Challenges for central banking

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Four challenges

1. Importance of expectations in monetary policy
   - How should central banks talk?
2. Unconventional monetary policy
   - What are the basics of central banking?
3. Dealing with the build-up of financial imbalances
   - Central banks must take account of fiscal and financial policies. Ministry of Finance must take account of monetary and financial policies.
4. International aspect of monetary policy
   - A “put one’s house in order” doctrine is not enough.

1. Importance of expectations

- “Central Banking … is an esoteric art.” (Karl Brunner 1981)
- “Greater openness might actually improve the efficiency of monetary policy. … [because] expectations about future central bank behavior provide the essential link between short rates and long rates.” (Alan Blinder 1998)
- “successful monetary policy is not so much a matter of effective control of overnight interest rates… as of affecting … the evolution of market expectations.” (Michael Woodford 2001)

Term structure of interest rate

$$R_t = \sum_{i=0}^{n} \alpha_i E_t (r_{t+i}) + \theta_t$$

- R_t: Long-term interest rate
- r_t: Short-term interest rate
- θ_t: Risk premium
- α_i: Weight

Managing expectations

- This is a useful part of monetary policy. Communication policy changed from a nuisance to a key instrument in the central banker's toolkit.
- Two effects of communication:
  - Creating news: influence expectations and move asset prices.
  - Reducing noise: increase the predictability of central bank actions, which should in turn reduce volatility in financial markets.
- What is "optimal" communication strategy? The answer is "not clear."
  - Communication is no panacea.
  - More communication is not always better.

What is communication by central banks?

- Definition of central bank (CB) communication:
  - Provision of information by CB to the public regarding such matters as:
    (i) The objectives of monetary policy
    (ii) The monetary policy strategy
    (iii) The economic outlook
    (iv) The outlook for future policy decisions

What to communicate?

- Objectives and strategy
  - Quantification of objectives (i) facilitates accountability, and (ii) helps to anchor the expectations of economic agents.
  - However, few if any CBs actually communicate a precise policy rule.
- Policy directions
  - Practices differ enormously regarding what CBs should or should not say in the statement that accompanies the decision.
- The economic outlook
  - The extent and content of any forward-looking information CB provides.
- Path of future policy rates
  - CB's forecasting its own future behavior is the last frontier of transparency. Difficult to understand the conditional nature. Communications might be mistaken for commitments.

Impact of CB communication on inflation (empirical evidence)

- Inflationary expectations appear to be generally well anchored, and inflation forecast errors small, in inflation targeting (IT) countries.
  - May exist a causal link between adopting (IT) and anchoring inflation expectations.
- Communication of an explicit inflation target is not the only way to control inflation and inflationary expectations.
  - One clear alternative is establishing an anti-inflation track record that allows economic agents to make reasonably accurate inferences about the CB's objectives and strategy.

Where we stand on CB communication?

- No consensus has yet emerged on what communication policies constitute “best practice” for CBs.
- The predictability of monetary policy decisions has improved notably in many countries.
- What used to be called “announcement effects” help the CB rather than hinder it.
- IT helps anchor inflationary expectations, but the evidence that adopting IT leads to lower or less variable inflation is far less compelling.
- More attention should be paid to communication with the general public.
  - It is the general public that gives CBs their democratic legitimacy, and hence their independence.

Communication policy of the BoJ

- The Bank of Japan (BOJ) Law requires the BOJ to clarify to the public the content of its decisions and its decision making processes regarding monetary policy:
  1. Releasing the minutes and transcripts of Monetary Policy Meetings
  2. Reporting to and attendance at the Diet
  3. Public announcement of the Outline of Business Operations
- Other communication activities include:
  - Public statements on the Policy Board decisions
  - Governor's regular press conference
  - Speeches by the Governor, Deputy Governors, and other Policy Board members
  - Information provided through the web site

2. Unconventional monetary policy (UMP)

- The conventional tool of monetary policy is a control over ST nominal interest rates, using the financial system's distribution function.
- With policy rates being bounded from below at or near the zero floor and the severe turmoil in credit markets, there was a switch to an unconventional policy.
- An unconventional monetary policy serves both as a complement and as an extension of standard operations centered around the setting of ST interest rates

Theory: Is UMP effective?

- Benchmark macroeconomic models say NO.
  - Unless conventional measures change the public's expectations about the future path of policy, there is no channel to influence economic activity at the lower bound for interest rates. (Liquidity trap)
- Two key assumptions behind theoretical NO:
  (i) Frictionless financial markets (expectations hypothesis)
  (ii) "Super-robust" inflation targeting framework (time inconsistency)
- Immediate objections to theory
  (i) The world is more complicated.
  (ii) The framework is not so robust.
- UMP can be effective to the extent that
  a. It convinces the public of a looser-than-expected future policy stance.
  b. It directly reduces risk premia or outright quantitative restrictions in financial markets.

Specific policy options

A. Announcement to keep ST rates low for an extended period

B. Fixed-rate refinancing operations with extended maturity

C. Asset purchase

   (i) Qualitative easing

   (ii) Quantitative easing

A. Announcement

- Effects above and beyond the current rate, via the impact of expectations on longer-term yields
- Announcement must be credible.
  - CB's communications must be consistent with private sector perception of its objectives and outlook for the economy.
  - Purely forward-looking statements risk being perceived as cheap talk, unless backed by concrete policy action.
- Empirical evidence for the effectiveness of CB talk (Bernanke, Reinhart, and Sack 2004)
  - Fed's statements had a significant impact on market expectations.
  - Japan's ZIRP gave mixed results.

B. Fixed-rate refinancing

- Extend monetary easing along the yield curve by providing banks with fixed-rate funding at longer-than-usual maturities
  - Banks' demand for such funding is a function of expected future policy rates and the uncertainty around these expectations.
- Make longer-term funds available at a preset rate below current market levels
  - Credibility of the signal sent by the CB's unconventional operation
  - Pros and cons
- Not practical to extend it to truly LT horizons
- Necessary to develop an appropriate exit strategy

C. Asset purchase

- Qualitative easing: Operations on CB's asset side
  - Change the composition of CB assets without affecting base money
  - "Credit easing" for operations targeting private (domestic) credit markets in order to enhance market liquidity, reduce risk spreads, promote new issuance, and increase private access to credit.
  - Purchases of domestic GBs for a flattening of the benchmark yield curve
  - Purchases of foreign-currency denominated assets through a depreciated exchange rate
- Quantitative easing: Operations on CB's liability side
  - Expand the monetary base beyond the quantity needed to maintain the current policy rate.

