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The Fed launches Operation Twist to abate significant downside risks to the US outlook

- At its September meeting, the FOMC announced a Maturity Extension Program, selling $400bn of Treasuries with maturities below 3 years, and reinvest the proceeds in maturities of 6-30 years over the next nine months.
- Principal payments from holdings of agency debt and agency MBS will no longer be reinvested in Treasuries, but rather in Agencies through purchases in the secondary market.
- The impact of the program on 10y Treasury yields will likely be comparable to QE2, in the range of 15-20 bps. The cumulative effects would correspond to a fed funds rate target cut of roughly 45-60 basis points, with the potential to offer a boost of about 0.3% to headline growth over the next year.
- Should the economy and financial market conditions weaken further, renewed asset purchases of long-term Treasuries, as well as agency mortgage securities, seem to be the likeliest outcome for the Fed in order to boost the sluggish recovery.

On September 21, 2011, the Federal Open Market Committee (FOMC) announced another round of monetary easing in order to put downward pressure on long-term interest rates, create more accommodative financial conditions and support the mortgage market[1]. Under its maturity extension program, which will be implemented between October 2011 and June 2012, the Federal Reserve plans to sell $400bn short-term Treasury securities with remaining maturities 3 years or less, and reinvest the proceeds in longer-term Treasury securities with remaining maturities of 6 to 30 years, a procedure widely referred to as "Operation Twist". According to the Federal Reserve Bank of New York, the $400bn of purchases will be distributed 32% in 6-8Y, 32% in 8-10Y, 4% in 10-20Y, 29% in 20-30Y and 3% in 6-30Y TIPS (Table 1), although the above-mentioned distribution could be different if market conditions warrant.

Furthermore, worried about the weak state of mortgage finance and the housing sector, the FOMC announced its decision to reinvest principal payments on agency debt and agency mortgage-backed securities rather than Treasury debt, in order to "help support conditions in the mortgage markets". While the move seems to be of secondary importance relative to "twist operation", it reveals a shift in Fed's position on the housing market. It should be noted that some FOMC participants had strongly objected to purchases of agency rather than Treasury securities, because they believe that Fed policy in this area interferes with credit allocation[2]. Hence, investors could take the decision to remain involved in the mortgage finance market as a signal that the Fed is leaving the door open for purchasing agency bonds, if further quantitative easing proves necessary in the grounds of slow growth and elevated risks to the US outlook. In addition, the Fed left the interest on excess

[1] *Federal Reserve press release, Board of Governors of the Federal Reserve System, September 21, 2011.*

[2] *When the Fed purchases agency securities, it is indirectly making a loan to Agencies and, thus, the supply of credit available to the public increases.*

reserves holdings unchanged at 0.25%, as it apparently judged that the costs of such an action would be higher than the expected benefits, while repeating that it expects to hold the federal funds rate at exceptionally low levels until at least mid-2013.

Table 1: Maturity Extension Program

Nominal Coupon Securities by Maturity Range				
6-8 years	8-10 years	10-20 years	20-30 years	TIPS, 6-30 years
32%	32%	4%	29%	3%

Source: Federal Reserve Bank of New York

Having lowered the target for the federal funds rate to a range of 0-0.25%, the FOMC announced the first round of quantitative easing at the end of 2008, in an effort to further ease the monetary policy stance as the economic outlook deteriorated. The large-scale asset purchases (LSAPs) of $1,725 bn through March 2010 included $1250bn of agency mortgage backed securities (MBSs), about $175bn of housing agency debt and $300bn of longer-term Treasury securities. Federal Reserve economists find that the first round of unconventional easing lowered the 10Y Treasury yield by about 50-75 basis points, i.e. 3-4 basis points for each $100 bn in purchases[3]. After two years of the initial LSAP program (November 2010), the Fed launched a second round of large-scale asset purchases in order to promote a stronger pace of recovery. QE2 included purchases of $600bn in longer-term US Treasuries by June 2011 (i.e. $75bn per month). In contrast to the first round of asset purchases, the impact of the second large scale asset purchase program on longer-term yields has been more difficult to identify, given that the policy easing action has been incorporated into market expectations over a period of time, rather that in response to specific policy announcements as in QE1. Besides, QE1 took place at a time when financial markets were functioning poorly and were much less liquid. As a result, bond yields and interest rates were actually rising since the Fed began buying Treasury bonds as part of QE2, mostly because the economy has improved, and changed towards a negative trend only when QE2 finally ended in June 2011, when the US economic outlook has deteriorated significantly. However, a similar elasticity as in the first round of quantitative easing (3-4 bps for each $100bn in purchases) would suggest an effect of around 15-20 basis points for QE2[4]. This effect is in line with Alon's and Swanson's study[5], which analyzes the effect of "Operation Twist" implemented in 1961 under Kennedy's Administration and expands the results for QE2. By studying the behavior of bonds right around the announcements related to "Operation Twist" in the early 1960s, the authors conclude that the program caused a significant but moderate 15 bps reduction in longer-term Treasury yields. This result is consistent with the time-series analysis of "Operation Twist" in Modigliani and Sutch (1966)[6] and with the lower end of the range of estimates of Treasury supply effects in other papers[7]. According to the same study, since the Fed's QE2 is comparable in size (at around 4% of total Treasury and agency-backed debt) with "Operation Twist" in 1961, it should have the same sort of impact (Table 2).

