FY2023 New Year Economic Outlook

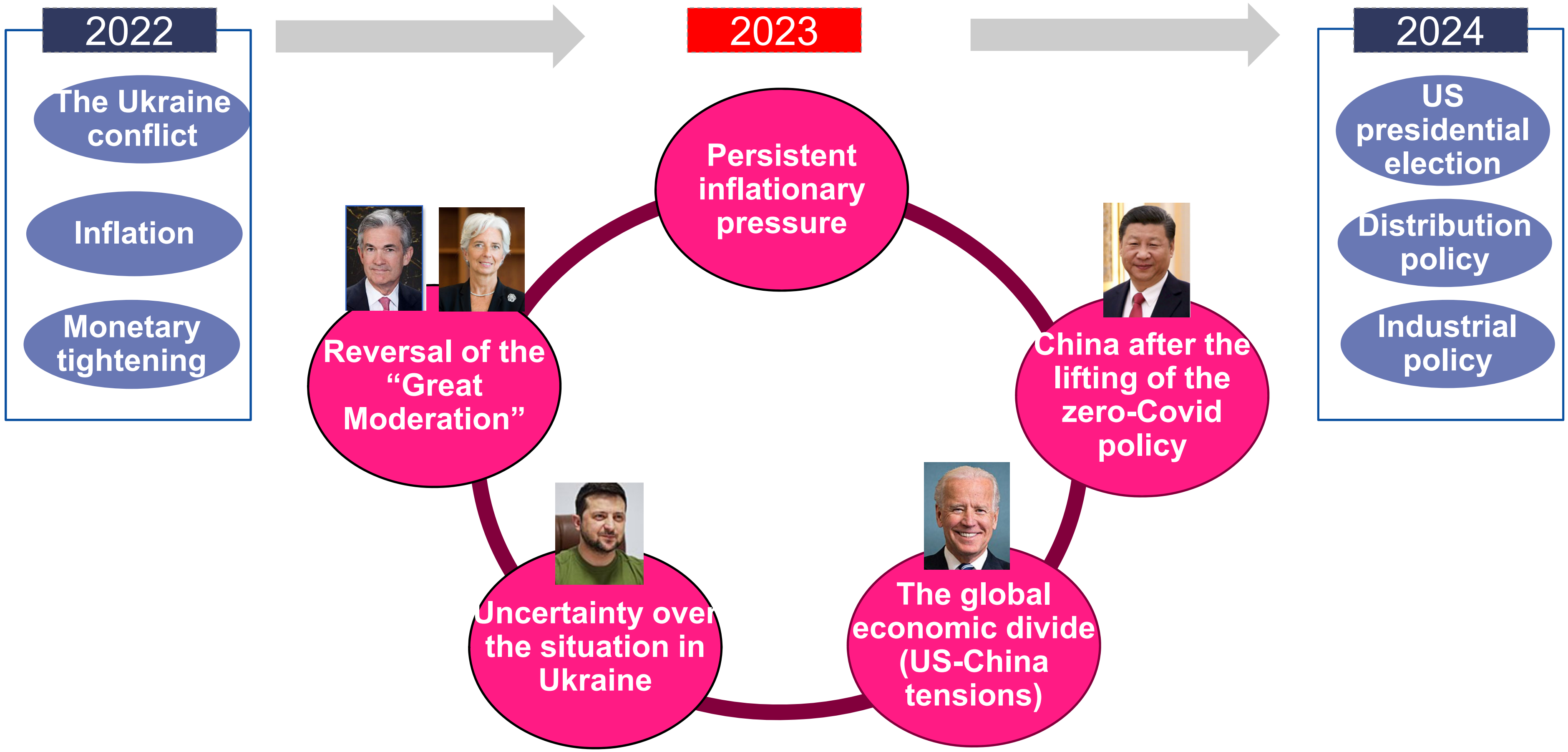
December 28, 2022

Mizuho Research & Technologies, Ltd.

A view of the world in 2023

- The major global concerns in 2023 are the persistent global inflationary pressures and the Chinese economy after the lifting of its zero-Covid policy.
  - The fragmentation of the global economy centered on the US-China confrontation, uncertainties over the situation in Ukraine, and the reversal of the “Great Moderation” (i.e., global low interest rates and excess liquidity) are also concerns regarding the global economy.

A view of the world in 2023



Source: Made by MHRT based upon Wikipedia Commons

(Reference) Top risks in 2023

Category	Risk	(1) Triggers which materialize the risks and (2) its impact
Inflation	US	(1) High inflation to continue stemming from the upward spiral of wages and prices (2) Fed interest rate hikes to the upside, causing a deepening US recession, capital outflows from emerging economies, and financial market turmoil
	Europe	(1) Inflation rises due to higher wages in response to tight labor supply & demand (2) ECB raising its policy rate to 5%, worsening the recession in Europe
	Japan	(1) Upward spiral of wages and prices due to belated recognition of the upward pressure on wages caused by labor shortages (2) Surge of long-term interest rates, leading to a recession and financial system instability
China	Zero-Covid policy	(1) Excess savings serves as tailwinds after the lifting of the zero-Covid policy, leading to (2) overheating of the economy especially in consumption. Rise of global inflation mainly in commodity prices
Geopolitics/ policies	Situation in Ukraine	(1) Prolonged war to escalate Western sanctions against Russia, with Russia's attacks on Ukraine's grain supply chain, leading to (2) the rise of global food and commodity prices
	Possibility of incidents in Taiwan	(1) China's occupation of Taiwan in response to US intervention in Taiwanese affairs (2) Trade with China and Taiwan, especially in strategic goods, plummets, causing global supply shortages and recession
	US-China decoupling	(1) Both the US and China take an increasingly hardline external posture to avoid criticism of domestic economic slowdown (2) Rapid decoupling disrupts supply chains and increases inflationary pressures
	Rise of populism	(1) Rise of populism aimed at regaining the support of the inflation-hit public (2) Increase in inflationary pressures and financial market turmoil due to fiscal expansion, Russia's expanding power due to suspension of military support to Ukraine, etc.
	Green	(1) Announcement of stricter-than-expected environmental regulation proposals (2) Increase in stranded assets due to increased transition risk, deterioration in corporate earnings due to higher-than-expected investment burdens, and growing job insecurity
Financial markets	Systemic risks	Simultaneous occurrence of (1) interest rate hikes and asset compression in the major countries, (2) rise of defaults, outflows from high-risk financial products, and deterioration of liquidity, leading to a chain of financial institution failures

Source: Made by MHRT

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The global economy will fall into a recession centering in Europe and the US, given the rise of inflation and monetary tightening

	(Y-o-y % change) 2021	2022 (Outlook)	2023 (Outlook)	(% pt) 2022 (Comparison with the forecast as of Oct. 2022)	2023 (Comparison with the forecast as of Oct. 2022)
Global real GDP growth	6.0	2.6	1.8	0.3	0.2
Japan, US, Europe	5.3	2.4	−0.6	0.2	0.1
US	5.9	1.9	−0.8	0.2	-
Eurozone	5.3	3.1	−0.8	0.3	0.4
UK	7.4	4.3	−0.9	0.1	−0.6
Japan	2.1	1.2	1.1	−0.1	-
Asia	7.2	4.2	4.5	-	-
China	8.4	3.1	4.8	−0.1	-
NIEs	5.5	2.3	1.7	−0.1	0.1
ASEAN5	3.3	5.5	4.2	0.2	-
India	8.3	7.1	5.5	-	0.2
Australia	4.9	3.5	1.8	0.8	-
Brazil	5.0	2.9	0.7	0.4	0.3
Mexico	4.7	2.7	−0.6	0.8	0.1
Japan (FY)	2.5	1.4	1.0	−0.1	0.1

The global economy will remain stagnant. In 2023, global economic growth should fall below 2%, showing signs of a synchronized global recession.

Despite the current firmness, a recession is inevitable through 2023 due to continued monetary tightening.

Economic normalization is a long way off, even with the lifting of the zero-Covid policy and support for the real estate market; gradual recovery expected in the second half of 2023.

The recovery from the Covid-19 pandemic to stall; inflation remains high, and growth is expected to slow due to deteriorating external demand.

Although worsening external demand puts downward pressure, the recovery from the Covid-19 pandemic will ease the slump mainly in the service sector. Fiscal policy support will also serve to keep economic growth in positive territory.

Note: Figures in the shaded areas are forecasts. The total for forecasted regions is calculated based on GDP share (PPP) by the IMF.
Source: Made by MHRT based upon releases by the IMF and the statistics of relevant countries and regions

Key issues in the 2023 economic outlook

Region	Key issues
US Outlook on inflation and wages	◆ The impact of monetary tightening will spread, leading to a recession in 2023. ◆ Although inflation is likely to peak, especially for goods, wage growth will remain high. ◆ The recession will lead to a gradual deterioration in employment and wages, which will cause a cool-down of inflation.
Europe Outlook on gas prices and inflation	◆ Despite prolonged tensions in Ukraine, gas price increases will slow as concerns of a gas shortage recede. ◆ On the other hand, inflation will increase due to rising food prices, leading to an inevitable decline in consumption. ◆ Interest rates hikes will continue in the first half of the year due to concerns regarding inflationary wage pressures (recession expected in 2023).
China Lifting of the zero-Covid policy and future direction	◆ By November 2022, the economy had deteriorated due to the zero-Covid policy. ◆ In response to the deterioration of economic conditions, the Chinese government has effectively lifted the zero-Covid policy. ◆ The economy is likely to repeat a decline and recovery due to the resurgence of Covid infections (economic recovery will be slow, when averaged out).
Emerging economies Outlook on impact of inflation and worsening external demand	◆ Inflationary pressures remain in the near term as the contribution of core inflation increases. ◆ Rapid recovery from the pandemic has peaked. Along with inflation, real consumption is expected to slow. ◆ Exports will also be sluggish due to the economic slowdown in Europe and the US and the slow recovery in China.
Japan Outlook on inflation, wages, and the effects of comprehensive economic stimulus measures	◆ Although the slowdown in external demand will serve as a drag, positive growth will be maintained due to recovery in the services sector. ◆ Although prices are expected to rise sharply, comprehensive economic measures (price controls, household benefits, etc.) will mitigate the impact. ◆ Wage restraint (moderate wage growth) is expected for senior full-time regular employees due to employment practices despite tight labor supply & demand.

Source: Made by MHRT

(1) US: tighter monetary policy will lead to a year of recession in 2023

- We expect growth to fall into negative territory (-0.8% y-o-y) in 2023.
  - Recession is likely as the effects of monetary tightening spread throughout the economy.
    - Personal consumption is expected to decline over the middle of the year due to the impact of inflation and the reverse wealth effect as a result of the declining value of financial assets.
    - Employment will deteriorate along with the recession, and the unemployment rate will rise to 5%.
    - Inflation is expected to decline, with the growth rate of the core PCE deflator falling to about 3%, as service prices slow down in line with the deterioration in employment and wages.

Outlook on the US economy

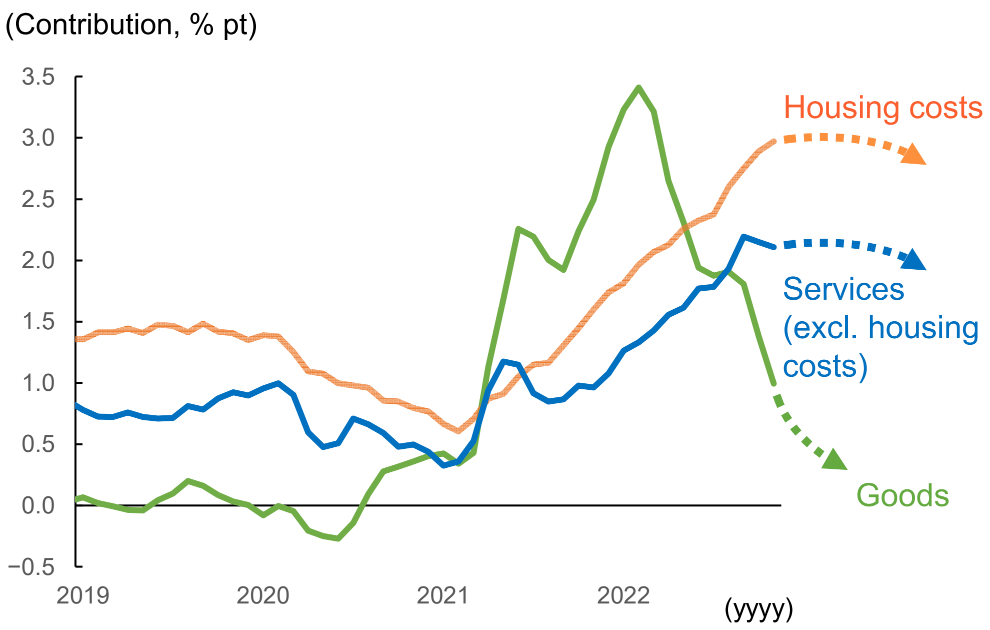
		2021	2022	2023	2021				2022				2023			
			(Outlook)		Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
GDP (real)	Q-o-q % ch p.a.	5.9	1.9	−0.8	6.3	7.0	2.7	7.0	−1.6	−0.6	2.9	0.9	−0.9	−4.2	−2.1	0.7
Personal consumption	Q-o-q % ch p.a.	8.3	2.7	0.0	10.8	12.1	3.0	3.1	1.3	2.0	1.7	1.2	−1.0	−1.1	−0.7	0.7
Housing investment	Q-o-q % ch p.a.	10.7	−10.0	−22	11.6	−4.9	−5.8	−1.1	−3.1	−17.8	−26.8	−16.8	−32.3	−27.0	−9.2	9.5
Capital investment	Q-o-q % ch p.a.	6.4	3.8	−1.6	8.9	9.9	0.6	1.1	7.9	0.1	5.1	5.7	−4.3	−9.9	−2.9	1.6
Inventory investment	Q-o-q contribution p.a. % pt	0.2	−0.7	−0.8	−2.5	−0.8	2.0	5.0	0.2	−1.9	−1.0	0.0	0.7	−2.0	−1.5	−0.2
Government consumption	Q-o-q % ch p.a.	0.6	−0.9	0.7	6.5	−3.0	−0.2	−1.0	−2.3	−1.6	3.0	0.6	0.6	0.6	0.6	0.6
Net exports	Q-o-q contribution p.a. % pt	−1.3	0.3	0.7	−1.0	−0.6	−1.1	−0.2	−3.1	1.2	2.9	0.1	1.4	1.3	0.6	−0.3
Exports	Q-o-q % ch p.a.	6.1	7.6	4.2	0.4	4.9	−1.1	23.5	−4.6	13.8	15.3	3.4	2.8	0.0	1.2	1.2
Imports	Q-o-q % ch p.a.	14.1	8.6	−3.8	7.6	7.9	6.6	18.6	18.4	2.2	−7.3	1.7	−6.7	−7.8	−2.8	2.8
Unemployment rate	%	5.4	3.7	4.5	6.2	5.9	5.1	4.2	3.8	3.6	3.6	3.8	4.0	4.3	4.7	5.0
PCE deflator	Y-o-y % ch	4.0	6.2	3.6	1.9	4.0	4.5	5.7	6.4	6.6	6.3	5.6	4.7	3.6	3.2	2.9
Core, excl. food and energy	Y-o-y % ch	3.5	4.9	3.5	1.7	3.5	3.9	4.7	5.3	5.0	4.9	4.5	4.1	3.7	3.3	2.9

Note: Figures in the shaded areas are forecasts by MHRT (as of December 23, 2022)
Source: Made by MHRT based upon releases by the US Department of Commerce and the US Department of Labor

US: despite signs of a moderation in current inflation, wage growth remains high

- The core CPI stood at +6.0% y-o-y in November (+6.3% y-o-y in October), broadly in line with expectations.
  - Goods prices are expected to peak around February. Manufacturing and import costs will gradually decline as supply constraints ease and energy prices fall.
  - Housing costs are likely to decline due to a slowdown of new rents, etc.
  - The cost of services other than housing is also likely to decline in line with the impending slowdown in employment and wages. However, current wage indicators remain above levels consistent with 2% inflation.