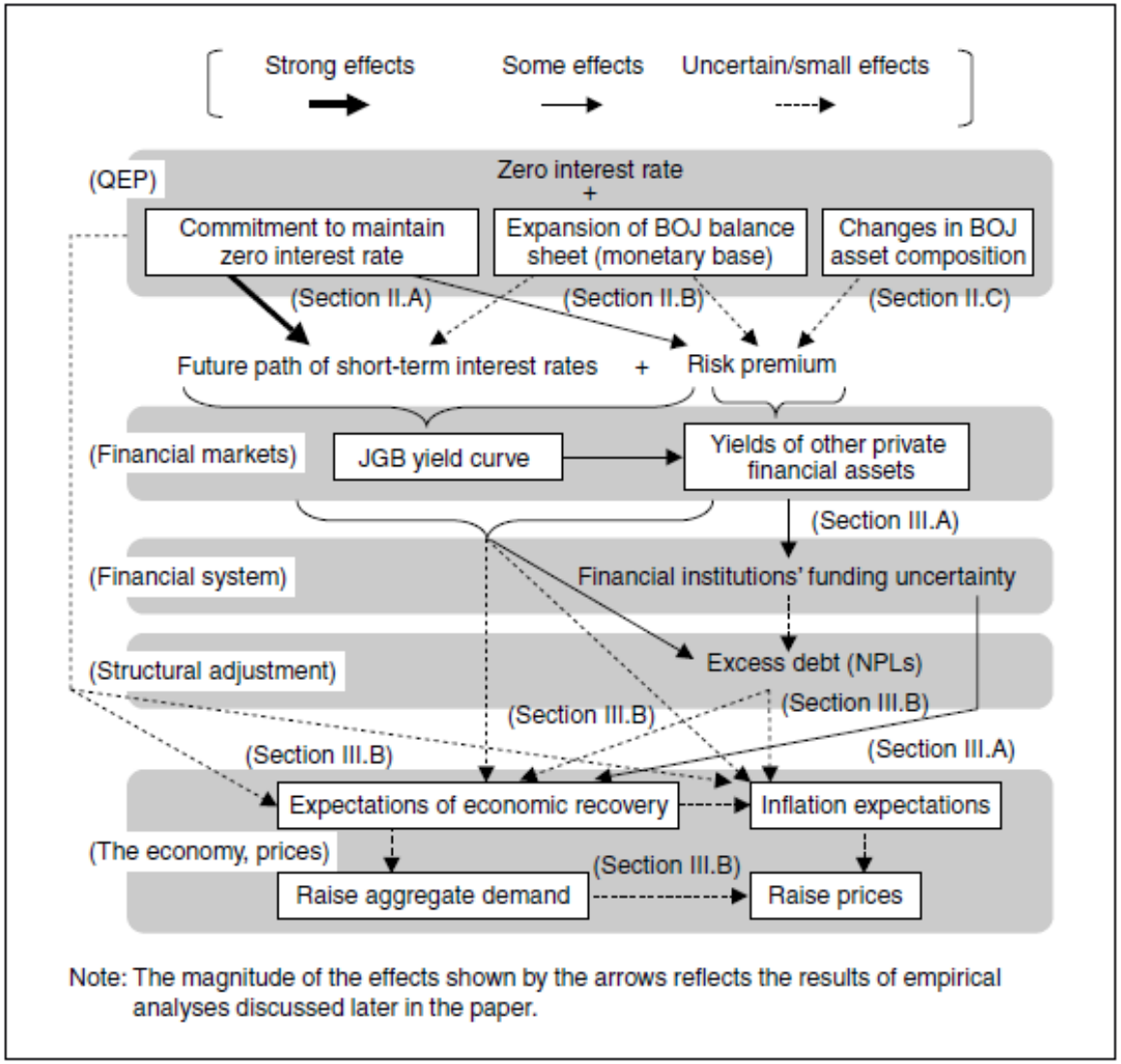
Asset purchase:
Management of foreign exchange reserves

Guidelines of BoJ

- Principles
  - High degree of safety and liquidity, then high return to the extent possible.
  - Not to disrupt financial and foreign exchange markets.
- Investment assets
  - Government securities of major countries
  - Deposits with CBs in major countries
  - Money trusts with high degree of safety and liquidity
- Portfolio composition
  a. In-house portfolio: maturity not exceeding 5 years, denominated in US dollars, euros, and pound sterling.
  b. Outsourced portfolio: securities and deposits denominated in US dollars

