The World in Balance Sheet Recession: What Post-2008 U.S., Europe and China Can Learn from Japan 1990-2005

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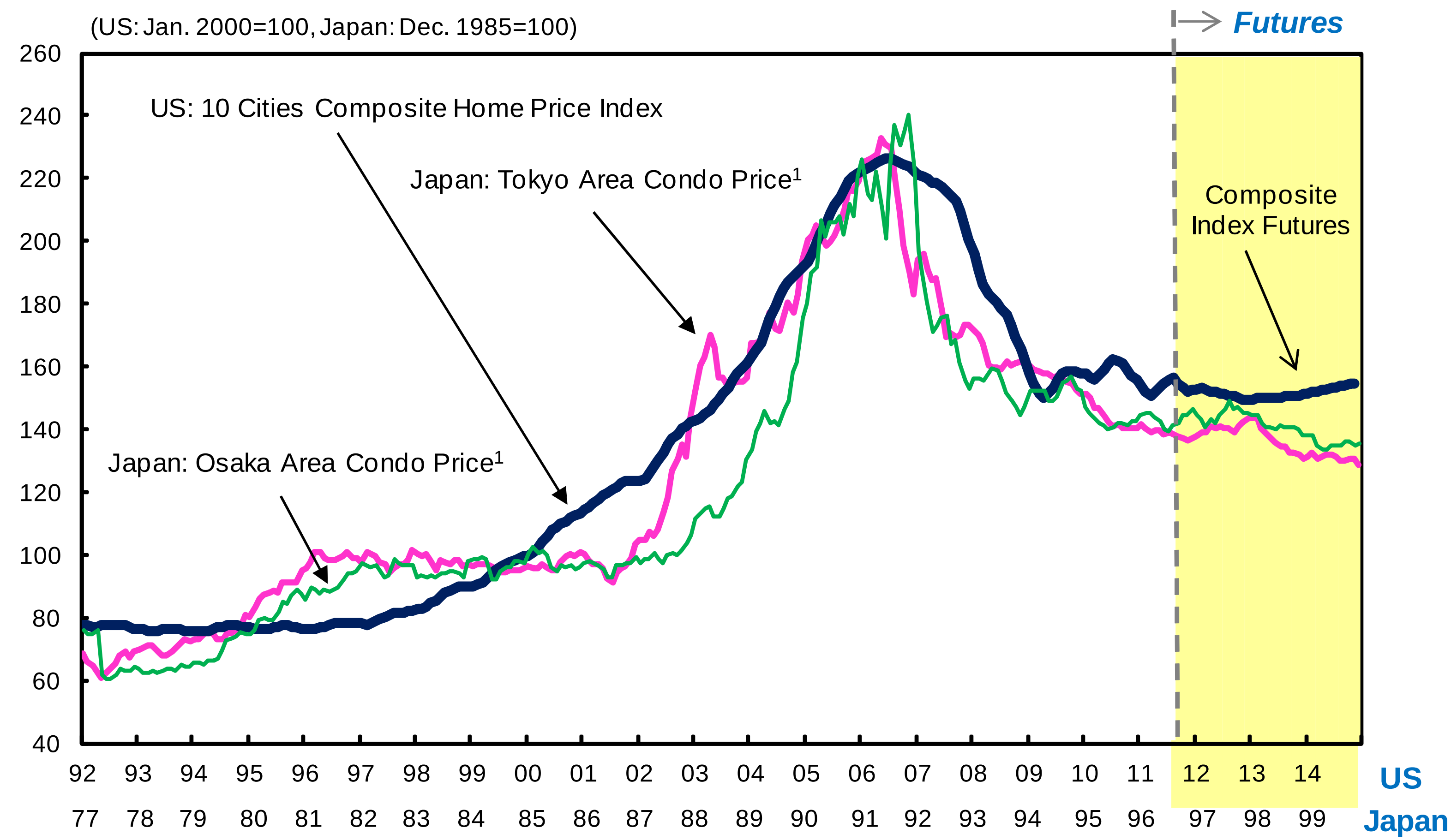
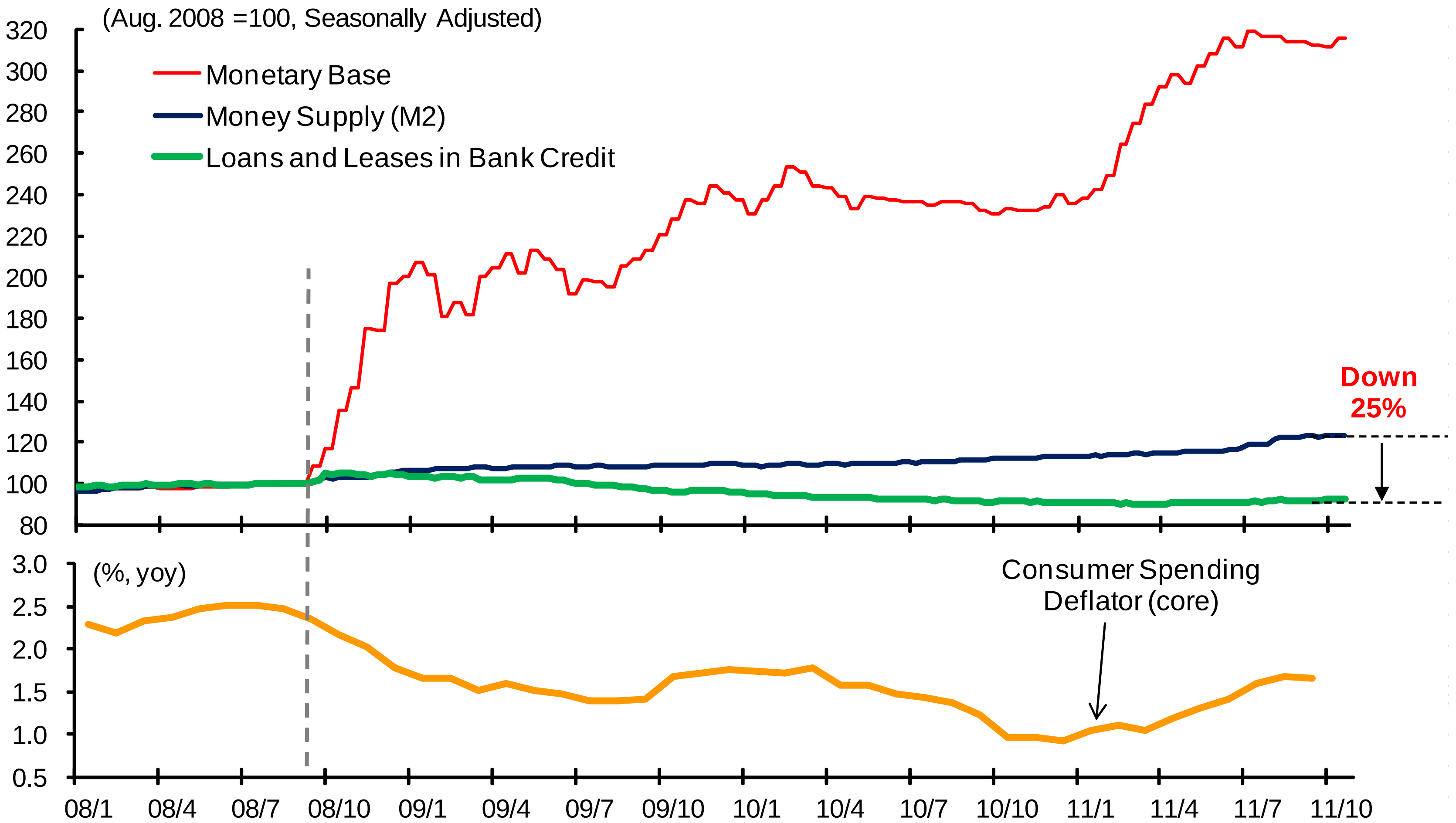
Exhibit 1. US Housing Prices Are Moving along the Japanese Experience



Note: per m^2, 5-month moving average

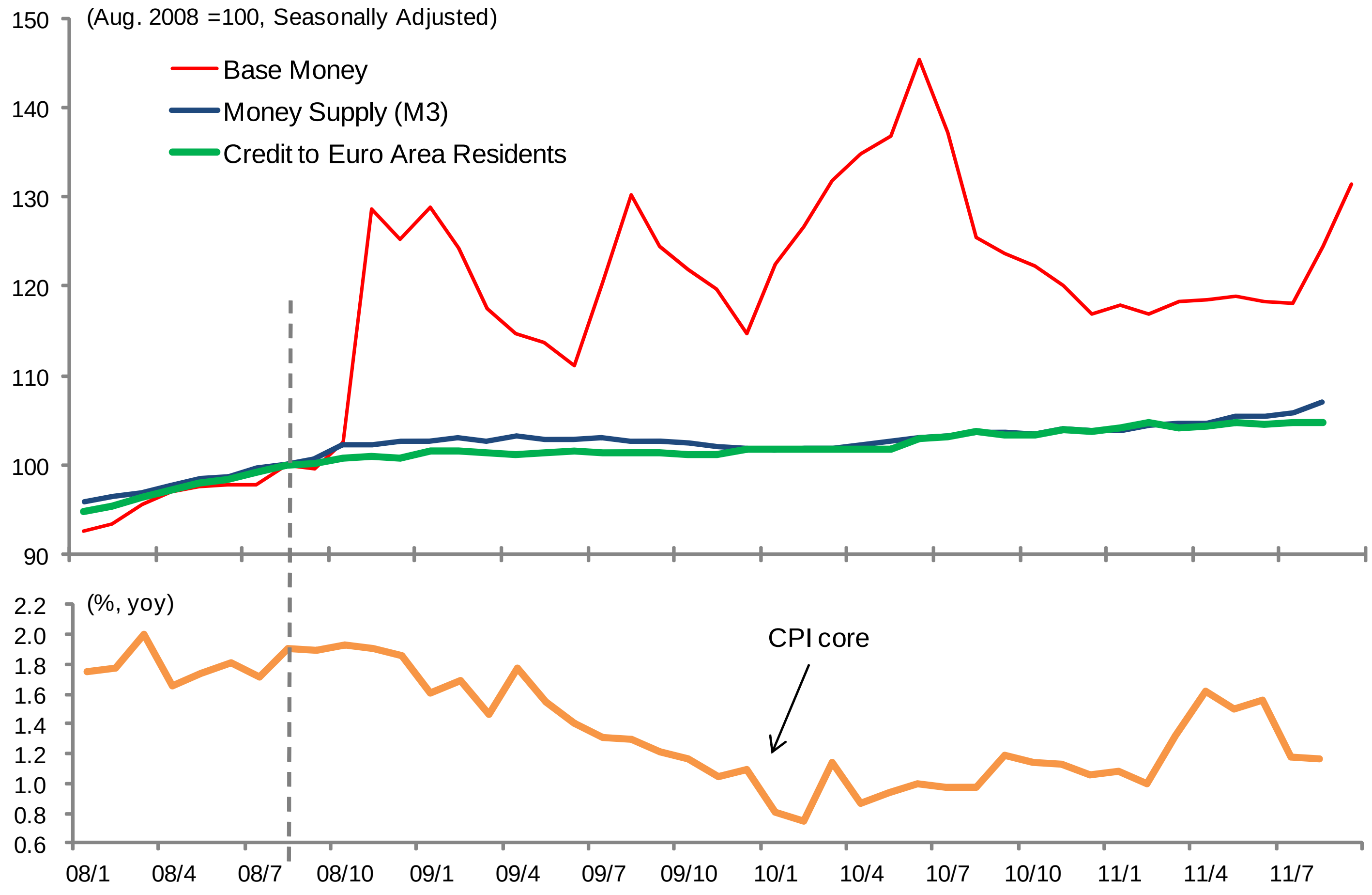
Sources: Bloomberg, Real Estate Economic Institute, Japan, S&P, S&P/Case-Shiller® Home Price Indices, as of Oct. 28, 2011