Table 2: Comparison between Operation Twist and QE2

Size of Fed program	Operation Twist in 1961	QE2 in 21010
Nominal bn of $	$8.8	$600
As % of US GDP	1.7%	4.1%
As % of US Treasury debt	4.6%	7.0%
As % of US Treasury-guaranteed debt	4.5%	3.7%

Source: Alon, Titan, and Eric Swanson, "Operation Twist and the Effect of Large-Scale Asset Purchases." Federal Reserve Bank of San Francisco, Economic Letter 2011-13, April 25, 2011.

The recent "Operation Twist" of $400bn, which is the third easing program in a row following the 2007-09 crisis, is expected to increase the average duration of the Treasury portfolio from about 75 months currently to about 100 months by the end of 2012. Given the distribution across five sectors based on the approximate weights reported by the Federal Reserve Bank of New York (Table 1), we estimate that implementation of this "twist" will extend the total duration of securities holdings on the Fed's balance sheet by about $400bn in ten-year equivalents. This is close to QE2, when the Fed absorbed almost $390bn in ten-year equivalents. Hence, the impact of the maturity extension program on 10y Treasury yields will likely be comparable to QE2, in the range of 15-20 bps. The cumulative effects would correspond to a federal funds target rate cut of roughly 45-60

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[3] Gagnon, Joseph, Matthew Raskin, Julie Remache, and Brian Sack, "Large-Scale Asset Purchases by the Federal Reserve: Did They Work?", Federal Reserve Bank of New York Staff Reports, May 2011.

[4] IMF Country Report, United States, No. 11/201, July 2011.

[5] Alon, Titan, and Eric Swanson, "Operation Twist and the Effect of Large-Scale Asset Purchases." Federal Reserve Bank of San Francisco, Economic Letter 2011-13, April 25, 2011.

[6] Modigliani, Franco, and Richard Sutch. 1966. "Innovations in Interest Rate Policy." American Economic Review 56, pp. 178–197.

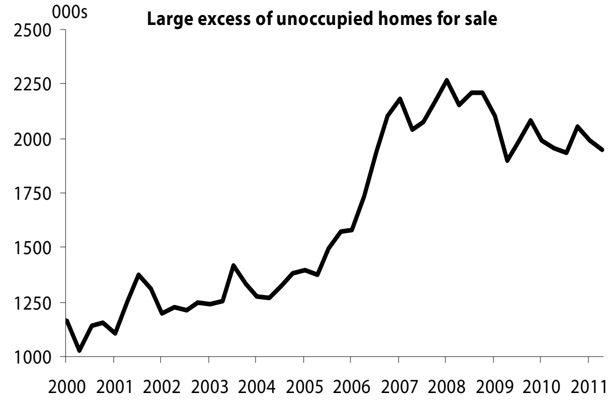
[7] Gagnon, Joseph, Matthew Raskin, Julie Remasche, and Brian Sack. 2011. "The Financial Market Effects of the Federal Reserve's Large-Scale Asset Purchases." International Journal of Central Banking 7(1), pp. 3-43.
D'Amico, Stefania, and Thomas King. 2010. "Flow and Stock Effects of Large-Scale Treasury Purchases." Federal Reserve Board Finance and Economics Discussion Series 2010–52.
Hamilton, James, and Jing (Cynthia) Wu. 2011. "The Effectiveness of Alternative Monetary Policy Tools in a Zero Lower Bound Environment." Unpublished manuscript, University of California, San Diego.

basis points[8], with the potential to offer a modest benefit of about 0.3% to headline growth over the next year[9].

The main transmission channels of unconventional easing measures to the real economy are the following: (a) low real cost of capital throughout the economy by effectively keeping real yields at low levels to stimulate the economy. This could provide a boost to growth through consumption and investment, as well as help refinancing high government deficits and debt. (b) Higher expected inflation, pushing down real interest rates and stimulating real economic activity. Increasing inflationary pressures could also help inflate away some private sector debt and, therefore, help the deleveraging process. (c) Weaken the dollar to promote net exports and imported inflation. (d) Prevent a sharp increase of longer-term interest rates, driven by concerns about high budget imbalances and a fast-rising federal debt.

