Transmission and side effects of the ECB’s Asset Purchase Programme

ECB Bond Market Contact Group
19 January 2016

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Key themes

(1) How large is the upsized APP?
(2) First evidence on the pass-through of the APP
(3) APP side-effects and impact on liquidity
(4) Foreign reserve selling undermining QE?
How large is the revised Asset Purchase Programme?

ECB APP purchases increased by €680bn* to €2180bn in December
Committed cash value of QE purchases in € bn

After the 3Dec meeting, the Bundesbank was able to buy €270bn more
2y+ German paper trading below the depo rate in € bn

* According to speech by ECB President Draghi on 4 December
Source: ECB, Bloomberg, Commerzbank Research
The PSPP does still not look large on international comparison…

Expected PSPP purchases relative to market size and GDP

* Assumed end of programme in March 2017; ** BoJ purchases until Dec 2015

Source: ECB, BoJ, Fed, BoE, euro area debt agencies, US Treasury, SIFMA, Bloomberg, Commerzbank Research
Financial Scorecard: the initial success is wearing thin

Selected yield and spread changes in bp

Source: Bloomberg, Commerzbank Research
## Macro Scorecard: Limited success so far

<table>
<thead>
<tr>
<th>Objective</th>
<th>Indicator</th>
<th>Benchmark</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re-anchor inflation expectations</td>
<td>Probability that the ECB Survey of Professional Forecasters (SPF) shows euro zone inflation above 1.5% in 5 years’ time</td>
<td>Average before the crisis (2005 to 2007: 83.5%)</td>
<td></td>
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<td></td>
<td>5x5 expectations are again in line with long-term model values</td>
<td>Distance from long-term model value is less than one standard deviation</td>
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<tr>
<td>Core inflation back at just under 2%</td>
<td>Consensus forecast for inflation in 2016</td>
<td>Consensus forecast corresponds at least to ECB’s March 2015 projection for 2016 (1.5%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unemployment rate</td>
<td>Unemployment rate on track to reach 8% at end of 2016</td>
<td></td>
</tr>
<tr>
<td>Stimulate economy</td>
<td>Purchasing Managers’ Indices (PMIs) for manufacturing and service sector</td>
<td>PMIs are above 50 and 3-month average is pointing upwards</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consensus forecast for economic growth in 2016</td>
<td>Consensus forecast corresponds at least to ECB projection in March 2015 (1.9%)</td>
<td></td>
</tr>
<tr>
<td>Weaker euro</td>
<td>Share of euro depreciation that is attributable to euro weakness</td>
<td>Path leading to a depreciation of 5% per year</td>
<td></td>
</tr>
<tr>
<td>Open lending channel</td>
<td>Average borrowing costs in five largest euro countries</td>
<td>1 percentage point below average 2014Q3 (2.7%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Real interest rate: 5-year Euro Swap minus 5-year Euro Inflation Swap</td>
<td>-1.3% (assumed swap rate of 0.5% minus 1.8% inflation expectations)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Year-on-year change in lending to private sector in per cent</td>
<td>Target path to a growth rate of around 3⅓% (model forecast requires economic growth of 2% and a rise in investment of 4% at end of 2016)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Commerzbank Research
Analysts still have doubts about ECB inflation credentials

Survey of Professional Forecasters: likelihood that inflation rate will be above 1.5% in 5 years' time

Consensus forecasts for 2016, broken lines: ECB projections of March 2015

Source: ECB, Commerzbank Research
Market questions ECB inflation target

€ 5y5y ILS forward in % and model using core inflation, change in oil price level and changes in risk perception

Source: Commerzbank Research
Inflation expectations appear anchored by oil, not ECB!

€ 5y5 inflation from ILS in % and oil price in euro (1st Brent contract)

Source: Bloomberg, Commerzbank Research
Euro depreciation is not on course

Change in value of euro since 1 November 2014 due to euro-specific factors (computed via PCA analysis) in per cent

Source: Commerzbank Research
Some improvements via the lending channel

Borrowing costs for businesses in per cent p.a., average for Germany, France, Spain, Italy and Netherlands

Lending to the private sector, year-on-year change in per cent

Source: ECB, Commerzbank Research
QE transmission: ECB painting a rosy picture...

Overview of the impact of the expanded APP on euro area banks’ financial situation, net percentage of respondents

Source: ECB Bank Lending Survey, October 2015

Purposes for which euro area banks use the additional liquidity from the expanded APP, average percentage of respondents per category
… but is the programme really effective?

“Over the past six months, did your bank use the additional liquidity arising from the ECB’s expanded asset purchase programme for granting loans to non-financial corporations and to households?”, percentage average

“Over the past six months, did your bank use the additional liquidity arising from the ECB’s expanded asset purchase programme / past TLTROs for granting loans to non-financial corporations?”, percentage average

Source: ECB, Commerzbank Research
Transmission of the ECB’s Asset Purchase Programme

Michael Krautzberger – Head of BlackRock’s European Fundamental Fixed Income

ECB Bond Market Contact Group - 19 January 2016
Key themes

I. How large is the upsized APP?

II. First evidence on the pass-through of the APP

III. APP side-effects and impact on liquidity

IV. Foreign reserve selling undermining QE?
QE assets clearly dominate the global valuation landscape

- Government bonds remain expensive but revaluations in spread sectors.
- Equity markets have revalued following China correction.
- Valuation divergence present in EM.