UMP: Quantitative Easing Policy in Japan

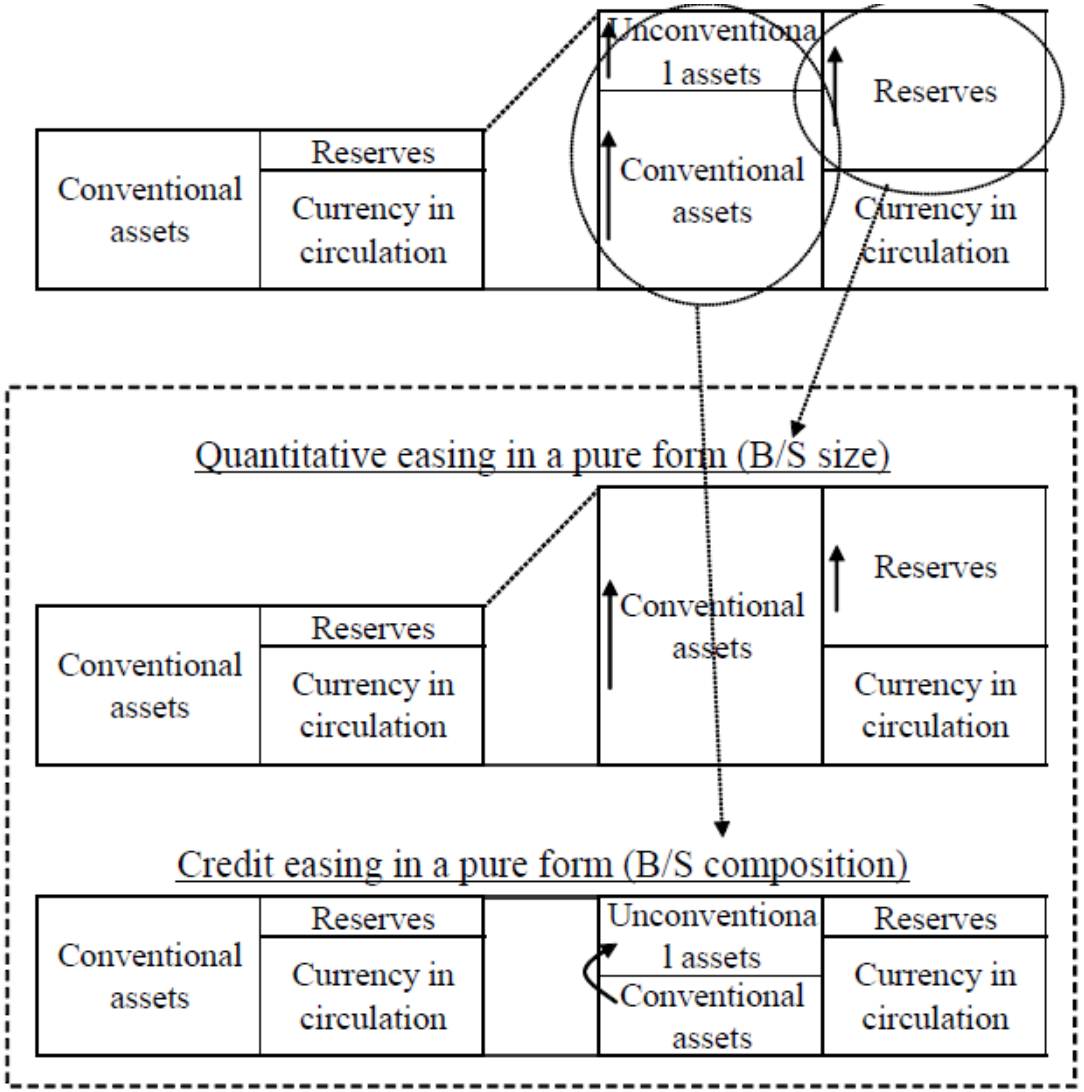
Figure 2 Effects of the QEP: Conceptual Diagram



Note: The magnitude of the effects shown by the arrows reflects the results of empirical analyses discussed later in the paper.

Source: Ugai 2007.

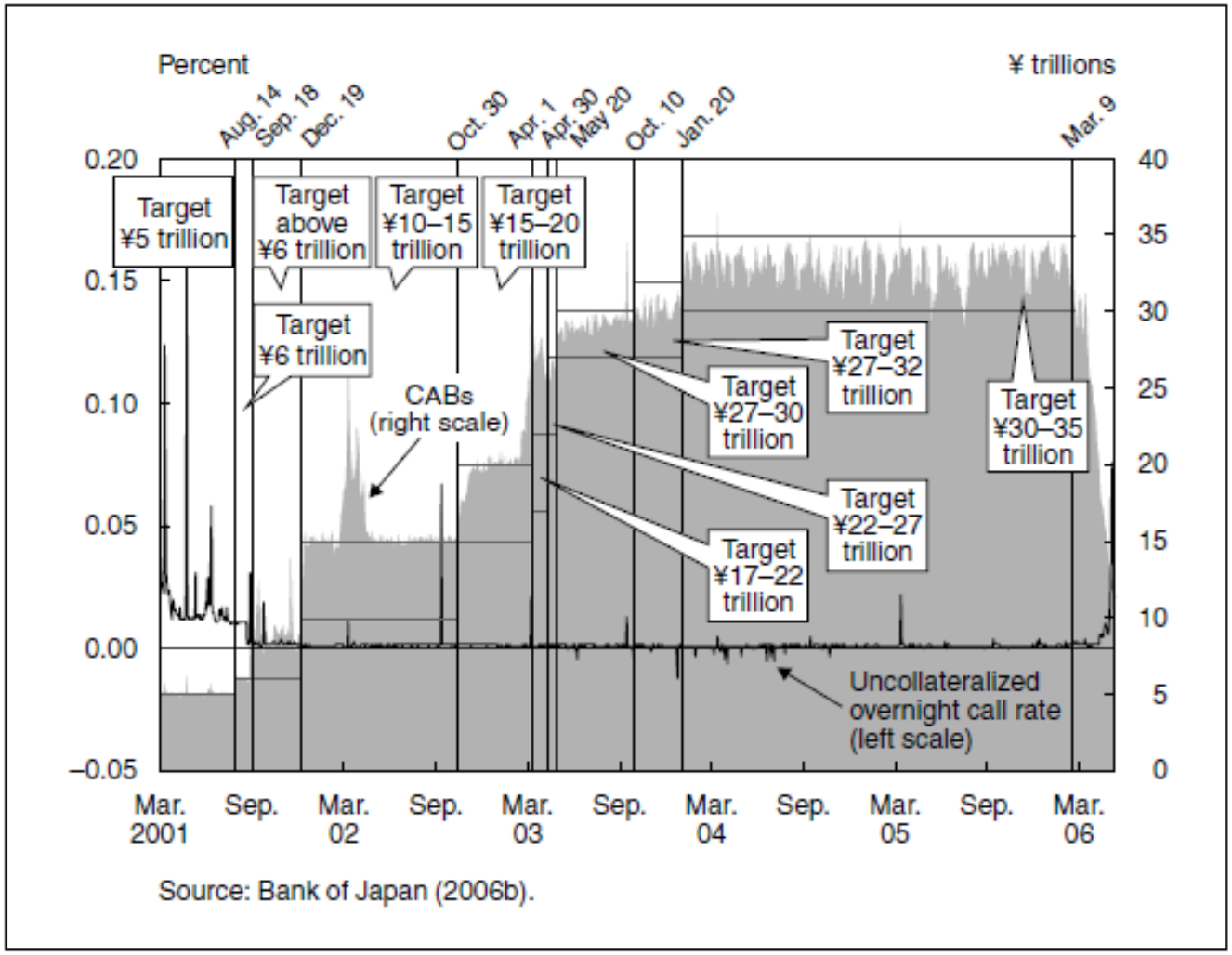
Changes in assets and liabilities of CB



Source: Shiratsuka 2009.

