The Escape from Balance Sheet Recession and the QE ‘Trap’

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See Appendix A-1 for important disclosures and the status of non-US analysts.

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Exhibit 1. Drastic Liquidity Injections Resulted in minimal Increases in Money Supply and Credit (I):

(Aug. 2008 =100, seasonally adjusted)

- Monetary Base
- Money Supply (M2)
- Loans and Leases in Bank Credit

Note: Commercial bank loans and leases, adjustments for discontinuities made by Nomura Research Institute.
Sources: Federal Reserve Board; US Department of Commerce
Exhibit 2. Drastic Liquidity Injections Resulted in minimal Increases in Money Supply and Credit (II)

(Aug. 2008 =100, seasonally adjusted)

- Base Money
- Money Supply (M3)
- Credit to Euro Area Residents

New target for the ECB balance sheet

Note: Base money's figures are seasonally adjusted by Nomura Research Institute.
Sources: European Central Bank; Eurostat
Exhibit 3. Drastic Liquidity Injections Resulted in minimal Increases in Money Supply and Credit (III):

(Aug. 2008 =100, seasonally adjusted)

- Reserve Balances¹+ Notes & Coin
- Money Supply (M4)
- Bank Lending (M4)

Notes: 1. Reserve balances data are seasonally unadjusted.
2. Money supply and bank lending data exclude intermediate financial institutions.

Sources: Bank of England; Office for National Statistics, UK

CPI (ex. Indirect Taxes) +1.2%
Exhibit 4. Drastic Liquidity Injections Resulted in minimal Increases in Money Supply and Credit (IV):

(1990 Q1 = 100, seasonally adjusted)

- **Monetary Base**
- **Money Supply (M2)**
- **Bank Lending**

**Quantitative Easing**
**Quantitative and Qualitative Easing**
**Earthquake**

**Bubble Burst**

**CPI Core (ex. fresh food)**

Notes: 1. Figures for bank lending are seasonally adjusted by Nomura Research Institute.
2. Excluding the impact of consumption tax.
Source: Bank of Japan
Exhibit 5. The Cause of Breakdown in Monetary Transmission: Bursting of Debt-Financed Bubbles

US House Prices Followed the Japanese Experience until 2012

US: 10 Cities Composite Home Price Index

Japan: Tokyo Area Condo Price

Japan: Osaka Area Condo Price


Notes:
1. per m², 5-month moving average. As of Nov. 3, 2014.
2. "Policy Statement on Prudent Commercial Real Estate Loan Workouts" (October 30, 2009)

Sources: Bloomberg; Real Estate Economic Institute, Japan; S&P, S&P/Case-Shiller® Home Price Indices.
Exhibit 6. Europe also Experienced House Price Bubbles, except Germany

Notes: 1. Ireland's figures before 2005 are existing house prices only.
2. Greece's figures are flats' prices in Athens and Thessaloniki.
Sources: Nomura Research Institute, calculated from Bank for International Settlements data.
Exhibit 7. Japan’s Corporate De-leveraging with Zero Interest Rates Lasted for over 10 Years

Funds Raised by Non-Financial Corporate Sector

(% Nominal GDP, 4Q Moving Average)

Sources: Bank of Japan; Cabinet Office, Japan
Exhibit 8. Japan’s GDP Grew despite major Loss of Wealth and Private Sector De-leveraging

Sources: Cabinet Office, Japan; Japan Real Estate Institute
Exhibit 9. Japan’s Challenge: Get Traumatized Businesses to Borrow Money

Financial Surplus or Deficit by Sector

(as a ratio to nominal GDP, %)

Note: All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending in 2014 Q2 are used. Sources: Bank of Japan, Flow of Funds Accounts, and Government of Japan, Cabinet Office, National Accounts
Exhibit 10. Abenomics Is Addressing Japan’s Two Key Problems

Japanese private sector saving 8% of GDP at zero interest rate on average for the last 15 years, leading to deflationary tendency

(1) trauma toward debt after the bitter experience of deleveraging

(2) lack of domestic investment opportunities due to demographics

The first arrow: Monetary easing
foreign expectations on QQE leading to higher share prices, lower yen and eventually higher inflationary expectations

The second arrow: Fiscal stimulus
(1) government borrowing and spending in order to maintain GDP
(2) incentives to help firms get over the trauma toward debt

The third arrow: Structural reform
deregulation and market opening leading to greater investment opportunities
Exhibit 11. US in Balance Sheet Recession: US Private Sector Saved on Average 5% of GDP since 2008 Q4

Financial Surplus or Deficit by Sector

(as a ratio to nominal GDP, %, quarterly)

Note: All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending in 2014 Q2 are used.
Sources: FRB, US Department of Commerce
Exhibit 12. US Households Are still Saving more than Borrowing at Zero-Interest Rates

Notes: Latest figures are for 2014 Q2.
Sources: Nomura Research Institute, based on flow of funds data from FRB and US Department of Commerce
Exhibit 13. Europe in Balance Sheet Recession: Eurozone Private Sector Savings Are Greater than their Governments’ Fiscal Deficits

**Note:** All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending in 2014 Q2 (only Ireland, 2014 Q1) are used. Budget deficits in Euro area in 2013 are from Oct. 21, 2014 release by Eurostat.