Core CPI breakdown (contribution by item)



Source: Made by MHRT based upon releases by the US Department of Labor

Outlook and key points by item

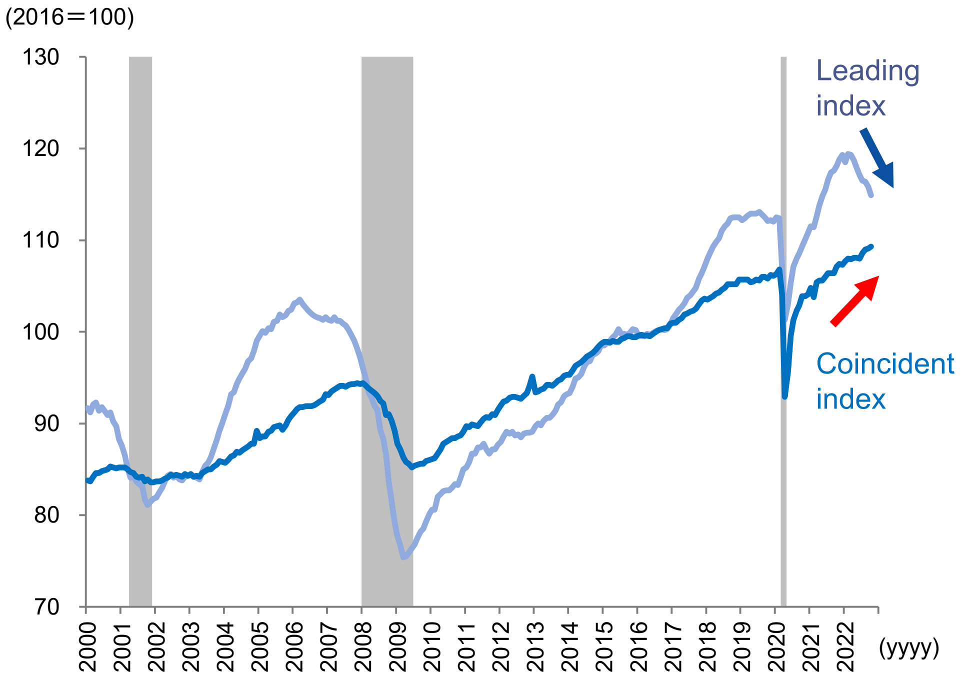
Item	Outlook	Description
Goods	Slowdown	• Global supply chain pressure index nearing pre-pandemic levels, easing supply constraints • Lower energy prices keeping prices at the manufacturing stage low
Housing costs (Rent and imputed rent of owner-occupied residences)	Signs of slowdown	• Rents for new leases on a downward trend • CPI housing costs expected to peak around mid-2023, although the replacement of rental stock will take time
Services other than housing costs	Highly uncertain despite prospects of a slowdown	• Labor force participation rate falling as early retirements increase, while increase of working-age population is sluggish due to a decline in immigration, creating uncertainty about the outlook on labor supply & demand • Wage indicators remaining above levels consistent with 2% inflation

.Source: Made by MHRT

US: in 2023, employment and wages will deteriorate and service prices will slow along with the fall of the economy into a recession

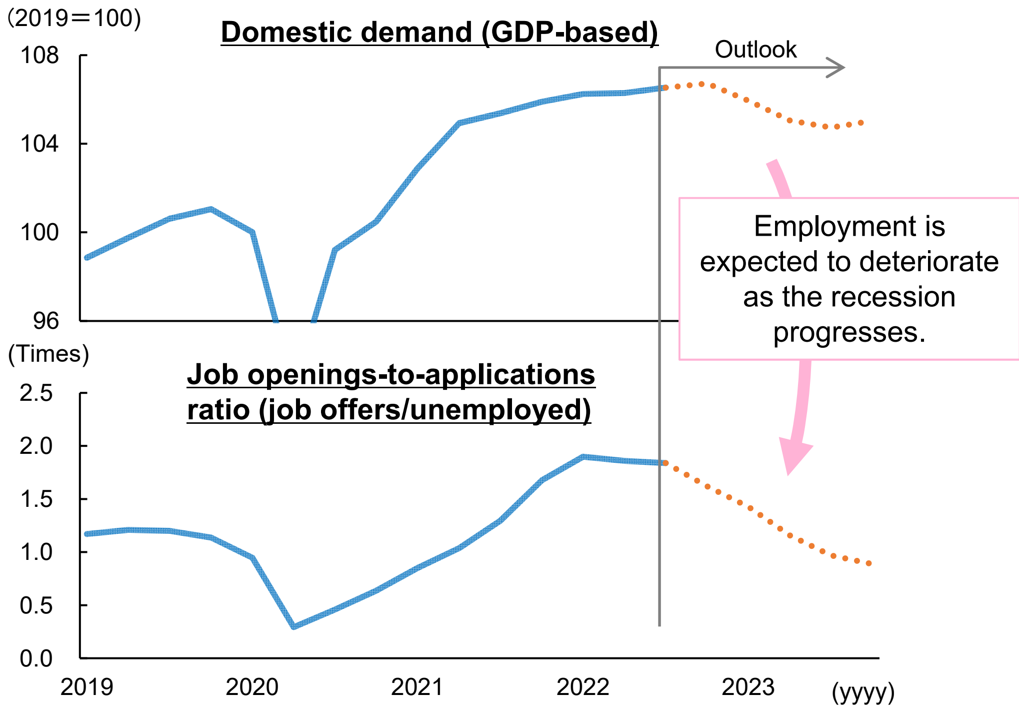
- While the coincident index remains firm, the leading economic index is worsening, raising concerns about recession.
  - The New York Fed's probability of recession in one-year time also rose to 38% in November from 26% in October.
- We expect employment and wages to gradually deteriorate as the recession becomes more evident from early 2023. The pace of price increases for services will also slow down.

Leading and coincident economic indices



Note: The areas shaded in gray indicate periods of recession.
Source: Made by MHRT based upon releases by the Conference Board

Outlook on the economy and employment

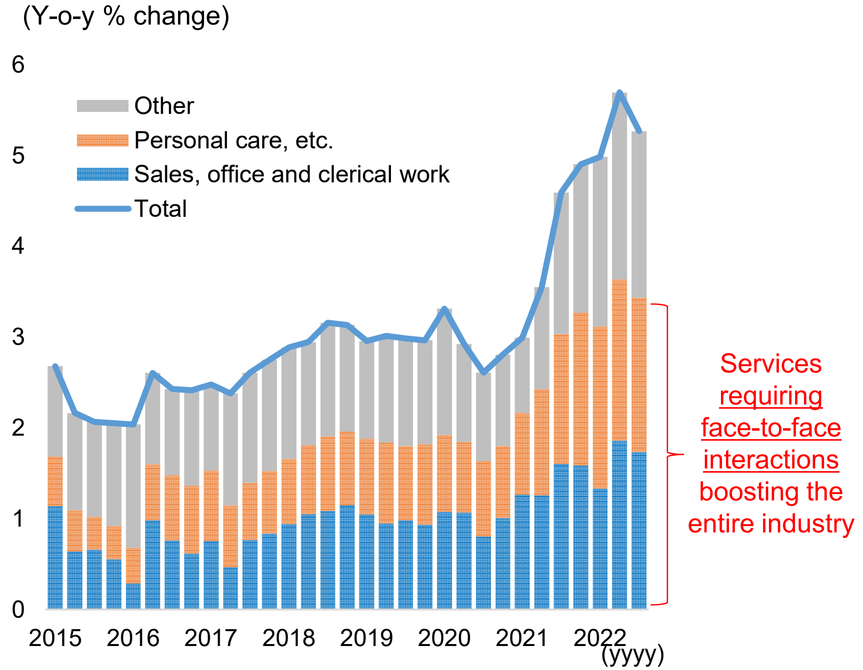


Source: Made by MHRT based upon releases by the US Department of Commerce and the US Department of Labor

US: persistent wage increase risks amid tight labor supply & demand

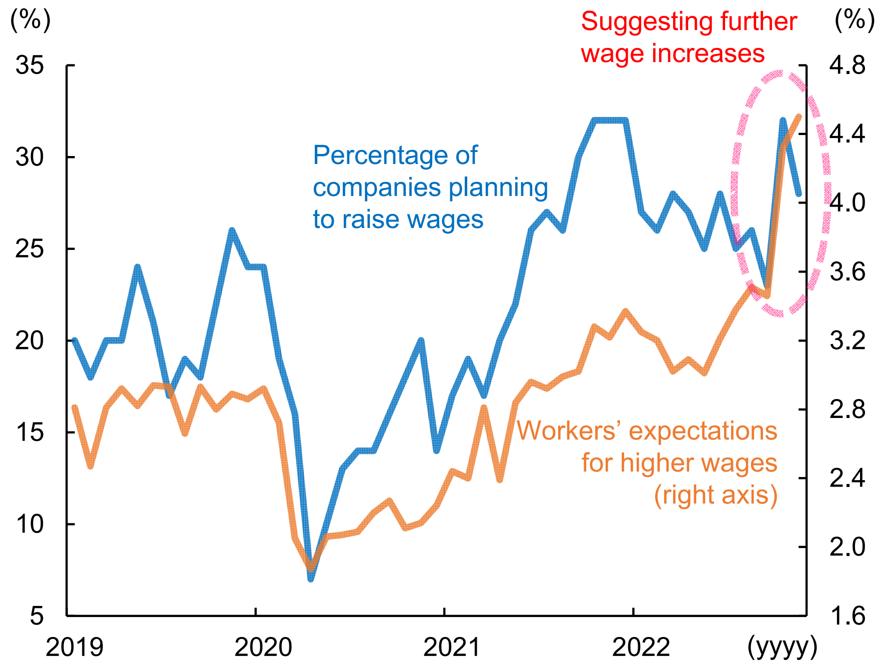
- Wages, which are highly correlated with core services prices, continued to rise, especially in services requiring face-to-face interactions.
  - The rise of hourly earnings in the November employment statistics rebounded to +5.1% y-o-y (+4.9% y-o-y in October). In terms of the employment cost index, wage growth has recently been more evident in the categories of personal care services requiring face-to-face interactions, such as sales representatives and personal care workers.
  - In the sector for services requiring face-to-face interactions, the labor force has been shrinking due to early retirements and fewer immigrants. There has been no progress in offsetting decline.
- The percentage of companies planning to raise wages and workers' expectations for wage increases is surging again at the moment. This suggests the possibility of further wage increases and lingering concerns about wage inflation.

Breakdown of wage and salary growth (based on the employment cost index)



Note: Personal care, etc., includes medical support, security, food preparation and delivery, and building cleaning and maintenance.
Source: Made by MHRT based upon releases by the US Department of Labor

Companies' wage increase plans and workers' wage expectations



Note: Companies' wage increase plans look three months ahead, while workers' wage expectations are based on households' expected income growth over the next year.
Source: Made by MHRT based upon releases by NFIB and the Federal Reserve Bank of New York

US: December FOMC remaining vigilant on inflation, additional rate hikes in 2023 (no rate cuts)

- The December Federal Open Market Committee (FOMC) meeting decided upon rate hikes at 0.5% pt; an upward revision of the median forecast for end-2023 to 5.0%–5.25%, with a continued tightening stance through the end of 2025.
  - Even in the wake of the adverse CPI shocks in October and November, almost all participants revised upward their outlook on the federal funds (FF) rate at the end of 2023 to above 5%. This suggests a heightened vigilance for inflation.
  - However, while most participants viewed inflation risks as to the “upside," one participant shifted its outlook to the "downside."
  - As indicated by the outlook on the FF rate in 2024, there is likely to be more conflict of views between hawkish and doveish participants.

