

The Future of Monetary Policy: Lessons from the History of Monetary Economics

*Keynote Speech at the 38th Annual Meeting
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Introduction

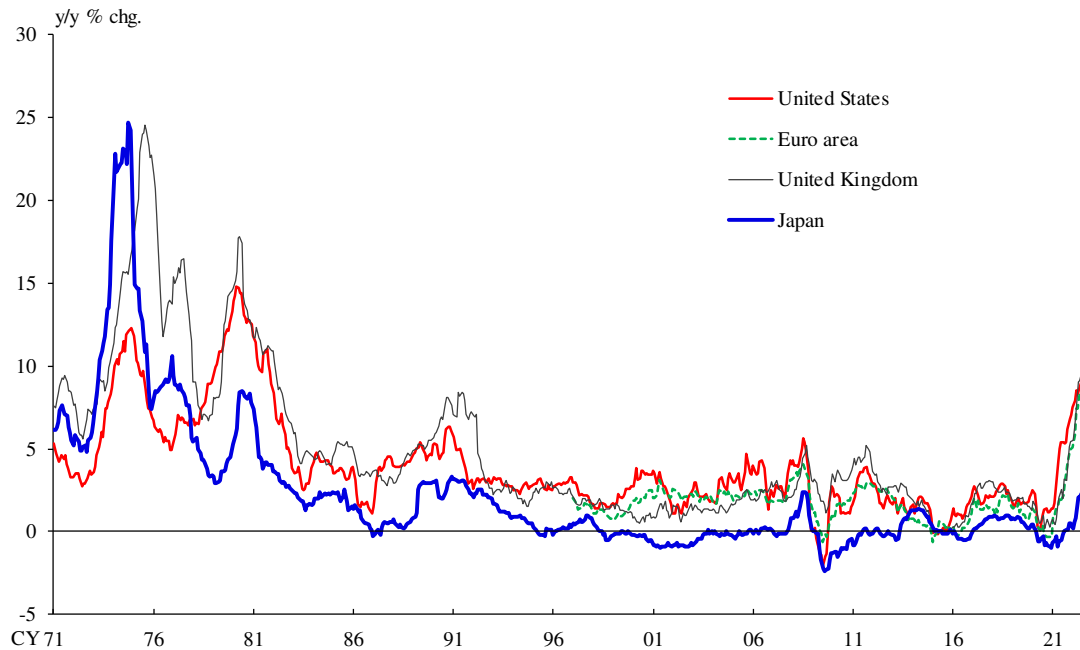
I. Looking at the Present: Is the Mild-Inflation Regime Over?

II. Looking Back: History of Monetary Economics

III. Looking Ahead: Lessons from History

Conclusion

Price Developments in Selected Economies



Note: Figures for the United States and the United Kingdom are for the CPI for all items. Those for the euro area are for the HICP for all items. Those for Japan are for the CPI for all items excluding fresh food, and those from 1997 onward exclude the direct effects of the consumption tax hikes. Figures for the United Kingdom prior to 1989 are based on the ONS estimates.

Sources: Haver; ONS; Ministry of Internal Affairs and Communications.

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I. Looking at the Present: Is the Mild-Inflation Regime Over?

Is This the End of the Mild-Inflation Regime?

Until Now: Concern over Japanification

(Low Inflation (or Deflation)
and Low Interest Rates)

- Smaller government, deregulation
- Rise of China and emerging economies
- Globalization, market integration, global supply chain
- Large labor supply
- Carbonized
- Peace dividend