Sources: Eurostat, Office for National Statistics, UK, Banco de España, National Statistics Institute, Spain, The Central Bank of Ireland, Central Statistics Office Ireland, Banco de Portugal, Banca d'Italia and Italian National Institute of Statistics
Exhibit 14. Peripheral Eurozone Bond Yields Jumped because of De-stabilizing Capital Flows Unique to Eurozone

Note: As of Nov. 14, 2014.
Source: Bloomberg
Exhibit 15. Self-Corrective Mechanism of Balance Sheet Recessions Does Not Work

1. Bursting of a bubble
   - Asset prices collapse while liabilities remain, forcing private sector into debt minimization

2. Monetary policy becomes largely ineffective
   - Excess private sector savings even at zero interest rates starts the deflationary spiral
   - Gov. need to borrow & spend unborrowed savings in the private sector
   - Gov. put in fiscal stimulus to support GDP and monetary policy

3. Private sector stops borrowing even at zero interest rates
   - Fund managers unable to place funds with the private sector
   - Fund managers buying gov. bonds since gov. is the only borrower left
   - Low gov. bond yield encourages gov. to put in stimulus
   - Private sector has the income to pay down debt

4. Private sector regains financial health and the economy normalizes
   - Does not work well in the Eurozone because of capital flight to less challenged gov. bond markets within the zone
   - Maastricht 3% limitation on budget deficit
   - Gov. to reduce its budget deficit
Exhibit 16. The Collapse of Neuer Markt in 2001 Pushed German Economy into Balance Sheet Recession

Source: Bloomberg  As of Nov. 14, 2014
Exhibit 17. German Private Sector Refused to Borrow Money after the Dotcom Bubble

Financial Surplus or Deficit by Sector

(as a ratio to nominal GDP, %, seasonally adjusted)

Notes: The assumption of Treuhand agency’s debt by the Redemption Fund for Inherited Liabilities in 1995 is adjusted. All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending in 2014 Q1 are used.

Source: Nomura Research Institute, based on the data of Bundesbank and Eurostat
Exhibit 18. German Households Stopped Borrowing altogether after the Dotcom bubble

Note: Seasonal adjustments by Nomura Research Institute. Latest figures are for 2014 Q1.
Sources: Nomura Research Institute, based on flow of funds data from Bundesbank and Eurostat
Exhibit 19. Spanish Households Increased Borrowings after the Dotcom Bubble: Now They Are Deleveraging

Notes: Seasonal adjustments by Nomura Research Institute. Latest figures are for 2014 Q2. Sources: Nomura Research Institute, based on flow of funds data from Banco de España and National Statistics Institute, Spain
Exhibit 20. Irish Households Increased Borrowings after the Dotcom Bubble: Now They Are Deleveraging

Notes: Seasonal adjustments by Nomura Research Institute. Latest figures are for 2014 Q1.
Source: Nomura Research Institute, based on flow of funds data from Central Bank of Ireland and Central Statistics Office, Ireland
Exhibit 21. German-Eurozone (ex. Germany) Competitiveness Gap Has Macro (50.2%) and Micro (49.8%) Factors

Note: * Parameters obtained from the regression result on Eurozone ULC (ex. Germany) on Eurozone M3 (ex. Germany), \[ \log(\text{Eurozone ULC (ex.Germany)}) = 3.155506 + \log(\text{Eurozone M3 (ex.Germany)}) \times 0.318227, \] applied to German M3 data indexed to 1Q 2000 = 100.