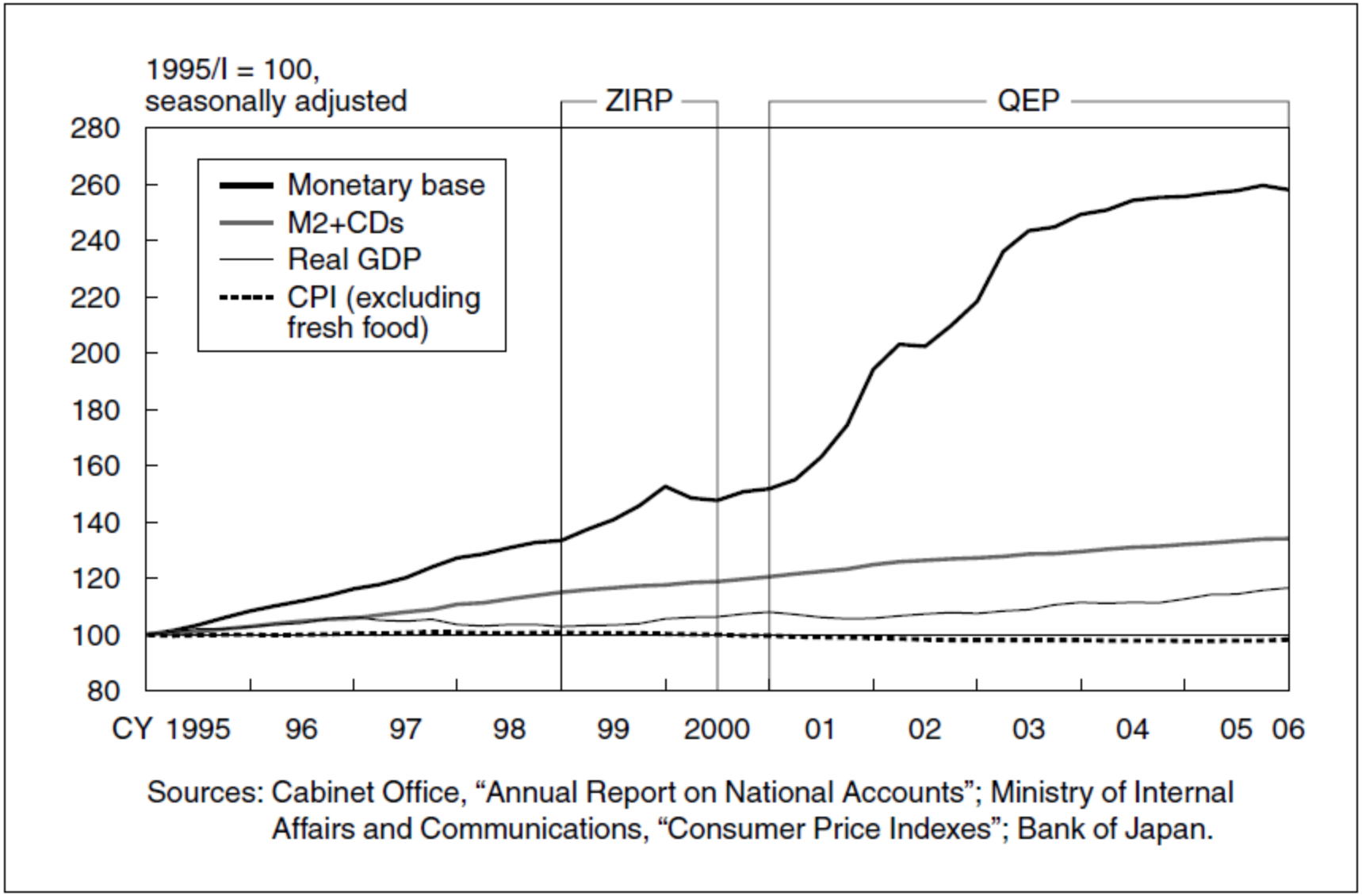
Targeted current account balances in Japan: 2001-2006

Figure 5 CABs at the BOJ and the Uncollateralized Overnight Call Rate



Source: Ugai 2007.

Figure 9 Quantitative Monetary Indicators, Real GDP, and the CPI



Sources: Cabinet Office, "Annual Report on National Accounts"; Ministry of Internal Affairs and Communications, "Consumer Price Indexes"; Bank of Japan.

Source: Ugai 2007.

(i) Qualitative easing

- Sterilized purchases of assets whose valuation or availability CB would like to affect
  - (i) Selling or lending out existing CB assets
  - (ii) Issuing nonmonetary liabilities
  - (iii) Obtaining agreement from the fiscal authorities to issue new ST government paper and deposit the proceeds with CB
- One key channel: Rebalancing of private portfolios
  - Substitutability of relevant assets
  - The scope for portfolio rebalancing effects is controversial.
- Most compelling case for direct pricing effects exists in asset markets that have become illiquid and dysfunctional.
- The effectiveness depends on the CB's ability to induce changes in market valuations or credit availability.

(ii) Quantitative easing (1/2)

- Asset purchases financed by an expansion of the money supply
- The simple equation of 'more base money, more inflation' is theoretically and empirically flawed.
  - The determinant of longer-term inflationary trends is not just today's money supply, but the entire future path of monetary policy. (Krugman 1998)
  - The co-movement between narrow money and nominal demand is by no means stable (Japan's experience during 2001-06)

(ii) Quantitative easing (2/2)

- Quantitative easing is not so different from qualitative easing.
  - It can be thought of a combination of two actions
  a. A sale of ST government paper to finance purchases of the targeted assets (= qualitative easing)
  b. Issuance of money to buy back the ST government paper (= neutral since money and ST government paper are perfect substitutes)
- The significant difference from qualitative easing is the impact of money-financed asset purchases on the banking system.
- Quantitative easing is at least as effective as qualitative easing.
  - To sell assets as needed without approval from the fiscal authority, to pay interest on bank reserves, to issue nonmonetary liabilities.

Risks of UMP (1/2)

- Uncertainty about the right dosage, timing, and exit
  - Theoretically controversial and empirically unproven.
  - The impact on inflation expectations represents a particular unknown.
  - Timing the exit from unconventional policies poses additional challenges (Belated exit, premature policy tightening)
  - The exit decision requires careful judgment on the appropriate speed and sequencing of monetary action.
  - Challenge for CB communications that starts well before the exit actually occurs.
  - Policy success will to a considerable extent depend on the general skills of the monetary policymaker and the reputational capital it has built in the past.