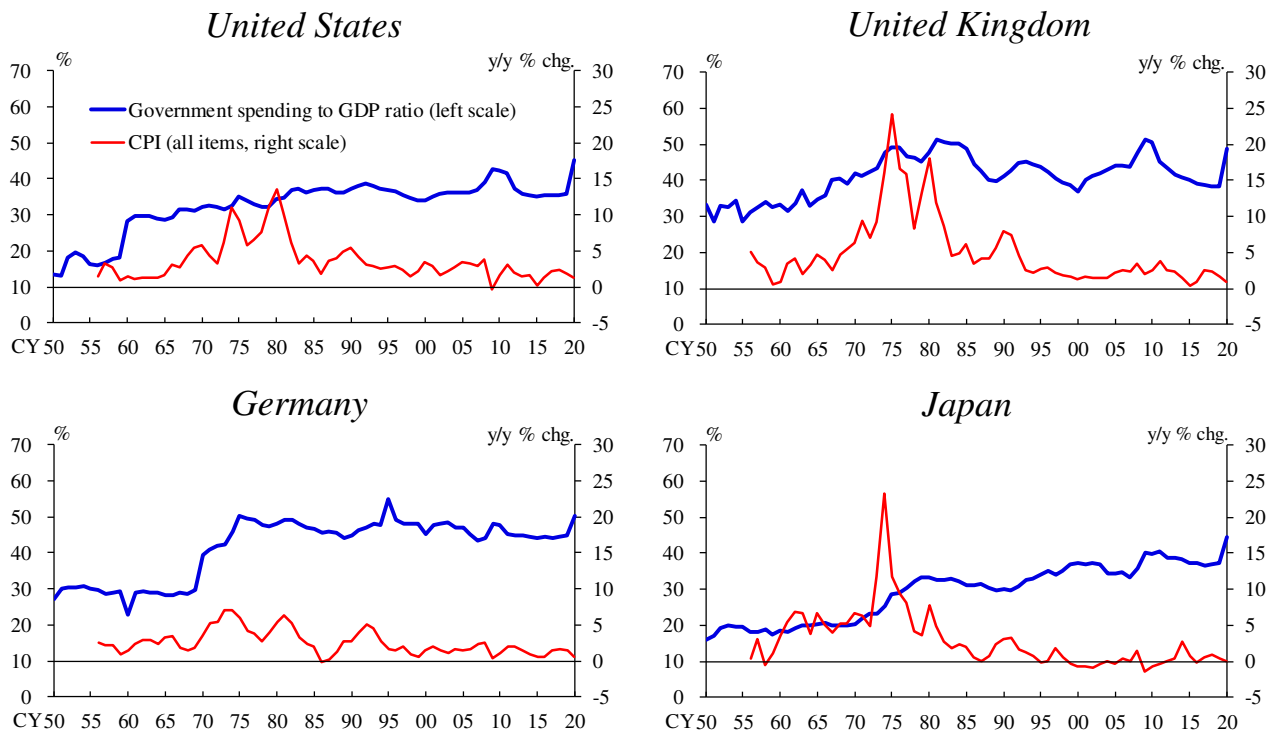
From Now On: Return of Inflation?

(High Inflation and
High Interest Rates?)

- Bigger government, re-regulation
- Growth convergence
- Deglobalization, market fragmentation, economic security
- Declining and aging population
- Decarbonization (greenflation)
- Wartime economy

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Government Spending and Inflation Rates: No Clear Relationship

