The Other Half of Macroeconomics and the Fate of Globalization

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See Appendix A-1 for important disclosures and the status of non-US analysts.
Exhibit 1. Politics in Disarray because Economies Are in the Overlooked Other-half of Macro-Economics

<table>
<thead>
<tr>
<th>Lenders (=savers)</th>
<th>Borrowers (=investors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>

1. Lenders and borrowers are present in sufficient numbers (textbook world) ⇒ **Ordinary interest rates**
2. Borrowers are present but not lenders due to the latter's bad loan problems (financial crisis, credit crunch) ⇒ **Loan rates much higher than policy rate**
3. Lenders are present but not borrowers due to the latter's balance sheet problems and/or lack of investment opportunities (balance sheet recession, "secular" stagnation) ⇒ **Ultra-low interest rates**
4. Borrowers and lenders both absent due to balance sheet problems for the former and bad loan problems for the latter (aftermath of a bubble burst) ⇒ **Ultra-low interest rates, but only for highly rated borrowers**

Advanced economies are all here.
Average Annual Private Sector Financial Surplus(+) or Deficit(-)

<table>
<thead>
<tr>
<th>Country</th>
<th>5 years to Q3 2008</th>
<th>from Q4 2008 to present</th>
<th>latest 4 quarters</th>
<th>(% of GDP)</th>
<th>5 years to Q3 2008</th>
<th>from Q4 2008 to present</th>
<th>latest 4 quarters</th>
<th>(% of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>-0.02</td>
<td>2.11</td>
<td>-1.32</td>
<td>0.53</td>
<td>4.94</td>
<td>3.76</td>
<td></td>
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<tr>
<td>US</td>
<td>0.53</td>
<td>4.94</td>
<td>3.76</td>
<td></td>
<td></td>
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<tr>
<td>Canada</td>
<td>-0.02</td>
<td>-1.57</td>
<td>-2.16</td>
<td>7.68</td>
<td>8.65</td>
<td>7.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>7.68</td>
<td></td>
<td></td>
<td>-1.89</td>
<td>3.94</td>
<td>3.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korea</td>
<td>-1.89</td>
<td>3.94</td>
<td>3.65</td>
<td>-7.81</td>
<td>0.09</td>
<td>-0.19</td>
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<tr>
<td>Australia</td>
<td>-7.81</td>
<td>0.09</td>
<td>-0.19</td>
<td>1.66</td>
<td>4.94</td>
<td>4.25</td>
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<tr>
<td>Eurozone</td>
<td>1.66</td>
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<tr>
<td>Germany</td>
<td>8.46</td>
<td></td>
<td></td>
<td>2.42</td>
<td>2.33</td>
<td>1.21</td>
<td></td>
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<td>France</td>
<td></td>
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<td>1.48</td>
<td>3.21</td>
<td>6.71</td>
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<tr>
<td>Italy</td>
<td></td>
<td></td>
<td></td>
<td>-8.03</td>
<td>6.99</td>
<td>5.15</td>
<td></td>
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<tr>
<td>Spain</td>
<td></td>
<td></td>
<td></td>
<td>0.39</td>
<td>1.56</td>
<td>-0.06</td>
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<tr>
<td>Greece</td>
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<td>-4.88</td>
<td>7.41</td>
<td>-2.44</td>
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<tr>
<td>Portugal</td>
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<td></td>
<td></td>
<td>-3.97</td>
<td>4.24</td>
<td>1.69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Private sector = household + corporate + financial sectors
2. Entered balance sheet recession in 1990 (see Exhibits 12, 13)
3. Entered balance sheet recession in 2000
5. Except Canada and France

Source: Nomura Research Institute, based on these countries’ flow of funds and national accounts data
Exhibit 3. Drastic Liquidity Injections Resulted in minimal Increases in Money Supply and Credit (I): US

(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 4. Drastic Liquidity Injections Resulted in minimal Increases in Money Supply and Credit (II): Eurozone

(Aug. 2008 =100, seasonally adjusted)

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

Note: Base money's figures are seasonally adjusted by Nomura Research Institute.
Sources: European Central Bank; Eurostat

CPI core

+1.0%
Exhibit 5. Drastic Liquidity Injections Resulted in minimal Increases in Money Supply and Credit (III): UK

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
Exhibit 6. Drastic Liquidity Injections Resulted in minimal Increases in Money Supply and Credit (IV): Japan

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 7. No Acceleration in Private Sector Credit or Money Supply Growth after the BOJ’s QQE

Notes:
1. Figures for bank lending are seasonally adjusted by Nomura Research Institute.
2. Excluding the impact of consumption tax.
Sources: Bank of Japan and Ministry of Internal Affairs and Communications
Exhibit 8. Europe & US 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 and S&P Dow Jones data.
Exhibit 9. Japan’s GDP Grew despite major Loss of Wealth and Private Sector De-leveraging