Risks of UMP (2/2)

- Financial risk
  - For CB, risk of suffering significant capital losses if the acquired assets lose value over time.
  - May undermine the independence of the CB and adversely affect its capacity to keep inflation in check.
- Political risk
  - Reputational risk related to the possible criticism of “squandering taxpayer money.”
  - Shift outward the boundaries of monetary policy (e.g. intervention in private asset markets)
  - GB purchase: possible perception of capture by the fiscal authority and limit to the CB instrument independence.
  - Tend to heighten the proximity between fiscal and monetary policy.

How to reduce risks

- Clear communication on the nature, purpose, and manageability of the CB operations.
- Transparent and reliable indemnity assurances from the fiscal authority to shield the CB from capital losses.
- Maintaining the distinction between fiscal and monetary policy.
  - Monetary policy becomes quasi-fiscal policy.
- Sufficient capacity to reverse the unconventional monetary stimulus.

UMP in action

A. Announcement

- Explicit communication about future policy rates
  - Fed (March 18, 2009): “economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period.”
  - BoC (April 21, 2010): “conditional on the inflation outlook, [the Bank] commits to hold [its] policy rate [at the effective lower bound of ¼ percent] until the end of the second quarter of 2010.”
- General reluctance to use firmer, unconditional statements

B. Fixed-rate refinancing

- Reinforcement of communication
  - BoC: roll over some existing 1- and 3-month refinancing operations into longer-term (6- and 12-month) operations at rates between 0.25 and 0.5 percent.
- Significant step forward (or backward?)
  - ECB: under its first-of-a-kind 12-month refinancing operation (June 24, 2009), the ECB stood ready to provide banks with unlimited collateralized loans at its current policy rate of 1 percent.

C. Asset purchase

Recent Unconventional Monetary Policy Operations Involving Asset Purchases

		Liability Side of the Central Bank Balance Sheet	
		No expansion of base money (= "Qualitative easing")	Expansion of base money (= "Quantitative easing")
Asset Side: Purchases of…	Government bonds	ECB 1/	BoE; BoJ; Fed
	Private domestic-currency assets		BoE; BoJ; Fed 2/; SNB
	Foreign-currency assets		SNB

1/ ECB purchases of covered bonds had not yet started at end-June and might be at least partly unsterilized.
2/ Apart from security purchases, includes direct lending to nonbanks under a range of facilities.

The only advanced country CB to launce unsterilized currency interventions

Source: Meier 2009.

Asset purchase reflects the underlying differences in market structure and size

Outright Security Purchases by Major Central Banks

	U.S. Federal Reserve	Bank of England	Bank of Japan	European Central Bank
Targeted Securities	Government bonds, mortgage-backed securities, agency bonds, commercial paper	Government bonds, corporate bonds, commercial paper	Government bonds, corporate bonds, commercial paper, equities	Covered bonds
Amount of net purchases announced 1/				
Billions of US$	2,100	206	273	84
Percent of 2008 GDP	14.7	8.6	5.2	0.6
Percent of July 2007 base money	255.8	179.3	29.6	7.2
Net amount purchased since Sept. 2008 2/				
Billions of US$	859	168	33	0
Percent of 2008 GDP	6.0	7.1	0.6	0.0
Percent of July 2007 base money	104.7	146.6	3.6	0.0
Share of govt. bonds in purchases (percent)	21.0 3/	97.3	92.1	0.0

Sources: Federal Reserve Board; Bank of England; Bank of Japan; Haver Analytics; and IMF staff calculations.

1/ Based on announced maximum amounts of purchases through end-2009 for the U.S. Federal Reserve, the Bank of Japan, and the European Central Bank; and on announced target level of purchases through mid-August by the Bank of England. For U.S. Federal Reserve purchases of commercial paper, based on maximum holdings since inception of the relevant facility (CPFF).

2/ Data through June 30.

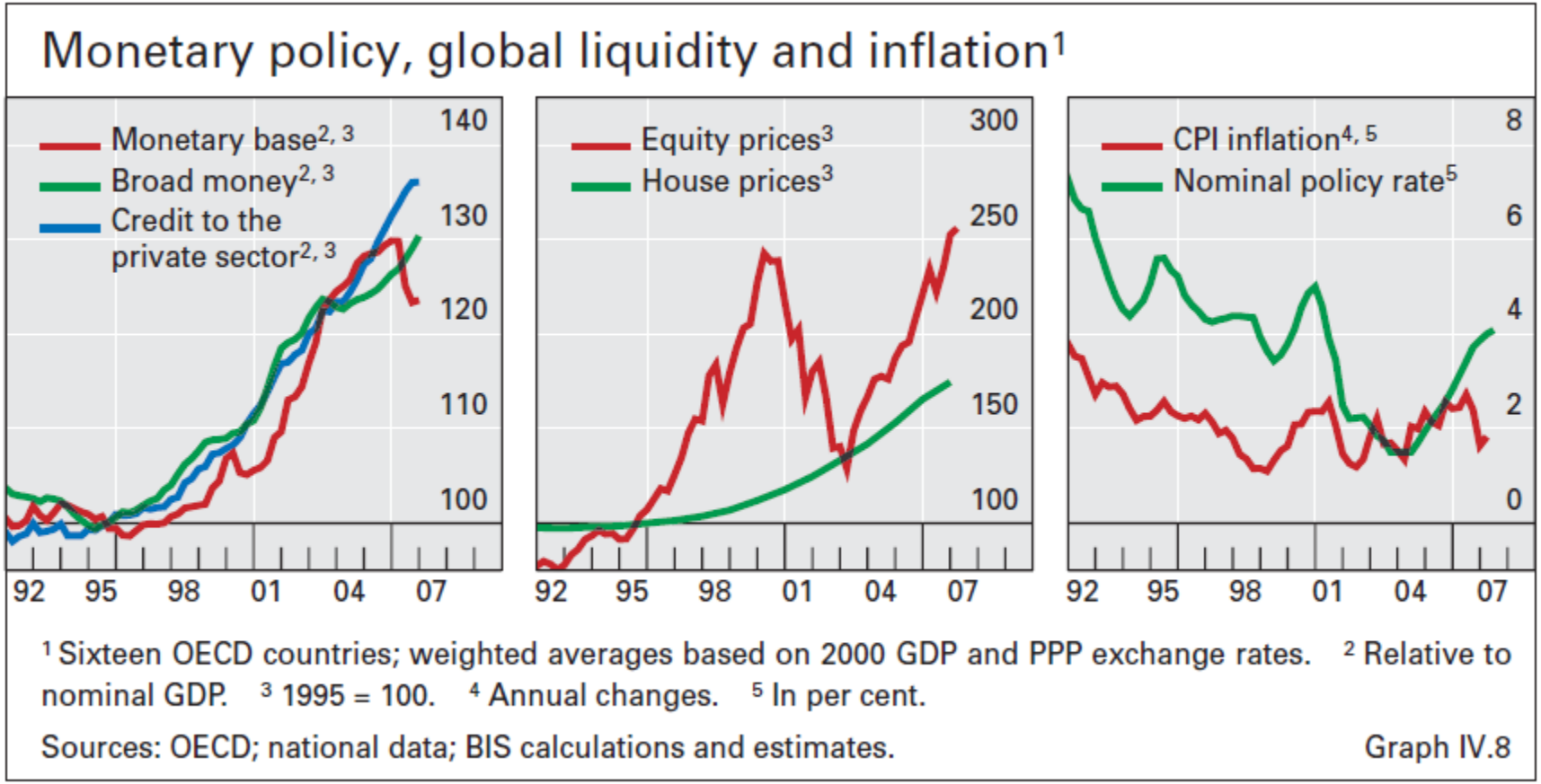
3/ Purchases of agency (Fannie Mae/Freddie Mac/Ginnie Mae) bonds and agency-guaranteed bonds account for an additional 65.1 percent of total purchases thus far.

