

The Center on Japanese Economy and Business
Columbia Business School

The Puzzle of Japan's Low-For-Long

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April 16, 2019

Japanese Economy: Growth Rate and Price Outlook Comparison

- **Real GDP growth rate:** The Japanese economy is expected to gradually slow down. The gradual slowdown will continue through FY2019 due to the effects of the planned consumption tax hike, and is expected to approach a moderate growth trajectory at around the level of the potential growth rate.

◆ Real GDP Growth Rate

(Yy, %)	DIR	BOJ	Govt	ESP
FY2018	0.5	0.9	0.9	0.62
FY2019	0.8	0.9	1.3	0.68
FY2020	0.6	1.0	1.4	0.52

◆ Core CPI

(Yy, %)	DIR	BOJ	Govt	ESP
FY2018	0.8	0.8	1.0	0.82
FY2019	0.5 (0.3)	1.1 (0.9)	1.1 (-)	0.97 (0.62)
FY2020	0.5 (0.4)	1.5 (1.4)	1.3 (-)	0.99 (0.69)

Source: DIR Japan's Economic Outlook No. 200 (February 2019), BOJ Outlook for Economic Activity and Prices (January 2019), Japanese Govt. Mid to Long-Term Estimate of Economy & Finance (January 2019) baseline case, ESP February 2019 Survey.

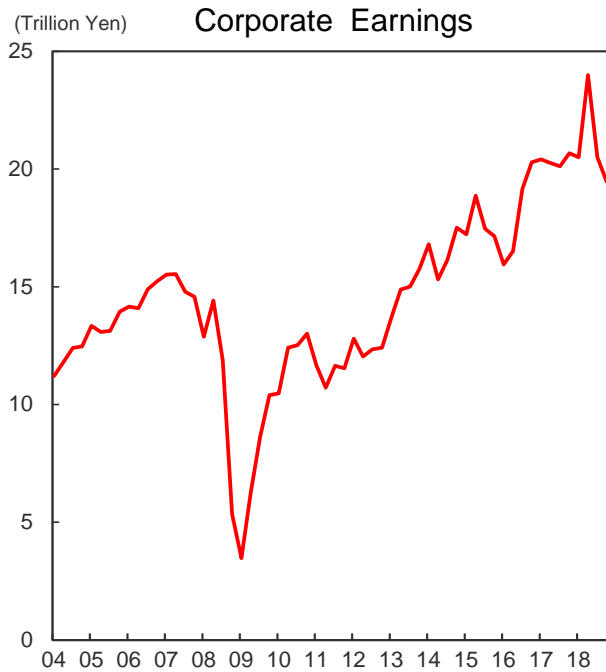
Note: 1) DIR indicates Daiwa Institute of Research. ESP is the outlook of leading forecasters from private institutes.

2) The Govt figure uses the CPI total value.

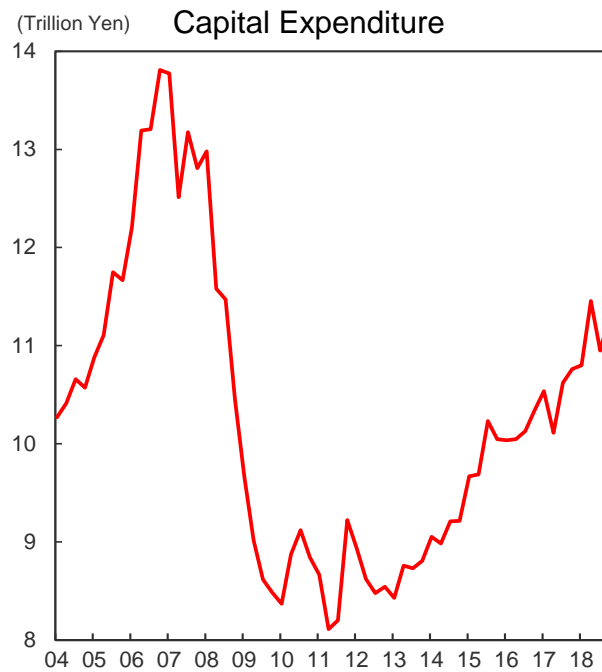
3) Figures in parenthesis exclude the effects of the consumption tax hike and policies concerning the provision of free education.

4) The BOJ figure uses the medians of the Policy Board members' forecasts (point estimates).

Solid Economic Indicators



Source: Ministry of Finance; compiled by DIR.
Note: All industries (excluding finance & insurance).

