Lessons from the U.S. Experience with QE

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bostonfed.org
Figure 1: Monetary Policy: Large-Scale Asset Purchase Programs – QE1, QE2, QE3, and Operation Twist

<table>
<thead>
<tr>
<th>Program</th>
<th>Announcement Date</th>
<th>Targeted End Date</th>
<th>Targeted Total Purchase</th>
<th>Composition of Purchases</th>
<th>Program Details as Announced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative Easing 1 (QE1)</td>
<td>November 25, 2008</td>
<td>Over Several Quarters</td>
<td>Agency Debt: Up to $100 bil</td>
<td>Agency Debt and Agency MBS</td>
<td>Purchase up to $100 bil of agency debt and up to $500 bil of agency MBS. Purchases expected to take place over several quarters.</td>
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<td></td>
<td>March 18, 2009</td>
<td>Treasury Securities:</td>
<td>Agency Debt: Additional $100 bil</td>
<td>Agency Debt, Agency MBS, and Longer-Term Treasury Securities</td>
<td>Total purchases of agency MBS will now be to up to $1.25 trillion, and agency debt up to $200 bil. Purchase up to $300 bil of longer-term Treasury securities over next 6 months.</td>
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<td></td>
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<td>September 30, 2009 Agency Debt and MBS: December 31, 2009</td>
<td>Agency MBS: Additional $750 bil Long-Term Treasuries: $300 bil</td>
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</tr>
<tr>
<td>Quantitative Easing 2 (QE2)</td>
<td>November 3, 2010</td>
<td>June 30, 2011</td>
<td>$600 bil</td>
<td>Longer-Term Treasury Securities</td>
<td>Purchase $600 bil of longer-term Treasury securities by the end of the second quarter of 2011, a pace of about $75 bil per month.</td>
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<tr>
<td>Maturity Extension Program (Operation Twist)</td>
<td>September 21, 2011</td>
<td>June 30, 2012</td>
<td>$400 bil</td>
<td>Longer-Term Treasury Securities¹</td>
<td>Purchase, by the end of June 2012, $400 bil of Treasury securities with remaining maturities of 6-30 years and sell an equal amount of Treasury securities with remaining maturities of 3 years or less.</td>
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<tr>
<td></td>
<td>June 20, 2012</td>
<td>December 31, 2012</td>
<td>Amount Limited by Remaining Shorter-Term Treasury Securities¹</td>
<td>Longer-Term Treasury Securities¹</td>
<td>Purchase Treasury securities with remaining maturities of 6-30 years at the current pace and sell or redeem an equal amount of Treasury securities with remaining maturities of approximately 3 years or less.</td>
</tr>
<tr>
<td>Quantitative Easing 3 (QE3)</td>
<td>September 13, 2012</td>
<td>None Given</td>
<td>None Given</td>
<td>Agency MBS and Longer-Term Treasury Securities</td>
<td>Purchase agency MBS at pace of $40 bil per month and continue Twist through yearend, increasing holdings of longer-term securities in aggregate by $85 bil.</td>
</tr>
<tr>
<td></td>
<td>December 12, 2012</td>
<td>None Given</td>
<td>None Given</td>
<td>Agency MBS and Longer-Term Treasury Securities</td>
<td>Purchase agency MBS at a pace of $40 bil per month and longer-term Treasury securities initially at a pace of $45 bil per month after Twist ends at yearend.</td>
</tr>
</tbody>
</table>

¹Shorter-term Treasury securities are sold or redeemed while an equal amount of longer-term Treasury securities are purchased, resulting in no net increase in balance-sheet size.

Source: Federal Open Market Committee (FOMC)
Figure 2: Federal Reserve System Assets
January 2007 - December 2014

Source: Federal Reserve Board, Haver Analytics
Figure 3: Federal Reserve System Assets
January 2007 - December 2014

Source: Federal Reserve Board, Haver Analytics
Figure 4: Quantitative Easing Announcements and Ten-Year Treasury Yields

Source: Federal Reserve Board, Haver Analytics
Figure 5: Housing Starts
April 2010 - December 2014

Source: Census Bureau, Haver Analytics
Figure 6: U.S. House Price Index
April 2010 - November 2014

Index, January 2000 = 100

Periods of Large-Scale Asset Purchases 'QE'

Source: FHFA, Haver Analytics
Figure 7: Auto and Light-Weight Truck Sales
April 2010 - December 2014

Source: BEA, Haver Analytics
Figure 8: S&P 500 Composite Stock Price Index
April 2010 - December 2014

Source: S&P, Haver Analytics
Figure 9: Civilian Unemployment Rate
April 2010 - December 2014

Source: BLS, Haver Analytics
Figure 10: Inflation Rate: Change in Core Personal Consumption Expenditures Price Index
April 2010 - December 2014

Source: BEA, Haver Analytics
Figure 11: Employment Cost Index for Total Compensation for Private Industry Workers by Occupational Group

2001:Q1 - 2014:Q4

Percent Change from Year Earlier

Source: BLS, Haver Analytics