Exhibit 2. Drastic Liquidity Injection Failed to Increase Money Supply (I): US



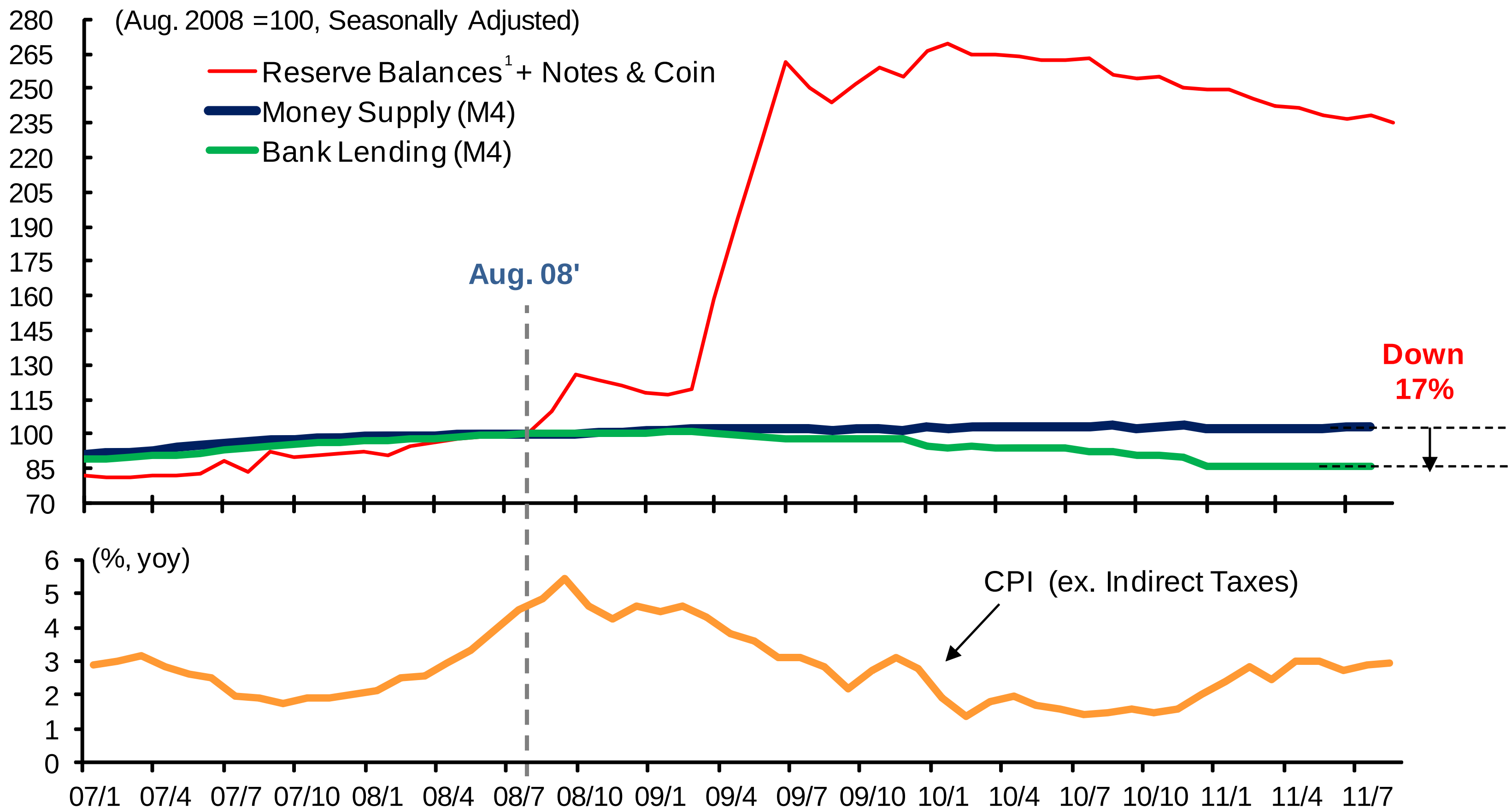
Sources: Board of Governors of the Federal Reserve System, US Department of Commerce
Note: Commercial bank loans and leases, adjustments for discontinuities made by Nomura Research Institute.

Exhibit 3. Drastic Liquidity Injection Failed to Increase Money Supply (II): EU



Sources: ECB, Eurostat
Note: Base money's figures are seasonally adjusted by Nomura Research Institute.

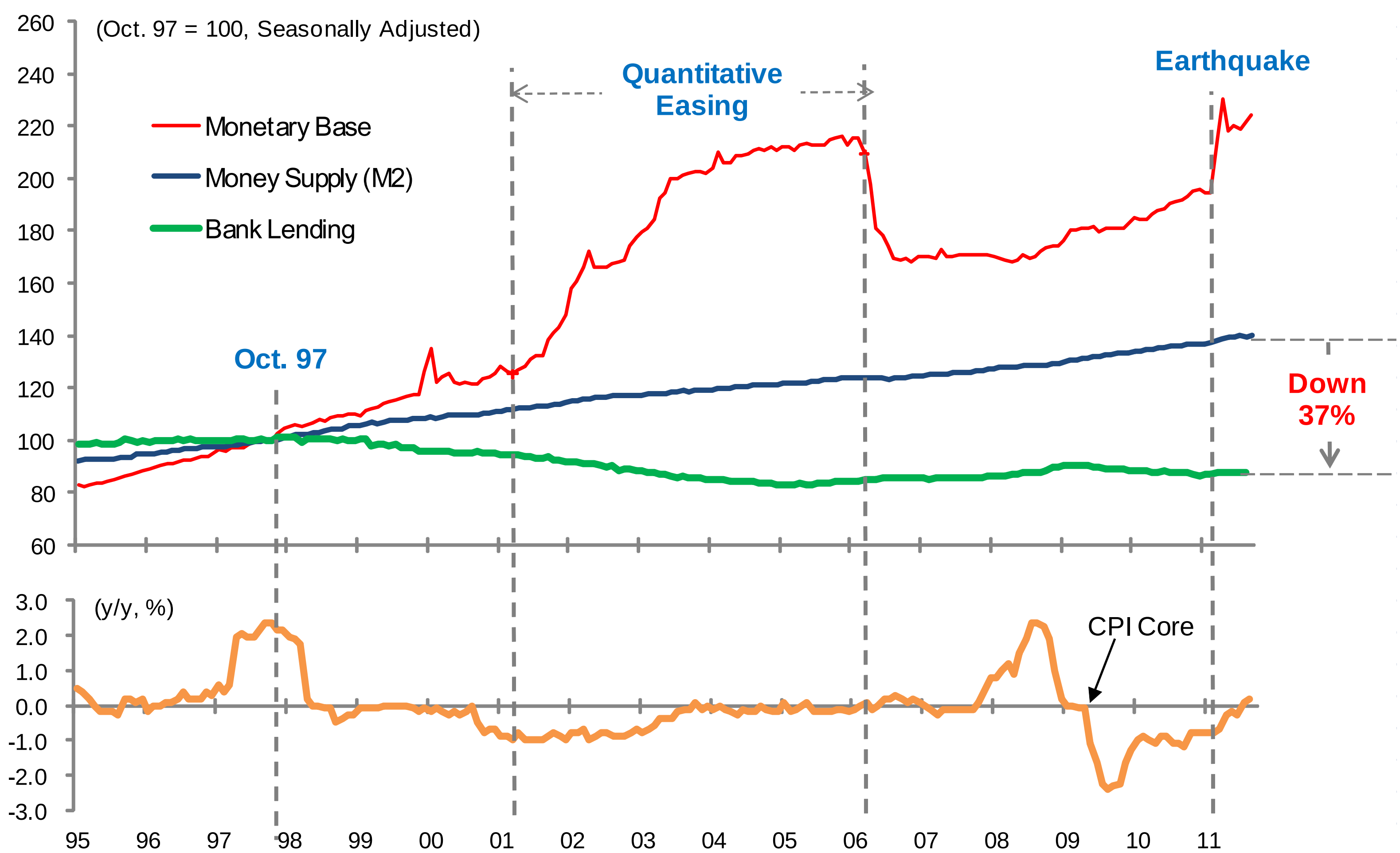
Exhibit 4. Drastic Liquidity Injection Failed to Increase Money Supply (III): UK