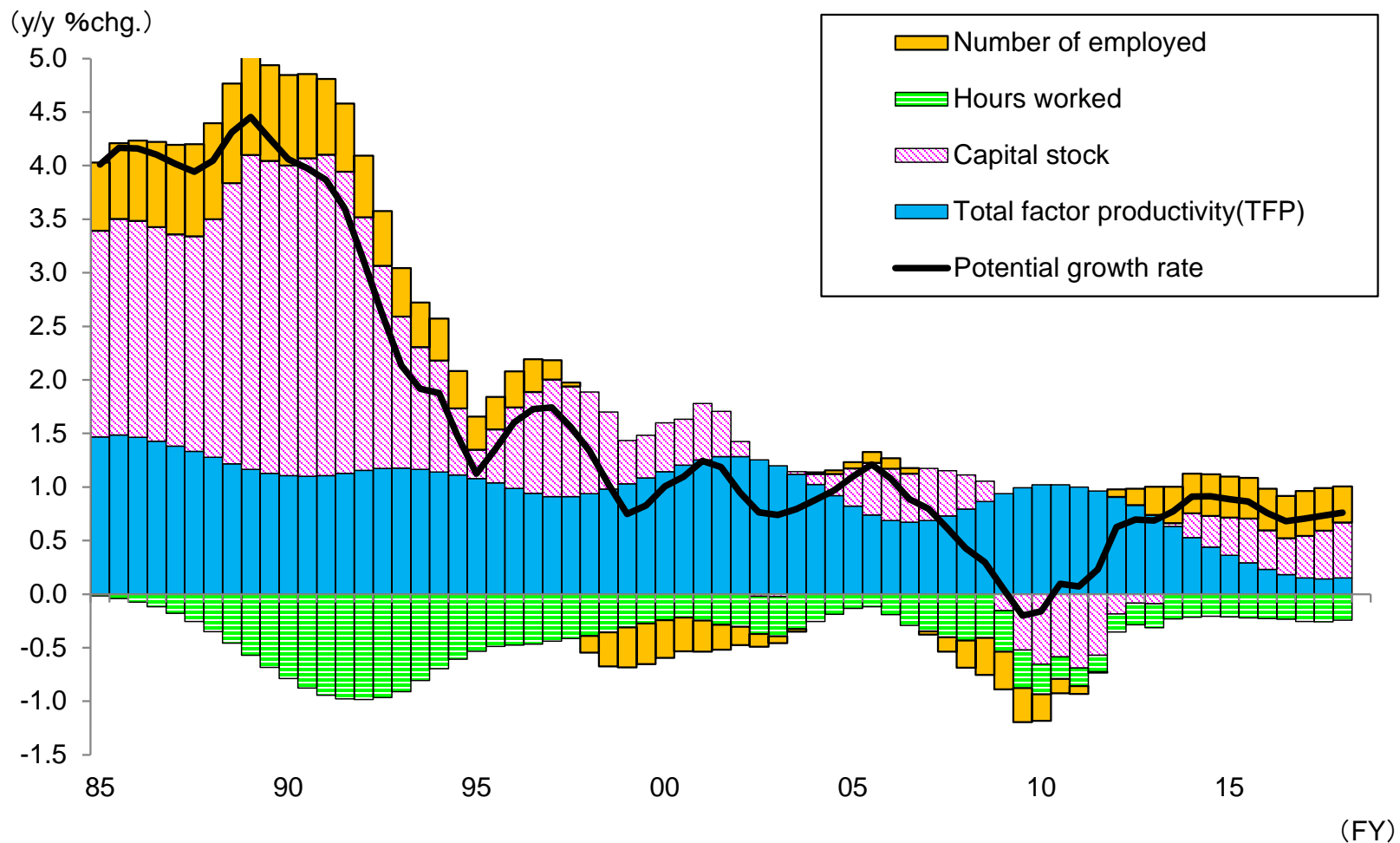


Source: Ministry of Finance; compiled by DIR.
Note: All industries (excluding finance & insurance).



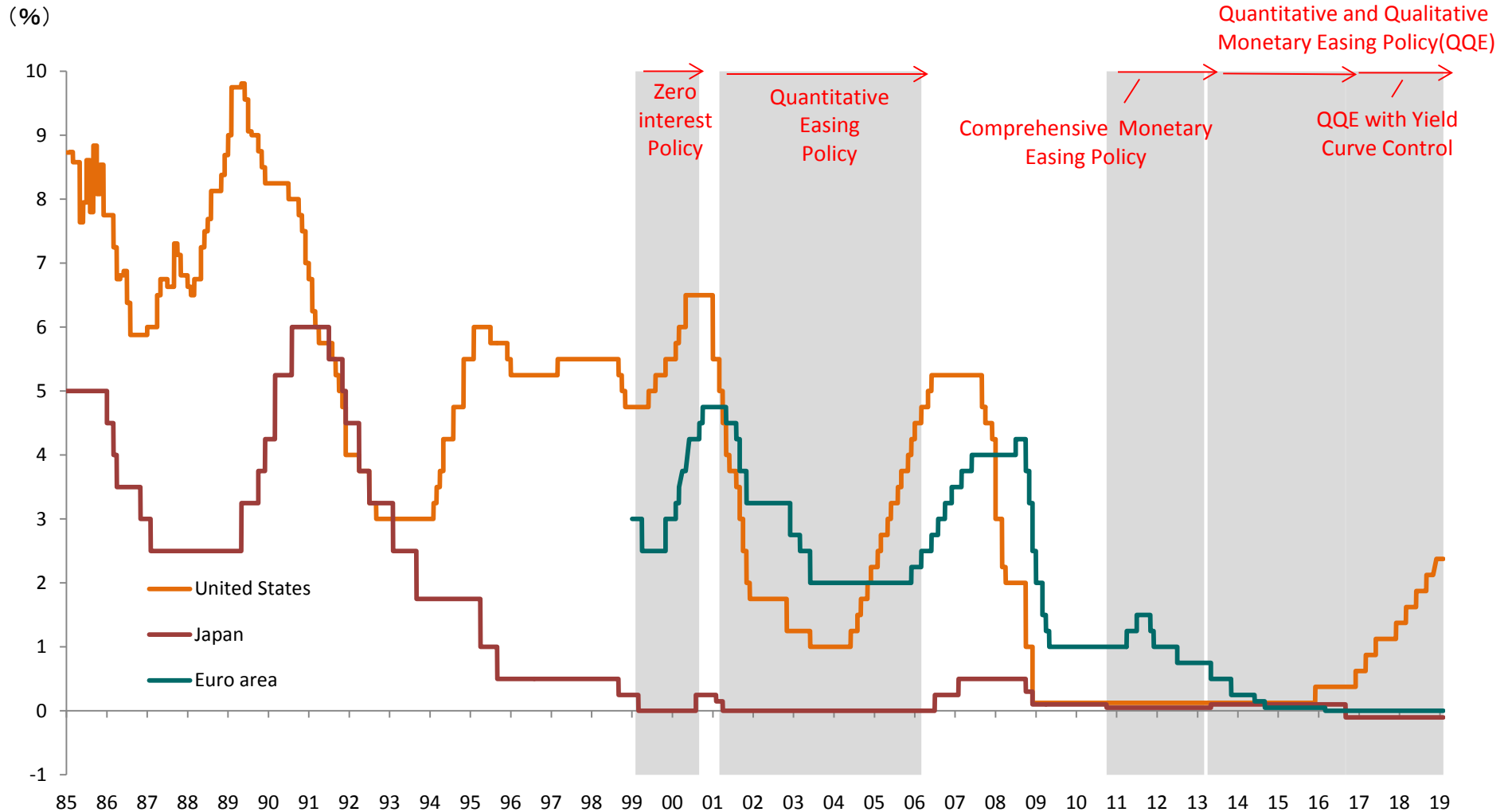
Source: Ministry of Internal Affairs and Communications; compiled by DIR.

Potential Growth Rate



Note: Figures for the first half of fiscal 2018 are those of 2018/Q2.
Source: Bank of Japan; compiled by DIR.

Policy Interest Rates



Source: BIS, Bank of Japan, Haver Analytics; compiled by DIR.

Note : For Japan, figures for the policy rate are; 1985-Sep.1998(the official discount rate), Sep.1998-Mar.2001(the uncollateralized overnight call rate), Mar.2001-Mar.2006(the interest rates applied to current account deposits at the Bank,0.1%), Mar.2006-Apr.2013(the uncollateralized overnight call rate), Apr.2013-Sep.2016(the interest rates applied to current account deposits at the Bank,0.1%), Sep.2016(the interest rates applied to current account deposits at the Bank,-0.1%).