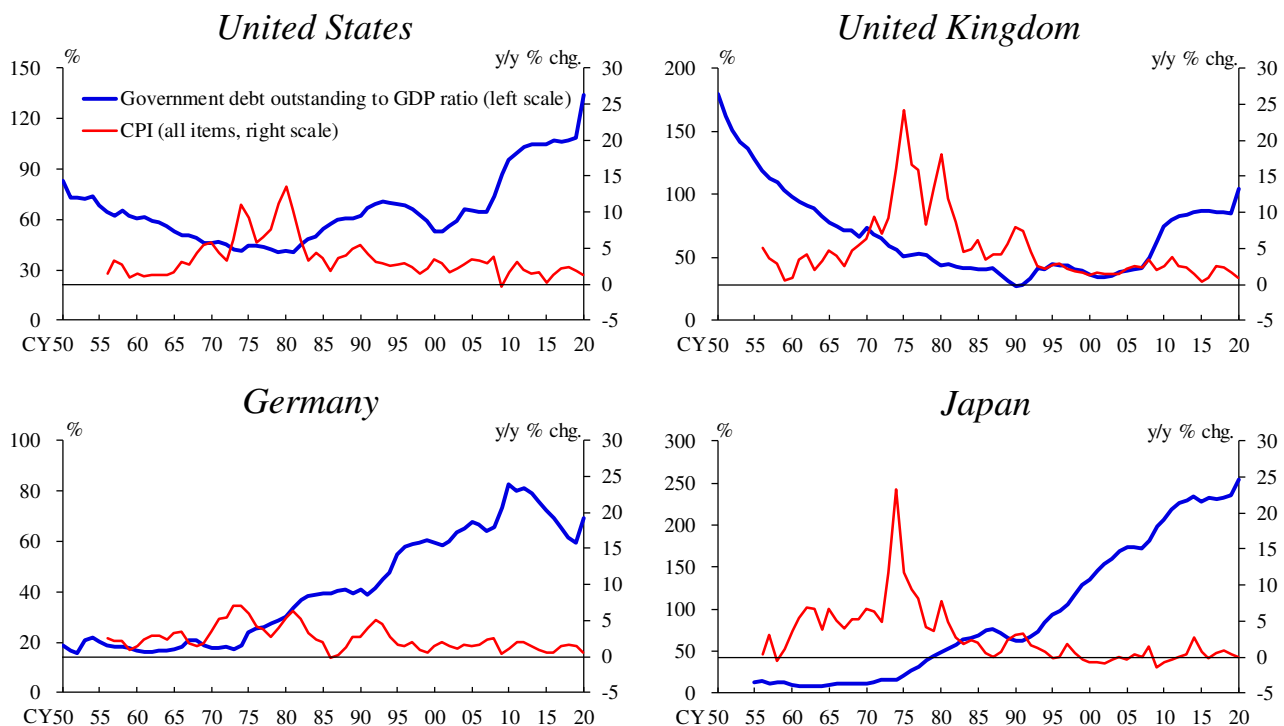


Notes: 1. Figures for the government spending to GDP ratio up through 2011 are from the Public Finances in Modern History database published by the IMF. The figures from 2012 onward are from the October 2022 *World Economic Outlook* (WEO).

2. Figures for Germany prior to 1991 are those for West Germany.

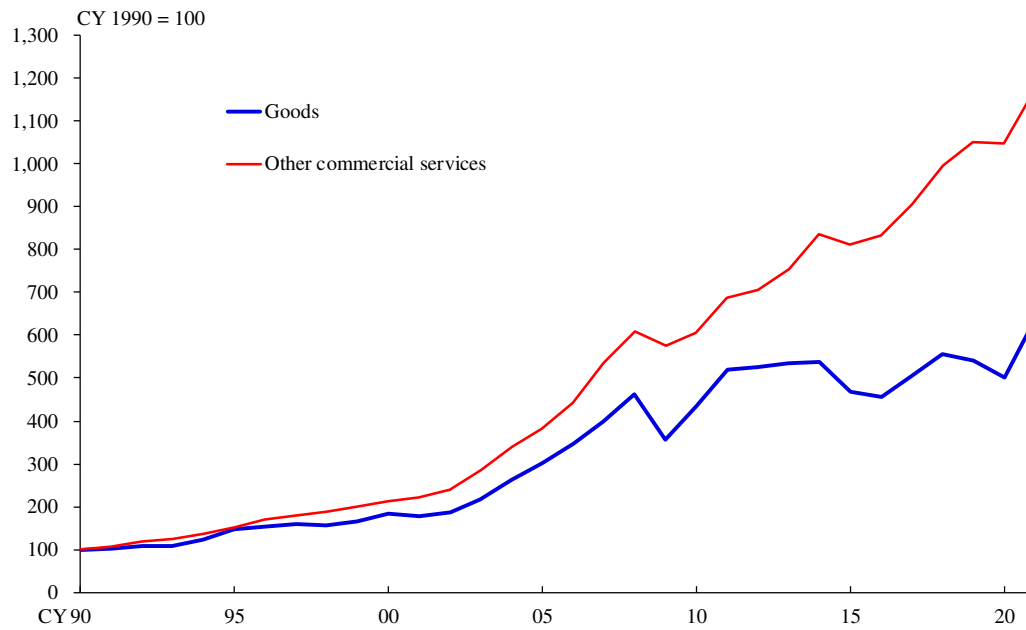
Sources: IMF; OECD; Mauro, P., Romeu, R., Binder, A. J., and Zaman, A., "A Modern History of Fiscal Prudence and Profligacy," *IMF Working Paper*, no. 2013/005 (2013).