Key points of the December FOMC meeting

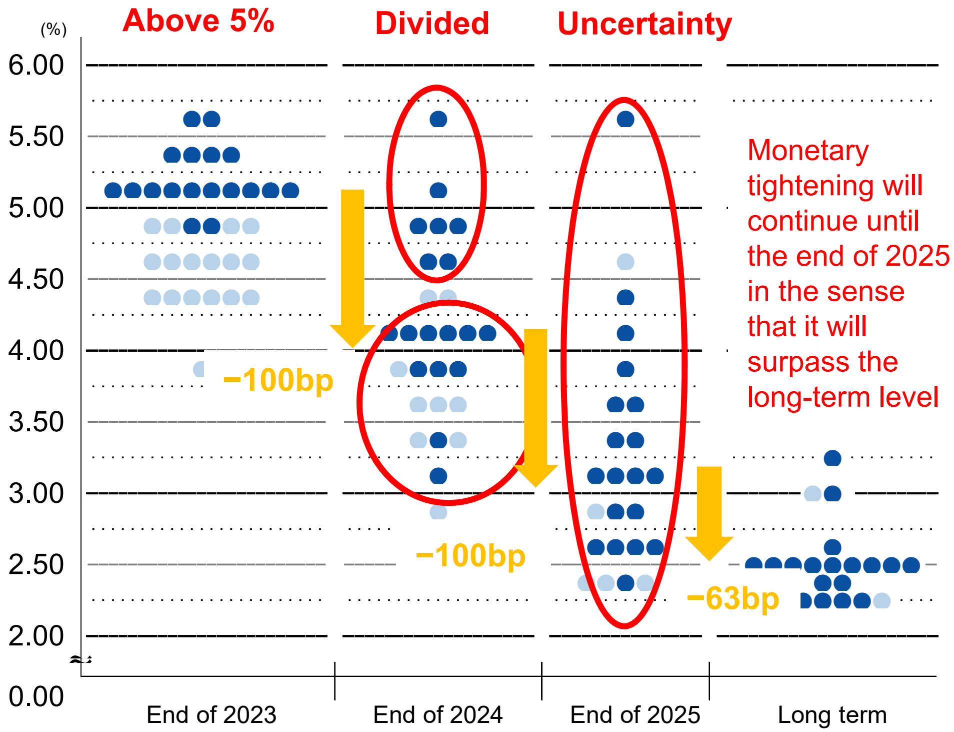
- Inflation data received for October and November showed welcome reductions in the monthly pace of price increases, but substantially more evidence is needed to be confident that inflation was on a sustained downward path.
- Although the pace of rate hikes has slowed this time, even 50bp is historically high. Additional hikes are needed.
- The Committee would continue to be informed by incoming data and would continue to make decisions meeting by meeting.
- The historical record cautions against prematurely loosening policy. We will stay the course until the job is done.

<Press conference>

- There are no rate cuts in the SEP (Summary of Economic Projections) for 2023. I wouldn’t see us considering rate cuts until the Committee is confident that inflation is moving down to 2 percent in a sustained way.
- No sign of improvement in wages (possible composite effect)
- The inflation data received so far for October and November show a welcome reduction in the monthly pace of price increases. But the core CPI was three times the inflation target.
- Changing our inflation goal may be a longer-run project, but we’re not going to consider that under any circumstances.

Source: Made by MHRT based upon releases by the FRB

FF rate outlook by December FOMC participants

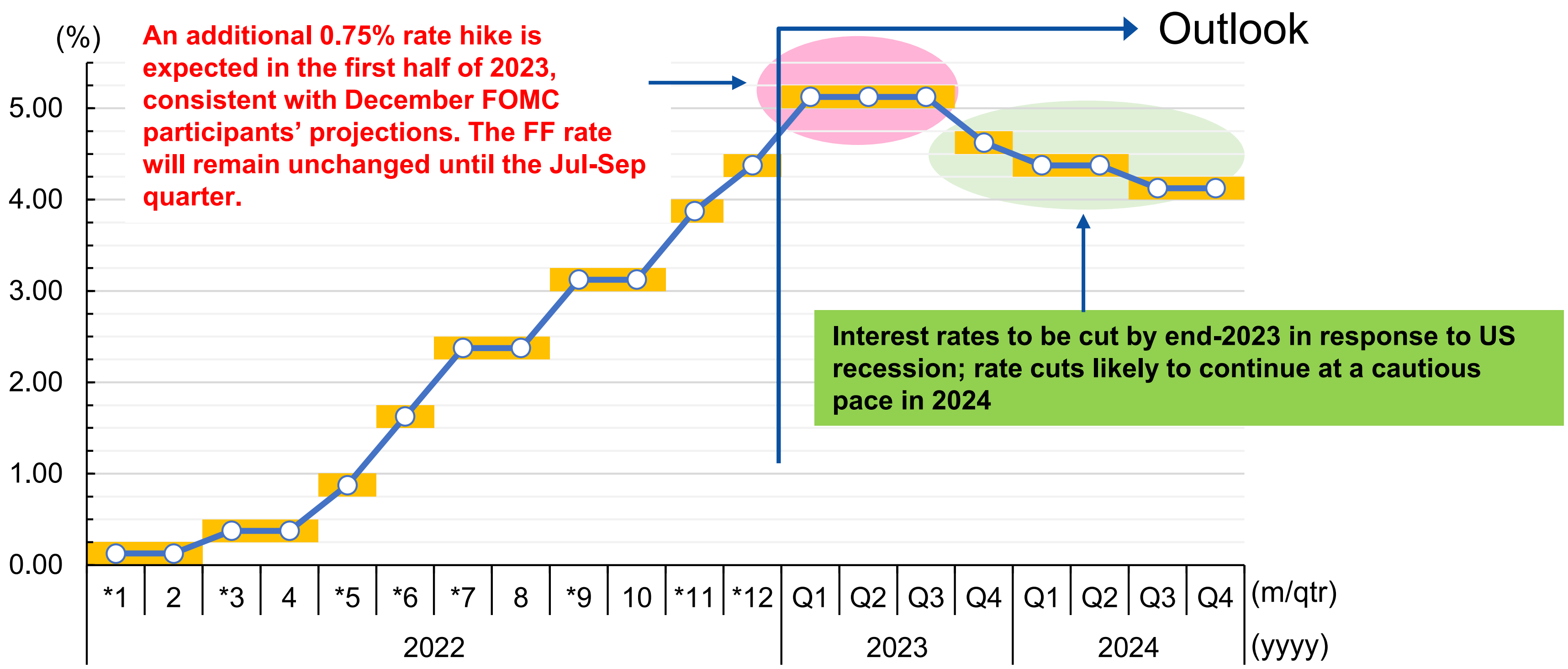


Note: Light blue marks indicate items that have disappeared (moved) since the last time.
Source: Made by MHRT based upon releases by the FRB

US: the interest rate to be raised to more than 5% in the first half of 2023, and to shift to rate cuts from late 2023 onward due to concerns about employment

- The US FF rate will rise to 5.0–5.25% in 2023, with an additional 0.75% hike in the Jan-Mar quarter. A rate cut is then expected in the second half of the year.
  - The economic projections of the FOMC participants in December 2022, including the doves, was almost unanimous for an FF rate above 5% at the end of 2023.
  - However, as a recession is expected in 2023 due to the effect of tightening in 2022, the rate will be cut by 0.5% in the Oct-Dec quarter.
- We expect a cautious pace of rate cuts to continue through 2024, with a close eye on price and employment developments.

Outlook on US FF rate



Note: An asterisk indicates the month in which a FOMC meeting is held.
Source: Made by MHRT based upon releases by the FRB

(2) Eurozone: high inflation and large interest rate hikes serving as downward pressure on the economy; negative growth expected in 2023

- In 2022, the Eurozone economy is projected to grow relatively strongly (real GDP growth of +3.1%).
  - Positive growth was maintained up to the Jul-Sep quarter on the back of a recovery in services consumption following the lifting of Covid-19 restrictions and a rebound in automobile production due to the easing of supply constraints. On the other hand, negative growth is expected in the Oct-Dec quarter due to a slump in consumption caused by high inflation.
- In 2023, we expect a fall into negative territory (−0.8%) for the first time since 2020.
  - The fall of capital and housing investment reflecting the rise of borrowing costs due to the high pace of interest rate hikes in the previous year, and the decline in consumption due to inflation will serve as downward pressures on the eurozone economy.

Outlook on the eurozone economy

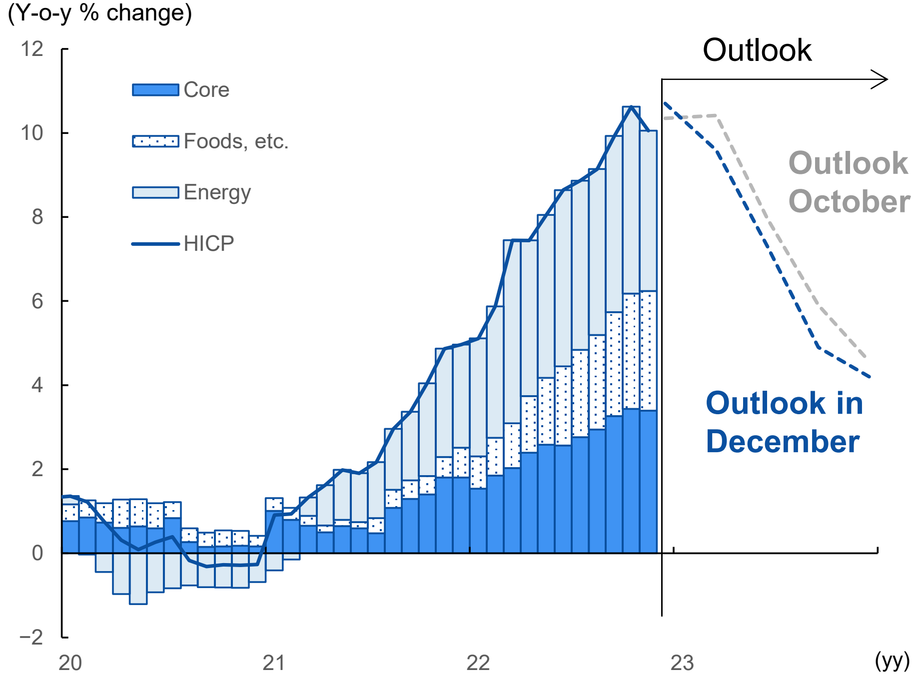
		2021	2022	2023	2021				2022				2023			
			(Outlook)		Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
GDP (real)	Q-o-q % ch	5.3	3.1	−0.8	−0.1	2.0	2.3	0.5	0.6	0.8	0.3	−0.8	−0.8	0.0	0.1	0.3
Domestic demand	Q-o-q % ch	4.2	3.4	−0.2	−0.9	2.2	2.4	1.4	−0.4	1.0	1.5	−1.1	−1.0	0.5	0.5	0.1
Personal consumption	Q-o-q % ch	3.8	3.9	−0.2	−1.9	3.4	4.5	−0.1	−0.0	1.0	0.9	−0.9	−0.7	0.2	0.5	0.4
Gross fixed capital formation	Q-o-q % ch	3.6	3.4	−2.4	−2.3	1.8	−0.8	3.4	−0.7	0.9	3.6	−2.3	−1.7	−0.8	−0.6	−0.4
Government consumption	Q-o-q % ch	4.3	1.1	0.9	−0.3	2.1	0.5	0.4	0.0	−0.1	0.1	0.3	0.3	0.3	0.1	0.1
Inventory investment	Q-o-q contribution, % pt	0.3	0.3	0.2	0.6	−0.5	0.0	0.7	−0.3	0.2	0.2	−0.1	−0.3	0.4	0.3	−0.1
External demand	Q-o-q contribution, % pt	1.3	−0.2	−0.6	0.9	−0.1	−0.0	−0.9	1.1	−0.1	−1.1	0.3	0.2	−0.4	−0.4	0.2
Exports	Q-o-q % ch	10.5	7.3	−0.3	1.1	2.5	1.9	2.6	1.4	1.7	1.7	−0.2	−0.6	−0.9	−0.5	0.5
Imports	Q-o-q % ch	8.3	8.3	1.1	−0.8	3.0	2.1	4.7	−0.7	2.2	4.3	−0.8	−1.0	−0.1	0.3	0.1
CPI	Y-o-y % ch	2.6	8.6	6.4	1.1	1.8	2.8	4.6	6.1	8.0	9.3	10.7	9.6	7.3	4.9	4.2
Core, excl. food and energy	Y-o-y % ch	1.5	4.0	3.3	1.2	0.9	1.4	2.4	2.7	3.7	4.4	5.1	4.9	3.5	2.5	2.2

Note: Figures in the shaded areas denote forecasts by MHRT.
Source: Made by MHRT based upon releases by Eurostat

Eurozone: despite good news of falling gas prices, a recession is inevitable this winter

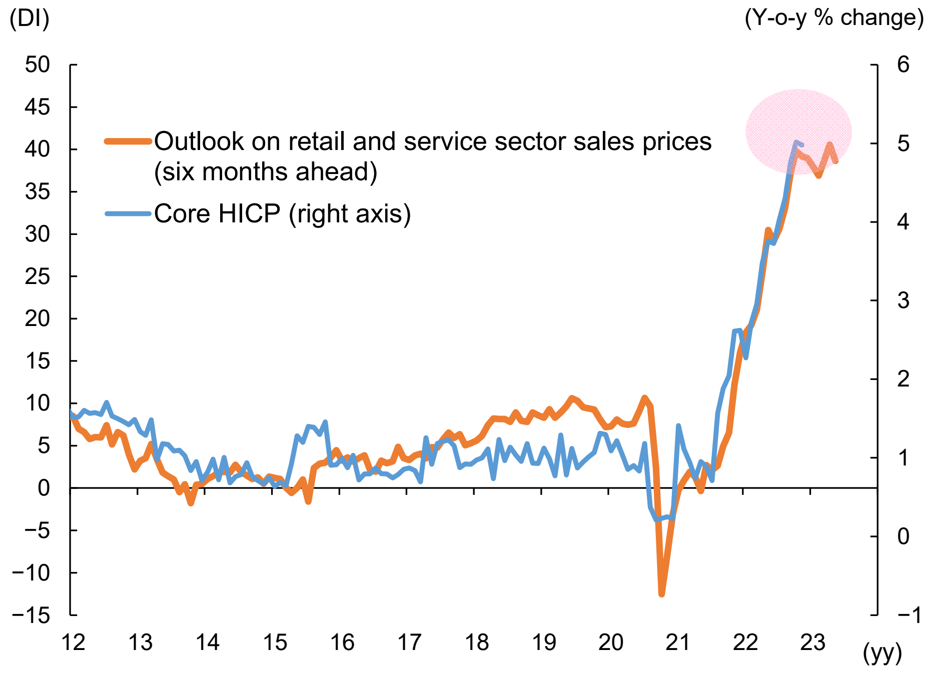
- We revised our inflation outlook downward due to lower gas prices, but we expect inflation to remain high in the near term.
  - Consumer price inflation was +10.1% y-o-y in November, remaining high despite a slowdown from the previous month (+10.6% y-o-y). Growth in energy prices slowed, while food prices continued to rise. Core price growth remained unchanged from the previous month (+5.0% y-o-y).
  - The core leading indicator, the outlook on corporate sales prices, remains high, and the decline in gas prices is not expected to impact downstream prices until after the beginning of 2023.
- Consumption decline is inevitable this winter due to lingering high inflation. The eurozone economy will fall into a recession in 4Q 2022 or 1Q 2023.