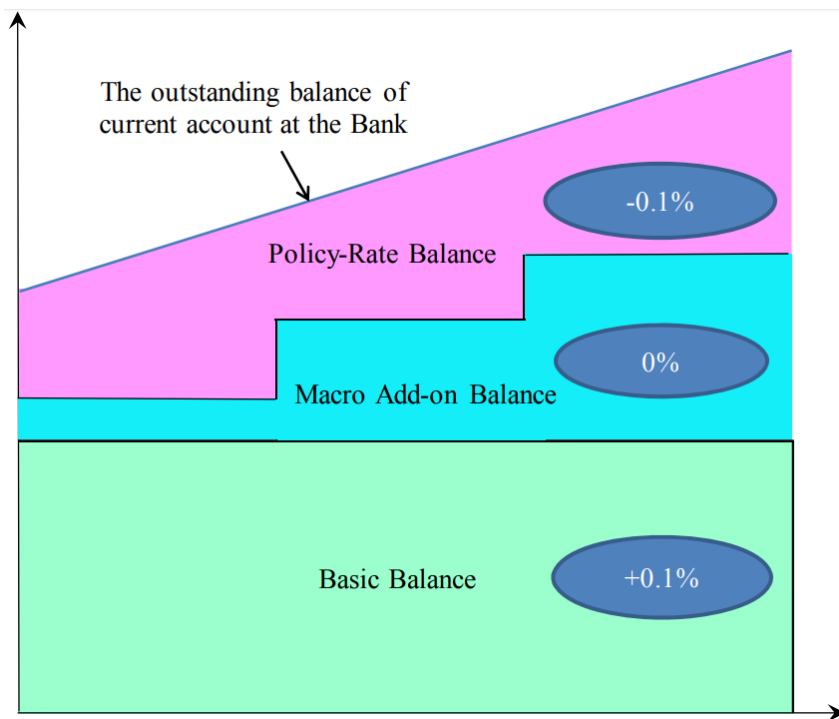
Transition of BOJ's Monetary Policy

		Operating target	Target of short-term interest rates	① Affecting longer-term interest rates	② Affecting risk premiums	③ Applying a negative interest rate to the current accounts	④ Affecting inflation expectations
Feb.1999	Zero Interest Rate Policy	Uncollateralized O/N call rate	"As low as possible"	Policy duration effect			
Aug.2000							
Mar.2001	Quantitative Easing Policy	Current account balances at the BOJ	Around 0%	Policy duration			
Mar.2006							
Oct.2010	Comprehensive Monetary Easing Policy	Uncollateralized O/N call rate	0 to 0.1% (virtually 0%)	JGB purchases/ Fixed-rate funds-supplying operation	Purchases of risk assets (CP, corporate bonds, ETFs, J-REITs)		
Apr.2013				Policy duration effect (forward guidance)			
Apr.2013	Quantitative and Qualitative Monetary Easing (QQE)	Monetary base	Around 0% ↓ Negative territory <since Jan.2016>	Large-scale JGB purchases	Purchases of risk assets	Negative interest rate (Since Jan.2016)	Strong and clear commitment
Sep.2016	QQE with Yield Curve Control	Short- and long- term interest rates (Short-term policy interest rate • 10-yr JGB yields)	Negative territory	Yield curve control (operating target: 10-yr JGB yields) Introducing forward guidance for policy rates (Since Jul.2018)	Purchases of risk assets (Change in the amount of purchases since Jul. 2018)	Negative interest rate	Inflation-overshooting commitment

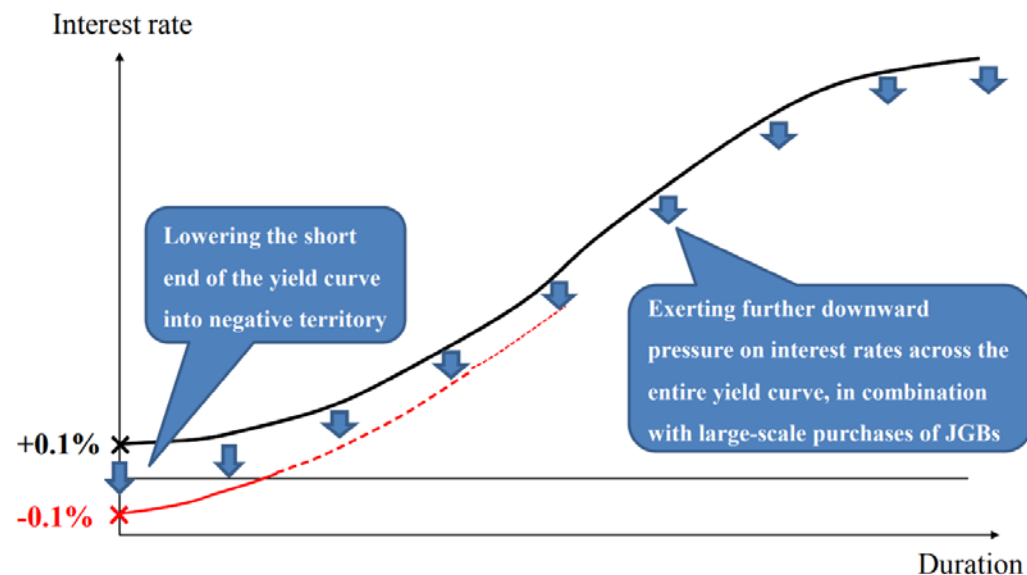
Source: Bank of Japan; compiled by DIR.

Quantitative and Qualitative Monetary Easing with a Negative Interest Rate

Three-Tier System



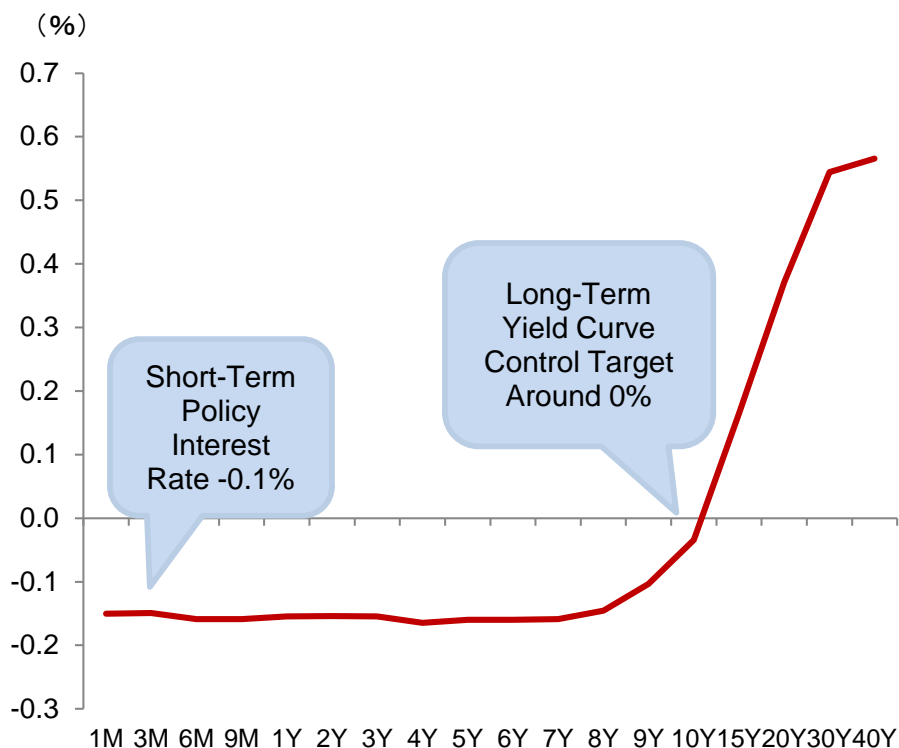
Quantitative and Qualitative Monetary Easing with a Negative Interest Rate



Source: Bank of Japan; compiled by DIR.

