggesting somewhat greater downside risks to the real economic outlook. Although the housing market seems to have maintained its positive momentum, several other releases have been less encouraging. The growth of payroll employment in March was significantly below that of the previous few months, while the small decline in unemployment was once again due to a reduction in participation. Data on orders and shipments were also disappointing, signaling some softness in equipment spending, and declines in retail sales and consumer confidence suggest that the recent fiscal tightening might be starting to have an impact on household expenditures. At the same time, inflation remains subdued and is expected to remain well below the FOMC's longer-run objective for the rest of the year.

In our view, these developments are clearly inconsistent with a slower pace of asset purchases in the second half of the year, if this slowing were to lead to a material reduction in the program's ultimate size. And a slowdown in the pace of purchases, meant to leave the ultimate size of the program unchanged, even if otherwise desirable, could be difficult to communicate. As a consequence, slowing the purchases without convincing evidence of a substantial improvement in the labor market outlook may endanger the credibility of the ongoing commitment to a highly accommodative policy stance, and in particular, of the forward guidance on interest rates. Such a loss of credibility could result in an unintended tightening of financial conditions, which might be difficult to counteract in the absence of effective signaling devices on the future course of policy at the zero lower bound.

Even without a substantial improvement in the outlook over the coming months, however, the Committee may judge it appropriate to scale back the asset purchase program if its

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costs climb higher than the current assessment suggests. In such a contingency, the Committee should be prepared to deploy alternative strategies to maintain the overall stance of policy unchanged.

One option would be to reinforce the forward guidance on the interest rate by announcing a lower threshold for the unemployment rate, for instance. However, we believe that a more effective option would be to change the framework for forward rate guidance to an explicit commitment to nominal GDP targeting, a policy we have illustrated and argued for in the past. In particular, a threshold expressed in terms of the gap that has accumulated over the past few years between nominal GDP and its desired path could represent a unified criterion for determining the lift-off date, while providing some consistency with the current approach to communication. Moreover, focusing on this criterion would ensure greater continuity between the lift-off phase and the subsequent period of re-normalization of the interest rate. In fact, making the pace of this normalization contingent on the evolution of the nominal GDP gap would result in a highly accommodative stance of policy—over and above that implied by historical policy—for a considerable time after the economic recovery strengthens, as indicated in the current FOMC statement. For example, the FOMC could indicate that it will keep the target range for the federal funds rate between 0 and ¹/₄ percent until the nominal GDP gap, which has emerged since the last time unemployment was 6.5% (October 2008), has been closed or is forecasted to close within a certain horizon. Another tool, which we have also discussed previously, is to reduce the interest rate on reserves, perhaps to near the current level of the effective federal funds rate.

Finally, policymakers should revisit the "exit strategy principles" formulated in June 2011 because the Fed's balance sheet is now much larger and has a different composition than at that time, and it will likely retain these features at the time of renormalization. In addition, the June 2011 guidelines do not reflect the current outcome-based policy framework. In the context of this review, it would be useful to assess the costs and benefits of a more active management of the balance sheet during the normalization process and to evaluate the interaction between balance sheet and interest rate policy. In that respect, and with the purpose of gaining flexibility in the coordinated management of its policy instruments, we

recommend that the FOMC evaluates tools that would assure more control of the federal funds rate in an environment with a large amount of reserves. A further advantage of greater control of the interest rate is that it would disentangle the size of the balance sheet from considerations regarding the ability to tighten policy at the appropriate time, as well as reduce the probability of having to sell assets and realize capital losses. Confidence in these tools would therefore mitigate some of the costs of further balance sheet expansion and make it less likely that cost, rather than macroeconomic considerations, might be the driver of a change in the pace of asset purchases in the near future.

2. Outlook and Risks Update

2.1 Central Forecast

Intermeeting developments.