Government Debt Outstanding and Inflation Rates: No Clear Relationship



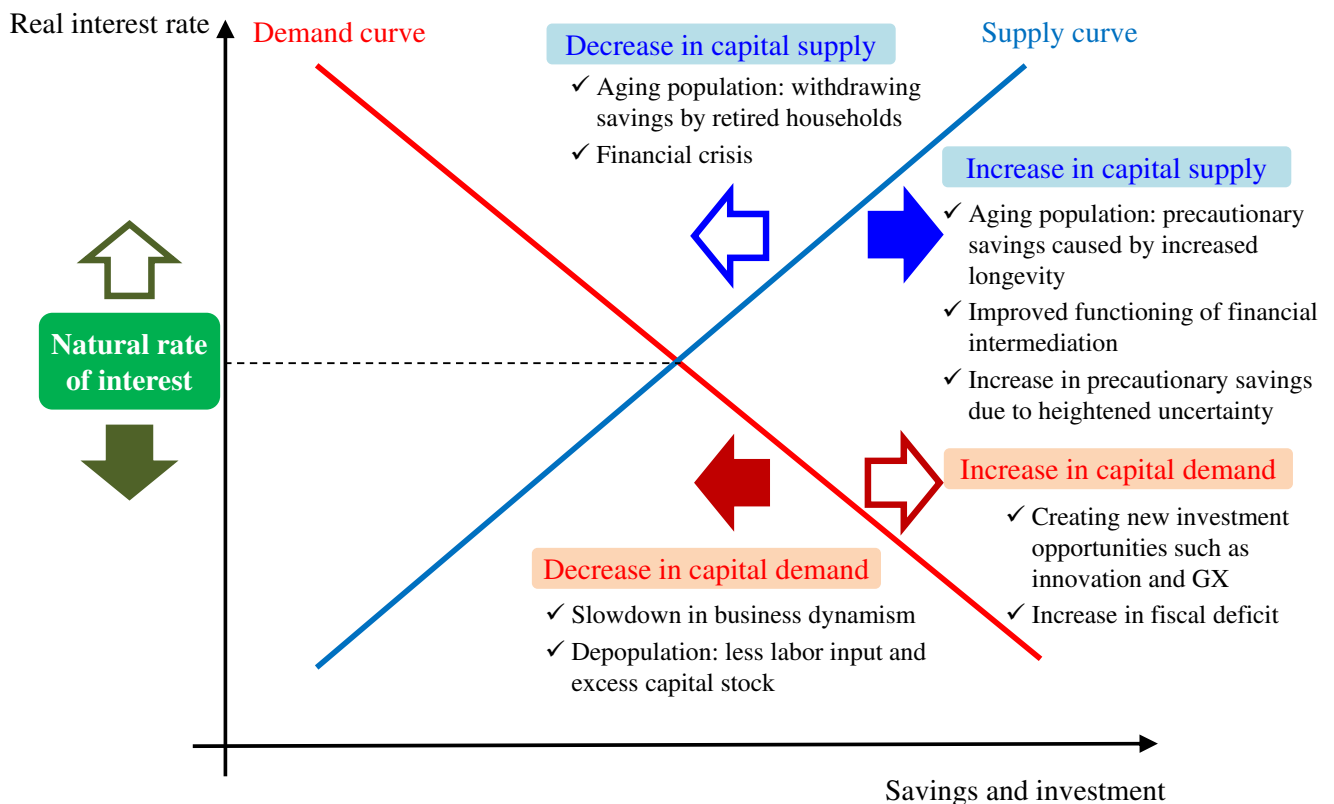
Note: Figures for Germany prior to 1991 are those for West Germany.
Sources: IMF; OECD.