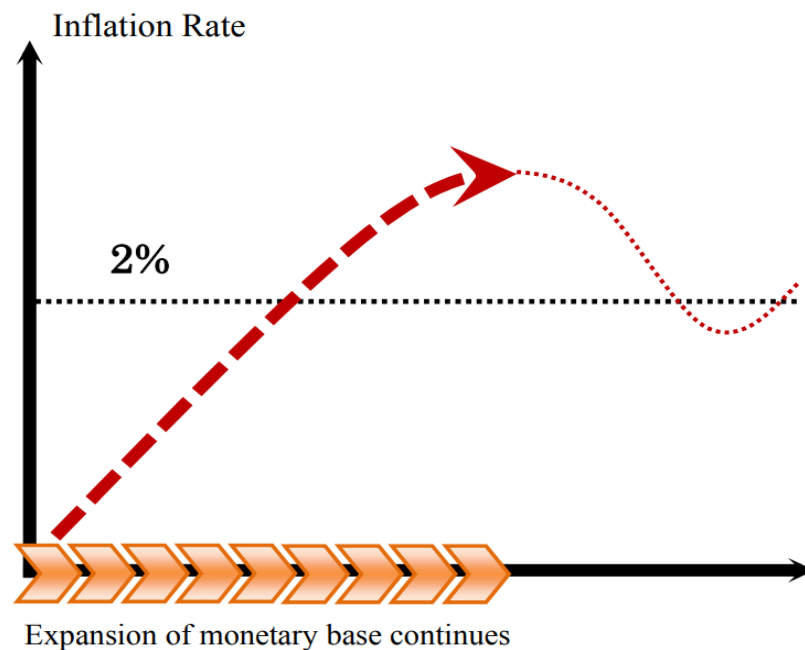
Quantitative and Qualitative Monetary Easing with Yield Curve Control

Yield Curve Control



Source: Haver Analytics; compiled by DIR.
 Note: Yield curve as of April 5, 2019.

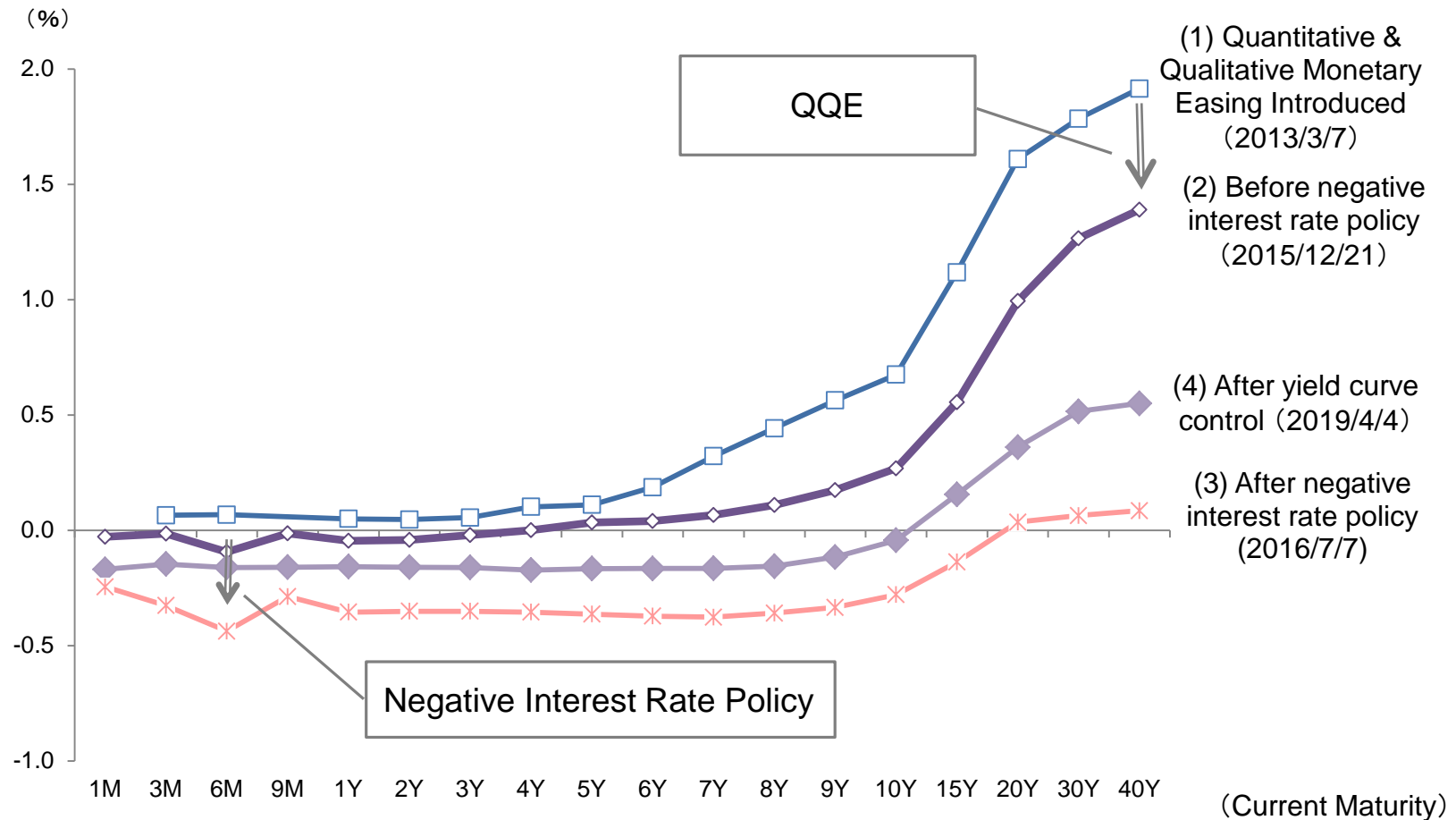
Inflation-Overshooting Commitment



Expanding the monetary base until the year-on-year rate of increase in the observed CPI (all items less fresh food) exceeds the price stability target of 2 percent and stays above the target in a stable manner.

Source: Kuroda, Haruhiko (2017) "The Role of Expectations in Monetary Policy: Evolution of Theories and the Bank of Japan's Experience", Speech at the University of Oxford; compiled by DIR.