Based on the advance estimate, real GDP grew at a 2.5% annual rate in the first quarter of 2013, below the consensus expectation of a 3% increase. Several indicators suggested that the US economy was losing forward momentum in March, consistent with our expectation that growth will slow to around 2% in the second quarter. Projected growth for the first half of 2013 is likely to be around 2 1/4% (annual rate), about what we were expecting in the March forecast.

Summarizing the key developments of the first quarter, real personal consumption expenditures rose at a 3.2% annual rate—up from the 1.7% annual rate pace of the second half of 2012—despite the increase in taxes that occurred at the beginning of the year. As a result, the personal saving rate fell to 2.6% in the first quarter from an average of around 4% in 2012. The firming in consumer spending was more broad-based in the first quarter, but as was the case last year growth was led by spending on durable goods. Sales of lightweight motor vehicles averaged 15.3 million units (annual rate) versus 15.1 million in 2012Q4. Growth of spending on services moved up to 3.1% (annual rate) in the first quarter, the strongest quarterly increase of this component since the second quarter of 2005. This was due in part, though not entirely, to unusually cold weather, which boosted consumer spending on utilities. We suspect that the pulling forward of income into 2012 in anticipation of higher tax rates combined with increases in household net worth stemming from the combination of rising equity and home prices initially overwhelmed the effect of the increase in taxes. And while we do not have regional data on vehicle sales, it could also be the case that some of the increase in the first quarter was a continuation of replacement purchases due to losses from Hurricane Sandy.

Residential investment increased at a 12.6% annual rate in the first quarter, not quite as strong as in 2012Q4, but the third consecutive double digit quarterly increase. Total housing starts have increased at a brisk pace over the past six months, resulting in a large increase in the number of units under construction. However, there was a decline in spending on additions and alterations of the existing stock of housing during the first quarter. Business fixed investment rose a relatively modest 2.1%, with a mediocre 3% (annual rate) increase of spending on equipment and software offset by a modest decline in spending on nonresidential structures. Government spending contracted more than expected in the first quarter, with another sharp decline in defense outlays. Finally, net exports exerted a 0.5 percentage point drag on growth after providing a moderate boost in the previous quarter. Both exports and imports grew in the first quarter after declining in the fourth quarter, with the increase in imports considerably stronger than expected. Overall, real final sales grew at a 1.5% annual rate in the first quarter, below the 2.1% pace for all of 2012. Private inventory investment was quite robust in the first quarter, contributing 1.0 percentage points to growth after having subtracted 1.5 percentage points from the 2012Q4 growth rate.

As mentioned above, data received over the intermeeting period has generally been weaker than expected, consistent with a slowing of forward momentum going into the second quarter. The March employment report was a negative surprise, with nonfarm payroll employment rising by just 88,000 and the 1 month diffusion index of industries with employment increases falling to 54.3. In the fourth quarter of 2012, the average monthly gain in payroll employment was 209,000 and that diffusion index averaged 64.6. The only saving grace was that hours worked continued to rise at a relatively robust pace and were likely up between 3% and 3 ½% (annual rate) for the first quarter as a whole. The ISM

manufacturing index fell to 51.3 in March from 54.2 in February with steep declines in the new orders and production subcomponents. The ISM nonmanufacturing index also slipped a bit in March, reflecting lower readings for new orders and employment. Then the March retail sales data were released, which depicted a pronounced softening of this component of consumer spending and suggested that the tax hikes of January were beginning to have their predicted effect. Finally, the advance durable goods report for March was yet another negative surprise, with weakness in new orders for a broad array of categories on top of downward revisions to the new orders data for February. New orders for nondefense capital goods excluding aircraft were 5.5% above shipments in January, but by March they were about 1% below.

Economic indicators for much of the rest of the globe tended to reinforce the data being reported for the US. First quarter growth in China came in somewhat below expectations, and recent readings on the Euro Area suggest that the recession there will continue for longer than previously thought. These developments likely contributed to the decline of commodity prices over the intermeeting period, particularly prices for oil and industrial metals.