World Trade: Stagnant Goods, Growing Services



Note: Figures are the sum of exports and imports on a U.S. dollar basis. Those for other commercial services exclude travel and transport.
Sources: WTO; Baldwin, R., "Globoitics and Macroeconomics: Globalisation and Automation of the Service Sector," *CEPR Press Discussion Paper*, no. 17530 (2022).

Determinants of the Natural Rate of Interest

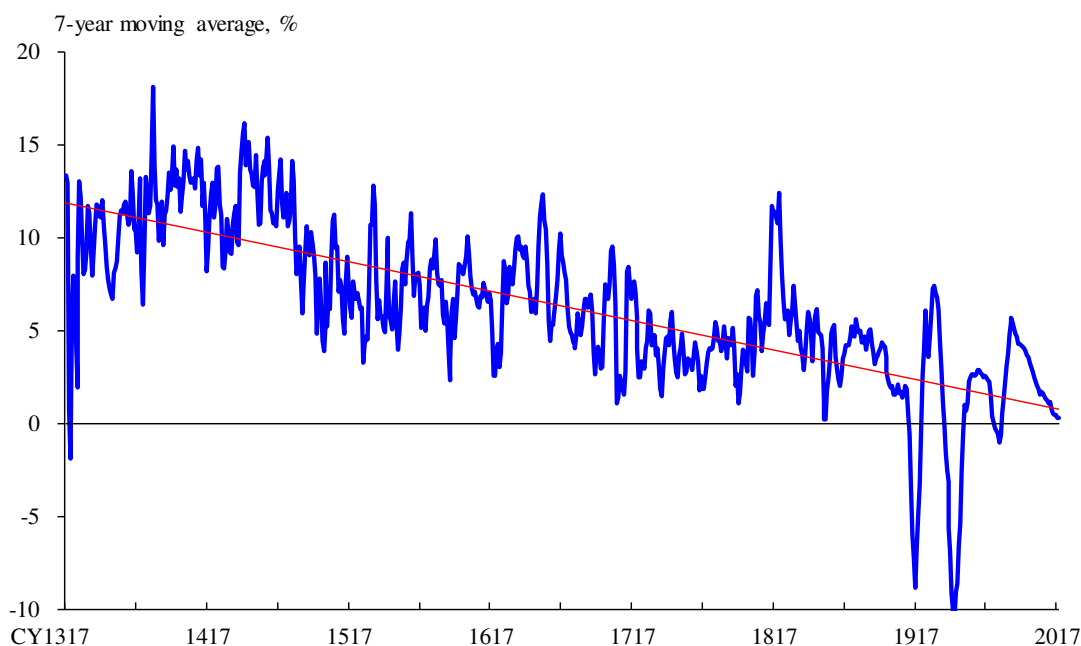


History of Monetary Economics

Episode	Period	Price Developments	Economist	Issue
Price Revolution	16-17th century	Prolonged inflation	D. Hume	<ul style="list-style-type: none"> • Benefits/harms of inflation and deflation • Neutrality of money
Bank Restriction	1797-1821	Deflation and inflation	H. Thornton	<ul style="list-style-type: none"> • Harms of inflation and deflation • Central bank for price and financial system stability
Long-Term Deflation	Late 19th century (1873-1896)	Prolonged deflation	A. Marshall I. Fisher K. Wicksell	<ul style="list-style-type: none"> • Evolution of the quantity theory of money
Great Depression	1929-1930s * Differs by country and region	Extreme deflation	I. Fisher J. M. Keynes	<ul style="list-style-type: none"> • Harms of deflation • Principle of effective demand
Great Inflation	1970s * Differs by country and region	High inflation	M. Friedman R. E. Lucas Jr. T. J. Sargent	<ul style="list-style-type: none"> • Reconfirmed role of money and expectations