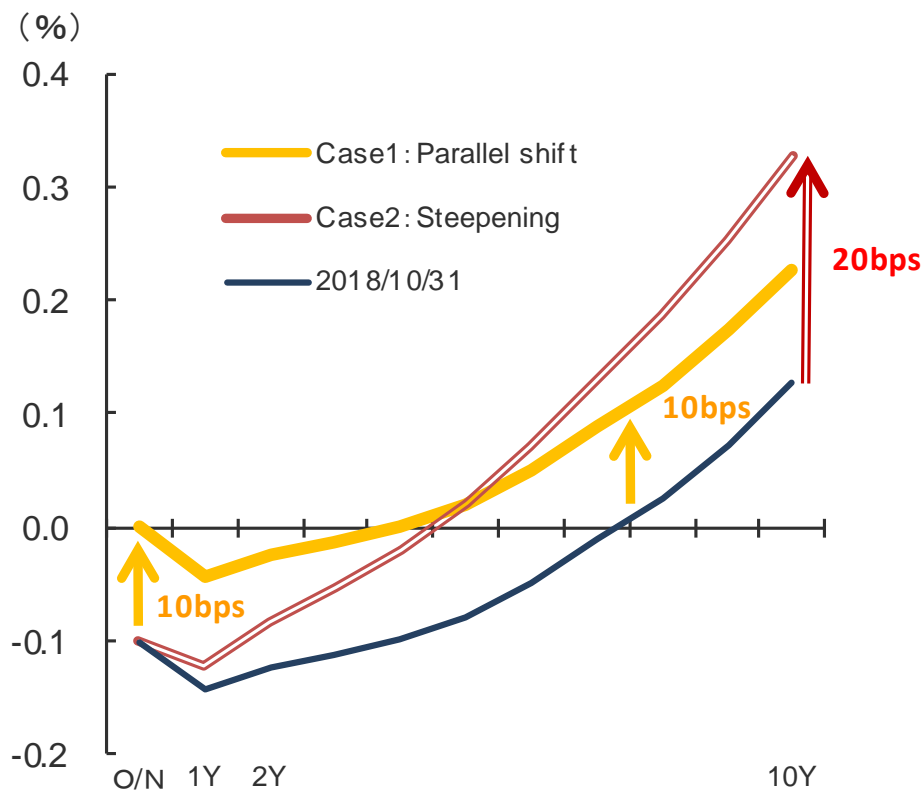
Change in Shape of Yield Curve



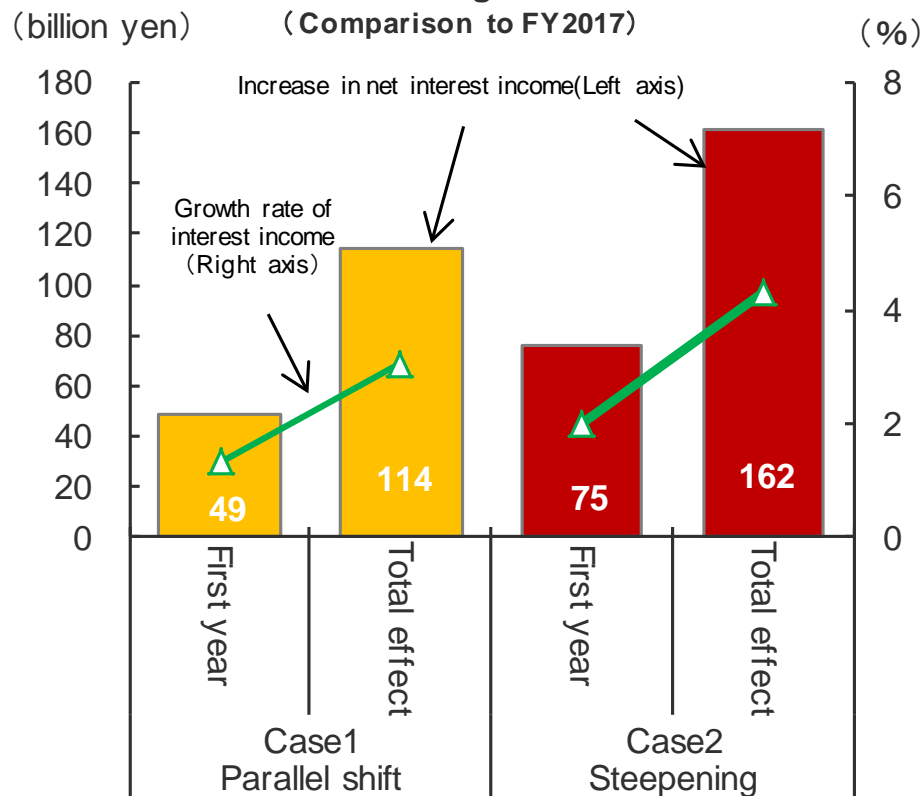
Source: Haver Analytics; compiled by DIR.

Impact of Rising Interest Rates on Net Interest Income of Regional Banks (Simulation)

(1) Assumptions: Yield curves



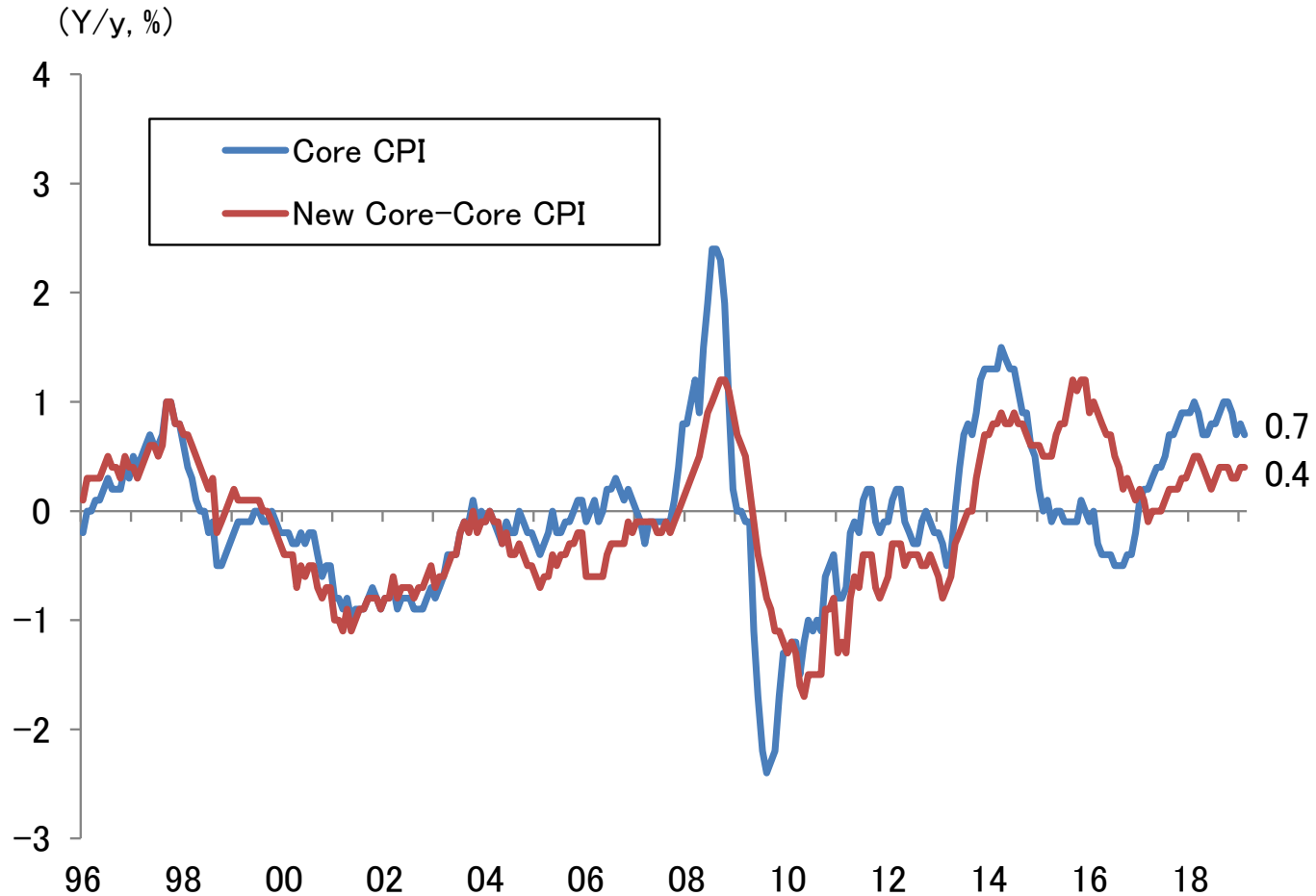
(2) Impact of Changes in Lending/Deposit rate changes



- Note: 1. Case1 is an upward parallel shift in the yield curve by 10 basis points(bps).
 Case2 is rising 10-year bond yield by 20bps and overnight rate(O/N rate) is no change(Steepening).
 2. This simulation would be affected by availability of data or estimation methods.
 3. Loan, deposit and net interest income is as of the end of FY 2017.
 4. This simulation uses 10-year bond yield and O/N rate sensitivity of lending/deposit rate.
 (Data collection period: 2000/01 - 2018/09)

Source: Bank of Japan "Financial System Report " (October 2017), Japanese Bankers Association "Financial Statements of All Banks"; compiled by DIR.