Sources: Bank of England, Office for National Statisics, UK

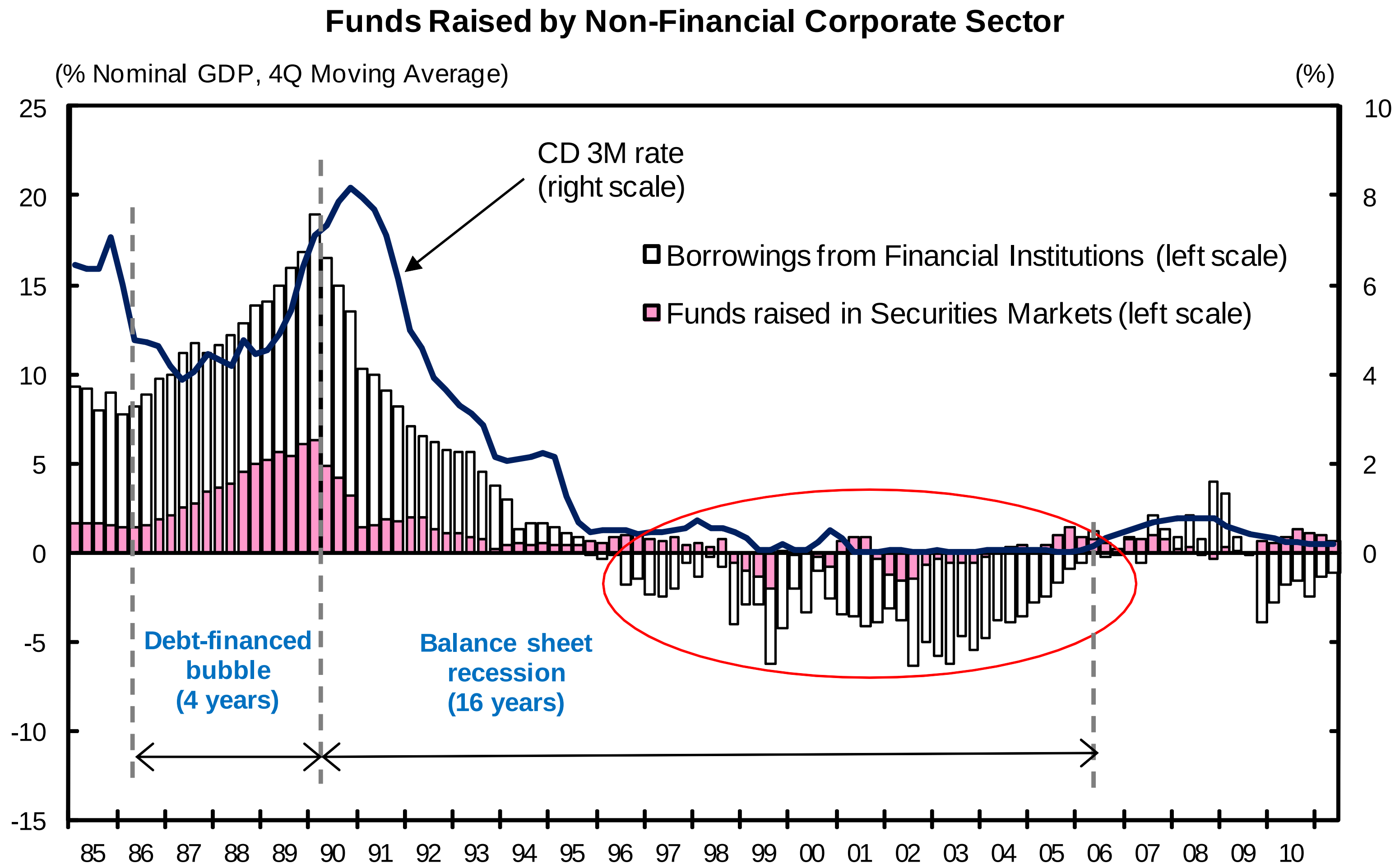
Notes: 1. Reserve Balances data are seasonally unadjusted. 2. Money supply and bank lending data exclude intermmediate financial institutions.

Exhibit 5. Drastic Liquidity Injection Failed to Produce Drastic Increase in Money Supply (IV): Japan



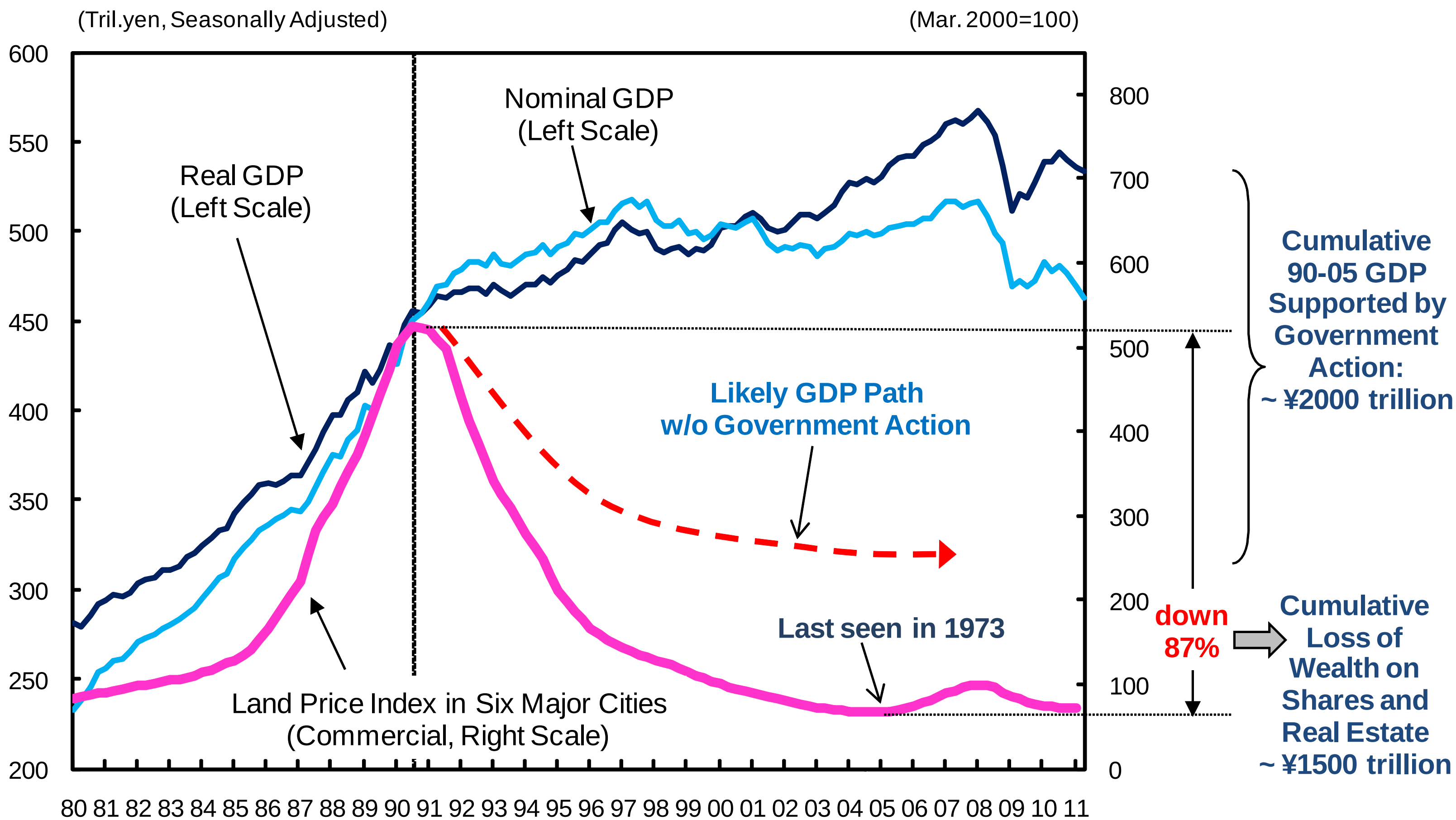
Note: Bank lending are seasonally adjusted by Nomura Research Institute.
Source: Bank of Japan

Exhibit 6. Japan's De-leveraging with Zero Interest Rates Lasted for 10 Years



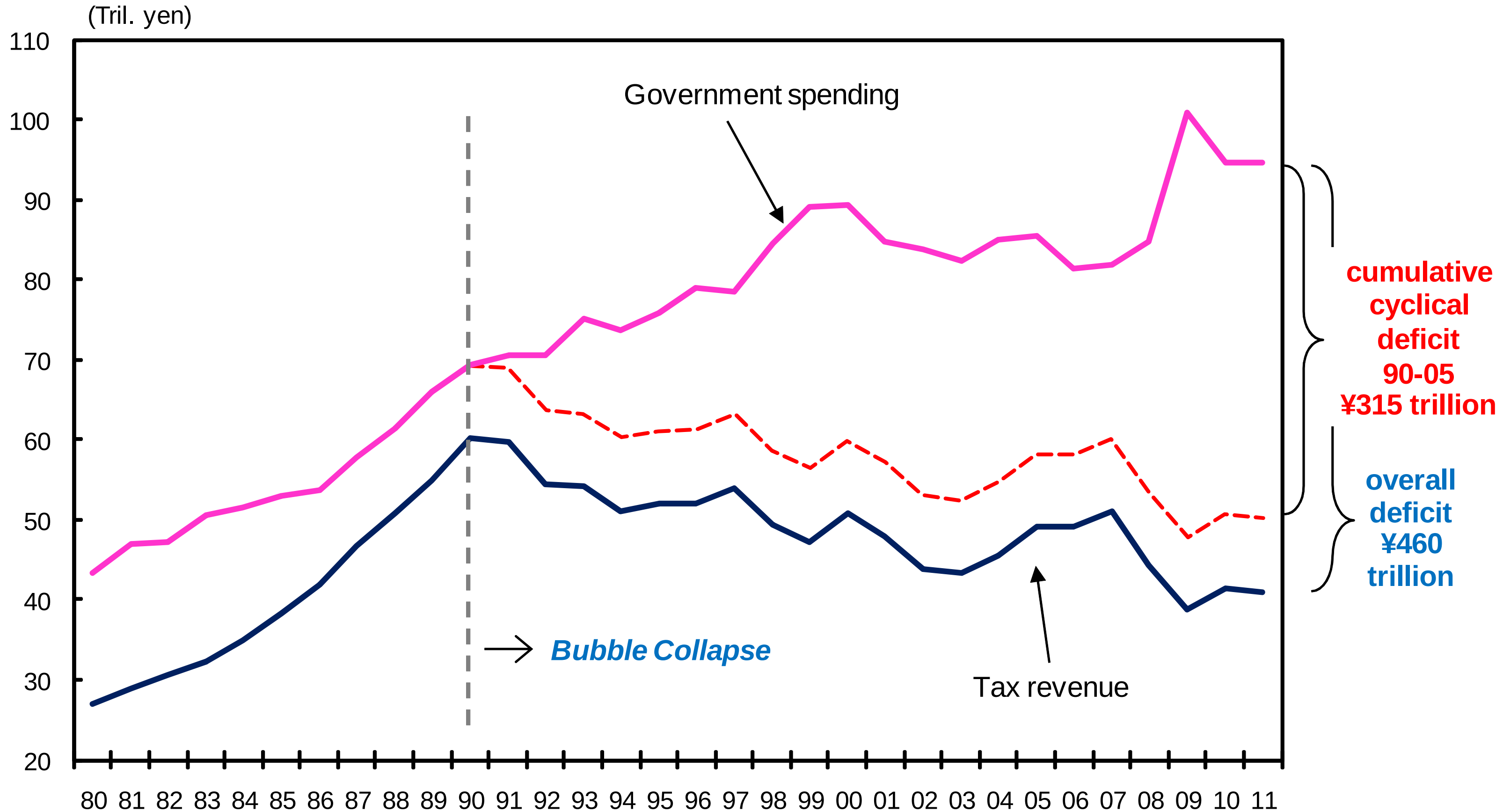
Sources: Bank of Japan, Cabinet Office, Japan