The twelve month change of the total CPI moved down to 1.5% in March, reflecting declining energy prices and a slowing of the rate of increase of food prices. This twelve month change had been 1.9% in 2012Q4. Further slowing is anticipated in the second quarter due to the relatively steep decline in gasoline prices that has occurred in April. In contrast, the year-over-year rate of increase of the core CPI has been relatively stable in recent months at around 1.9%. Some slowing of the rate of core inflation is anticipated in the months ahead as the rate of increase of core services has leveled off around 2.5% while core goods prices have begun to fall in recent months. The latter appears to be due in part to the fact that the rate of increase of nonpetroleum import prices has slowed to essentially zero in recent months.

The four-quarter change of the PCE deflator has also slowed, to 1.2% in 2013Q1 from 1.6% in 2012Q4. The four-quarter change of the core PCE deflator slowed more than did the core CPI, to 1.3% in 2013Q1 versus 1.5% in 2012Q4. This is due in part to the fact that the rate of increase of prices of financial services, several of which are nonmarket and so

not included in the CPI, has slowed sharply in recent months.

Conditioning assumptions.

Our estimate of potential GDP growth is around 2 ¼%, reflecting trend growth of productivity of 1 ¼% and trend growth of hours worked of 1%. Under these assumptions, the average monthly increase of payroll employment would be around 112,000 if the economy were growing at potential. The Board staff estimates of potential for 2013 and 2014 are unchanged at 1.9% and 2.1%, respectively.

We expect the lower degree of inflation persistence evident since the early 1990s to continue. This assumption is in contrast to the greater degree of inflation persistence assumed in recent Board staff forecasts. In our central scenario, inflation expectations remain well anchored. This assumption is central to our projection that PCE deflator inflation will gradually move up to the FOMC's objective of 2.0% by 2014. In contrast, the Tealbook forecast expects PCE deflator inflation to remain around 1 ½% in 2014.

In both the Tealbook and Blackbook, projections of global real GDP growth in 2013 are essentially unchanged at 2.5% (Q4/Q4) and 2.7% (Q4/Q4), respectively. These forecasts had been marked down about 0.2 percentage points in March. In general, some reduction of projected growth in China, the Euro Area, and Canada was offset by an increase in growth prospects in Japan. Forecasts for global growth in 2014 are also unchanged at 3.0% for the Tealbook and 2.9% for the Blackbook.

In the Tealbook, the nominal exchange value of the dollar is projected to rise 1.1% in 2013, up from a 0.8% appreciation in March. The exchange value of the dollar is then expected to decline 1.7% in 2014, unchanged from March. On net, the level and trajectory of the exchange value of the dollar is essentially unchanged from March. In the Blackbook, the dollar is projected to appreciate by 0.4% in 2013 rather than 0.8%, but then depreciate by 1.8% in 2014.

Both spot and futures prices of oil have continued to move lower over the intermeeting period. Accordingly, we have lowered our assumed path of oil prices over the forecast horizon by about \$1.50 per barrel in 2013 and \$0.50 per barrel in 2014. We now expect the

WTI price per barrel to average \$91 in 2013Q4 and \$89.50 in 2014Q4. The Board's projected path in 2013 is quite similar to ours, but they anticipate a somewhat larger decline in 2014, to \$88 by the fourth quarter. Relative to the January forecast, the entire path of oil prices is about \$3 per barrel lower.

While our standard practice has been to adopt the same federal fiscal assumptions as in the Tealbook, in March we deviated from that rule by assuming that the full sequester remained in effect over the forecast horizon. In contrast, the Board staff assumed that a "modified sequester" would be agreed upon which would reduce the amount of spending cuts in 2013 and 2014 by about half. However, in the April Tealbook the Board staff has assumed the full sequester, making the fiscal drag in their forecast similar to ours. The change in their estimated high employment budget balance for calendar 2013 is 1.9 percentage points of potential GDP, comparable to the Congressional Budget Office (CBO) estimate for FY2013 of 1.8 percentage points. For 2014, the Board estimate falls to 1.2 percentage points while the CBO estimate for FY2014 is 1.4 percentage points. Note that these measures do not take into account relevant fiscal multipliers.