Changes in Growth Rate of CPI



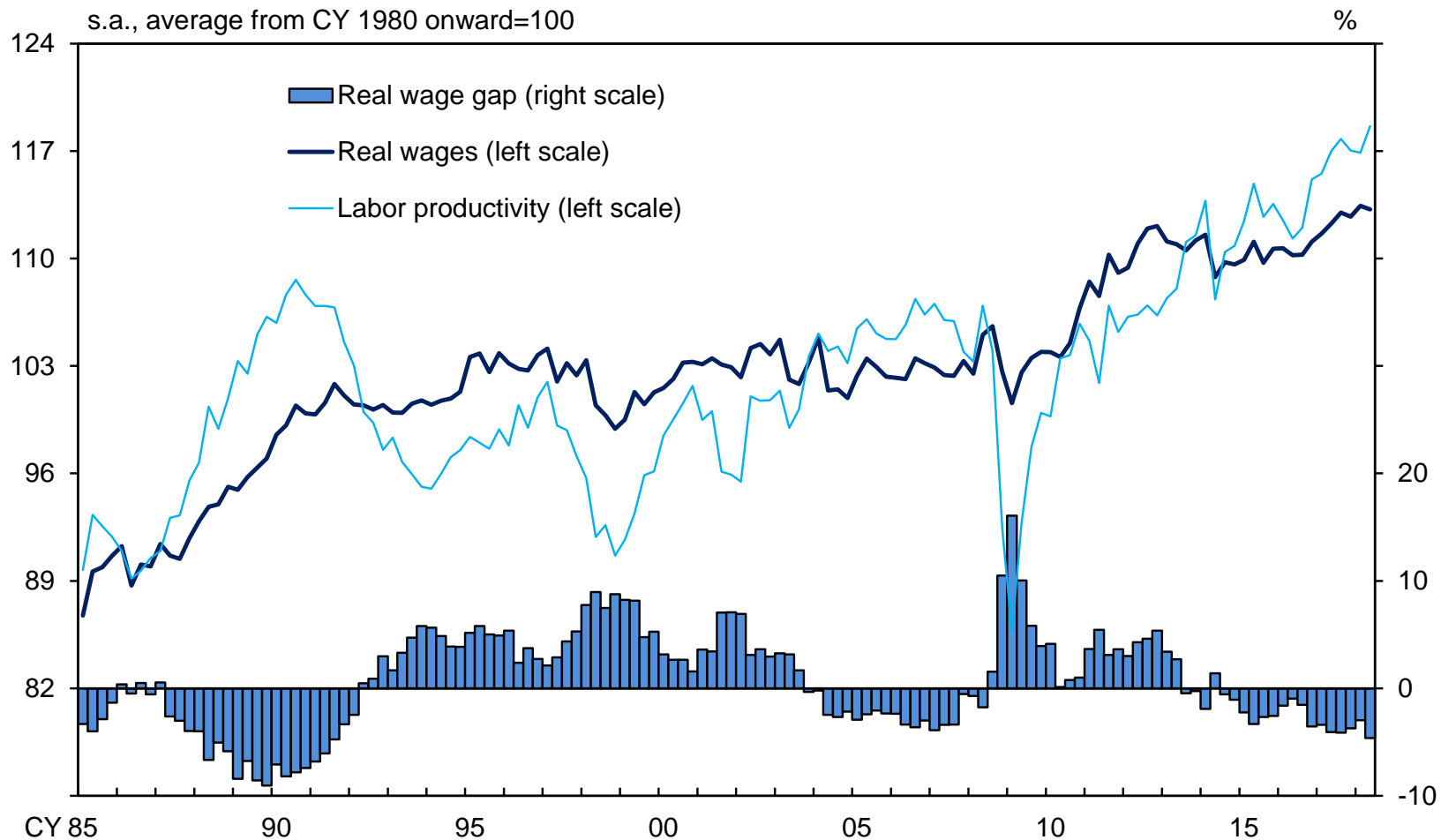
Source: Ministry of Internal Affairs and Communication; compiled by DIR.

Note: Japan's core CPI includes everything except fresh food, while new core-core CPI excludes fresh food and energy. Both have been adjusted for consumption tax.

Reasons for a rise in inflation taking time

- ✓ Downward pressure on prices stemming from intensifying competition has operated in some areas.
- ✓ Firms' wage-setting stance has remained cautious, and it has been taking time for wage increases to fully take hold.
- ✓ Firms' price-setting stance has remained cautious even though input prices have been rising and labor costs have been increasing moderately but steadily.
- ✓ Households' tolerance of price rises has not been increasing clearly.
- ✓ Improvement in labor productivity.

Real Wage Gap



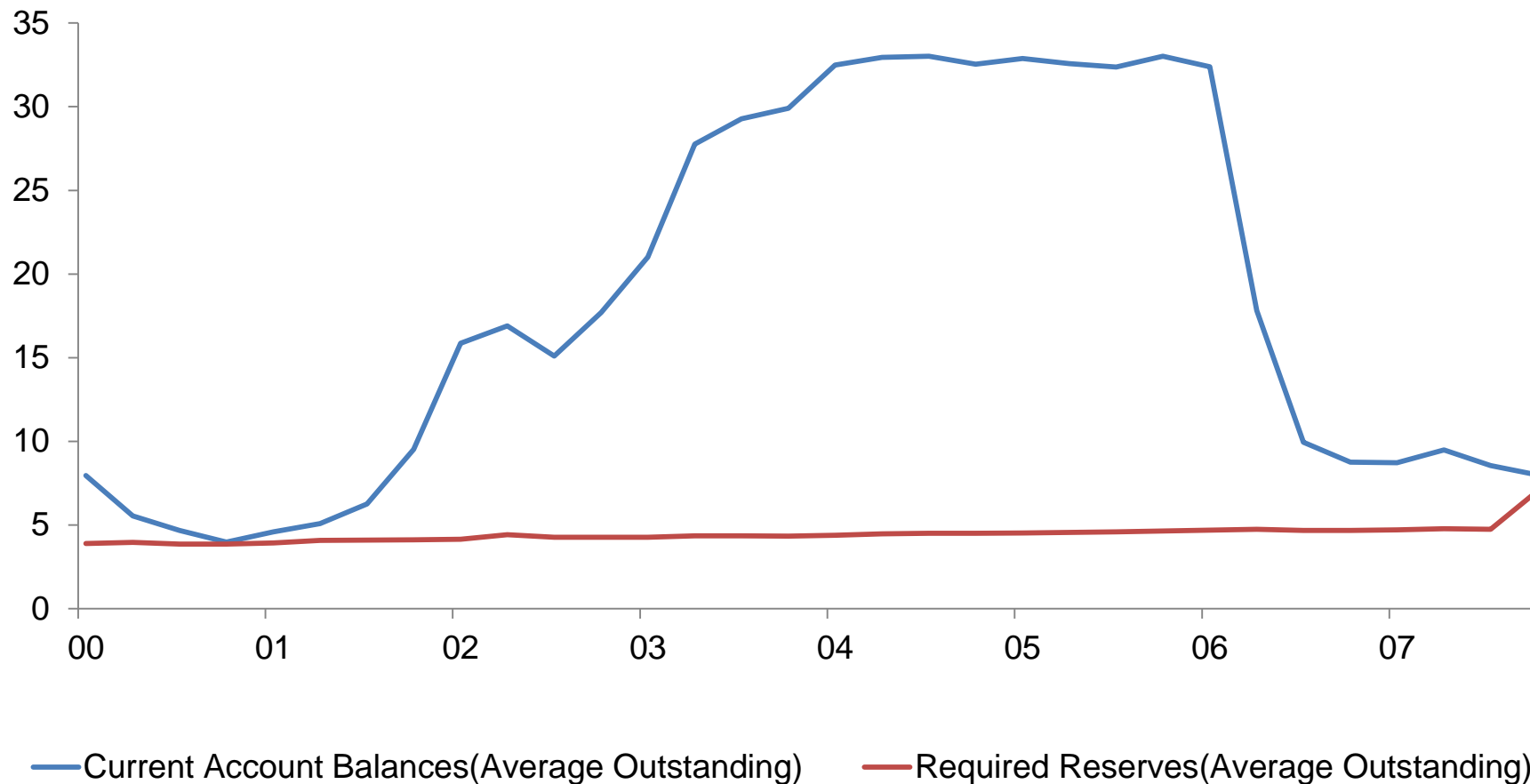
- Notes:
1. The real wage gap is defined as the deviation of real wages from labor productivity.
 2. Real wages = personnel expenses / number of workers / GDP deflator
 3. Labor productivity = (operating profits + personnel expenses + depreciation expenses) / number of workers / GDP deflator
 4. Variables such as personnel expenses are based on the "Financial Statements Statistics of Corporations by Industry, Quarterly" and exclude "finance and insurance."
 5. Figures from 2009/Q2 exclude "pure holding companies."