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Historical Downtrend in Global Real Interest Rate



Note: Figures are calculated based on GDP-weighted nominal interest rates and inflation rates using available data for eight countries: Italy, the Netherlands, France, Spain, the United Kingdom, Germany, the United States, and Japan.
 Source: Schmelzing, P., "Eight Centuries of Global Real Interest Rates, R-G, and the 'Suprasecular' Decline, 1311-2018," *Bank of England Staff Working Paper*, no. 845 (2020).

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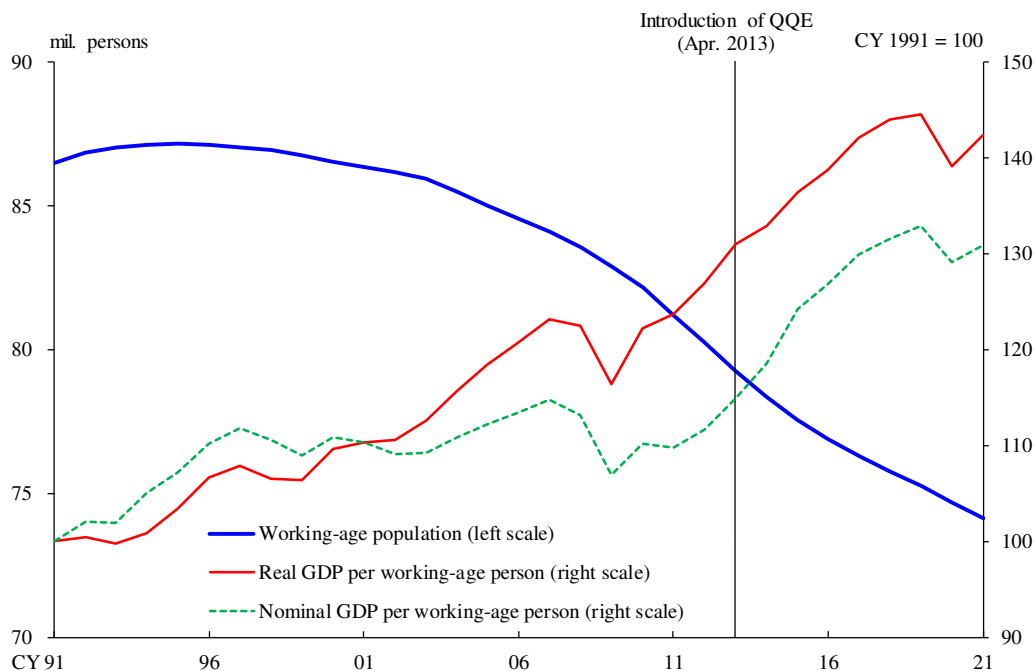
Discussions over the Monetary Policy Targets Overseas

Proposals	Description
Higher Inflation Target	... raise the target [from 2 percent] to, say, 3 or 4 percent (Bernanke, 2017)
Average Inflation Targeting	... targeting average inflation over a multiyear period (Clarida, 2019)
Price-Level Targeting	... [targeting] the level of prices on a steady growth path, rising by (say) 2 percent per year (Bernanke, 2017)
Temporary Price-Level Targeting	... apply a price-level target ... only to periods around ZLB episodes, retaining ... the current 2 percent [inflation] target at other times (Bernanke, 2017)
Inflation Target Range	... [setting a] goal within that range ..., perhaps year by year, depending on specific economic circumstances (Rosengren, 2018)
Nominal GDP Targeting	... targeting the growth rate or the level of nominal GDP (Svensson, 2019)