We also routinely adopt the Tealbook assumptions regarding equity and home prices. As of the April Tealbook, the level of equity prices is roughly what was assumed in March. Going forward, equity prices are assumed to increase at a 9% annual rate, the same rate of increase as assumed in the last cycle. Thus, the path of equity prices over the forecast horizon is essentially unchanged. The assumed upward trajectory of home prices is also essentially unchanged. The Board expects the CoreLogic national home price index to rise 8% in 2013 and then to slow to 4% in 2014. A special box in the April Tealbook explains the logic of the current rather rapid home price appreciation and the expected slowing next year. A key factor is the behavior of corporate investors who are purchasing homes to rent out and are not constrained by the tightness of mortgage underwriting standards. But as prices continue to rise faster than rents, purchases by such investors are expected to subside.

The Outlook.

Taking this morning's advance estimate for the first quarter into account, our projection for

growth of real GDP in 2013 is essentially unchanged at around 2 ¼%. However, we do see underlying conditions as being somewhat more supportive of growth. As mentioned above, oil prices are lower than expected at this point. The decline of energy prices will be quite substantial in the second quarter, holding the increase of the total PCE deflator to near zero, which should take some of the sting out of the increase in taxes. In addition, long term interest rates have declined, which should, at the margin, provide some additional boost to the housing sector and mortgage refinancings. We interpret both of these developments to be driven primarily by events external to the US, thereby providing a boost to our economy. We regard the recent loss of momentum in the US as stemming primarily from the ongoing tightening of federal fiscal policy, which is likely to have its most intense effect in the second and third quarters of this year and which has been widely anticipated in financial markets.

The substantial tightening of fiscal policy clearly presents a downside risk for the US over the near term. We have only limited experience with this much fiscal contraction, and in those few instances it was undertaken at much lower levels of the unemployment rate. That being said, we see the underlying fundamentals of the private economy as being greatly improved. While it is not necessarily over, the process of deleveraging by the household sector is very far along. The correction for the overbuilding of housing also appears to be largely over, with units for sale now regarded as being in short supply and prices rising fairly rapidly. And the appetite for risk taking has increased, as evidenced by rising equity values, declining credit spreads, and, as based on the most recent Senior Loan Officer Opinion Survey, a notable increase in the percentage indicating that standards for C&I lending have eased. Indeed, it is worth noting that the real output of the private nonfarm business sector rose 2.5% (Q4/Q4) in 2012 versus growth of overall GDP of just 1.7%. The gap between these growth rates in 2012 was unusually high.

In 2014, as fiscal drag subsides and private sector fundamentals improve further, we anticipate growth of real GDP to rise to around $3\frac{1}{2}$, bringing the unemployment rate down to around $6\frac{1}{2}$ by the fourth quarter of that year. But as discussed in a recent weekly briefing, there is substantial uncertainty regarding the time at which we reach the 6 $\frac{1}{2}$ threshold due to uncertainty over the future path of the labor force participation rate.

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Finally, as mentioned above, both total and core PCE deflator inflation have slowed more than expected in recent months. Energy prices are down sharply, the 2012 drought did not cause the burst of food prices that was widely expected, and nonfood, nonenergy goods prices have softened due to a sharp decline in the rate of increase of nonpetroleum import prices. For all of 2013, we now expect the PCE deflator to increase just 1.1% (Q4/Q4), down from 1.8% in March, while the core PCE deflator is expected to increase 1.2%, down from 1.5% in March. We continue to expect, however, that inflation will gradually increase later this year and through 2014 as the amount of slack in the economy gradually declines, the exchange value of the dollar begins to fall, and inflation expectations remain well anchored near the FOMC's target rate of 2%. For 2014, the rate of inflation of the total PCE deflator is likely to rise to 1.9% while the core inflation rate increases to 1.8%.