Exhibit 7. Japan's GDP Grew in spite of Massive Loss of Wealth and Private Sector De-leveraging



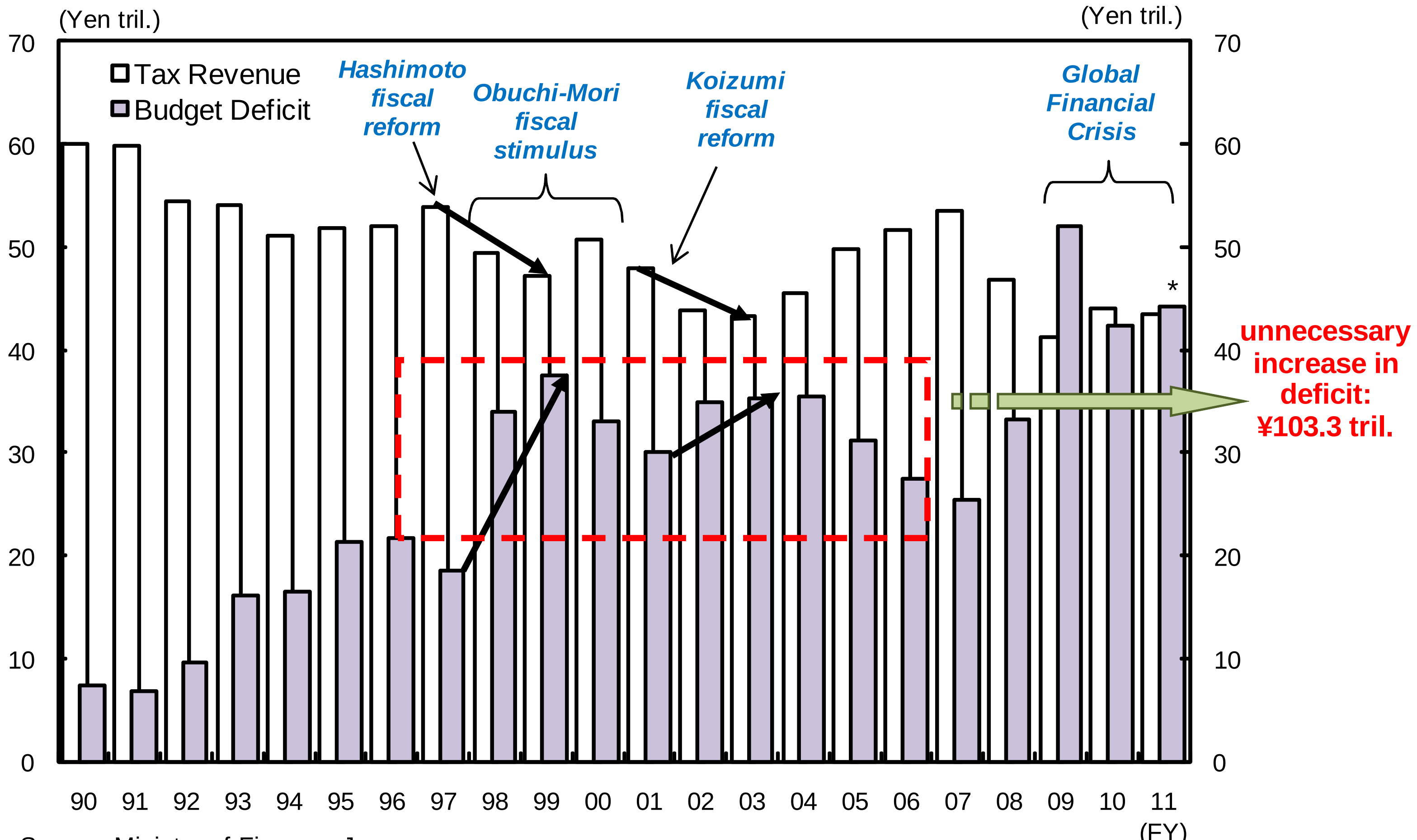
Sources: Cabinet Office, Japan Real Estate Institute

Exhibit 8. Japanese Government Borrowed and Spent the Unborrowed Savings of the Private Sector to Sustain GDP



Source: Ministry of Finance, Japan
Note: FY 2011 includes 2nd supplementary budget.

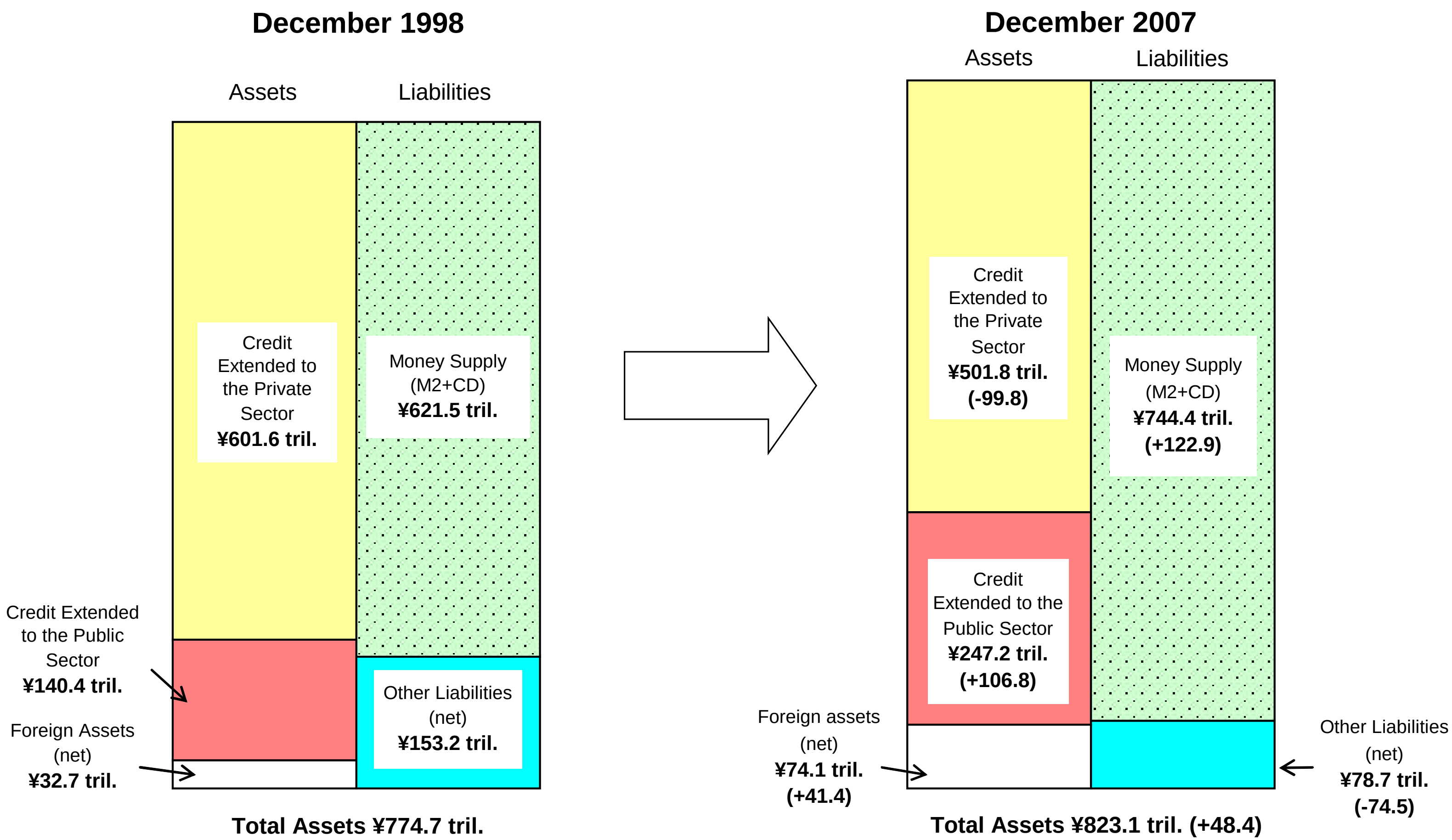
Exhibit 9. Premature Fiscal Reforms in 1997 and 2001 Weakened Economy, Reduced Tax Revenue and *Increased* Deficit



Source: Ministry of Finance, Japan
*: estimated by MOF

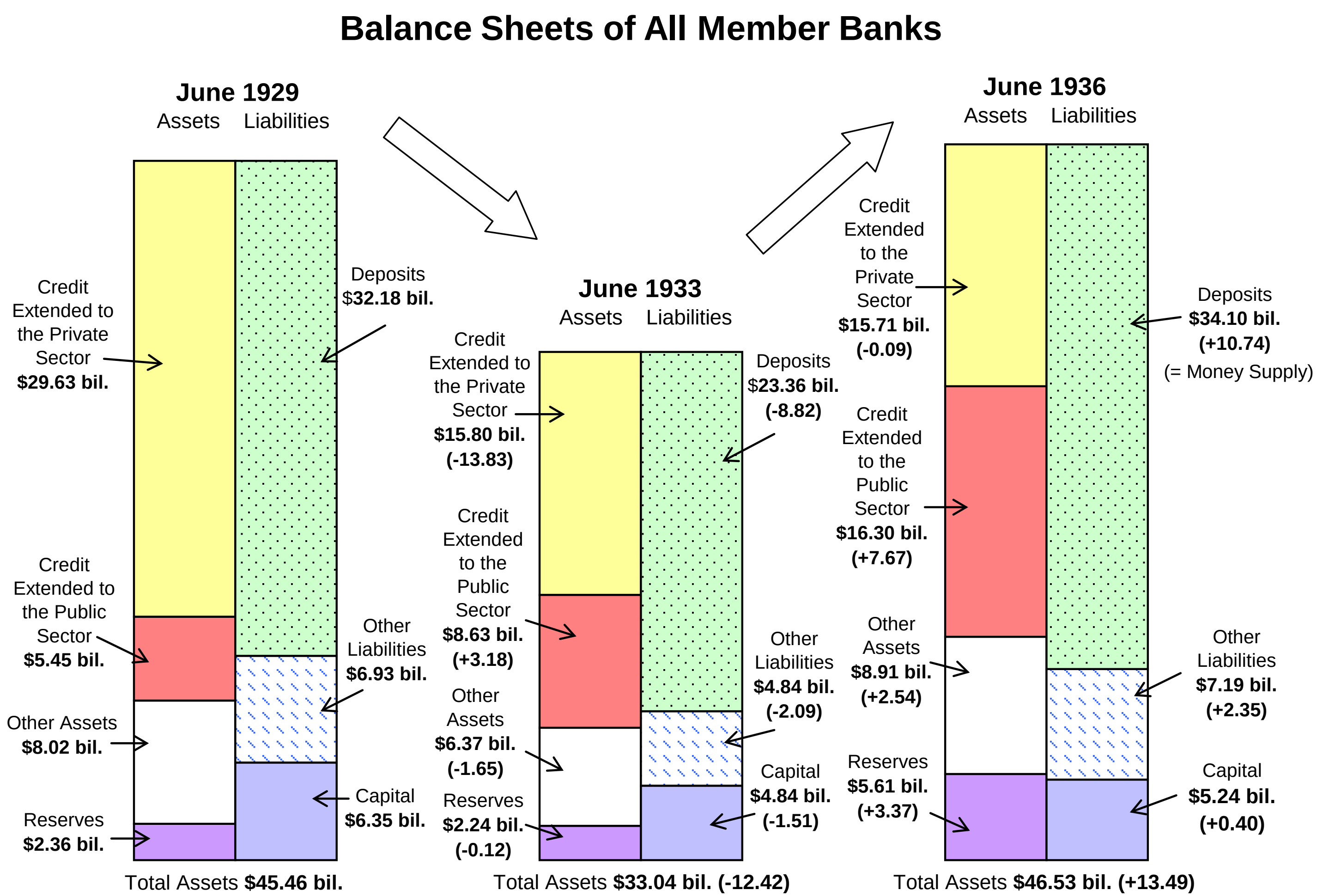
Exhibit 10. Monetary Easing No Substitute for Fiscal Stimulus (I): Japan's Money Supply Has Been Kept Up by Government Borrowings