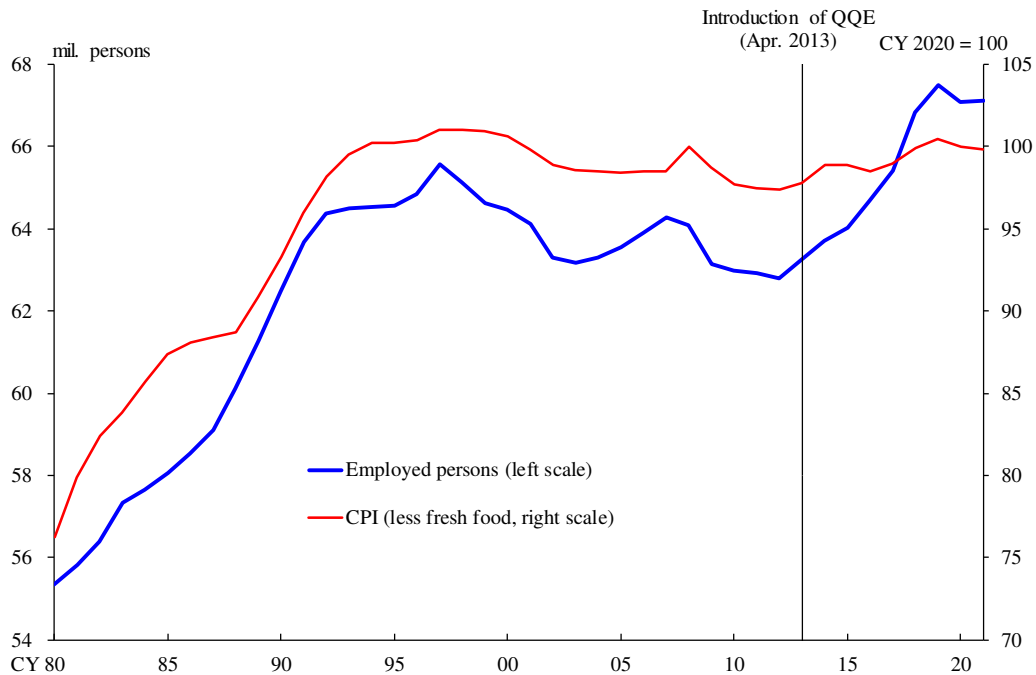
Sources: Bernanke, B. S., "Temporary Price-Level Targeting: An Alternative Framework for Monetary Policy," The Brookings Institution, October 12, 2017, <https://www.brookings.edu/blog/ben-bernanke/2017/10/12/temporary-price-level-targeting-an-alternative-framework-for-monetary-policy/>; Clarida, R. H., "The Federal Reserve's Review of Its Monetary Policy Strategy, Tools, and Communication Practices," remarks at the 2019 U.S. Monetary Policy Forum, February 22, 2019; Rosengren, E. S., "Considering Alternative Monetary Policy Frameworks: An Inflation Range with an Adjustable Inflation Target," speech at the Money, Models, & Digital Innovation Conference, January 12, 2018; and Svensson, L. E. O., "Monetary Policy Strategies for the Federal Reserve," prepared for a presentation at the Conference on Monetary Policy Strategy, Tools, and Communication Practices at the Federal Reserve Bank of Chicago, June 5, 2019.

Economic Growth despite Depopulation

Working-Age Population and GDP per Working-Age Person



Increase in Employed Persons and Prices



Note: Figures for the CPI from 1997 onward exclude the direct effects of the consumption tax hikes.
Source: Ministry of Internal Affairs and Communications.