2.2 Alternative Scenarios and Risks

The assessment of risks to the outlook has not significantly changed since the last Blackbook, although there is a slight increase of downside risks to real activity in the nearto-medium term. As a result, risks to growth are now slightly to the downside, while they were roughly balanced in the March Blackbook. The balance of risks on inflation, on the contrary, has not changed much and remains more or less balanced. However, this balance is around a lower profile for the central scenario, so that the probability of seeing some deflation in the medium term has increased.

These small changes in the overall risk profile reflect an increase in the probability of the *Fiscal Consolidation* scenario, and a corresponding reduction in the probability of *Faster Growth* [Exhibit C-1]. These adjustments stem from the negative tenor of most of the data releases in March, which suggest that the recent fiscal tightening associated with the 'sequester' might be starting to have the expected restraining effects on economic activity.

Finally, Exhibit C-3 also displays the baseline forecasts from the FRBNY-DSGE model (orange line). The DSGE forecasts remain near the mean and modal forecasts in the near-term, but continue to be noticeably below the expected values in 2014-15.

Special Topic: Have Labor Market Conditions Improved? Jonathan McCarthy Redacted

The unemployment rate has declined from 8.1 percent in August 2012, the last data point before the September FOMC meeting, to 7.6 percent in March (upper left panel of the figure "Selected Labor Market Indicators"). Broader measures of unemployment also have fallen over this period. However, our analysis of the developments in a number of labor market indicators since September indicates that there has not been much improvement in labor market conditions nor in the labor market outlook. It thus appears that this circumstance is an instance where a decline in unemployment occurs despite a weak labor market, which is a long-time concern of the staff.

To continue the analysis, we examine the recent behavior of employment indicators. Abstracting from monthly fluctuations, the growth of nonfarm payroll employment has not changed significantly over the past couple of years. The six-month average change of nonfarm payrolls in March was 188,000, somewhat above that of August 2012 (141,000) but within the prevailing range since early 2011. Similarly, the 12-month average change of 159,000 in March was actually below that of August 2012 (185,000) and within the prevailing range since late 2011 (upper right panel). The net job gains, whether within the establishment or the household surveys, have been insufficient to raise the employment-population ratio significantly: at 58.5 percent in March, it was only a little above its post-recession low and well below its pre-recession levels.

Although net employment growth remains on the sluggish side and the employmentpopulation ratio is still subdued, as in previous postwar recoveries, the weakness does not reflect elevated job losses: layoff rates and initial claims for unemployment insurance are near pre-recession levels. Instead, it appears that firms continue to be reluctant to hire. Labor demand, as measured by the JOLTS job openings rate, has improved from the depths of the recession, but it is still subdued compared to pre-recession levels (middle left panel). Accordingly, there remains considerable competition for available positions as the vacancy-unemployment ratio continues to be well below pre-recession levels. This weak labor demand also shows up in the rate at which unemployed find new jobs. For both the short-term unemployed and the long-term unemployed, these rates have changed little since the end of the recession (middle right panel). An increase in the jobfinding rate for the short-term unemployed would particularly have positive effects on labor market conditions, leading to lower average duration (as fewer short-term unemployed become long-term unemployed), stronger gains in employment, and a rising employment-population ratio.

Another important labor market flow that is little changed at a low level since the recession is the job-to-job transition rate (lower left panel). Because such transitions are an important channel for wage growth for individuals, it is not surprising that labor compensation growth remains weak. For example, the 12-month change in average hourly earnings was 1.8 percent in March: it has been near this level since late 2009, which is about half that prior to the recession (lower right panel). Other measures of labor compensation display similar patterns.