Balance Sheets of Banks in Japan



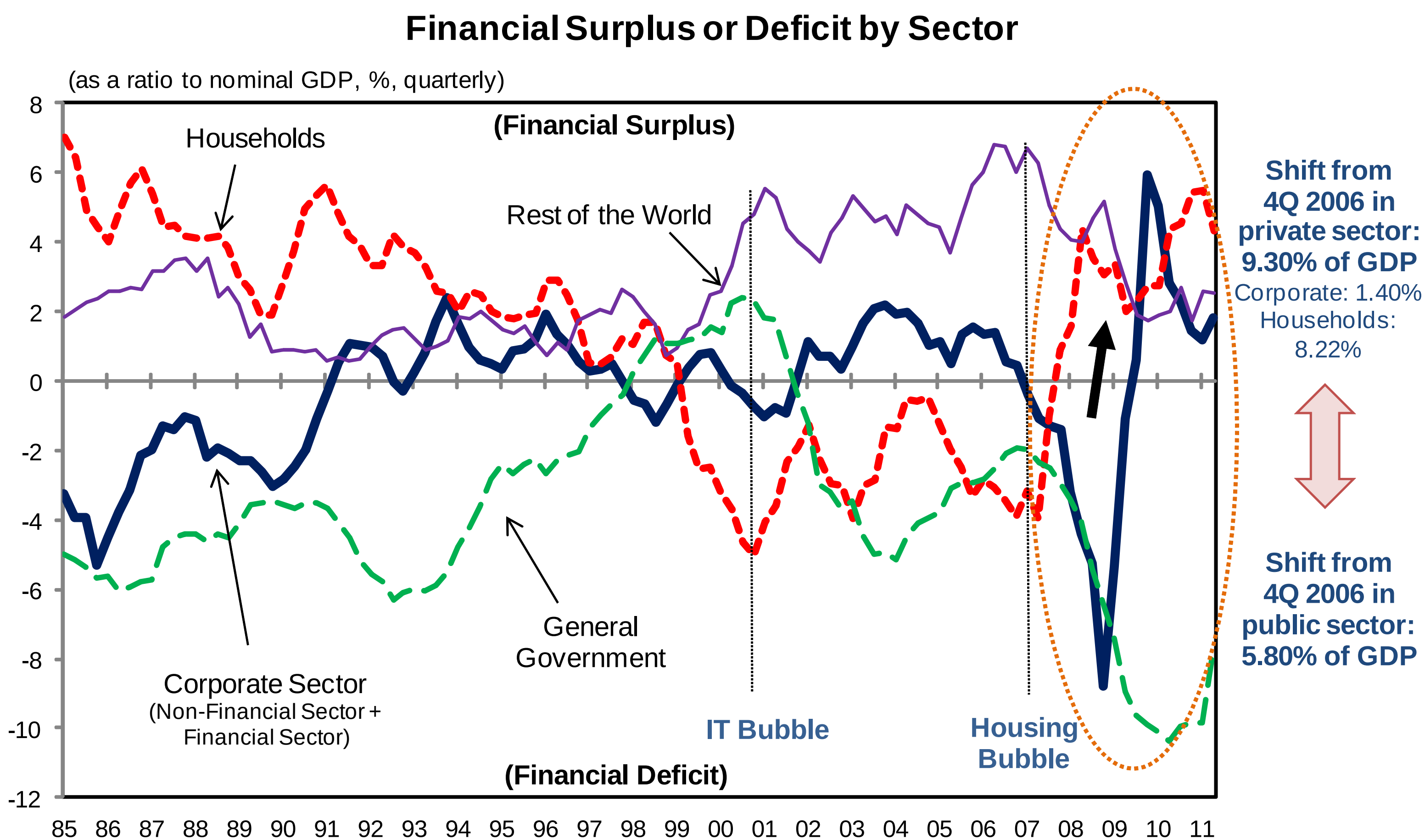
Source: Bank of Japan "Monetary Survey"

Exhibit 11. Monetary Easing No Substitute for Fiscal Stimulus (II): Post-1933 US Money Supply Growth Made Possible by Government Borrowings



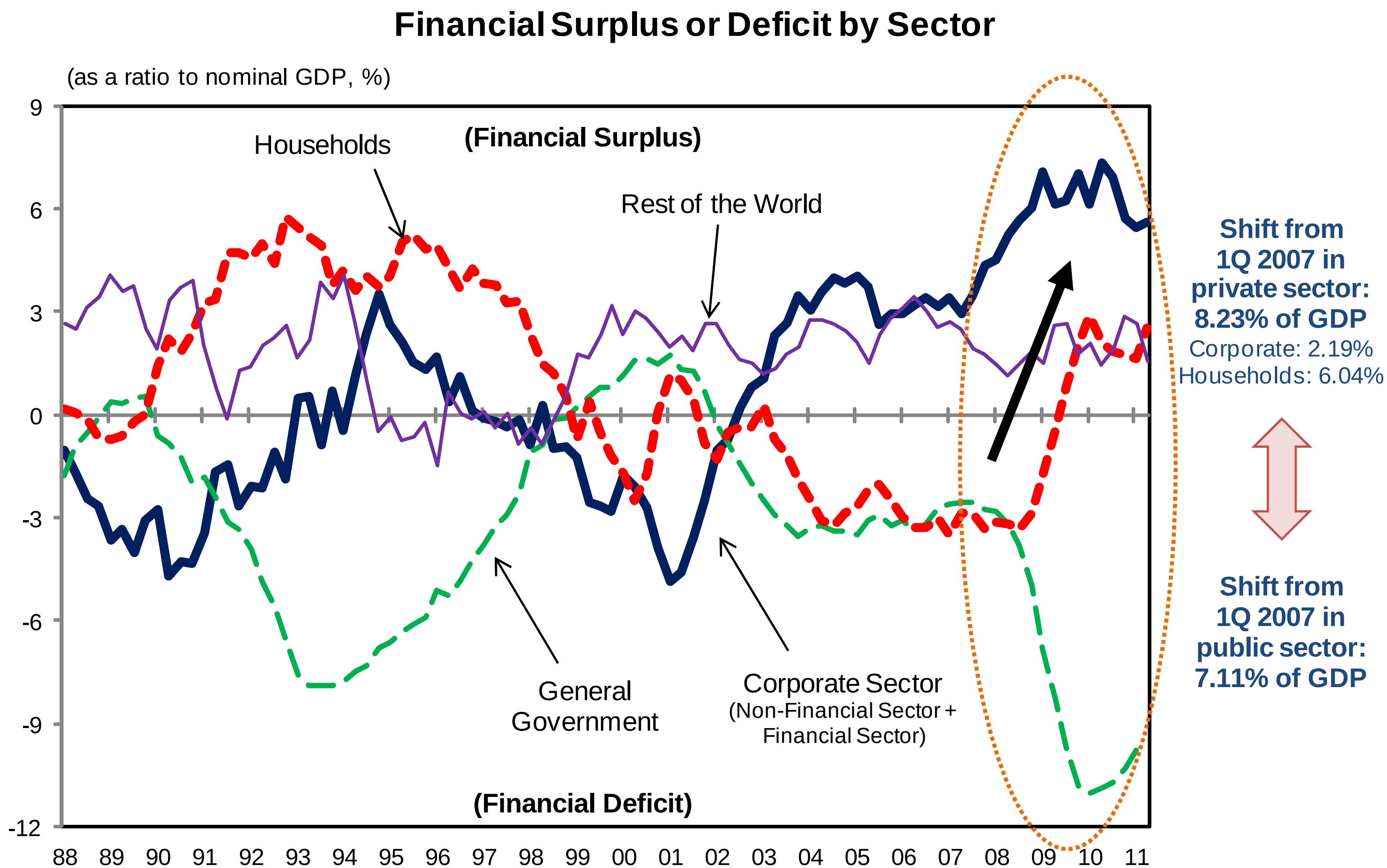
Source: Board of Governors of the Federal Reserve System (1976) *Banking and Monetary Statistics 1914-1941* pp.72-79

Exhibit 12. US in Balance Sheet Recession: US Private Sector Increased Savings Massively after the Bubble