Source: Meier 2009.

Differences in asset purchase

- Difference in approach (=> different views on the relative importance of different transmission channels)
  - BoE: set its target in terms of an expansion of base money, giving strong prominence to the "quantitative" aspect of its aggregate purchases.
  - Fed: stressed its desire to affect directly conditions in the targeted asset markets (actually, base money fell slightly of late)
- BoJ's readiness to buy equities
  - Particular importance of equity holdings in Japanese bank B/S
- ECB's exclusive focus on covered bonds
  - Unmatched importance of such securities for mortgage refinancing in the Eurozone
  - Hesitant to buy GBs in light of its unique position as a supra-national CB that has sixteen fiscal authority counterparts. (=> Greece?)

3. Dealing with the build-up of financial imbalances



Source: BIS 77th Annual Report, June 2007, p. 71.

Monetary policy reconsidered (1/2)

- Monetary policy strategies need to be modified.
  - CBs SHOULD: Lean against the build-up of financial imbalances even if near-term inflation remains low and stable.
  - WRONG: Such build-up was not supposed to happen because of self-adjusting financial markets and price stability secured over horizons of two years.
  - WHAT IS NEEDED: More nuanced perspective because financial imbalances can build up gradually, over many years.

Monetary policy revisited (2/2)

- CBs need longer policy horizons than the two years or so, which is typical of inflation targeting regimes.
  - More likely to reveal the risks to macroeconomic stability
  - More scope for leaning against financial booms when near-term inflation remains low and stable.
- Longer policy horizons => not simply extending the range of point forecasts
  - WHAT IS NEEDED: More systematic approach to assessing the balance of risks ahead ⇒ Like buying insurance

    ⇒ Risk management element to monetary policy

Need for macroprudential approach (1/2)

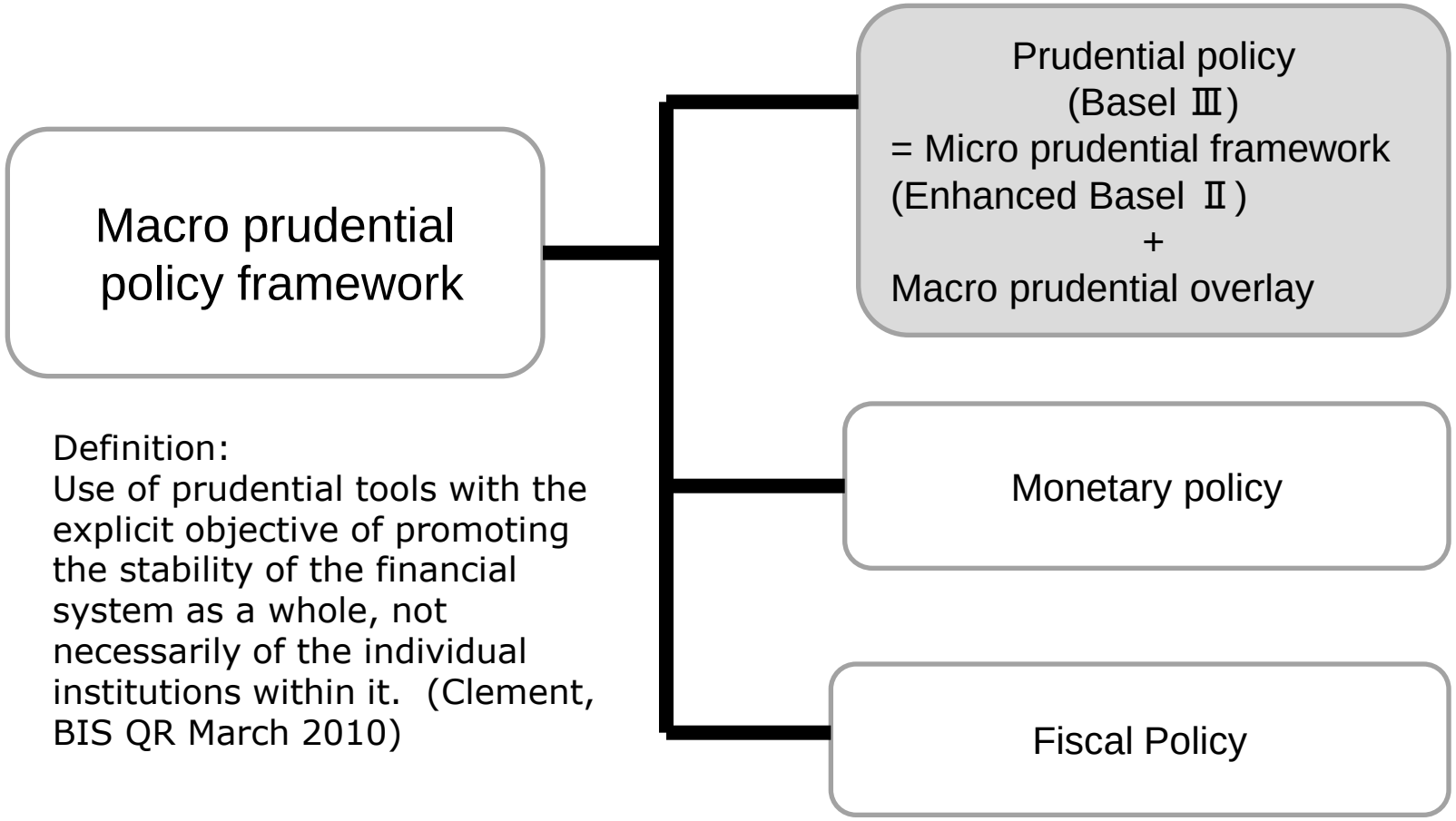
- What is macroprudential policy?
  - It focuses on the financial system as a whole.
  - It treats aggregate risk as dependent on the behavior of financial institutions (endogeneity).
  - Two dimension:
    a. Time dimension (procyclicality)
    b. Cross-sectional dimension (interconnectedness)
- Procyclicality
  - Build up capital buffers in good times and run down these buffers in bad times.