Given the developments in these data and other indicators, we conclude that labor market conditions still are not healthy. In addition, our measures of labor market mismatches have returned to pre-recession levels, suggesting that imbalances between unemployed skills and requirements of job openings are not a significant factor behind this weakness. As far as signs to indicate that there may be substantial improvement developing in the labor market outlook, we particularly would need to see significant improvement in the job finding rate of the short-term unemployed and in the job-to-job transition rate. The former would indicate stronger growth in employment while the latter would suggest more robust wage and income gains for workers that would help sustain the expansion.

Special Topic: Have Labor Market Conditions Improved? Selected Labor Market Indicators















**Dashed vertical line on figures denotes September 2012.





Exhibit B-2: Evolution of Projected Quarterly Paths

Key Indicators





Housing Starts









Source: MMS and IR Functions (FRBNY) and Federal Reserve Board

Exhibit B-3: Near-Term Projections

	Quarterly Growth Rates (AR)		Quarterly Growth Contributions (AR	
	2013Q2	2013Q3	2013Q2	2013Q3
OUTPUT				
Real GDP	2.0	2.2	2.0	2.2
	(1.9)	(2.3)	(1.9)	(2.3)
Final Sales to Domestic Purchasers	2.0	1.9	2.1	2.0
	(1.7)	(1.9)	(1.7)	(1.9)
Consumption	2.0	2.1	1.4	1.5
	(1.7)	(2.0)	(1.2)	(1.4)
BFI: Equipment and Software	8.0	10.0	0.6	0.7
	(8.0)	(10.0)	(0.6)	(0.9)
BFI: Nonresidential Structures	2.0	4.0	0.1	0.1
	(2.0)	(4.0)	(0.1)	(0.1)
Residential Investment	29.4	17.4	0.7	0.5
	(20.0)	(18.0)	(0.5)	(0.5)
Government: Federal	-8.0	-10.0	-0.6	-0.7
	(-8.0)	(-10.0)	(-0.6)	(-0.8)
Government: State and Local	-0.5	-0.5	-0.1	-0.1
	(-0.5)	(-0.5)	(-0.1)	(-0.1)
Inventory Investment			-0.2	-0.1
			(0.1)	(0.2)
Net Exports			0.1	0.3
			(0.2)	(0.2)
INFLATION				
Total PCE Deflator	0.3	1.4		
	(2.4)	(1.7)		
Core PCE Deflator	1.1	1.2		
	(1.4)	(1.5)		
PRODUCTIVITY AND LABOR COSTS*				
	4.0	4.5		
Output per Hour	1.3 (1.5)	1.5		
O man and the man literate		(1.5)		
Compensation per Hour	1.1	1.0		
	(1.3)	(1.4)		
Unit Labor Costs	-0.1	-0.5		
	(-0.2)	(-0.1)		

Note: Numbers in parentheses are from the previous FOMC meeting. *Nonfarm business sector.