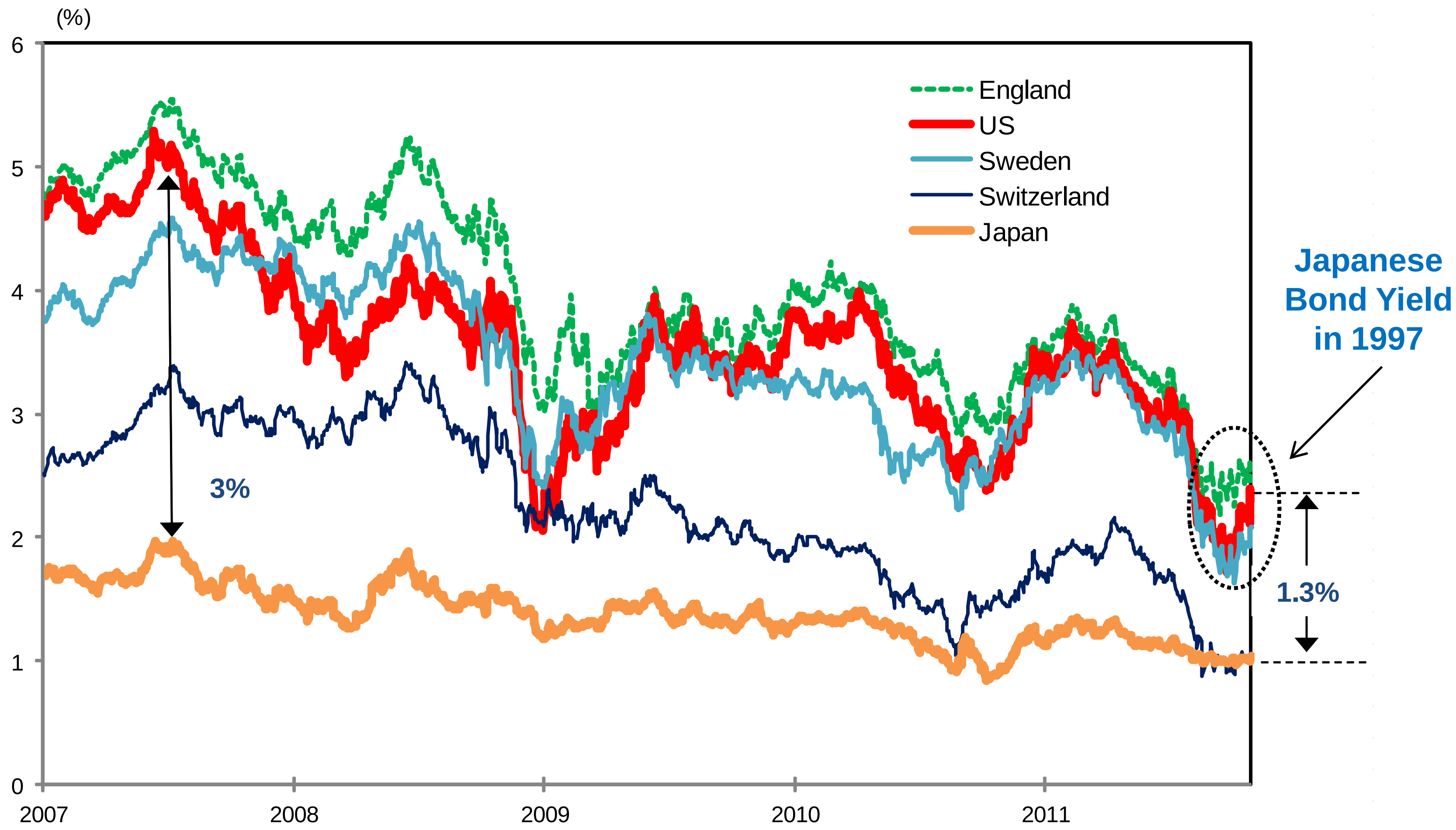
Note: For the latest figures, 4 quarter averages ending with 2Q/11' are used.
Sources: FRB, US Department of Commerce

Exhibit 13. UK in Balance Sheet Recession: UK Private Sector Increased Savings Massively after the Bubble



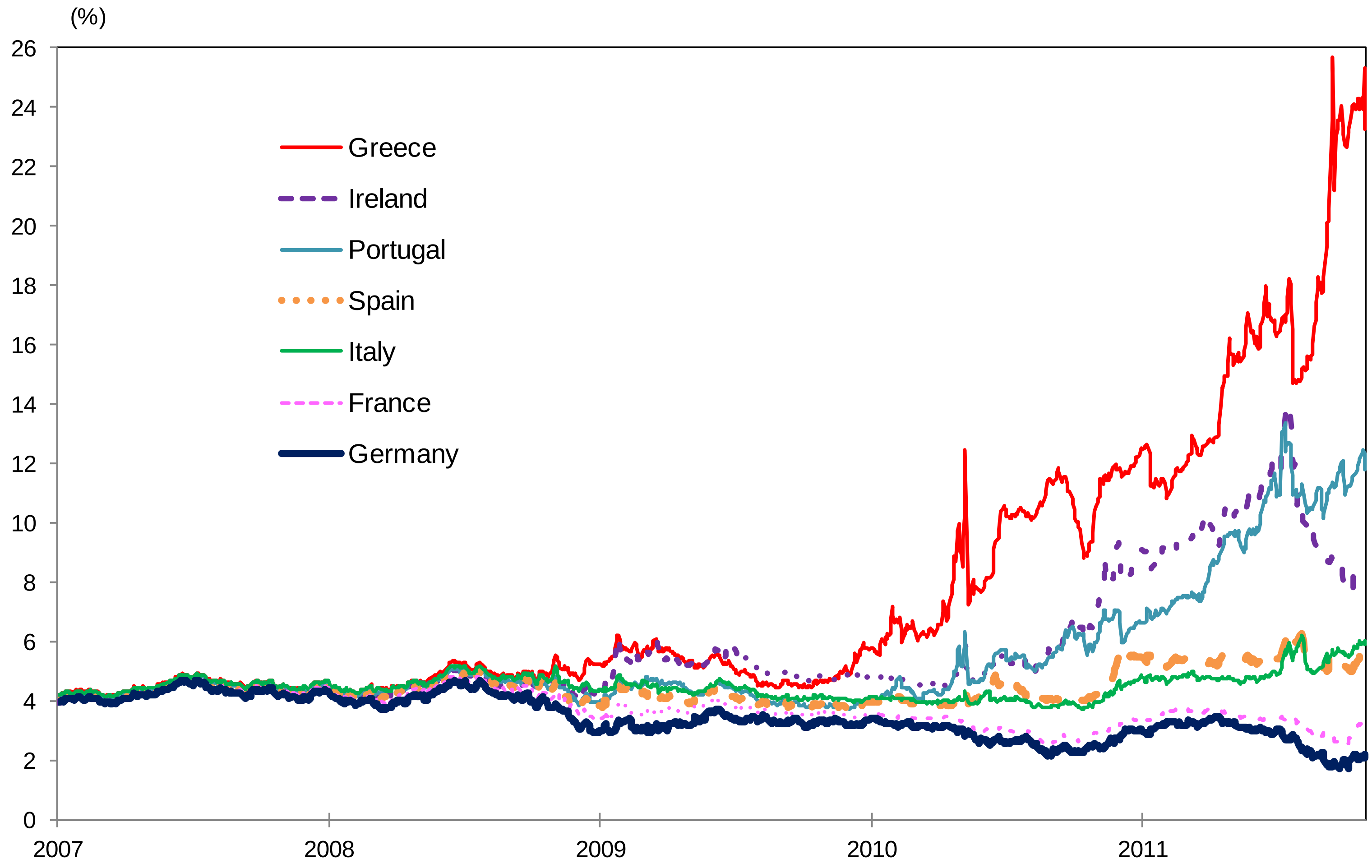
Note: For the latest figures, 4 quarter averages ending with 2Q/11' are used.
Source: Office for National Statistics, UK

Exhibit 14. Global Bond Yields* Nearing Japanese Levels



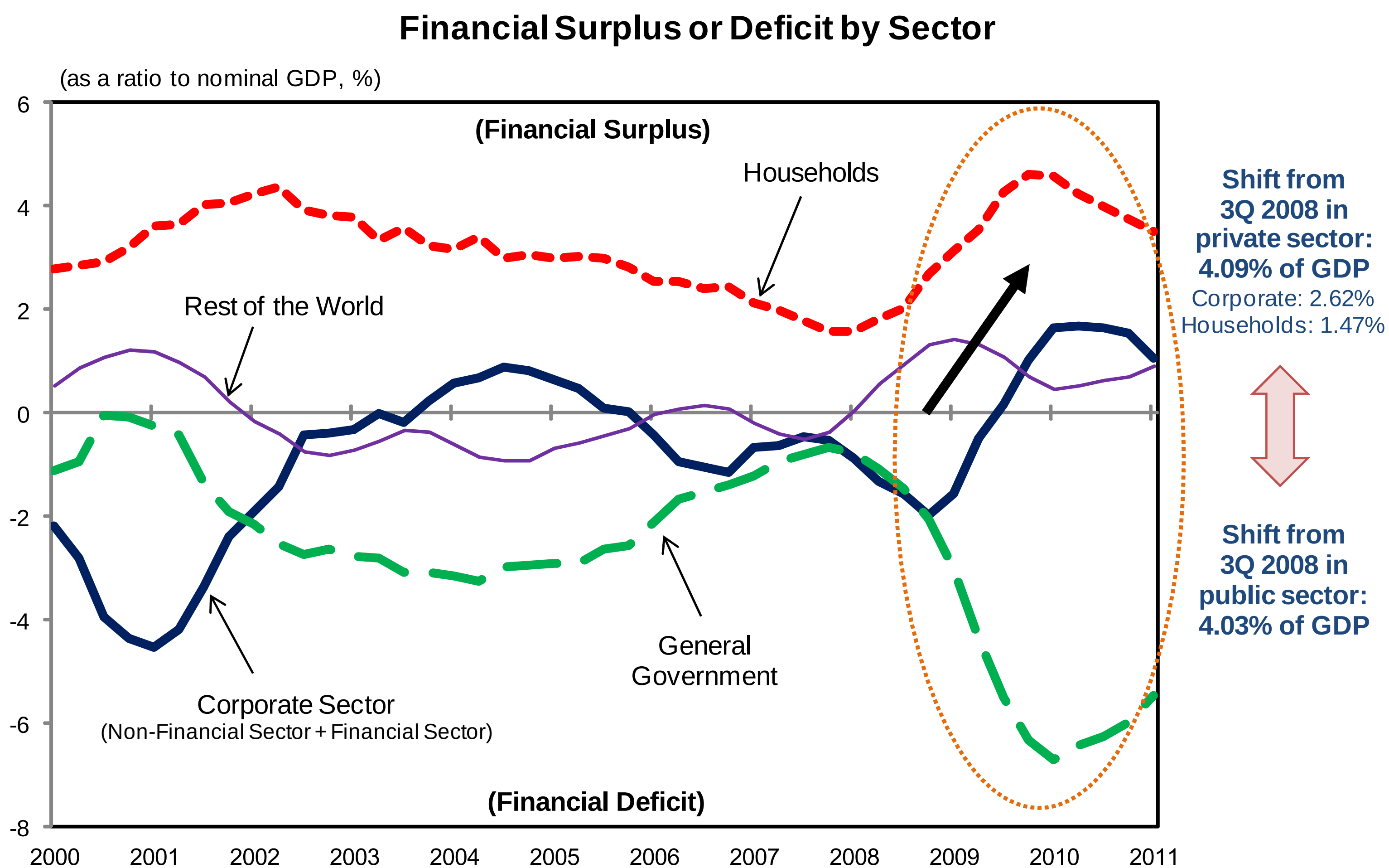
*Note: Excluding Eurozone. As of Oct. 28, 2011.
Source: Bloomberg