Eurozone: Harmonized Indices of Consumer Prices (HICP)



Source: Made by MHRT based upon releases by Eurostat

Eurozone: corporate sales price forecast and core inflation

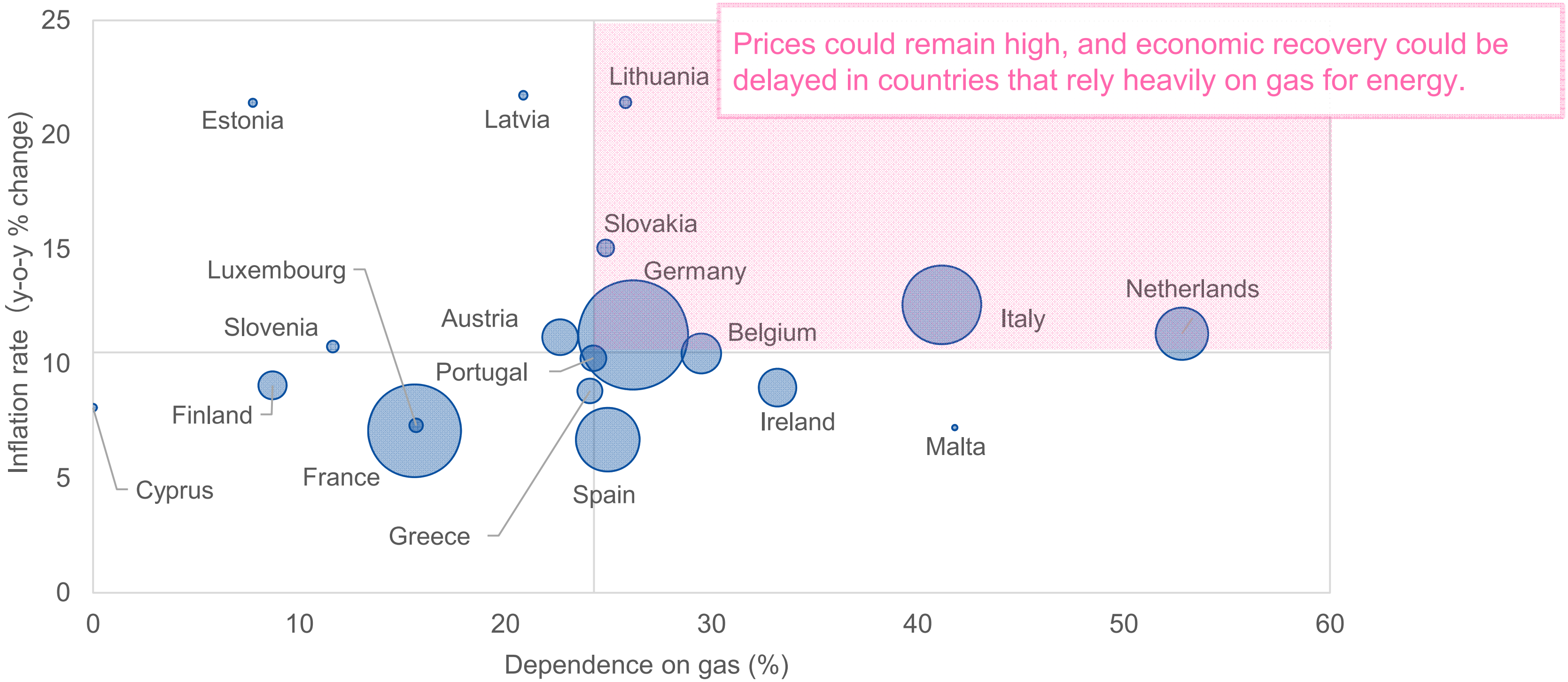


Source: Made by MHRT based upon releases by Eurostat and the European Commission

Eurozone: inflation remains high in gas-dependent countries and likely to slow economic recovery

- Inflation rates in European countries are rising across the board against a backdrop of the rise of prices stemming from tight natural gas supply & demand.
- In particular, countries that rely heavily on gas for energy, such as the Netherlands, Italy, and Germany, tend to have high inflation rates.
  - High prices in these countries could delay economic recovery, especially in consumption.

Eurozone: inflation and dependence on gas for energy by country

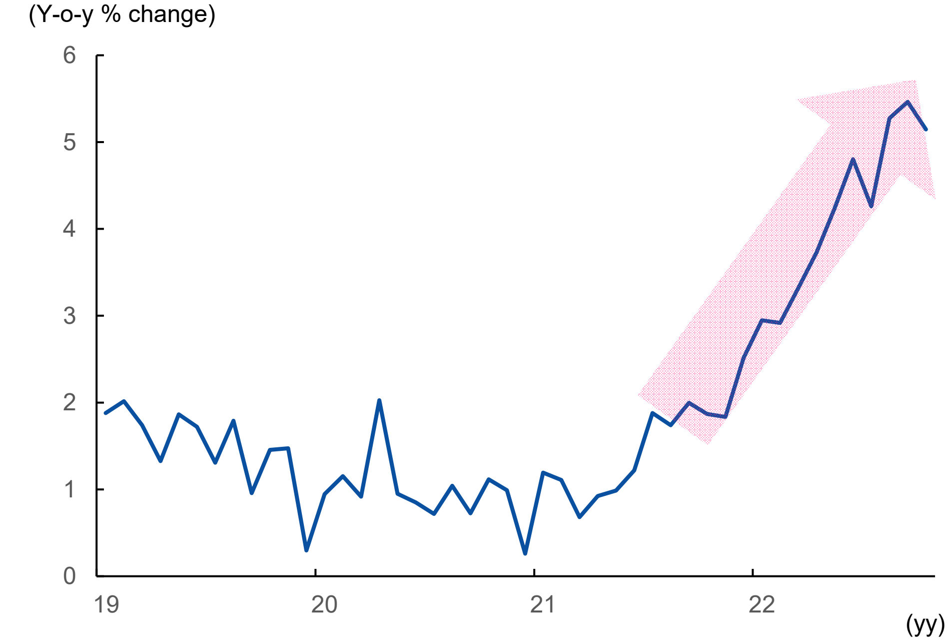


Note: 1. The sample consists of euro member countries. Dependence on gas dependence is the share of natural gas and LNG in primary energy consumption. The inflation rate is as of November 2022.
2. Divided into four quadrants based on the respective medians of inflation rate and gas dependency
3. Bubble size represents real GDP in 2021.
Source: Made by MHRT based upon releases by Eurostat

Eurozone: policy rate hikes to continue until early 2023, exceeding the neutral interest rate; further downward pressure on investment demand

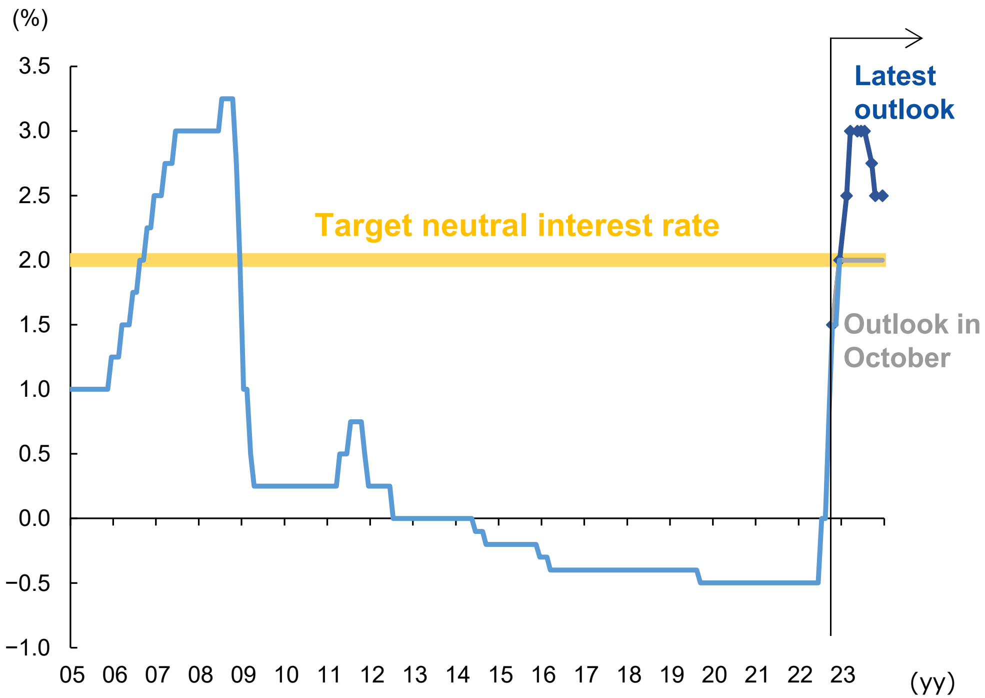
- The unemployment rate remained at historically low levels due in part to the strength of the economy until the summer, particularly in the services sector. Against this backdrop, some statistics show an acceleration in wage growth (recruitment wages).
- Although the neutral interest rate has already been reached, the ECB is likely to continue significant interest rate hikes over the beginning of 2023, being wary of a price-wage spiral.
  - The deposit facility rate has risen above the neutral interest rate (around 2%), exerting additional downward pressure on capital and housing investment. In 2023, we expect GDP growth to fall into negative territory.

Eurozone: wage growth rate (Indeed Wage Tracker)



Note: Recruitment wage
Source: Made by MHRT based upon releases by Indeed

Eurozone: deposit facility rate



Source: Made by MHRT based upon releases by the ECB

(3) Emerging economies: growth to moderate due to slowdown of domestic and external demand, while China to gradually pick up from the second half of 2023

- In emerging economies, inflation will remain high, and domestic demand will continue to be undermined by the cumulative effects of the interest rate hikes to date. The slowdown in exports due to the sluggish economies in Europe and the US will also contribute to the slowdown of growth through 2023.
- In China, the economy is expected to pick up from the second half of 2023 as the restrictions under the zero-Covid policy are effectively lifted and as the real estate market is likely to bottom out due to the current financial support measures. However, the pace of recovery will be slow given the resurgence of infections under the with-Covid policy and lackluster external demand.

Outlook on Asian and emerging economies

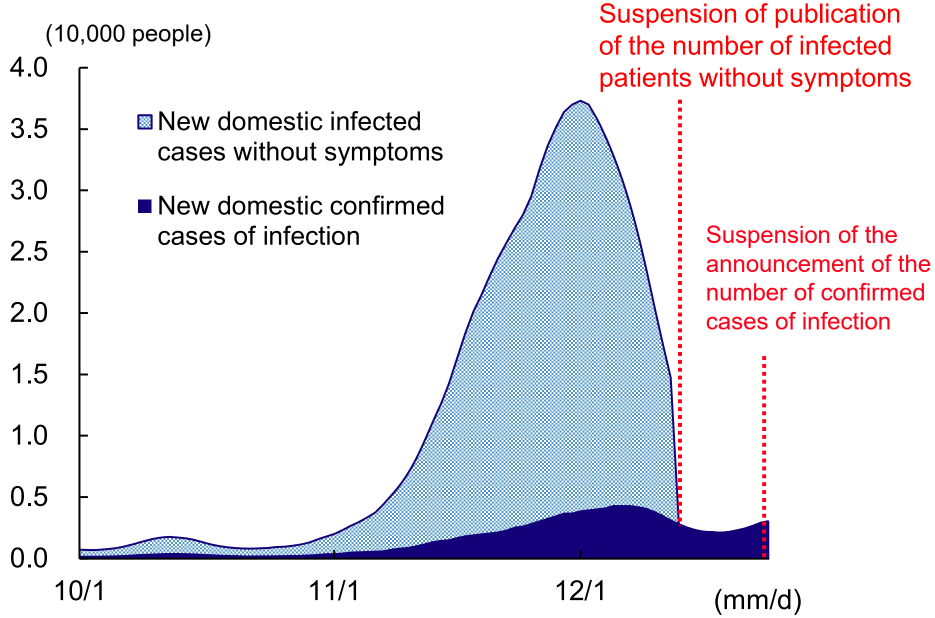
	2020	2021	2022	2023	2020	2021				2022		
			(Outlook)		Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
Asia	−0.9	7.2	4.2	4.5	-	-	-	-	-	-	-	-
China	2.2	8.4	3.1	4.8	6.4	18.3	7.9	4.9	4.0	4.8	0.4	3.9
NIEs	−0.6	5.5	2.3	1.7	-	-	-	-	-	-	-	-
South Korea	−0.7	4.1	2.6	1.5	−0.9	2.2	6.2	4.0	4.2	3.0	2.9	3.1
Taiwan	3.4	6.5	3.2	1.6	5.4	9.3	7.8	4.1	5.2	3.9	3.0	4.0
Hong Kong	−6.5	6.3	−3.2	2.6	−3.6	8.0	7.6	5.4	4.7	−3.9	−1.3	−4.5
Singapore	−4.1	7.6	3.3	1.9	−0.9	2.0	15.8	7.5	6.1	3.9	4.5	4.1
ASEAN5	−3.5	3.3	5.5	4.2	-	-	-	-	-	-	-	-
Indonesia	−2.1	3.7	4.9	3.9	−2.2	−0.7	7.1	3.5	5.0	5.0	5.4	5.7
Thailand	−6.1	1.5	3.2	3.0	−4.2	−2.4	7.7	−0.2	1.8	2.3	2.5	4.5
Malaysia	−5.5	3.1	7.8	3.9	−3.3	−0.5	15.9	−4.5	3.6	5.0	8.9	14.2
Philippines	−9.5	5.7	6.7	5.3	−8.2	−3.8	12.1	7.0	7.8	8.2	7.5	7.6
Vietnam	2.9	2.6	7.1	5.7	4.6	4.7	6.7	−6.0	5.2	5.1	7.8	13.7
India	−6.6	8.3	7.1	5.5	0.7	2.5	20.1	8.4	5.4	4.1	13.5	6.3
Australia	−1.8	5.2	3.5	1.8	0.1	2.1	10.4	4.0	4.6	2.7	3.4	5.8
Brazil	−3.3	5.0	2.9	0.7	−0.4	1.7	12.4	4.4	2.1	2.4	3.7	3.6
Mexico	−8.0	4.7	2.7	−0.6	−4.1	−3.5	19.6	4.3	1.0	1.8	2.4	4.3
Ref. NIEs+ASEAN5	−2.4	4.1	4.3	3.2	-	-	-	-	-	-	-	-
Ref. Asia, excl. China	−4.3	5.9	5.5	4.2	-	-	-	-	-	-	-	-

Note: Real GDP growth rate (y-o-y, %); figures in the shaded areas are forecasts by MHRT. Average figures are calculated based on the GDP share (PPP) by the IMF.
Source: Made by MHRT based upon releases by the IMF and the statistics of relevant countries and regions