Decomposition of Economic Growth in Japan and the United States

$$\text{GDP} = \text{Total population} \times \underbrace{\frac{\text{Employed persons}}{\text{Total population}} \times \frac{\text{Total hours worked}}{\text{Employed persons}}}_{\text{GDP per capita}} \times \frac{\text{GDP}}{\text{Total hours worked}}$$

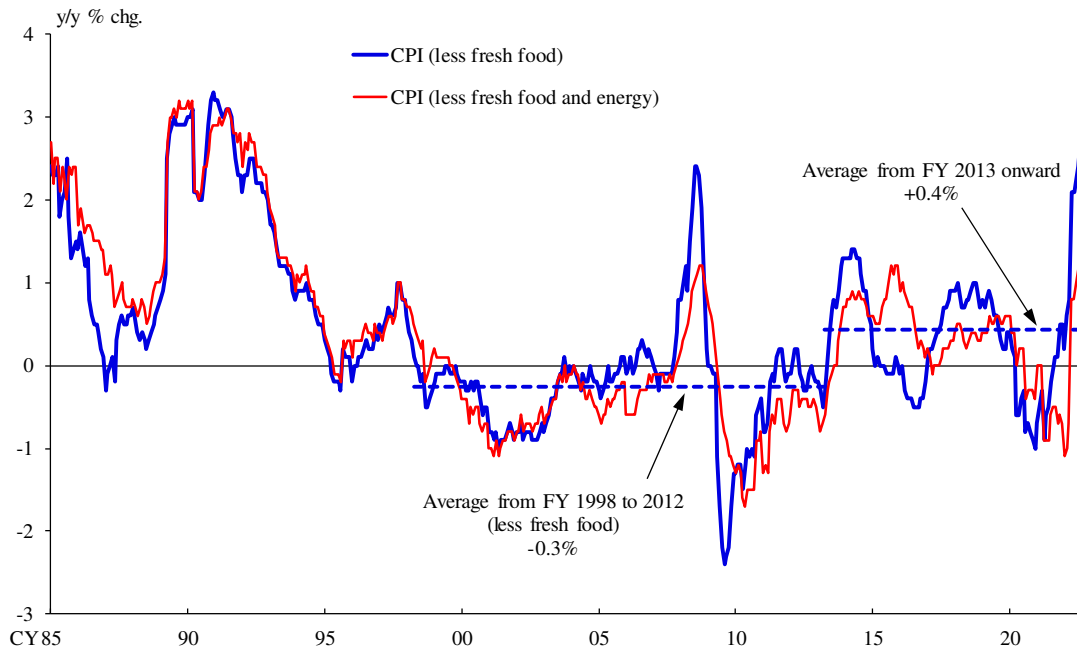
Japan

United States

	average, %							average, %					
	GDP	Total population	GDP per capita	Employed persons/ Total population	Hours worked per person	GDP per hour worked		GDP	Total population	GDP per capita	Employed persons/ Total population	Hours worked per person	GDP per hour worked
	(a)	(a)		(b)	(c)	(d)		(a)		(b)	(c)	(d)	
1990s	1.6	0.3	1.3	0.1	-1.2	2.4	1990s	3.2	1.2	2.0	0.1	-0.0	1.9
2000s	0.5	0.1	0.4	-0.2	-0.5	1.0	2000s	1.9	1.0	1.0	-0.5	-0.4	1.9
2010s	1.2	-0.1	1.3	0.6	-0.4	1.2	2010s	2.3	0.7	1.6	0.5	0.1	1.0

Source: Kuroda, H., "Japan's Inflation Dynamics and the Role of Monetary Policy," speech at Columbia University in New York, April 22, 2022.

CPI Inflation Rates: No Longer in Deflation



Note: Figures from 1997 onward exclude the direct effects of the consumption tax hikes.
 Source: Ministry of Internal Affairs and Communications.