Exhibit 15. Euro-Zone Bond Yields Are Diverging Sharply



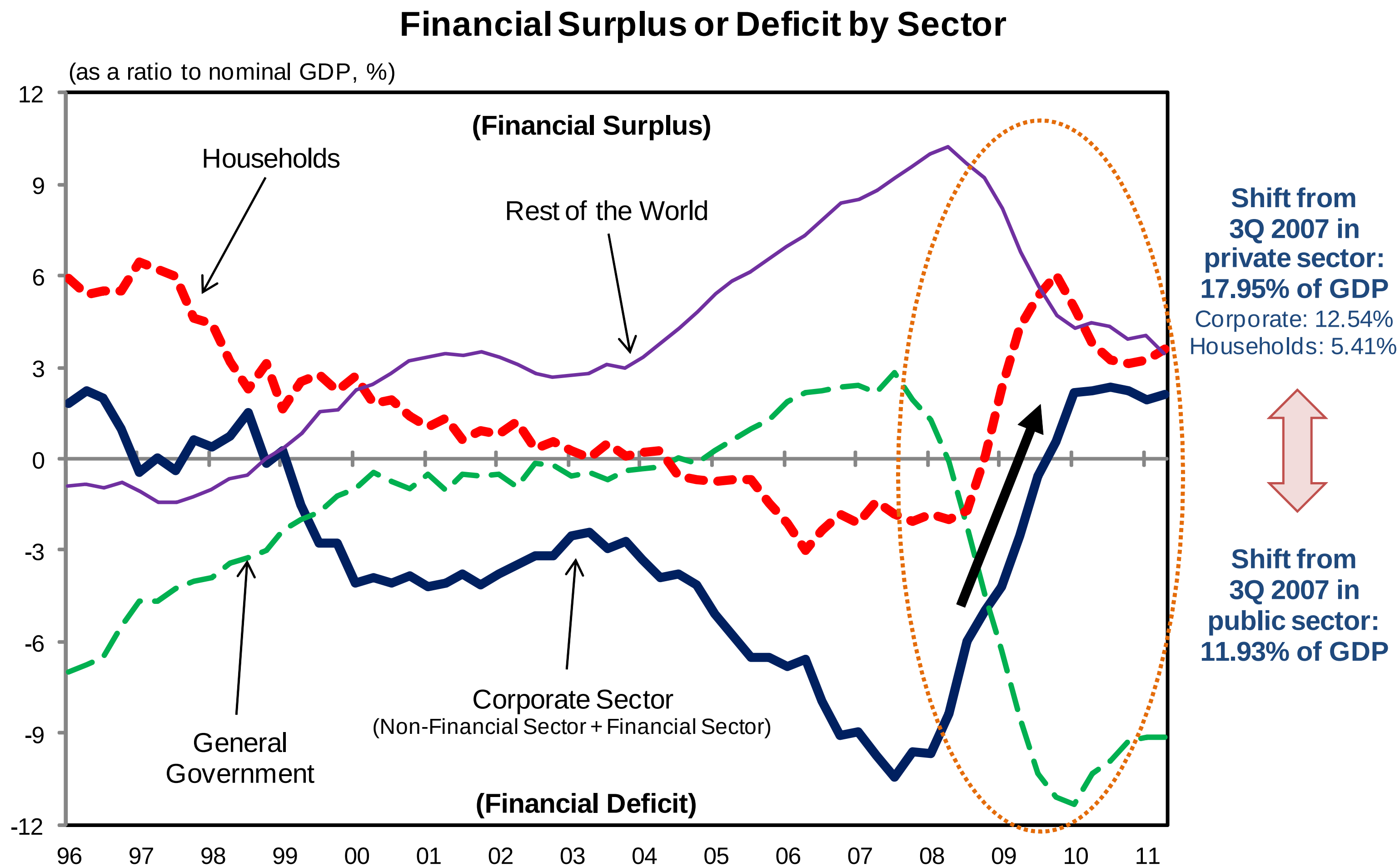
Note: As of Oct. 28, 2011.
Source: Bloomberg

Exhibit 16. Euro-zone in Balance Sheet Recession: Euro-zone Private Sector Increased Savings Massively after the Bubble



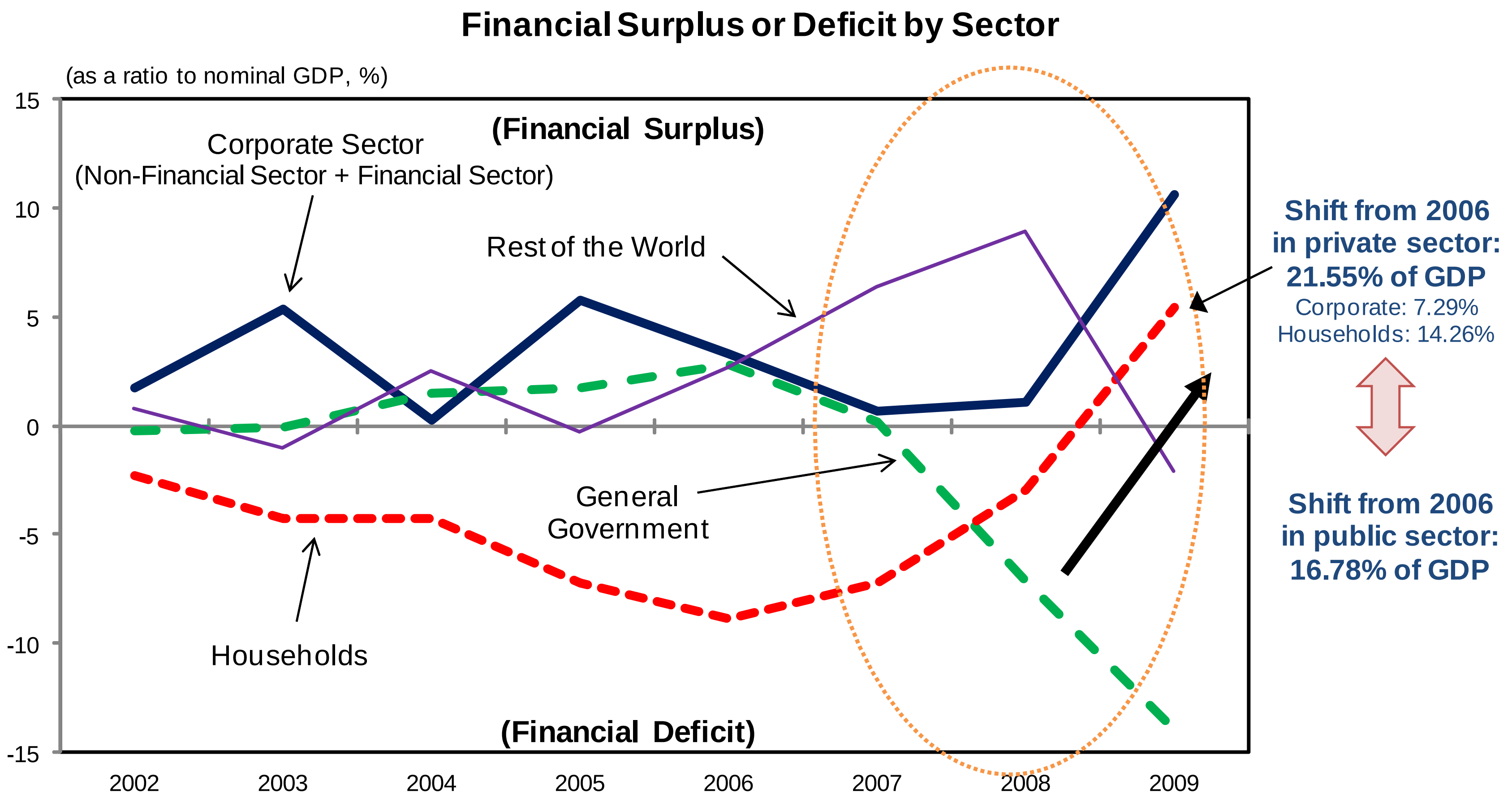
Note: For the latest figures, 4 quarter averages ending with 1Q/11' are used.
Source: ECB

Exhibit 17. Spain in Balance Sheet Recession: Spanish Private Sector Increased Savings Massively after the Bubble



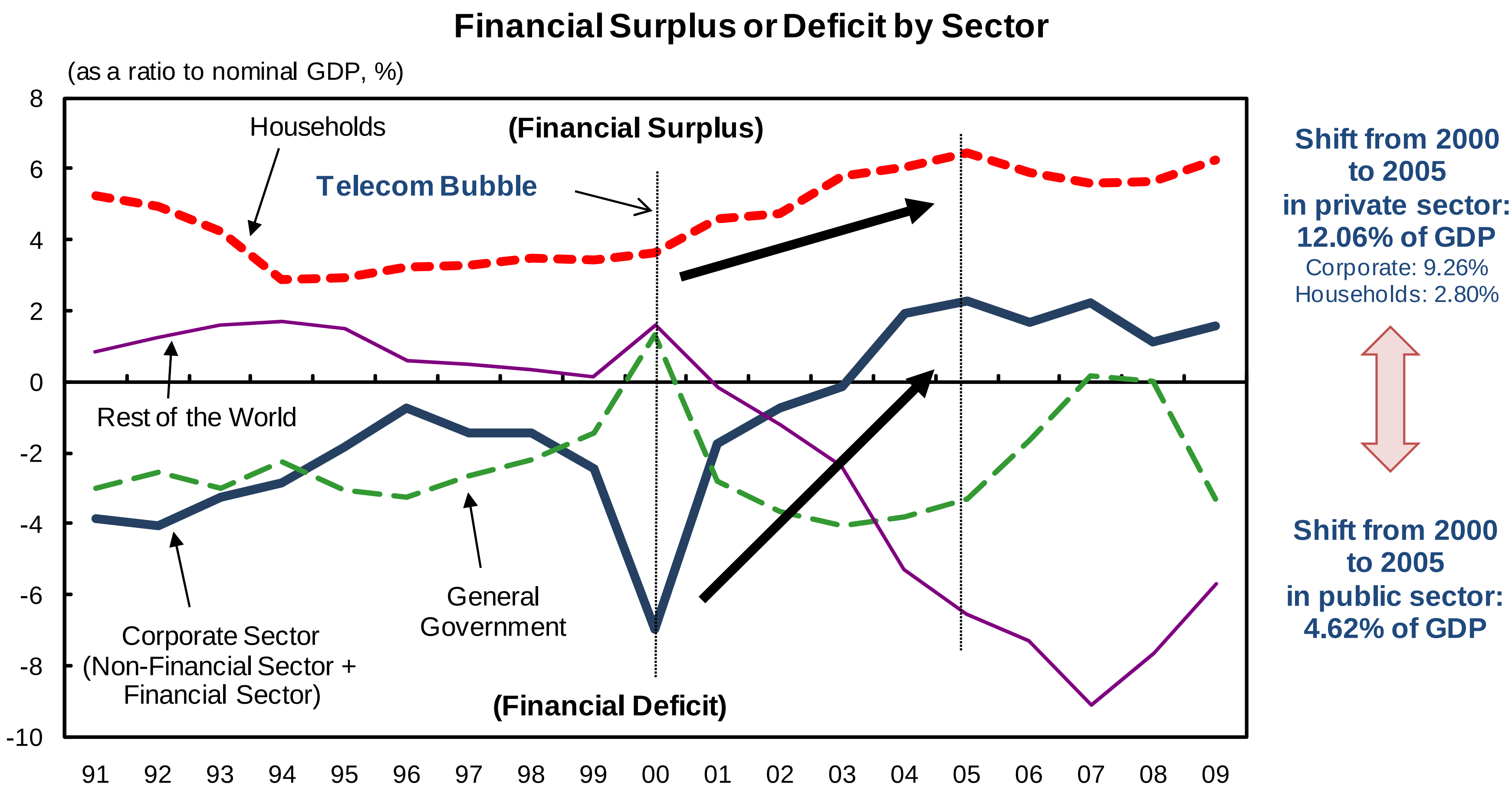
Note: For the latest figures, 4 quarter averages ending with 2Q/11' are used.
Source: Banco de España