Original Sources: Ministry of Finance; Cabinet Office.

Source: Bank of Japan

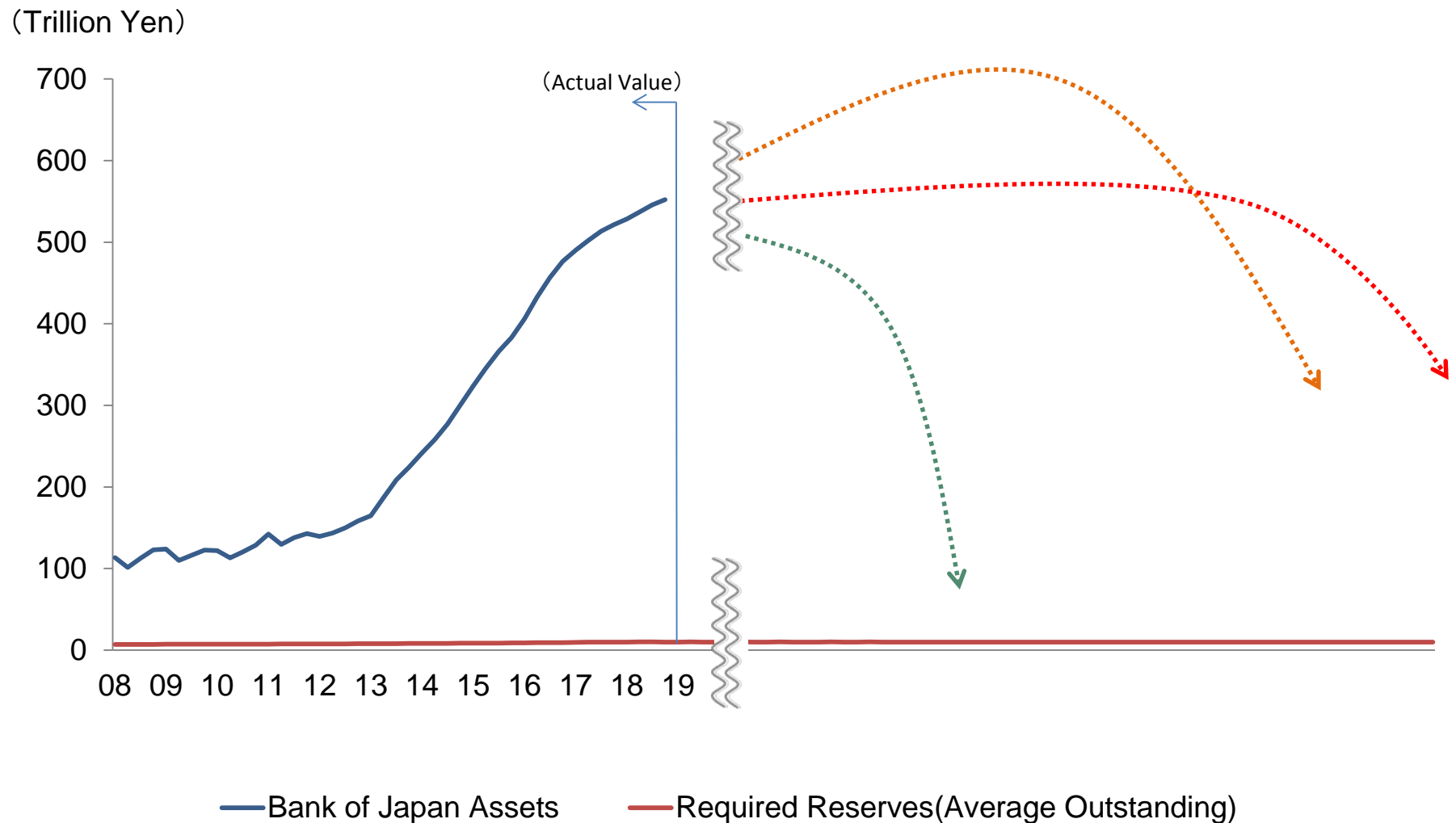
Exiting from Quantitative Easing Policy (QEP) in the mid-2000s

(Trillion Yen)