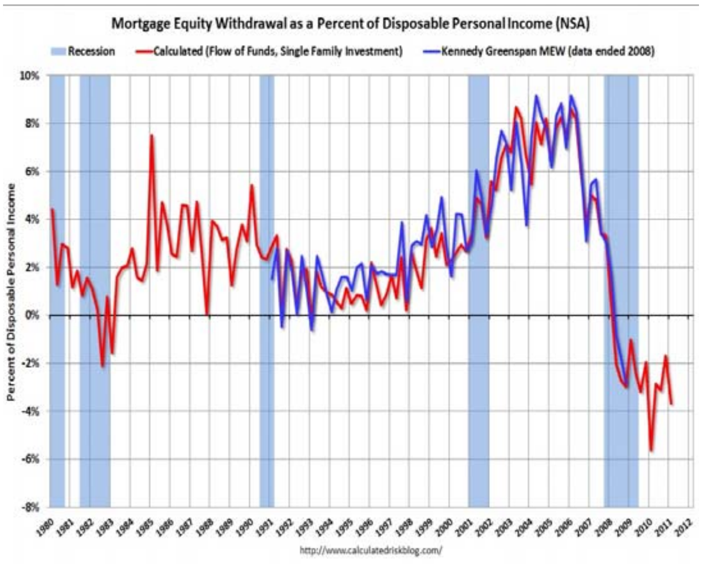
Focusing on the most recent monetary policy response, the reduction in duration supply from the market lowers the risk premium of US Treasuries, thus lowering the risk premia of other assets, i.e. higher equity prices, lower borrowing costs and mortgage rates. The immediate market reaction of the Fed's announcement was rather atypical for monetary easing: while 10y Treasuries fell about 15 basis points, the US dollar appreciated, and US equities and commodity prices experienced significant declines. Although it may take some time for asset prices to respond to this kind of action, possible reasons for the investors' immediate reaction may be the following: (a) Markets may have been disappointed because the Fed did not announce a new round of quantitative easing (QE3), but rather an extension of the average duration of its balance sheet, or (b) Markets may fear that "Operation Twist" will be ineffective and will not be enough by itself to push the economy to a rapid recovery. Besides, Fed Chairman Ben Bernanke has noted that monetary policy responses cannot be a panacea for the fragile state of the US economy. Unfortunately, in the current environment, the positive effect from low real cost of capital is been reduced by the state of the housing sector, given the large amount of unoccupied inventory (Figure 1) and the households' inability to extract equity from homes through refinancing due to negative equity (Figure 2). In addition, the maturity extension program does not expand the Fed's balance sheet, so it should spark fewer inflation concerns. Hence, we expect only a modest boost for the economy, with a gradual recovery process.

Figure 1



Source: US Census Bureau

Figure 2



Source: www.calculatedriskblog.com

Given the recent slowdown of economic activity and the significant downside risks associated with the continuing labor market slack and the erosion of household net worth[10], many observers believe that additional Fed easing may prove inevitable in the November FOMC meeting. Three FOMC members[11]

[8] *Rudebusch D. Glenn, "The Fed's Exit Strategy for Monetary Policy" San Francisco Fed Economic Letter No. 2010–18*

[9] *See "Aggregate Disturbances, Monetary Policy and the Macroeconomy: The FRB/US Perspective," Federal Reserve Bulletin, January 1999, where the Fed's model implies that a 100bps fed funds rate cut has a positive effect on real GDP by 0.6% after 1 year and by 1.7% after 2 years.*

[10] *See "The dip in the US consumer sentiment and future prospects for the US consumer, Global Markets Special Focus Report, Eurobank EFG Economic Research, September 22, 2011.*

[11] *Dallas Fed President Fisher, Minneapolis Fed President Kocherlakota, and Philadelphia Fed President Charles Plosser.*

dissented on the decision for the Maturity Extension Program indicating a potential political backlash against additional quantitative easing, so the Fed would likely announce QE3 only if the economy and financial market conditions weaken and inflationary pressures ease further. "Operation Twist" launched in the previous week does not provide a net injection of liquidity into the system, but is centered on changing the shape of the yield curve. Hence, expansion of Fed's balance sheet -in the form of renewed asset purchases of long-term Treasuries, as well as agency mortgage securities in order to support the depressed housing market- seems to be the likeliest outcome, if the Fed finally decides to take further easing steps to boost the sluggish recovery.

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