- Real GDP (Right Scale)
- Nominal GDP (Right Scale)
- Land Price Index in Six Major Cities (Commercial, Left Scale)
- Likely GDP Path w/o Government Action
- US GNP Shrunk 46% 1929→1933
- Last seen in 1973

Sources: Cabinet Office, Japan; Japan Real Estate Institute

Cumulative 90-05 GDP Supported by Government Action: ~ ¥2000 trillion
Cumulative Loss of Wealth on Shares and Real Estate ~ ¥1500 trillion

- Down 87%
- 25
- 40
- 55
- 70
- 85
- 100
- 115
- 130
- 145

Sources: Cabinet Office, Japan; Japan Real Estate Institute
Exhibit 10. Japan’s Challenge: Overcoming Problems of Balance Sheets and Inferior Return on Capital

Financial Surplus or Deficit by Sector

(as a ratio to nominal GDP, %)

-18 -15 -12 -9 -6 -3 0 3 6 9 12 15

81 83 85 87 89 91 93 95 97 99 01 03 05 07 09 11 13 15 17

Corporate Sector (Non-Financial Sector + Financial Sector)
General Government

Rest of the World
Households

Private Sector Savings: 7.13% of GDP

Global Financial Crisis

Balance Sheet Recession

Note: All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending in 2017 Q3 are used. Sources: Bank of Japan, Flow of Funds Accounts, and Government of Japan, Cabinet Office, National Accounts
Exhibit 11. Japanese Non-financial Companies Are Finally Beginning to Borrow, but Are still Net Savers

Note: For the latest figures, four-quarter averages ending in 2017 Q3 are used.
Sources: Bank of Japan, Flow of Funds Accounts, and Government of Japan, Cabinet Office, National Accounts
Exhibit 12. Three Stages of Economic Development: Urbanization, Industrialization and Globalization

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**Urbanization phase**
- Where capitalists prosper
- Feature: Widening income inequality
- Weak growth
- Import-led globalization
- Very careful consumers

**Industrialization**
- Feature: Wage level high enough to invite foreign competition
- Consumer's share (consumption)
- Capital's share (investment)
- Labor demand curve
- Lewis Turning Point (LTP)
- Labor supply curve
- Advanced countries are all here

**Golden Era**
- Where everyone benefits from economic growth
- Strong investment
- Rapid increase in consumption
- Fast growth
- Export-led globalization
- Narrowing income inequality
- Rapid increase in investment

**Pursued phase**
- Where only those with advanced ideas prosper
- Rapid increase in investment
- Narrowing income inequality
- Very careful consumers
- Shrink investment opportunities
- Re-widening income inequality
- Slow growth
- Import-led globalization

Source: Nomura Research Institute
Exhibit 13. Effectiveness of Monetary & Fiscal Policies in Three Stages of Economic Development

Urbanizing Era
- Flat wages and prices
- Strong demand for funds from public sector for needed infrastructure

Golden Era
- Rising wages and prices
- Strong demand for funds from businesses for capacity and productivity enhancing investments
- Central bank must remain highly vigilant toward inflation

Pursued Era
- Flat wages and prices
- Return on capital higher abroad but households still saving
- Government must borrow and spend excess private savings on self-financing projects

Fiscal Policy
(B/S recession) (ordinary times)

Monetary Policy
(ordinary times) (B/S recession)
Exhibit 14. US Nonfinancial Companies’ Demand for Funds

Shrunk after 1990

Notes: Latest figures are for 2017 Q3.
Sources: Nomura Research Institute, based on flow of funds data from FRB and US Department of Commerce
Exhibit 15. US Monetary Policy Has Grown Less Effective Starting in 1990s

Note: In the Chicago Fed’s national financial conditions index (NFCI), 0 represents the average from 1971 to the present. Prior to 1987, when the Fed began targeting fed funds rate, the policy rate in the graph refers to the official discount rate. Since the Fed began targeting a corridor of values for fed funds, the graph shows the top end of the Fed’s target range.

Exhibit 16. US Private Sector Has Been Saving 4.94% of GDP on Average with Zero Interest Rates since 2008

Financial Surplus or Deficit by Sector

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

Private sector savings 3.76% of GDP (average 4.94% since 2008)

Note: All entries are four-quarter moving averages. For the latest figures, four-quarter averages ending in 2017 Q3 are used.
Sources: FRB, US Department of Commerce
Exhibit 17. Some US Households Are Starting to Borrow Money

Notes: Latest figures are for 2017 Q3.
Sources: Nomura Research Institute, based on flow of funds data from FRB and US Department of Commerce
Exhibit 18. Spanish Households Have Been Deleveraging since 2008

Notes: Seasonal adjustments by Nomura Research Institute. Latest figures are for 2017 Q3.
Sources: Nomura Research Institute, based on flow of funds data from Banco de España and National Statistics Institute, Spain
Exhibit 19. Irish Households Increased Borrowings after the Dotcom Bubble: Now They Are Deleveraging