Exhibit B-4: Medium-Term Projections

	Q4/Q4 Growth Rates			Q4/Q4 Growth Contributions			
	2012	2013	2014	2012	2013	2014	
OUTPUT							
Real GDP	1.7	2.3	3.6	1.7	2.3	3.6	
	(1.6)	(2.3)	(3.5)	(1.6)	(2.3)	(3.5)	
Final Sales to Domestic Purchasers	1.8	2.1	3.7	1.8	2.1	3.8	
	(1.8)	(1.8)	(3.7)	(1.8)	(1.9)	(3.8)	
Consumption	1.8	2.4	2.7	1.3	1.7	1.9	
	(1.9)	(2.0)	(2.7)	(1.4)	(1.4)	(1.9)	
BFI: Equipment and Software	4.7	8.2	15.5	0.3	0.6	1.2	
	(4.6)	(8.5)	(15.5)	(0.3)	(0.6)	(1.2)	
BFI: Nonresidential Structures	7.3	2.9	11.0	0.2	0.1	0.3	
	(4.7)	(2.5)	(11.0)	(0.1)	(0.1)	(0.3)	
Residential Investment	14.9	19.4	16.0	0.3	0.5	0.5	
	(14.9)	(16.5)	(16.0)	(0.3)	(0.4)	(0.5)	
Government: Federal	-2.8	-9.1	-5.5	-0.2	-0.7	-0.4	
	(-2.8)	(-7.8)	(-5.5)	(-0.2)	(-0.6)	(-0.4)	
Government: State and Local	-1.1	-0.6	2.2	-0.1	-0.1	0.3	
	(-1.0)	(-0.7)	(2.2)	(-0.1)	(-0.1)	(0.3)	
Inventory Investment				-0.5	0.2	0.2	
				(-0.5)	(0.3)	(0.2)	
Net Exports				0.3	0.0	-0.5	
				(0.2)	(0.1)	(-0.5)	
INCOME							
Personal Income	5.0	2.1	5.4				
	(5.0)	(2.1)	(5.6)				
Real Disposable Personal Income	3.2	0.6	3.2				
	(3.2)	(-0.5)	(3.3)				
Personal Saving Rate	4.7	3.0	3.6				
	(4.6)	(2.3)	(3.0)				
Corporate Profits Before Taxes	3.1	3.7	3.1				
	(-3.8)	(2.2)	(3.4)				
	(()	()				

Note: Numbers in parentheses are from the previous FOMC meeting.

Exhibit B-5: Medium-Term Projections, Continued

	Q4/Q4 Growth Rates		
	2012	2013	2014
INFLATION			
Total PCE Deflator	1.6	1.1	1.9
	(1.6)	(1.8)	(2.0)
Core PCE Deflator	1.5	1.2	1.8
	(1.5)	(1.5)	(1.9)
Total CPI Inflation	1.9	1.3	2.7
	(1.9)	(2.5)	(2.7)
Core CPI Inflation	1.9	1.8	2.4
	(1.9)	(2.0)	(2.4)
GDP Deflator	1.8	1.4	2.1
	(1.8)	(2.0)	(2.2)
PRODUCTIVITY AND LABOR COSTS*			
Output	2.5	2.8	4.5
	(2.5)	(3.1)	(4.4)
Hours	1.9	1.9	2.8
	(1.9)	(1.7)	(2.7)
Output per Hour	0.5	0.9	1.7
	(0.5)	(1.4)	(1.7)
Compensation per Hour	2.6	1.0	1.7
	(2.6)	(1.4)	(2.1)
Unit Labor Costs	2.1	0.1	-0.1
	(2.1)	(-0.1)	(0.3)
LABOR MARKET			
Unemployment Rate (Avg. Q4 Level)	7.8	7.5	6.4
	(7.8)	(7.5)	(6.4)
Participation Rate (Avg. Q4 Level)	63.7	63.5	63.8
	(63.7)	(63.6)	(63.7)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	181	144	302
	(181)	(160)	(292.3)

Note: Numbers in parentheses are from the previous FOMC meeting. *Nonfarm business sector.

C. FRBNY Forecast Distributions



Exhibit C-1: Risks

Change in Central Scenario Probabilities



Change in Alternative Scenario Probabilities*



Exhibit C-2: Projections under Alternative Scenarios



Real GDP Growth under Alternative Scenarios Selected



Source: MMS Function (FRBNY)

C. FRBNY Forecast Distributions

Exhibit C-3: Inflation and Output Forecast Distributions



The yellow line is the expected value of the forecast distribution, the red line is the FRBNY central projection, the orange line is the DSGE forecast, and the green line is released data. The shading represents the 50, 60, 70, 80 and 90 percent probability that the fourquarter change will be within the respective range.

Change in Core PCE Inflation Forecast Distribution

Change in Real GDP Growth Forecast Distribution



The blue lines are the 90% chance the four-quarter change will be within the lines, the red line is the central scenario projection, and the black line is released data. Dashed lines represent forecasts from the previous Blackbook.









Percent

Source: MMS Function (FRBNY)