China: the zero-Covid policy is effectively lifted, and infections are surging due to a rapid shift to a "with-Covid" mode

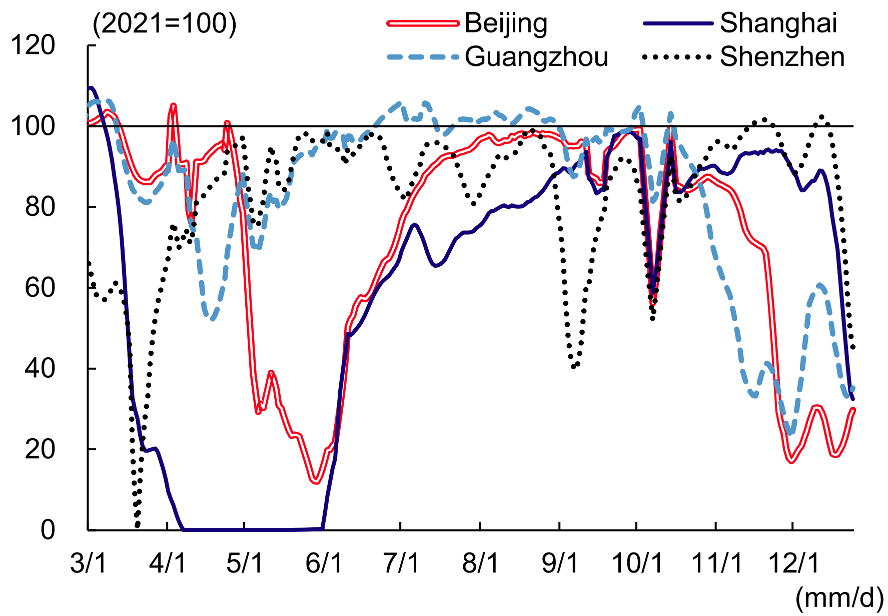
- At the Party Politburo meeting held on December 6, the Politburo effectively lifted the "zero-Covid" restrictions without referring to the so-called "dynamic zero-Covid policy".
  - Following the protests that grew out of dissatisfaction with the zero-Covid policy, the nearly three-year policy was effectively abolished.
  - Currently, the transition to "with-Covid" is proceeding rapidly. Although home quarantine is still required, the government has largely lifted mobility restrictions.
- The infection is spreading rapidly, and there is a risk of a collapse of the medical system. The recovery of mobility is expected to follow an ebb and flow pattern.
  - Infections are expected to peak around the Chinese New Year holiday (January 22th in 2023), and mobility restrictions are likely to increase.
  - Looking forward, the medical system is expected to be strained by the resurgence of infections, and economic activities will alternate between downturns and recoveries.

New cases of domestic infections



Note: Seven-day moving average; the latest data is as of December 24, 2022.
Source: Made by MHRT based upon releases by the National Health Commission of the People's Republic of China and the CEIC

Number of subway passengers



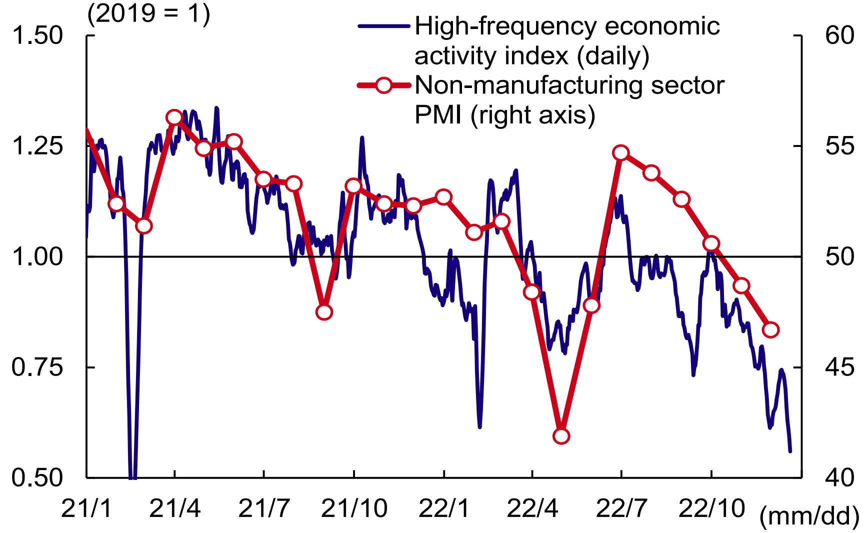
Note: Seven-day moving average; the latest data is as of December 24, 2022.
Source: Made by MHRT based upon releases by Wind

China: weaker economic growth in the Oct-Dec quarter; gradual recovery expected in 2023

- Covid-19 infections resurfaced in November, resulting in the reinforcement of the zero-covid policy, causing weaker economic growth, mainly in consumption.
  - There are risks of a further economic deterioration due to the resurgence of infections and the resulting mobility restrictions, despite the effective lifting of the zero-Covid policy in December.
  - The housing market is expected to see a quick turnaround in real estate loans (a leading indicator), reflecting a series of financial support measures launched in November.

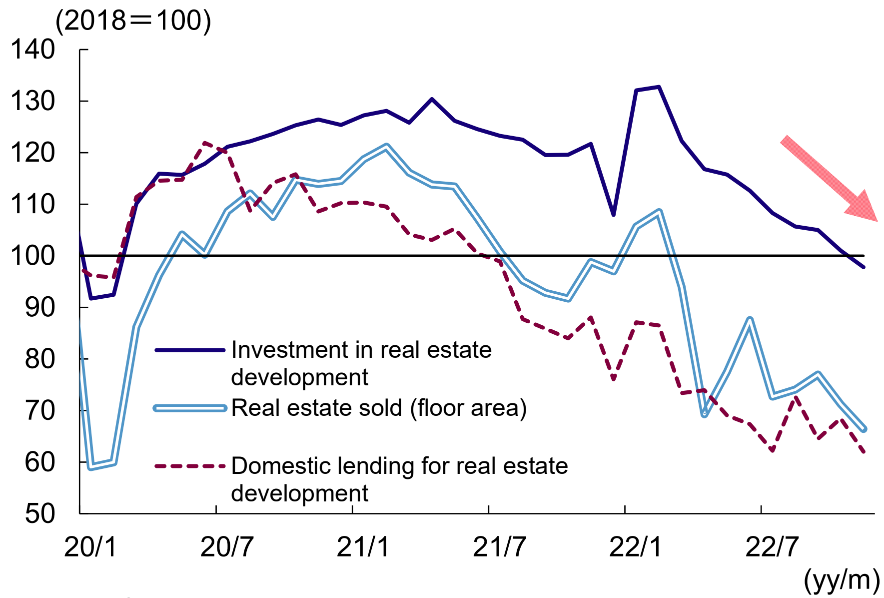
- In 2023, the economy is expected to gradually pick up in the second half of the year, given the easing of Covid-19 regulations and a recovery in the real estate market.
  - Real estate investment is expected to bottom out in mid-2023, reflecting additional government support measures.
  - However, the overall economic recovery will be sluggish, due to mobility restrictions in response to the resurgence of infections and the slowdown of exports stemming from the deterioration of the European and US economies.

Non-manufacturing PMI and high-frequency economic activity index



Note: The high-frequency economic activity index is calculated from eight indices: 30 city traffic congestion indices, 30 city real estate sales indices, 8 city subway traffic flow indices, 8 city air pollution indices, coal consumption for power generation index, imported bulk cargo freight index, unemployment index, and bankruptcy index (daily data). The latest data is as of December 20, 2022.
Source: Made by MHRT based upon releases by the National Bureau of Statistics of China, CBN Research Institute, and CEIC Data

Real estate-related indicators



Note: Seasonally adjusted by MHRT
Source: Made by MHRT based upon releases by the National Bureau of Statistics of China and CEIC Data

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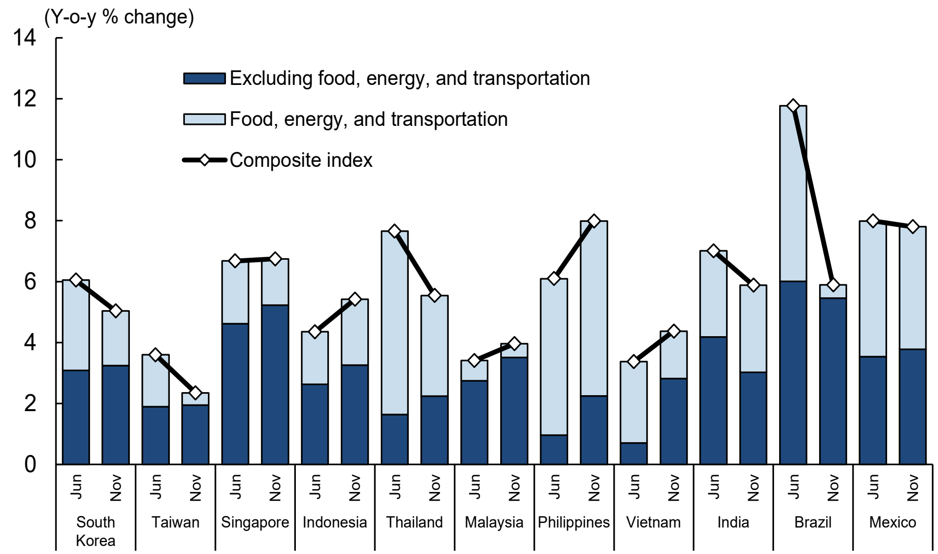
Emerging economies: inflation remains high, raising the bar for interest rate cuts

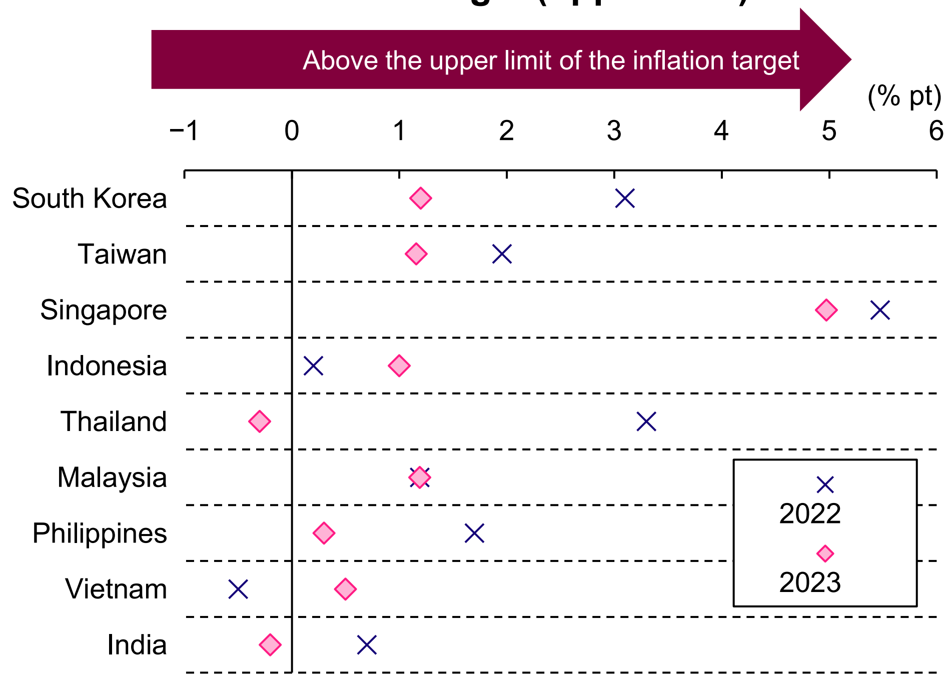
- There are signs of inflation peaking in some countries against the backdrop of a pause in the surge of commodity prices.
- However, given that inflationary pressures are likely to linger in the near term, the hurdle for a shift to interest rate cuts is high.
  - A breakdown of inflation rates by factor shows that the contribution of food and energy is narrowing from mid-2022.
  - On the other hand, the contribution of core prices is rising in many countries. Price increases are widespread due to tight domestic supply & demand, suggesting that inflation will remain high in the near term. According to the ADB's December Economic Outlook, inflation is expected to remain above the inflation target in many countries in 2023.

Factor breakdown of inflation rates (2022)



Source: Made by MHRT based upon the statistics of relevant countries and regions

Deviation from inflation target (upper limit)

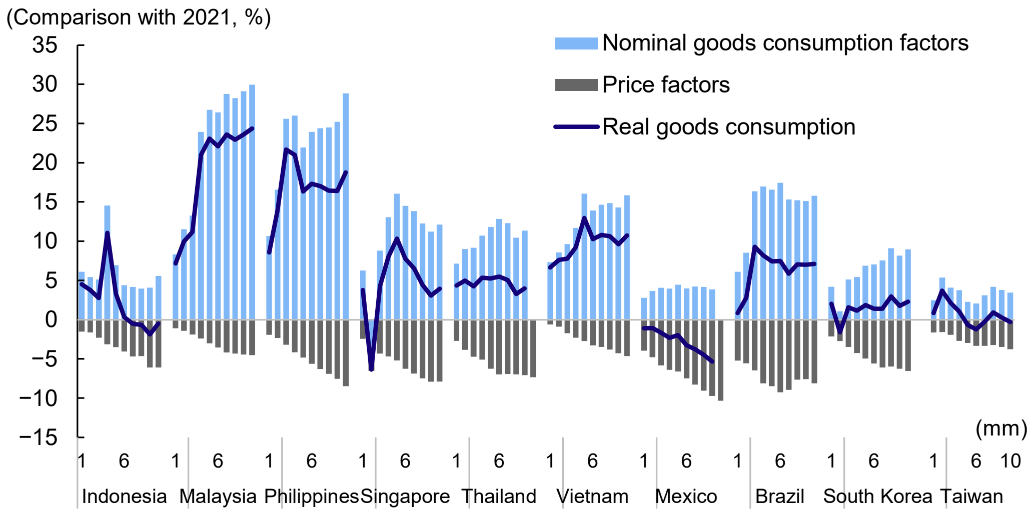


Note: 2022 and 2023 are ADB forecasts (December 2022). Deviations from the 2017-19 average are shown for Taiwan, Singapore, and Malaysia because their central banks do not have inflation targets.
Source: Made by MHRT based upon releases by the ADB and the statistics of relevant countries and regions

Emerging economies: consumption slowed due to inflation and interest rate hikes; exports to be sluggish due to weak overseas economies