Notes: Seasonal adjustments by Nomura Research Institute. Latest figures are for 2017 Q3.
Source: Nomura Research Institute, based on flow of funds data from Central Bank of Ireland and Central Statistics Office, Ireland
Exhibit 20. Italian Households Stopped Borrowing Money after 2011

Notes: Seasonal adjustments by Nomura Research Institute. Latest figures are for 2017 Q3. Source: Nomura Research Institute, based on flow of funds data from Banca d'Italia and Italian National Institute of Statistics.
Exhibit 21. Greek Households Are Deleveraging but also Withdrawing Past Savings to Survive

Notes: Seasonal adjustments by Nomura Research Institute. Latest figures are for 2017 Q3.
Sources: Nomura Research Institute, based on flow of funds data from Bank of Greece and Hellenic Statistical Authority, Greece
Exhibit 22. German Households Stopped Borrowing altogether after the 2000 Dotcom Bubble

Note: Seasonal adjustments by Nomura Research Institute. Latest figures are for 2017 Q3.
Sources: Nomura Research Institute, based on flow of funds data from Bundesbank and Eurostat
Exhibit 23. The Collapse of Neuer Markt in 2001 Pushed the German Economy into Balance Sheet Recession

Source: Bloomberg, as of February 27, 2018
Exhibit 24. Peripheral Eurozone Countries Are Doing Better Because of Fall in Wages

European Unit Labor Costs

(2000 = 100, Seasonally adjusted)

Source: Nomura Research Institute, based on OECD data
Exhibit 25. Eurozone Economy Supported by External Surplus

Source: Eurostat
Exhibit 26. QE Exit Is more difficult than QE Entrance: QE Central Banks Must Retract Reserves to Avoid Credit Explosion

Bank Reserves as Multiples of Required Reserves

Note: 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, BOE and SNB data
Exhibit 27. Asset Price Bubbles Are also Prompting the Fed to Normalize Monetary Policy

Note: “Policy Statement on Prudent Commercial Real Estate Loan Workouts” (October 30, 2009)
Source: Nomura Research Institute, based on the data from Real Capital Analytics; "Moody's/REAL CPPI," and S&P Dow Jones Indices; "S&P CoreLogic Case-Shiller Home Price Indices"
Note: Reserve balances, currency in circulation, and required reserves are assumed to follow the trends observed from January 2015 to May 2017.
Source: Nomura Research Institute, based on Fed data; estimates by Nomura Research Institute
Exhibit 29. Additional Private Savings Required as Fed Stops Reinvesting in USTs and MBS

Notes: US fiscal accounting year runs from October to following September. MBS = mortgage backed securities. Source: Nomura Research Institute.
Exhibit 30. Additional Private Savings Required if ECB Stops Reinventing

**Exhibit 31. Additional Private Savings Required if BOE Stops Reinventing**

<table>
<thead>
<tr>
<th>Year</th>
<th>UK Budget Deficit (GBP bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>19.0</td>
</tr>
<tr>
<td>2018</td>
<td>107.6</td>
</tr>
<tr>
<td>2019</td>
<td>126.5</td>
</tr>
<tr>
<td>2020</td>
<td>126.5</td>
</tr>
<tr>
<td>2021</td>
<td>31.6</td>
</tr>
</tbody>
</table>

**Notes:**
- Assumes US-style normalization will be conducted from Oct 2017 to Jun 2021.
- UK fiscal accounting year runs from April to following March.
- Fiscal deficit represents net borrowings of national government.
- Source: Nomura Research Institute

6.52% of GDP
Exhibit 32. Additional Private Savings Required if BOJ Stops Reinventing

Notes: Assumes US-style normalization will be conducted from Oct 2017 to Jun 2021.
Japan’s fiscal accounting year runs from April to following March.
Source: Nomura Research Institute, based on MOF and BOJ data

Japan’s budget deficit for 2016: 17.63% of GDP

Source: Nomura Research Institute, based on MOF and BOJ data.
Exhibit 33. QE ‘Trap’: Long-term Interest Rates or Exchange Rates Could Go sharply higher when the QE Is Unwound

Images of Long-term Interest Rates with and without QE
Exhibit 34. Fed and BOJ Losses under Various Yield Scenarios as % of GDP

Exhibit 35. Trump May Run into Capital Flight Problem if He Pushes Dollar down too far

Japanese 10-year government bond yield (left scale)

"Tateho Shock*"

Dollar falling below ¥150 triggered both sell-off of US Treasuries and purchases of JGBs.

Black Monday

30-year US treasury bond yield (right scale)


Yen-dollar exchange rate (left scale)

$ = 150 Yen

150 bpt.

270 bpt.

1987

*: Japanese chemical company Tateho loses massively in JGB futures trading, triggering panic in the JGB market.
Sources: Federal Reserve Bank of New York, Board of Govenors of the Federal Reserve, Japan Bond Trading Company
Appendix A-1

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