Need for macroprudential approach (2/2)

- Risk management element to monetary policy is relevant for several emerging market economies.
  - Burgeoning credit expansion and asset prices
  - Macroprudential measures are not enough. Tighter monetary policy and greater exchange rate flexibility are needed.
- Fiscal policy has an important role to play in financial stability.
  - Fiscal capacity is important, but fiscal policy measures in a crisis divert fiscal policy onto an unsustainable path.

    ⇒ Fiscal policy can become a threat to financial stability.
  - Prudential approach to fiscal policy: If governments accumulate prudent budget surpluses in good times, they will provide themselves with ample capacity without jeopardizing fiscal sustainability.

Macro prudential policy framework



Definition:
Use of prudential tools with the explicit objective of promoting the stability of the financial system as a whole, not necessarily of the individual institutions within it. (Clement, BIS QR March 2010)

Risks of aggressive post-crisis monetary easing (1/2)

- When a crisis erupts, stop the bleeding. When the bleeding stops, the policy focus should shift towards promoting the necessary post-crisis adjustments (Exit policy).
- Balance sheets need to be repaired and excesses in the financial sector corrected. But, difficult under unusually and persistently low policy interest rates.
  - Allow loss recognition and debt repayment to be postponed (Zombi's live on). Renewed risk-taking and excessive search for yield.
  - May undermine profitability in some financial segments.
  - Inflation-fighting credibility of CBs is likely to suffer in an environment of high public debt and rising commodity prices.

Risks of aggressive monetary easing (2/2)

- More symmetrical approach of monetary policy over the financial cycle
  - PAST: Loosen monetary policy aggressively during a crisis, but tighten cautiously into the recovery.
  - FUTURE: Tighten more aggressively in the boom, and ease less persistently during the bust.
  - Macroprudential frameworks will help by strengthening the financial system against the bust.

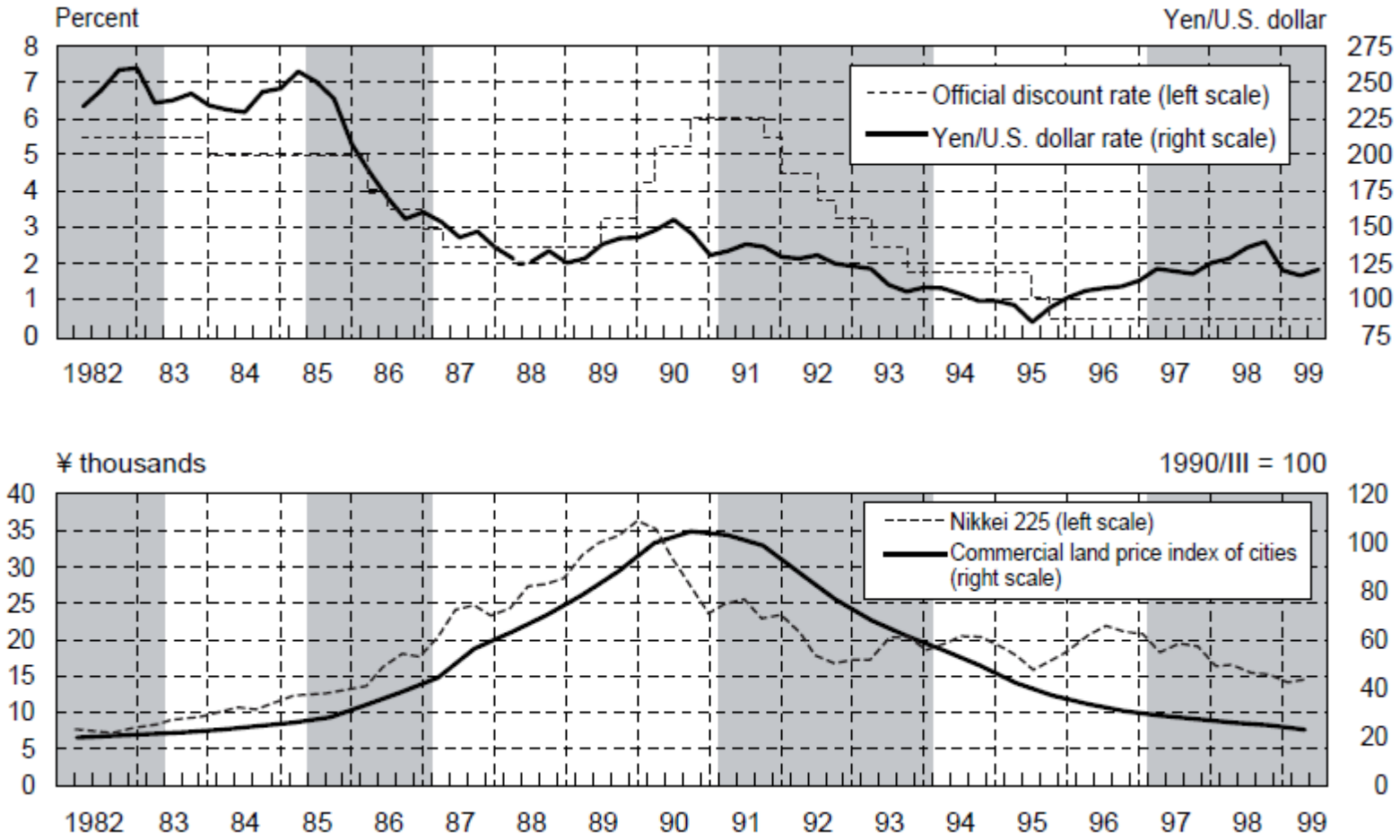
Strengthening central bank independence

- Need to ensure operational independence of CBs in the pursuit of new tasks in financial stability.
  - Political pressures are stronger in the context of financial stability than in the context of price stability.
  - Independence is needed not only from political cycles but also from financial markets.
- Why assign financial stability responsibilities to CBs?
  - They have demonstrated independence in the conduct of monetary policy.
- Accountability is the quid pro quo for independence.
  - Clarity about roles, responsibilities and powers is the precondition for accountability.