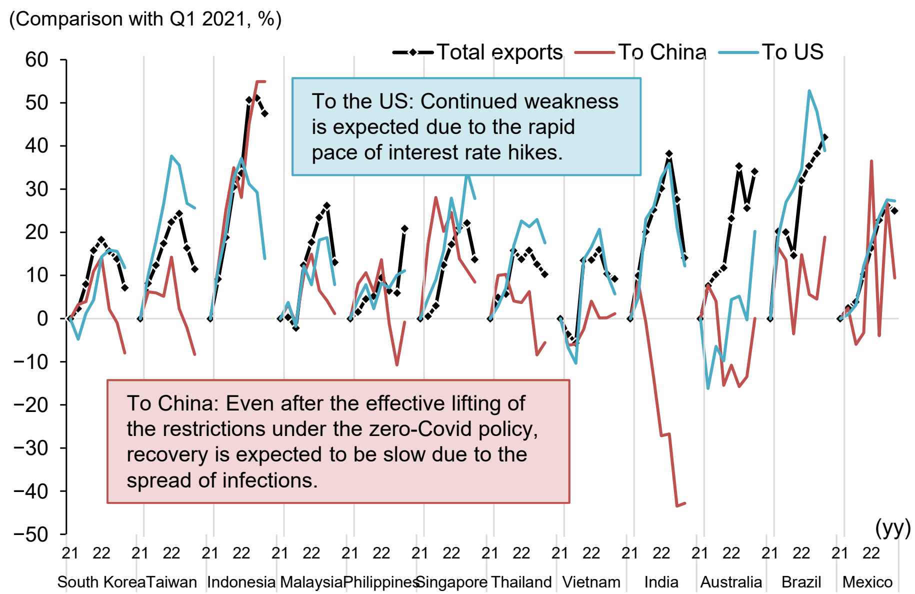
- The rapid recovery of consumption up to mid-2022 in the emerging economies has already peaked, and is expected to slow down going forward.
  - Real consumption, taking into account consumer prices, is clearly declining in some countries as inflation accelerates.
  - Looking forward, we expect inflation to remain high, and that consumption will slow due to the cumulative effect of past interest rate hikes.
- Exports of goods are also showing signs of peaking. Goods exports will likely remain lackluster in the near term against the backdrop of the slowdown of overseas economies.
  - This stems from the assumption that the economies in Europe and the US will remain sluggish and that China's recovery will appear to be slow.

Real goods consumption (2022, compared with 2021 average)



Note: Goods consumption indices for each country are converted to real terms using the Consumer Price Index.
Source: Made by MHRT based upon the statistics of relevant countries and regions

Export value by destination



Source: Made by MHRT based upon the statistics of relevant countries and regions

(4) Japan: despite downward pressure from overseas economic slowdown, Japan’s economic growth will remain in positive territory due to the recovery of services

- FY2022 growth forecast: +1.4% y-o-y. Although the overseas economic slowdown and deterioration of terms of trade are expected to serve as negative pressures, consumer spending and demand for inbound tourism should recover in the second half of the fiscal year due to the government's nationwide travel support program and easing of border control measures.
- FY2023 growth forecast: +1.0% y-o-y. While the slowdown in overseas economies mainly in the US and the adjustment in the semiconductor market will serve as downward pressures, economic growth will remain in positive territory due to the easing of the impact of inflation due to a pause in the surge of the commodity market and the increase in inbound tourists.

Outlook on the Japanese economy

		2021	2022	2023	2022				2023				2024
		FY	(Outlook)		Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar
GDP (real)	Q-o-q % ch	2.5	1.4	1.0	−0.5	1.1	−0.2	0.6	0.0	0.2	0.3	0.6	0.4
	Q-o-q % ch p.a.	—	—	—	−1.8	4.5	−0.8	2.3	0.2	0.7	1.2	2.5	1.6
Domestic demand	Q-o-q % ch	1.8	2.2	1.3	0.0	1.0	0.4	0.4	0.4	0.2	0.3	0.5	0.3
Private-sector demand	Q-o-q % ch	1.9	2.9	1.4	0.1	1.1	0.5	0.5	0.5	0.2	0.2	0.5	0.3
Personal consumption	Q-o-q % ch	1.5	2.5	0.8	−1.0	1.7	0.1	0.5	0.3	−0.1	0.2	0.3	0.2
Housing investment	Q-o-q % ch	−1.1	−4.5	0.9	−1.7	−1.9	−0.5	−0.1	0.5	0.4	0.5	0.1	−0.4
Capital investment	Q-o-q % ch	2.1	3.4	1.6	−0.4	2.0	1.5	0.8	0.5	−0.2	−0.3	0.9	1.4
Inventory investment	Q-o-q contribution, % pt	(0.3)	(0.4)	(0.3)	(0.8)	(−0.3)	(0.1)	(−0.0)	(0.1)	(0.2)	(0.0)	(0.0)	(−0.1)
Public-sector demand	Q-o-q % ch	1.3	0.2	1.1	−0.2	0.7	0.2	0.3	0.2	0.1	0.5	0.4	0.4
Government consumption	Q-o-q % ch	3.4	1.2	0.8	0.5	0.7	0.1	0.2	0.2	−0.1	0.3	0.3	0.3
Public investment	Q-o-q % ch	−6.4	−2.8	2.9	−3.1	0.7	0.9	0.6	−0.2	0.8	1.3	0.8	0.4
External demand	Q-o-q contribution, % pt	(0.8)	(−0.7)	(−0.3)	(−0.5)	(0.1)	(−0.6)	(0.1)	(−0.4)	(−0.0)	(0.0)	(0.1)	(0.1)
Exports	Q-o-q % ch	12.3	3.7	−1.1	1.2	1.5	2.1	−0.3	−1.4	−0.9	−0.4	1.1	0.9
Imports	Q-o-q % ch	7.1	7.1	0.2	3.7	1.0	5.2	−1.0	0.3	−0.7	−0.3	0.3	0.5
GDP (nominal)	Q-o-q % ch	2.4	1.4	3.3	0.2	1.0	−0.7	0.4	1.3	0.7	1.9	0.2	0.3
GDP deflator	Q-o-q % ch	−0.1	0.0	2.3	0.4	−0.2	−0.3	−0.1	0.5	1.4	3.4	2.9	1.6
Domestic demand deflator	Q-o-q % ch	1.8	2.6	0.3	2.6	2.8	3.3	2.8	2.0	0.6	−0.1	0.0	0.5

Note: Figures in the shaded areas are forecasts.
Source: Made by MHRT based upon the Cabinet Office, *Quarterly Estimates of GDP*

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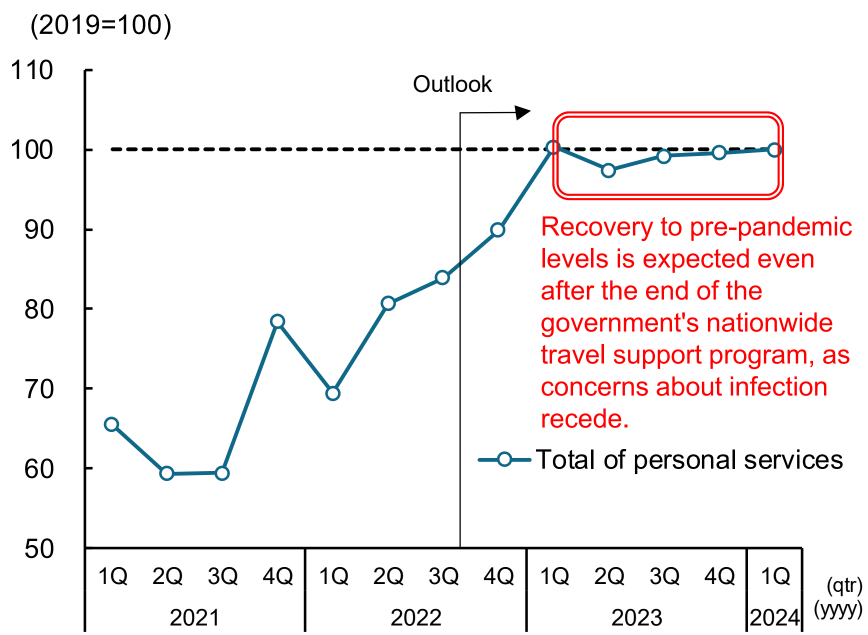
Japan: a recession will be averted, given the recovery of services due to the ebb of infection concerns and easing of border control measures

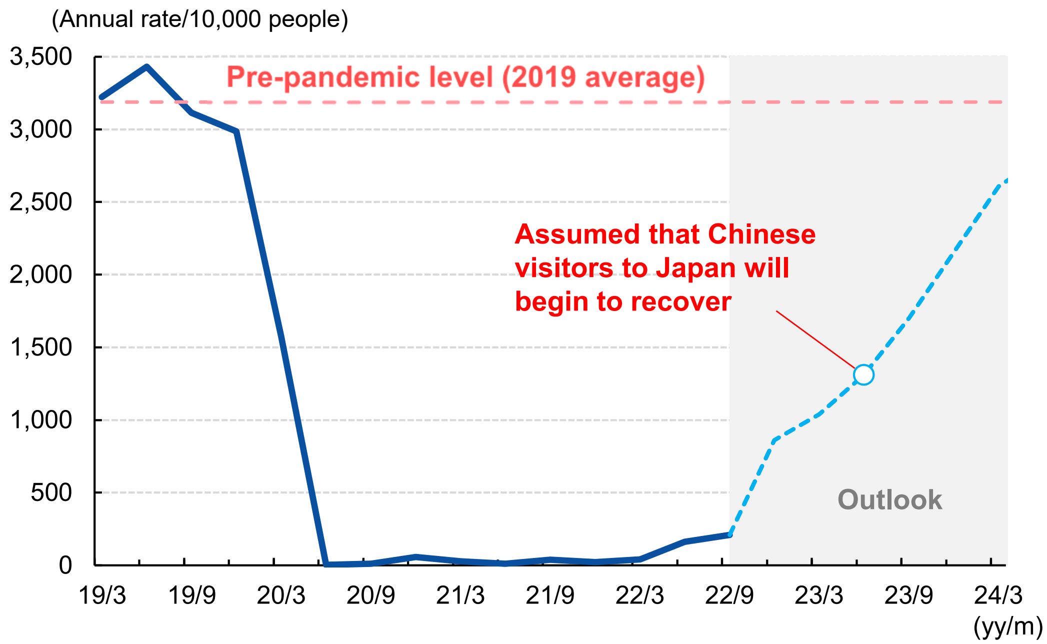
- While the overseas economic slowdown will serve as negative pressures, the odds are high that Japan's economy will maintain positive growth in FY2023 due to a recovery in the services sector.
  - The recovery in consumption of personal services stemming from the ebb of concerns regarding infection, and demand for inbound tourism due to the easing of border control measures will serve as the drivers of economic growth.
  - Although consumption of personal services will experience a reactionary fall after the end of the government's nationwide travel support program, it will recover to pre-pandemic levels as concerns about infection recede.
  - Demand for inbound tourism is expected to recover at a faster pace after the second half of 2023, when visitors from China will begin to recover. We estimate that the increased acceptance of inbound visitors will boost GDP by +0.9% pt through FY2023.

Outlook on consumption of personal services



Source: Made by MHRT based upon JCB & Nowcast, *JCB Consumption NOW*

Outlook on the number of foreign visitors to Japan

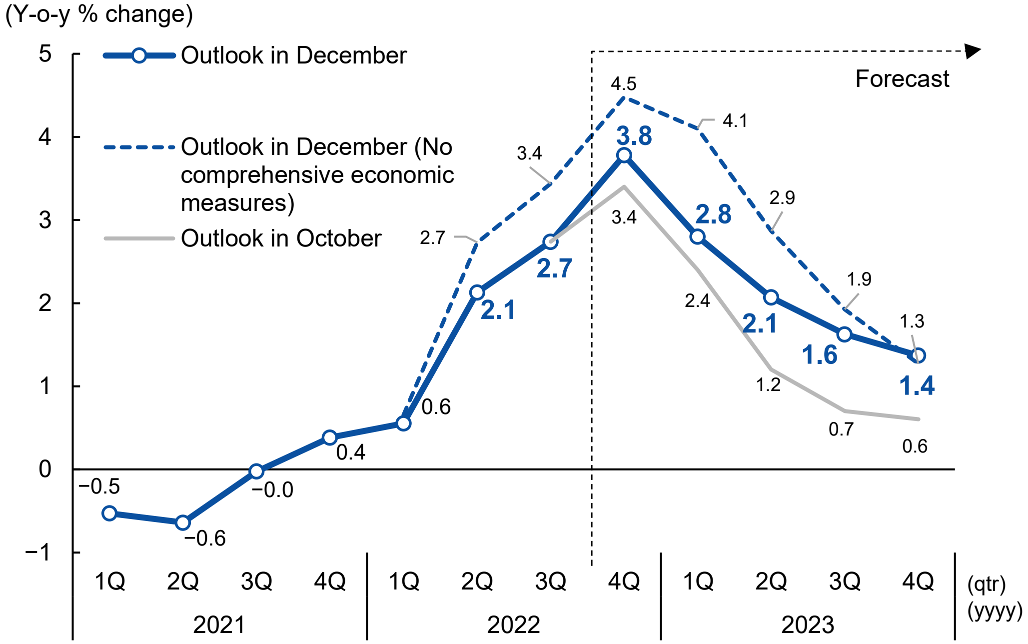


Source: Made by MHRT based upon Japan National Tourism Organization (JNTO), *Statistics on Foreign Travelers Visiting Japan*

Japan: despite the high level of the CPI, a slowdown is expected; real wage growth to remain negative, putting downward pressure on personal consumption

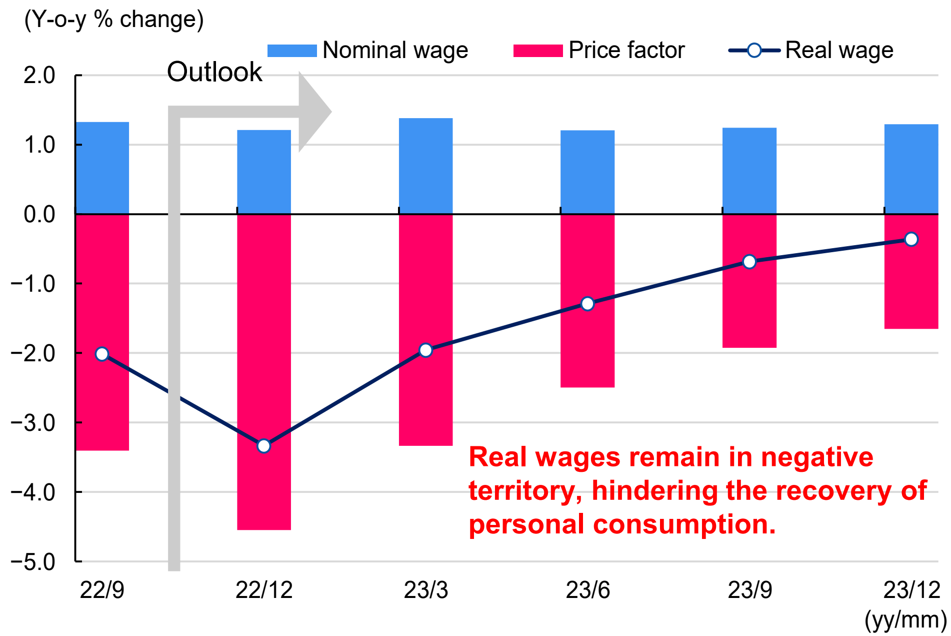
- The core CPI (y-o-y) will reach around 4% at the end of 2022 but is expected to gradually decline from the beginning of 2023.
  - Comprehensive economic measures (curbing gasoline, electricity, and gas prices) are expected to push down the CPI in 2023 by –0.6% pt y-o-y. Furthermore, the fall of import prices due to a pause in the rise of commodity prices and appreciation of the yen will also contribute (see next page).
- Real wage growth continues to move in negative territory, hindering the recovery of personal consumption.