Valuations by Percentile vs. Historical Norms, November 2015

Sources: Thomson Reuters and BlackRock Investment Institute, 31 October 2015.
Debt Fuelled Buybacks

- Buybacks have delivered the highest shareholder return of any form of capital management since 1985.
- Multiple expansions hiding flat or falling earnings. Japan is the exception.
- Tightening financial conditions should promote a renewed attentiveness towards revenue growth in 2016.

Sources: BlackRock Investment Institute, Federal Reserve and IMF, October 2015. Equity returns to November 30th 2015.
Flow picture: clients move up the duration and risk curve

iShares flows into Euro money market and short-term corporate bonds (cumulative flows $ mn)

- Blue line: Euro corps 1-5yr (IE15)
- Green line: German money market (EXVM)

iShares flows into Euro government and corporate bonds (cumulative flows $ mn)

- Blue line: Broad Euro govt (SEGA)
- Green line: Euro IG corps (IEAC)

Source: iShares, Bloomberg as of December 2015
Bid-offers optically still look ok

10Y bonds bid-ask spreads for select European countries (price bp)

Italian government bonds bid-ask spreads by tenor (yield bp)

Source: MarketAxess, BlackRock as at December 2015
Changes in the liquidity of FI futures and the EGB market

Fixed income futures on EUREX (in € bn)

Size of the European government bond market (in € bn)

Source: EUREX, Bloomberg as of November 2015
Post QE market changes: reduced market depth and ECB the biggest buyer

The depth of the order book for benchmark bonds from MTS-EBM (in € mn)

Purchases of European government bonds by different buyers in 2015, in € bn

Intra-day data for benchmark bonds from MTS-EBM, calculated as (volume at bid + volume at ask) / 2

*) estimated **) US and Japanese investors

Source: BIS, Commerzbank Research as of October 2015
We expect foreign demand for U.S. Treasuries to be materially diminished in an environment of sustained lower oil prices.

Source: BlackRock as at November 2015
Further topics for discussion

1. Which changes to the design of the APP should be considered to increase its effectiveness and reduce negative side effects?

2. Which buying techniques/systems should be used to ensure smooth execution as the APP progresses?

3. How can the ECB prepare an exit without causing larger distortions?

4. Who takes over from the ECB buyer in an exit scenario? Sovereign wealth funds?

5. Banks unlikely to fill the gap under tougher capital requirements

6. Will the mutual bond funds still be a reasonable source of buying power after years of low and negative rates?

7. Implications from any unwind of excessive risk taking by investors
Negative interest rates are being passed over to investors

<table>
<thead>
<tr>
<th>Deposit rate</th>
<th>in CHF</th>
<th>in DKK</th>
<th>in EUR</th>
<th>in SEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>-0.75%</td>
<td>-0.35%</td>
<td>-0.20%</td>
<td>-0.10%</td>
</tr>
<tr>
<td>Average</td>
<td>-1.05%</td>
<td>-1.09%</td>
<td>-0.33%</td>
<td>-0.65%</td>
</tr>
<tr>
<td>Low</td>
<td>-1.75%</td>
<td>-2.00%</td>
<td>-0.50%</td>
<td>-1.10%</td>
</tr>
</tbody>
</table>

Source: Deposit interest rates of the following banks as at November 2015: Bank Boston Home Equity, BNP Paribas, BNY Mellon, Caceis Bank Luxembourg SA, Citigroup Inc., Credit Suisse Group AG, Danske Bank, JPMorgan Chase, KAS Bank NV, Northern Trust Corp, Banque Pictet & Cie SA, Royal Bank of Canada, State Street Bank & Trust
Negative interest rates on 40% of outstanding European government bonds

Source: Bloomberg, Deutsche Bank as of November 2015
Yield seeking investors are increasingly pushed to the most risky part of the market

- Yield seeking behaviour has driven risk appetite.
- 2015 was a record year for issuance, with debt-financed M&A and share repurchases as main catalysts

**Fixed Income Indices Yielding Over 4%**

**US IG issuance vs M&A activity**

Source: BlackRock, Bloomberg, Citi as at November 2015
How long can government bonds maintain risk diversification benefits at those extreme levels?

- This reflects asset shortages across bonds and equities caused by QE.
- Reversal/reduction could stimulate material loss and limited diversification.
- A dormant volcano in an exit scenario?

**Equity Bond Correlation and the Term Premium**

![Graph showing Term Premium and Equity Bond Correlation from 2010 to 2015](image)

Sources: Thomson Reuters, Federal Reserve, Goldman Sachs, BlackRock Investment Institute, data through 12 November 2015

Note: Equity/Bond correlation shows 90-day rolling correlation of daily returns for the S&P 500 and the US 10Y Treasury
Market impact: volume evolution

European Fixed Income market by average daily volume

Source: Trax Facts, Q3 2015
Inflation is low but so is economic recovery

Current vs. Past Recoveries from Recession, 1960-2015

U.S. and Eurozone Inflation Expectations & the Oil Price

Source: BlackRock Investment Institute as of December 2015
Market based inflation expectations depend on instrument

Source: Bloomberg as at 4 January 2016
Global petrodollar investments to fall

- We estimate oil exporters’ aggregate current account surplus – a good proxy for global petrodollar investments – will fall by ~$367 billion in 2015, with ~$293 billion coming from a reduced bid for U.S. investments (assuming conservatively that 80% of petrodollar investments end up in U.S. either directly, or indirectly via low-yielding current account surplus economies like Japan & Euro area).

Source: BlackRock as at November 2015
Declining Chinese FX reserves are compounding the reduction in the petrodollar bid for U.S. investments, with other EM central banks also likely to remain under pressure in 2016 as the Fed normalizes.

Source: BlackRock as at November 2015
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