Sources: Nomura Research Institute, based on ECB, Eurostat and Deutsche Bundesbank data
Exhibit 22. Germany Recovered from Post-Dotcom Balance Sheet Recession by Exporting to other Eurozone Countries

German Balance of Trade

Source: Deutsche Bundesbank
Two Structural Deficiencies of the Eurozone

(1) Maastricht Treaty restricted fiscal stimulus needed to fight balance sheet recessions

Countries suffering from balance sheet recessions fall into deflationary spirals, while excessive easings by the ECB create bubbles elsewhere

Allow countries in balance sheet recessions to implement sufficient fiscal stimulus with blessings from the Troika

(2) Procyclical and destabilizing capital flows between gov. bond markets

Excessively low gov. bond yields during bubbles
Excessively high gov. bond yields during balance sheet recessions

Introduce different risk weights for holdings of domestic vs foreign gov. bonds to keep domestic savings at home
### Exhibit 24. Contrast Between Yin and Yang Phases of Economic Cycle for Eurozone

<table>
<thead>
<tr>
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<th><strong>Textbook Economy &quot;Yang&quot;</strong></th>
<th><strong>Balance Sheet Recession &quot;Yin&quot;</strong></th>
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<tr>
<td>1) Fundamental driver</td>
<td>Adam Smith’s &quot;invisible hand&quot;</td>
<td>Fallacy of composition</td>
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<td>2) Private financial condition</td>
<td>Assets &gt; Liabilities</td>
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<td>3) Behavioral principle</td>
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<td>4) Outcome</td>
<td>Greatest good for greatest number</td>
<td>Depression if left unattended</td>
</tr>
<tr>
<td>5) Monetary policy</td>
<td>Effective</td>
<td>Ineffective (liquidity trap)</td>
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<td>Counterproductive (crowding-out)</td>
<td>Effective</td>
</tr>
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<td>a) Localized</td>
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<td></td>
<td>Quick NPL disposal</td>
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<td>Pursue accountability</td>
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<td></td>
<td>Pursue accountability</td>
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<td>b) Systemic</td>
<td>Slow NPL disposal (= Pretend &amp; Extend*)</td>
<td></td>
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<td></td>
<td>Fat spread</td>
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<tr>
<td>11) Maastricht 3% gov. deficit rule</td>
<td>Enhanced stability and growth</td>
<td>Induces instability and depression</td>
</tr>
</tbody>
</table>

*: "Policy Statement on Prudent Commercial Real Estate Loan Workouts" (October 30, 2009)

Exhibit 25. Central Banks Have Flooded the Financial System with Liquidity

Bank Reserves as Multiples of Required Reserves

Notes:
1. Estimates are based on the assumption that required reserves will increase by 3% a year, banknotes will increase by 3.5% a year, coins will increase by 0.9% a year and bank reserves constitute 90.7% of financial institution's current deposit holdings at the Bank of Japan.

2. The Bank of England has suspended reserve requirement in March 2009. The post-March 2009 figures are based on the assumption that the original reserve requirement is still applicable.

Sources: Nomura Research Institute, based on BOJ, FRB, ECB and BOE data
Exhibit 26. US May be Facing a QE ‘Trap’ (1): Long-term Rates Could Increase sharply when the Central Bank Unwinds QE

Images of Long-term Interest Rates with and without QE

- **without QE**
- **with QE**

**QE “Trap”**

- **Economic Recovery** (normal timing)
- **Economic Recovery** (starts earlier due to lower long-term interest rates and higher asset prices because of QE)

**Bubble Collapse**

**t₀**

**t₁**

**t₂**

(Time)
Exhibit 27. US May be Facing a QE “Trap” (2): Higher Long-term Rates Could Weigh on Economic Recovery for Years to Come

Images of GDP with and without QE

- **Economic Recovery** (normal growth rate)
- **Cost of QE**
- **Benefit of QE**
- **Bubble Collapse**

- **without QE**
- **with QE**

- **Economic Recovery** (slower growth rate due to higher interest and exchange rates than warranted)

![Graph showing GDP with and without QE](image-url)
Exhibit 28. No Easy Way to Unwind the QE

**Policy Choices**

- Do Nothing
  - Pay interest on reserves (IOER)
  - Reverse repos (RRPs)
  - Term deposits with the Fed

- Short-term Fix "kicking the can down the road"
  - Selling bonds in the market
  - Holding bonds until maturity

- Full Solution
  - Jacking up reserve requirements

**Outcome**

Money supply could grow to maximum 20 times the present level when the private sector resumes borrowing

- Interest payments could reach $100 billion a year\(^1\)
  = Equivalent increases in Federal deficit each year resulting in burden on taxpayers

- $500 billion\(^2\) (temporary\(^3\)) capital losses on holdings of long-term bonds
  = Temporary capital injection by the Government may be needed, which will increase the Federal deficit and burden on taxpayers

- Higher (than warranted) long-term bond yields

- Equivalent to making $2.7 tril. excess reserves "worthless"
  = Huge negatives for the banks and higher interest rates generally

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Notes:
1. $2.7 tril. times 3.75\% (= FOMC members' "normal rate")
3. If bonds were held until maturity.
4. $2.7 tril. divided by 5 years based on Fed Chair Yellen's comment that the Fed’s balance sheet will be normalized in 5 to 8 years.
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