Core CPI y-o-y forecast (impact of the comprehensive economic measures)



Source: Made by MHRT based upon the Ministry of Internal Affairs and Communications, *Consumer Price Index*

Outlook on nominal wages

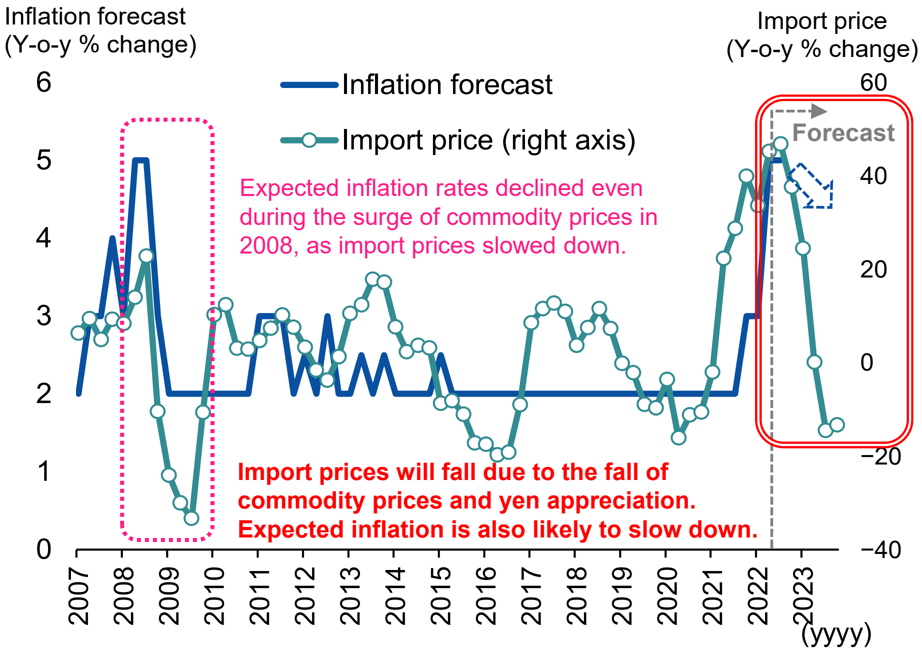


Note: Nominal wages are continuity-adjusted by MHRT and converted into real terms by the aggregate consumer price index excluding imputed rent of owner-occupied housing.
Source: Made by MHRT based upon the Ministry of Health, Labour and Welfare, *Monthly Labour Survey*

Japan: the fall of import prices and sluggish wage growth will make it difficult for companies to raise prices

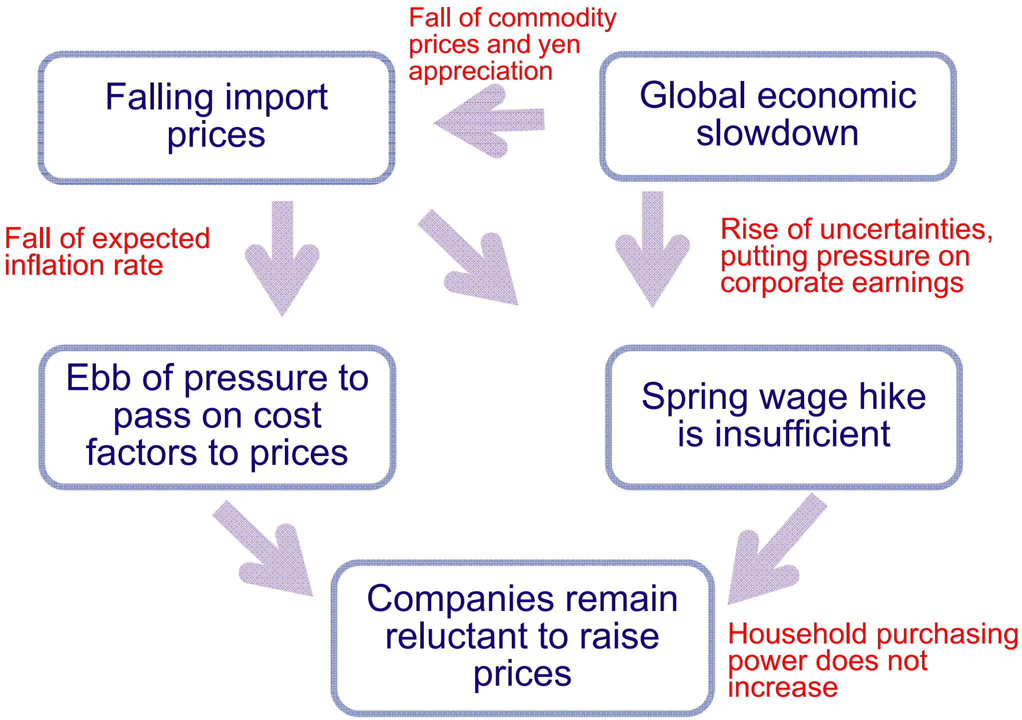
- While household and business inflation expectations are following an upward trend, this is influenced strongly by the current rise of prices.
- From 2023, the expected inflation rate will decline due to the pause in rise of commodity prices associated with the slowdown in the global economy and the decline in import prices due to the yen's appreciation. We expect the pressure to pass prices on to consumers due to cost-push factors easing as import prices decline.
  - We expect wage hikes in the 2023 spring wage negotiations (+0.8% base wage hike expected) to be insufficient for a sustained rise of prices reflecting factors such as the slowdown in overseas economies. Companies will be reluctant to take an aggressive stance on price increases in the absence of sufficient growth in household purchasing power.

Expected inflation rate and import prices



Note: The expected inflation rate shows the median of household forecasts on prices in five years time.
Source: Made by MHRT based upon the Bank of Japan, *Opinion Survey on the General Public's Views and Behavior*, and *Corporate Goods Price*

Trends in the pricing stance of companies from 2023 onward

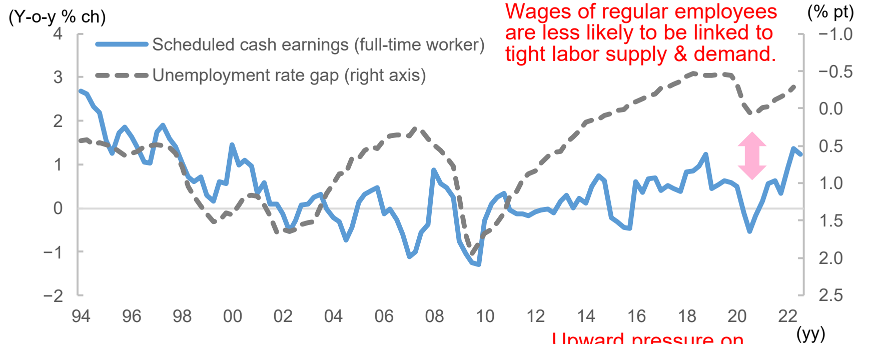


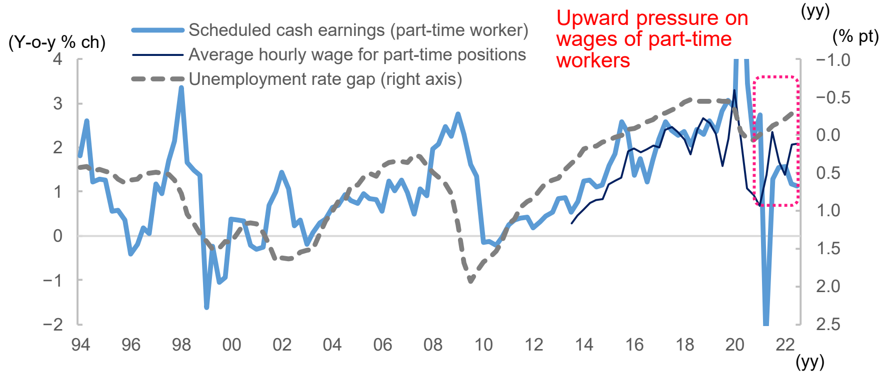
Source: Made by MHRT

Japan: despite tight labor supply & demand, wages for full-time regular employees not increasing, with Japanese employment practices exerting downward pressure

- Although labor supply & demand is tightening, especially in the services sector, wages for regular employees are slow to rise due to structural factors.
  - In response to the tightening of labor supply & demand, hourly wages for part-time workers are rising, but wages for regular employees and other full-time workers are slow to respond; this contributes as a factor restraining wage growth from a macro perspective.
  - Employment practice factors unique to Japan are behind the sluggish wage growth of general workers. Companies are suppressing wages mainly for workers in their 40s, the volume group, due to the increase in the number of older workers as a result of continued employment and the extension of the retirement age.

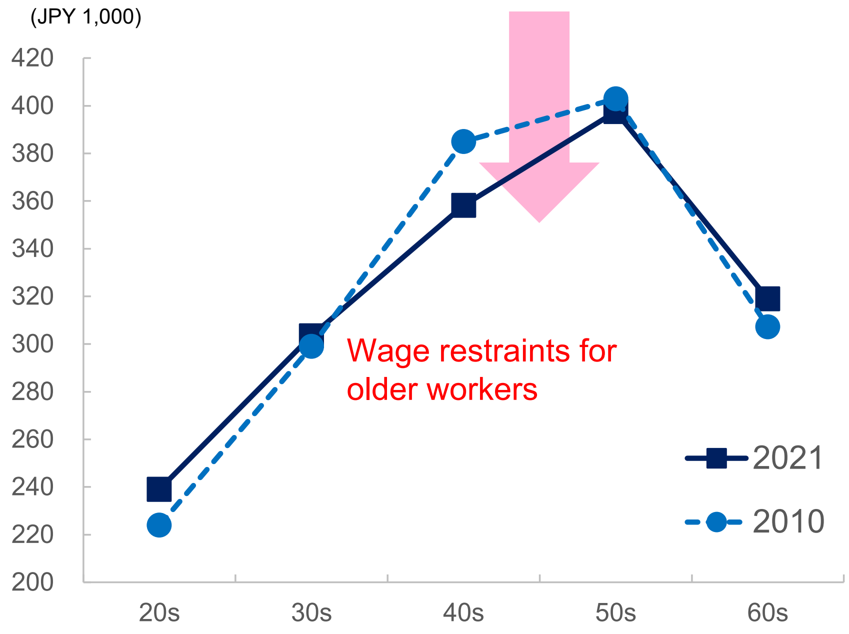
Labor supply & demand and scheduled cash earnings (upper: full-time workers, lower: part-time workers)





Note 1: Unemployment rate gap = unemployment rate – equilibrium unemployment rate
Estimates by the Japan Institute for Labour Policy and Training
Note 2: The average hourly wage for part-time workers is based on a survey conducted by Recruit Co. Ltd. In the three major metropolitan areas.
Source: Made by MHRT based upon the Ministry of Health, Labour and Welfare, *Monthly Labour Survey, and* releases by the Japan Institute for Labour Policy and Training and Recruit Co. Ltd.

Trends of wage curves (full-time workers)



Note: Scheduled cash earnings
Source: Made by MHRT based upon the the Ministry of Health, Labour and Welfare, *Basic Survey on Wage Structure*

(5) Financial markets: stock prices are expected to fall through mid-2023, and the yen is projected to gain further ground to the dollar

- Although the US long-term interest rate is projected to remain high, it should fall as it factors in the recession through mid-2023.
- We expect that the US stock market will fall through mid-2023 and remain at rock-bottom levels from then onward. An entry into a definite recovery path is unlikely until at least 2024. Japanese stocks are expected to fall until the summer of 2023, given the softening of US stocks in addition to the appreciation of the yen.
- The yen is expected to strengthen against the US dollar on the back of a pause in US interest rate hikes and expectations that the Bank of Japan's monetary easing will be scaled back.