Exhibit 18. Ireland in Balance Sheet Recession: Irish Private Sector Increased Savings Massively after the Bubble



Sources: Eurostat, Central Statistics Office, Ireland

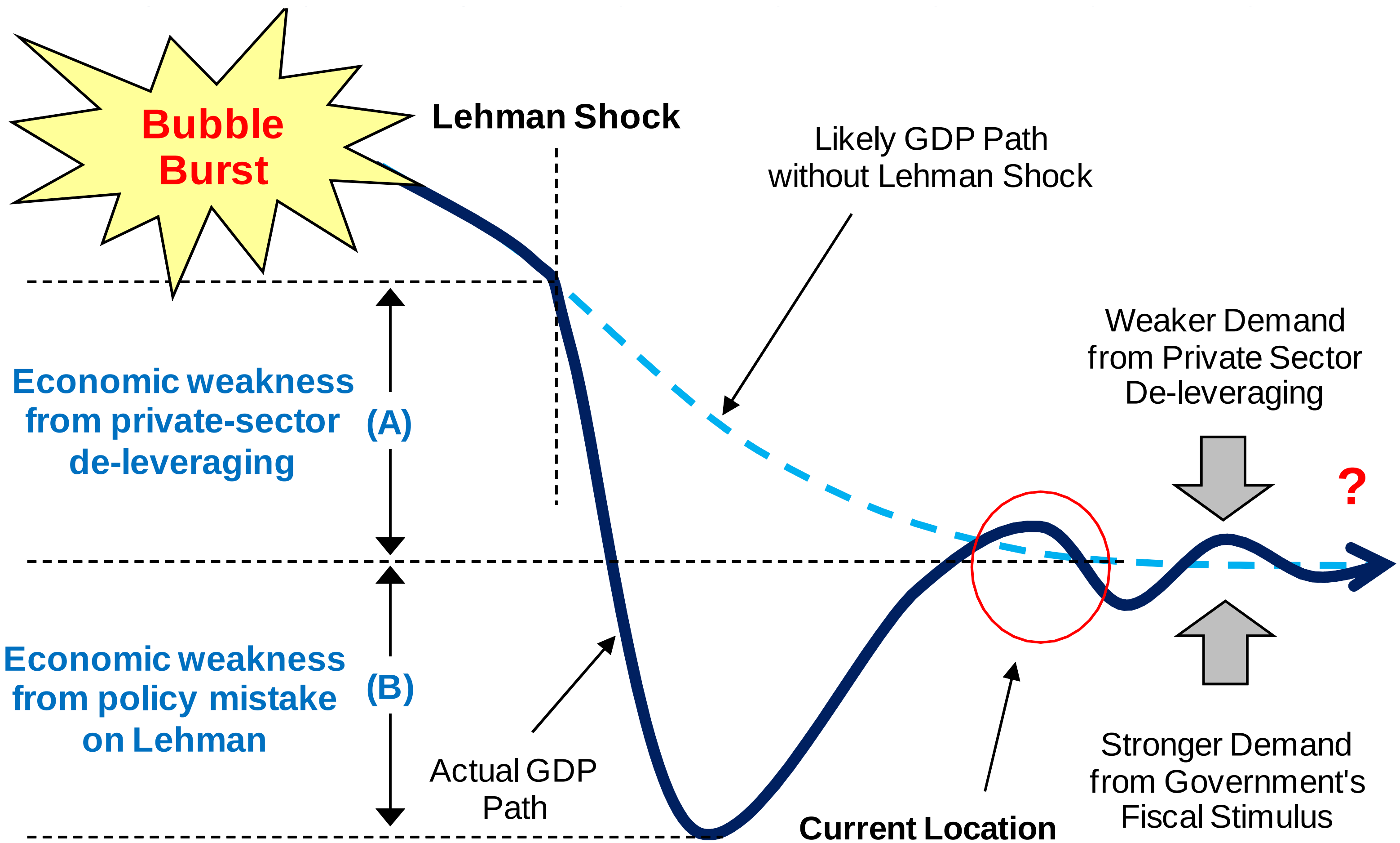
Exhibit 19. Exit Problem (II): German Private Sector Refused to Borrow Money after 1999-2000 Telecom Bubble



Sources: Deutsche Bundesbank, Federal Statistical Office Germany

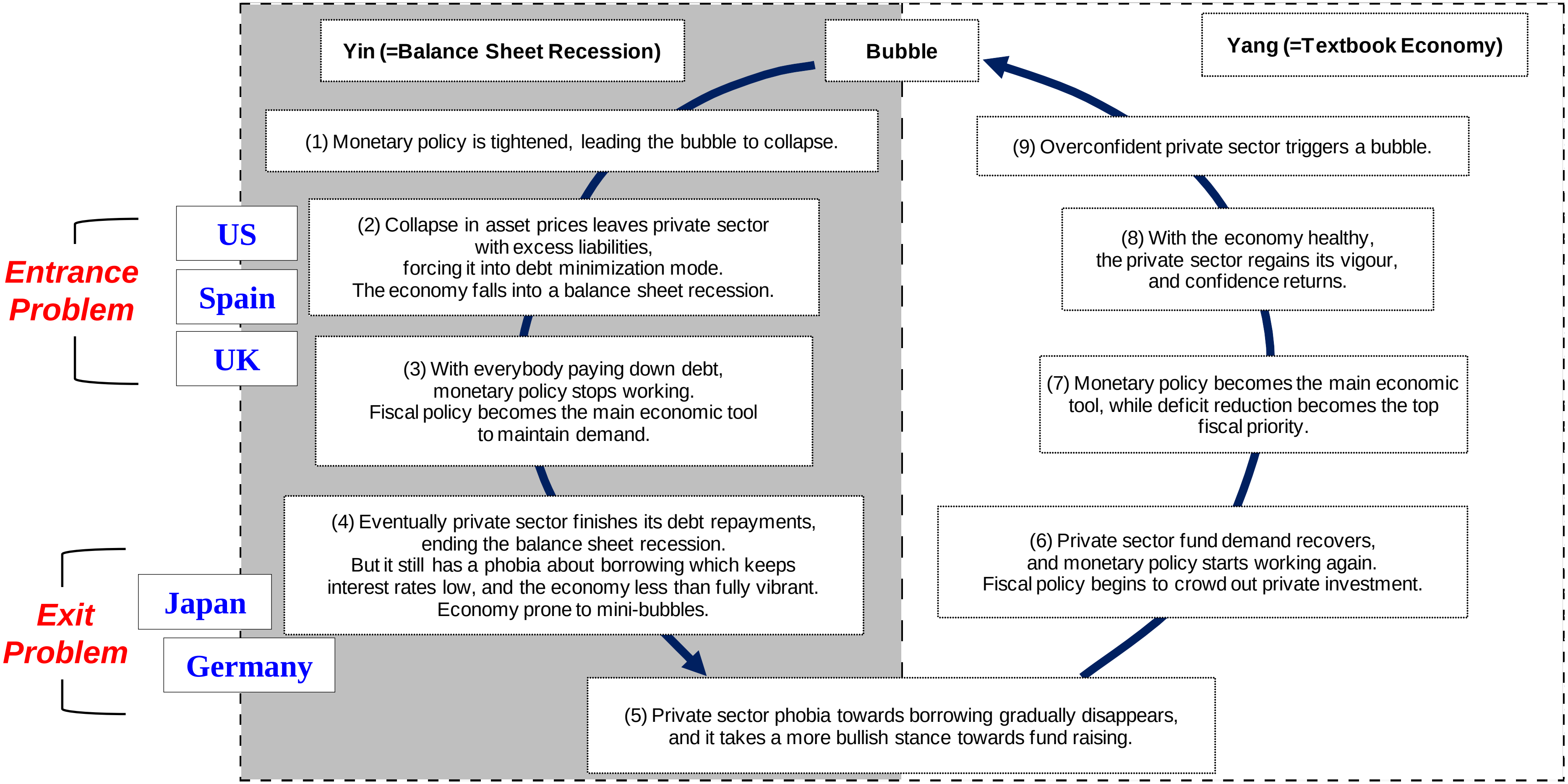
Note: The assumption of Treuhand agency's debt by the Redemption Fund for Inherited Liabilities in 1995 is adjusted.

Exhibit 20. Recovery from Lehman Shock Is NOT Recovery from Balance Sheet Recession



Source: Nomura Research Institute

Exhibit 21. Multi-Decade Cycle of Bubbles and Balance Sheet Recessions



Source: Richard Koo, *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession*, John Wiley & Sons, Singapore, April 2008 p.160.

Exhibit 22. Euro-Zone Banks Need Low-Cost Unconditional Capital Injection to Avoid Credit Crunch

Contrast Between Yin and Yang Phases of Cycle

Behavioral principle		***Yang* = Profit maximization**	***Yin* = Debt minimization**
1) Phenomenon		Textbook economy	Balance sheet recession
2) Private sector financial condition		Assets > Liabilities	Assets < Liabilities
3) Outcome		Greatest good for greatest number	Depression if left unattended
4) Monetary policy		Effective	Ineffective (liquidity trap)
5) Fiscal policy		Counterproductive (crowding-out)	Effective
6) Prices		Inflationary	Deflationary
7) Interest rates		Normal	Very low
8) Savings		Virtue	Vice (paradox of thrift)
9) Remedy for Banking Crisis	a) Localized	Quick NPL disposal Pursue accountability	Normal NPL disposal Pursue accountability
	b) Systemic	Slow NPL disposal Fat spread	Slow NPL disposal Capital injection by government

Source: Richard Koo, *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession*, John Wiley & Sons, Singapore, 2008