Institutional culture for CBs

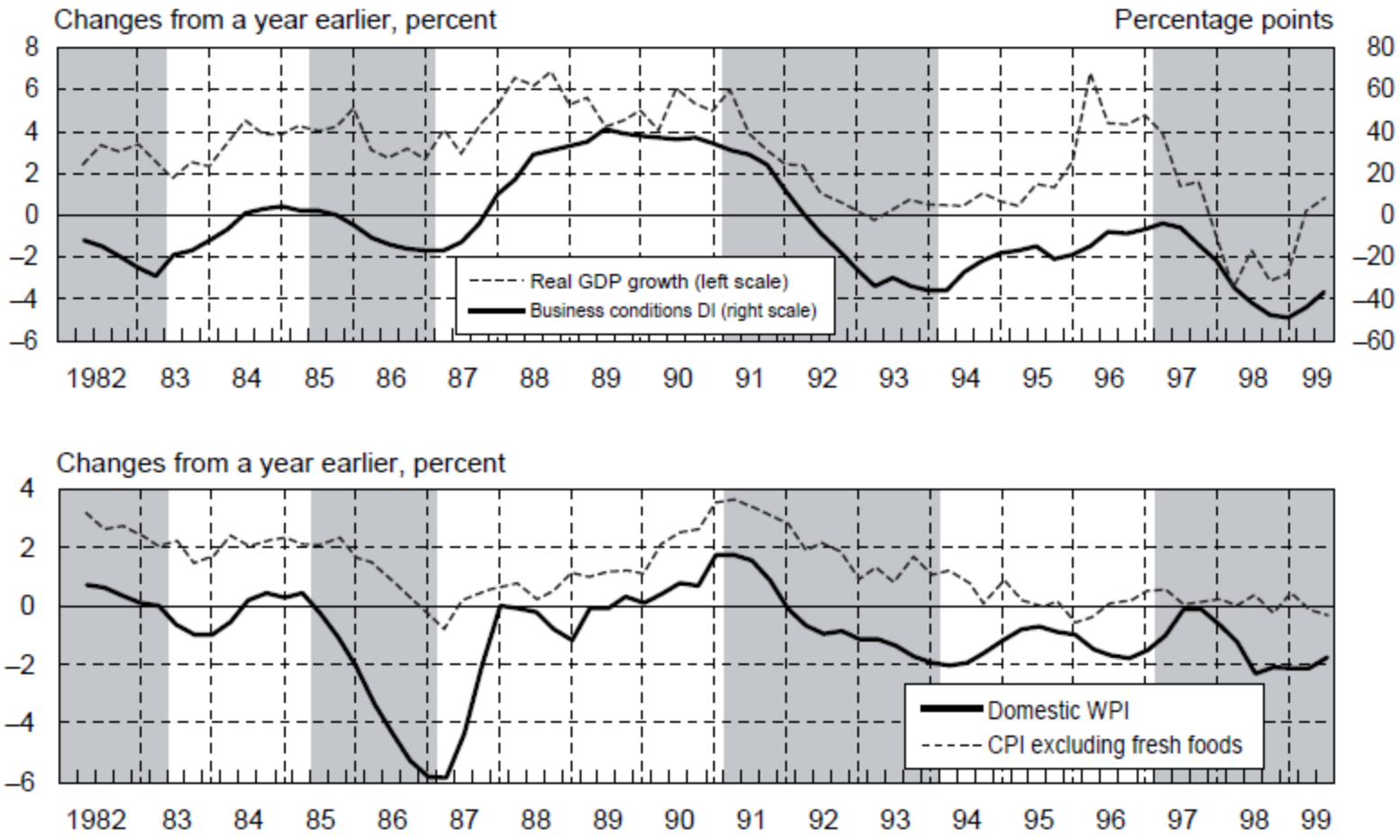
- The fiat money system is a system to control money with wisdom.
  - A central bank is a bank, which implements policy actions through banking operations. Need wide-ranging operational knowledge ("plumber"). Money is created as a product of maturity mismatches and leverage in financial transactions.
  - CBs need to keep learning. We are unable to write fully state-contingent rules and contracts. CBs must make use of ALL the available knowledge.
  - CBs must integrate wide-ranging areas of knowledge. Don't be dogmatic.
  - CBs need to cooperate. Sovereign nations are unlikely to disappear in the foreseeable future.

4. International aspect of monetary policy
Exchange rate and stock prices



Source: Okina et al. 2001.

Real GDP, Business conditions and Inflation



Source: Okina et al. 2001.

Going beyond the "own house in order" doctrine (1/2)

- In an interconnected world, it may not be enough to keep one's house in order.
  - Tightly integrated markets, production factors and financial instruments across the world ⇒ A country's economic and financial conditions are increasingly subject to global conditions. Global conditions are influenced by the collective behavior of nations.
  - EXAMPLE: Unusually low policy rates in the core industrial countries ⇒ Reluctance to allow exchange rates to appreciate. Unusually accommodative global monetary policy stance despite record global growth.
  - EXAMPLE: Role of commodity prices in the formulation of monetary policy. Common for countries to treat commodity price increases as "imported". True for an individual economy, but not true globally.

Going beyond (2/2)

- Global coordination of monetary policies may not be required, but CBs should take better account of the global side effects and feedbacks that arise from their individual monetary policies.
  - FIRST: Recognize such effects.
  - Needs a shift to a more global analytical approach towards monetary policy. ⇒ From a micro- to a macroprudential perspective.
  - WHAT IS NEEDED: Frank exchange of views on the international dimension of domestic policies.

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