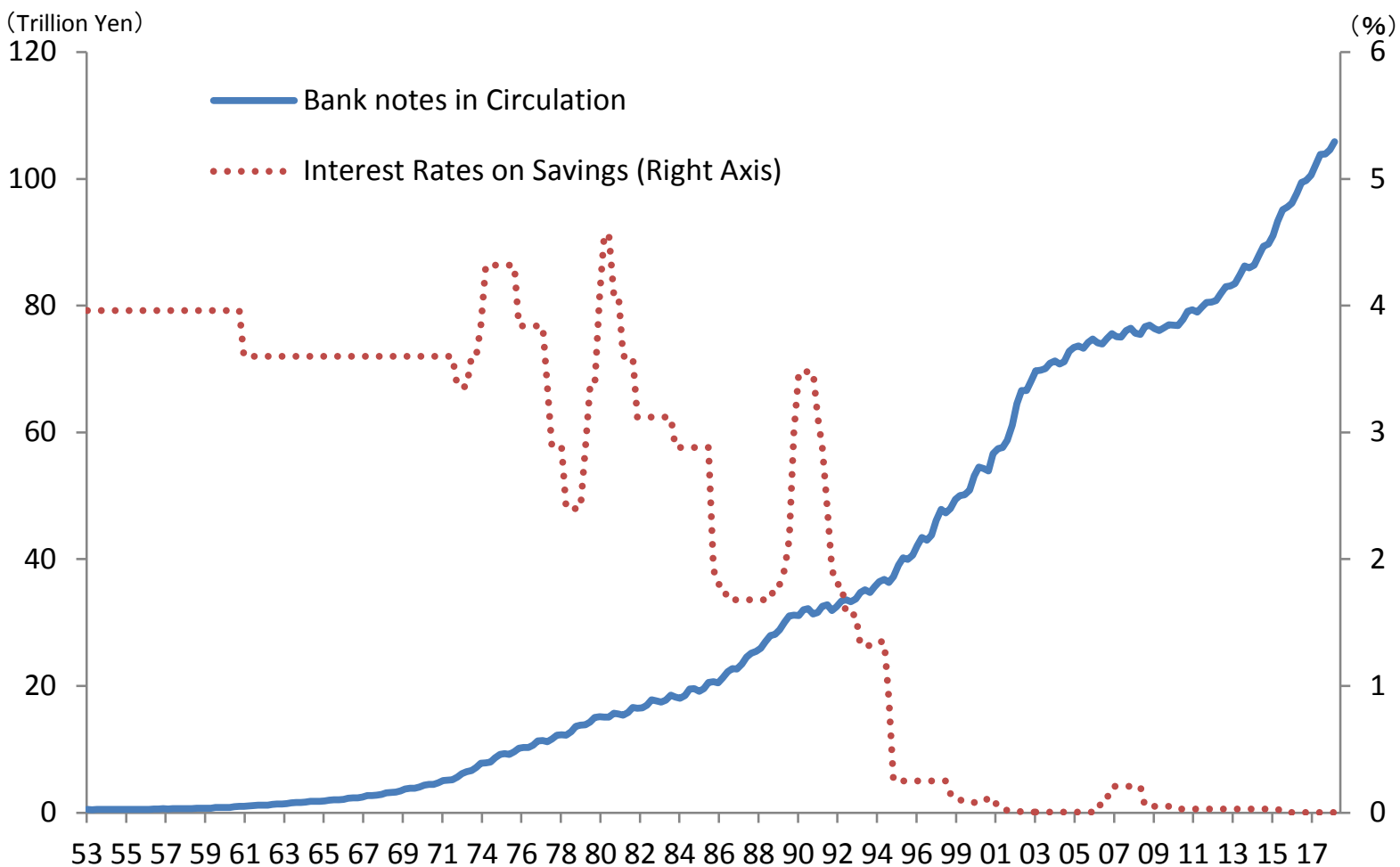
Source: Bank of Japan; compiled by DIR.

Expected Bank of Japan's Normalization Policy (Image)



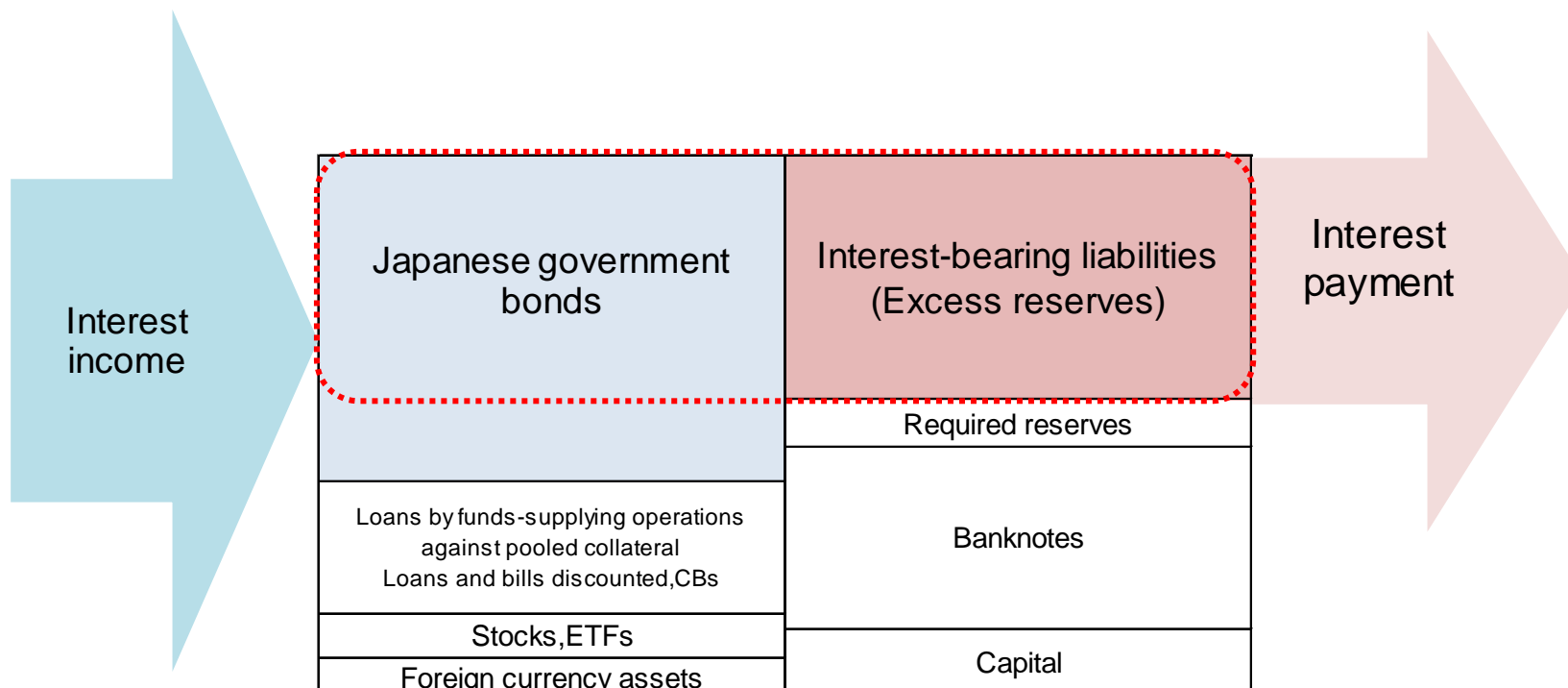
Source: Bank of Japan; compiled by DIR.

Changes in Banknotes Outstanding and Interest Rates



Note: Interest Rates on Savings is interest rate on normal savings account at a postal institution.
Source: Bank of Japan, Japan Post Bank; compiled by DIR.

Expansion of Reserves to Cover Losses on Bond Transactions



Transfers to provisions for possible losses on bonds transactions (Trillion Yen)

Fiscal Year	2013	2014	2015	2016	2017
Required reserve balances & Additional reserves	0.1	0.2	-	-	-
Transfer to provision for possible losses on bonds transactions	-	-	0.5	0.5	0.4
Capital	6.5	7.2	7.4	7.8	8.2
Provision for possible losses on bonds transactions (Stock)	2.2	2.2	2.7	3.2	3.6

Source: Bank of Japan; compiled by DIR.