Outlook on financial markets

		2021	2022	2023	2021				2022				2023				2024
		FY	FY	FY	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar
Japan																	
Interest rate on the policy rate balance	(End-of-period value, %)	−0.10	−0.10	−0.10	−0.10	−0.10	−0.10	−0.10	−0.10	−0.10	−0.10	−0.10	−0.10	−0.10	−0.10	−0.10	−0.10
Newly issued JGBs	(10-year, %)	0.09	0.15 to 0.50	0.15 to 0.50	0.08	0.08	0.03	0.07	0.18	0.24	0.23	0.15 to 0.50	0.15 to 0.50	0.15 to 0.50	0.15 to 0.50	0.20 to 0.50	0.20 to 0.50
Nikkei Stock Average	(JPY)	28,387	22,400 to 30,500	22,900 to 31,500	29,002	28,984	28,554	28,810	27,156	26,891	27,611	24,300 to 30,500	22,400 to 28,600	23,100 to 29,300	22,900 to 30,900	23,200 to 31,200	23,500 to 31,500
US																	
Federal Funds Rate (lower end)	(End-of-period value, %)	0.25	5.00	4.25	0.00	0.00	0.00	0.00	0.25	1.50	3.00	4.25	5.00	5.00	5.00	4.50	4.25
Newly issued government bonds	(10-year, %)	1.59	2.38 to 4.30	3.25 to 4.05	1.31	1.58	1.32	1.53	1.95	2.92	3.10	3.35 to 4.25	3.50 to 4.30	3.35 to 4.05	3.25 to 3.95	3.30 to 4.00	3.30 to 4.00
Dow Jones Average	(USD)	34,812	24,800 to 36,000	24,600 to 33,500	31,551	34,121	34,916	35,517	34,679	32,688	31,774	29,000 to 36,000	24,800 to 34,000	24,600 to 32,600	24,900 to 32,900	24,900 to 32,900	25,500 to 33,500
Eurozone																	
ECB deposit facility rate	(End-of-period value, %)	−0.50	3.00	2.50	−0.50	−0.50	−0.50	−0.50	−0.50	−0.50	0.75	2.00	3.00	3.00	2.75	2.50	2.50
German government bonds	(10-year, %)	−0.17	0.51 to 2.80	2.05 to 2.90	−0.41	−0.22	−0.37	−0.24	0.17	1.10	1.36	1.75 to 2.60	2.10 to 2.80	2.05 to 2.75	2.15 to 2.85	2.15 to 2.85	2.20 to 2.90
Exchange rates																	
USD/JPY	(USD/JPY)	112	121 to 151	119 to 134	106	109	110	114	116	130	138	130 to 151	124 to 140	121 to 134	119 to 130	119 to 130	119 to 130
EUR/USD	(EUR/USD)	1.16	0.95 to 1.13	1.06 to 1.21	1.21	1.21	1.18	1.14	1.12	1.06	1.01	0.96 to 1.07	1.03 to 1.13	1.06 to 1.16	1.08 to 1.18	1.08 to 1.18	1.10 to 1.21

Note: Figures in the shaded areas are forecasts by MHRT
Source: Made by MHRT based upon releases by Bloomberg

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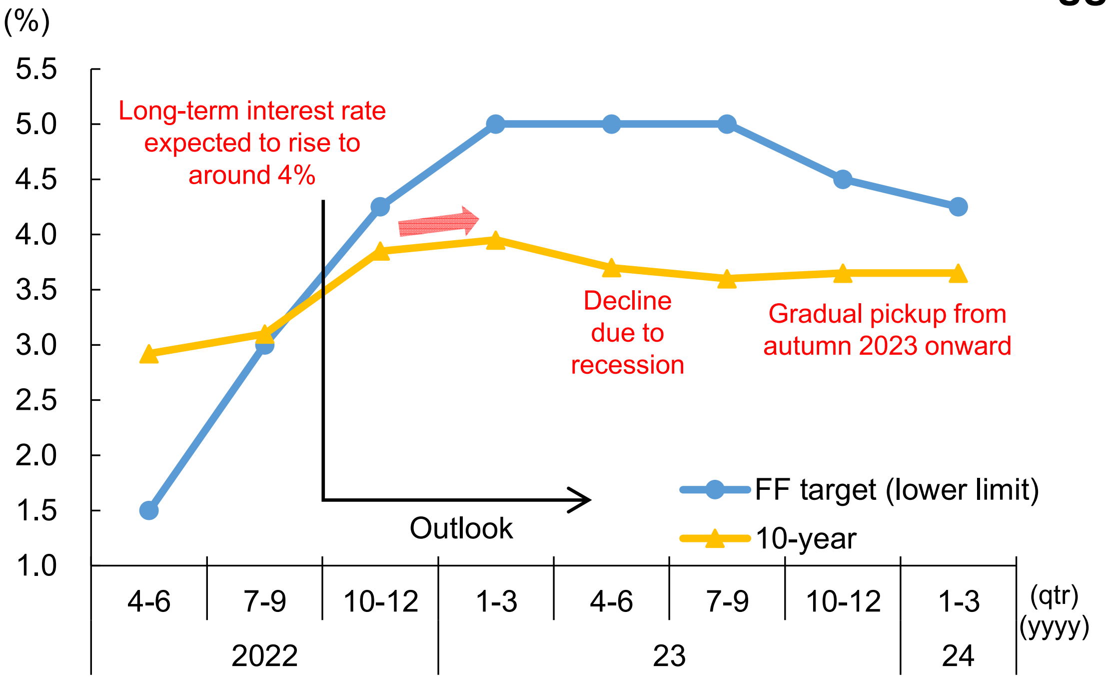
US interest rates and exchange rates: while the US long-term interest rate will remain high, the yen is expected to strengthen against the dollar

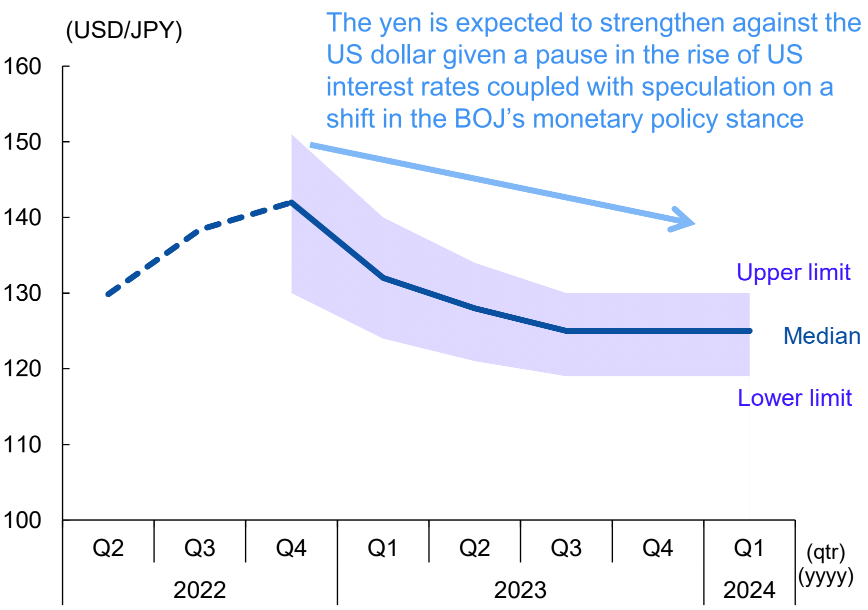
- The US long-term interest rate will rise to almost 4% in the Jan-Mar quarter of 2023 reflecting rapid interest rate hikes.
  - ■ Despite a downshift through mid-2023 due to the recession, the Fed's stance on a prolonged monetary tightening stance will push up the overall interest rate level. Even at the end of 2023, we expect the long-term US interest rate to remain in the upper-3% range.
- The yen is expected to strengthen against the US dollar as the rise in US interest rates pauses, coupled with speculation on a shift in the Bank of Japan's monetary policy stance.
  - ■ We expect the yen to trade around the mid-120-yen level to the dollar at the end of 2023.

Outlook on US interest rates



Note: 10-year refers to the US Treasury yield (quarterly average). The outlook refers to the median of the forecast range. The FF target refers to the value at the end of the quarter.
Source: Made by MHRT based upon releases by Bloomberg

USD/JPY exchange rate outlook



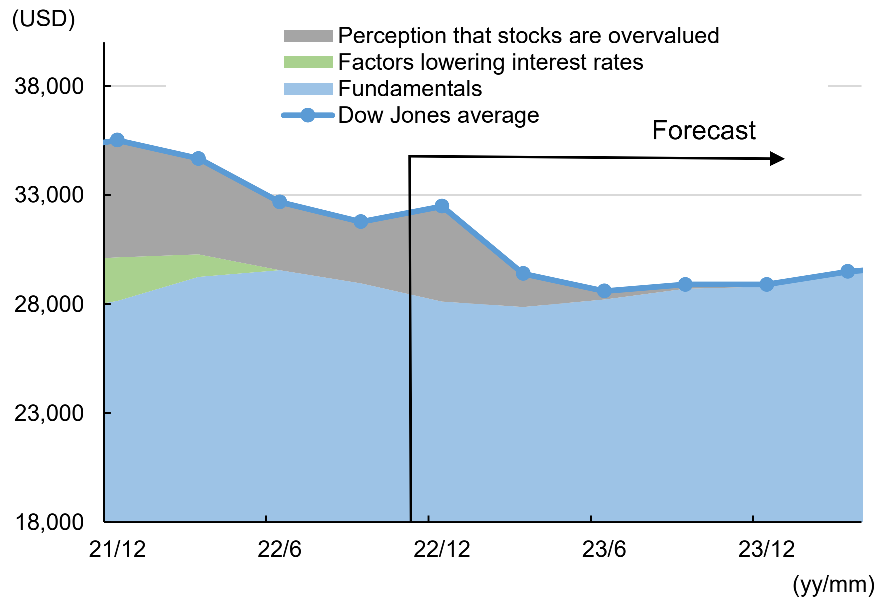
Note: The blue dotted line shows the actual, and the solid line is the median for the quarter. Purple shadows indicate ranges.
Source: Made by MHRT based upon releases by Bloomberg

Stock markets: the US stock market expected to decline through mid-2023; despite the fall of Japanese stocks, the perception that they are undervalued will serve as support

- The US stock market will fall through mid-2023 and remain at rock-bottom levels. A clear recovery is unlikely until 2024.
  - Although optimism in the Oct-Dec quarter of 2022 will bring back a sense of overvaluation, the P/E ratio will decline along with the dissipation of such optimism.
  - In addition, the decline of the forward EPS, reflecting concerns regarding recession, will push down the US stock market through the Apr-Jun quarter of 2023.

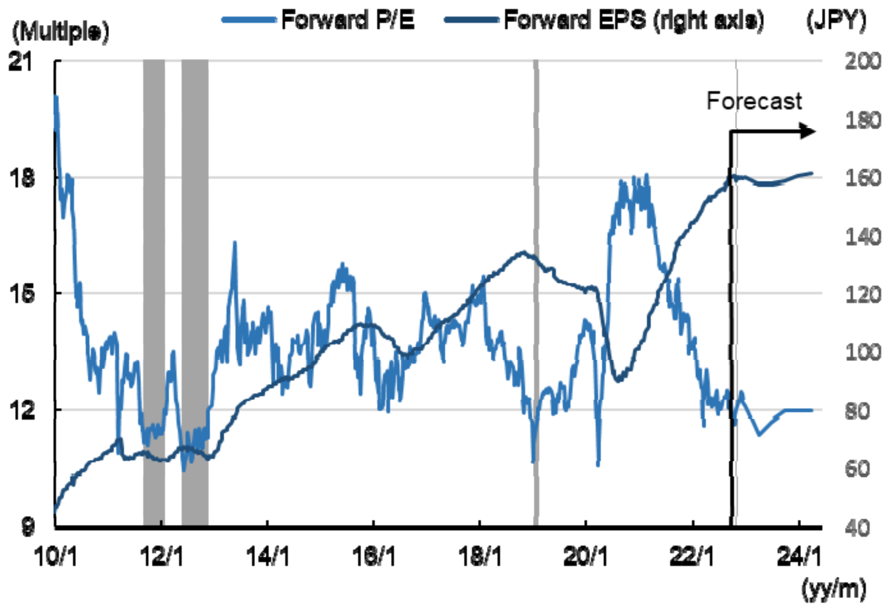
- The Japanese stock market will fall in the Jan-Mar quarter of 2023 in tandem with the US stock market, but should enter a gradual recovery in the second half of 2023.
  - The decline of the forward EPS due to the stronger yen will also be a negative factor.
  - However, since Japanese stocks are still perceived as undervalued in terms of the P/R ratio, their decline in tandem with US stocks will be limited.

Dow Jones average and sense of overvaluation, factors lowering interest rates



Note: The "perception that stocks are overvalued" refers to the amount that the actual stock price exceeds the stock price calculated by theoretical P/E ratio taking into account the level of interest rates at each point of time. The factors lowering interest rates are calculated from the theoretical P/E ratio based on the assumption that long-term interest rates are at the same level as the average of the past 10 years. The forecast value is the median of the range.
Source: Made by MHRT based upon Refinitiv

Trends and forecasts for the P/R ratio and EPS of Japanese stocks



Note: Gray shaded areas indicate periods when the P/R ratio was below 12x for at least one month.
Source: Made by MHRT based upon Refinitiv

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BOJ and yen interest rates: "negative interest rates with YCC" may be abandoned in spring 2024 in view of economic and financial market developments

- In 2023, the severe economic environment and financial market instability will serve as hurdles for the BOJ's monetary policy shift. The shift is expected around spring 2024.
  - Economic and financial market conditions should make it difficult to taper monetary easing in 2023. In the event the stabilization of the global economy and financial markets and a stable rise of prices at around 1% is confirmed from the turn of the year in 2024, negative interest rates with YCC may be abandoned even if the price stability target of 2% is not achieved.
  - On the other hand, there is a reasonable possibility that the BOJ may shift its monetary policy stance in 2023, in view of the strength of the current rise of prices and the side effects of monetary policy.
- The current monetary policy framework is expected to remain in place through the end of 2023, with the 10-yr JGB yield moving around 0.15–0.5%.

BOJ's monetary policy environment and possible scenarios for policy shift

	At Policy Board meeting in Dec. 2022	Situation in 2023 and beyond	Policy shift
Prices	• Still far from the stable achievement of the 2% price target	• Prices are expected to remain high but slow down in 2023. • Prices are expected at a stable pace of around 1% in 2024, even after the stabilization of the economic and financial market environment.	• The policy shift expected in the spring of 2024, when the economy and financial markets stabilize and prices rise at a stable pace of around 1%. • However, there is also the possibility that the current monetary policy stance may be shifted in 2023, in view of the strength of the current rise of prices and the side effects of monetary policy.
Economy	• European and US economies more resilient than expected despite lingering uncertainty • Japanese economy showing clear signs of recovery	• Recession in the US and Europe and global economic slowdown is expected in 2023 = the risk of slowdown in the Japanese economy. • It should take until 2014 for a confirmation of a firm recovery of the global economy.	
Financial market	• Malfunctioning of the domestic bond market • Developments leading to policy shift and resulting instability in exchange rates, interest rates, etc.	• The US and Europe will shift to interest rate cuts from mid-2023 to the end of the year to avoid a recession. Market stability is expected to be achieved from 2024 onward. • We expect stock prices to fall and the yen to appreciate in 2023 (concerns that a policy shift will accelerate this trend).	

Source: Made by MHRT

Reference: key political events

	2023		2024	
US	Mar	20 years since the Iraq War	Nov	Presidential election
Europe	By year-end	Spain: legislative election	May May Jul-Sep Oct	Russia: end of term of President Vladimir Putin European Parliamentary elections Paris Olympic and Paralympic Games End of term of European Commission President Ursula von der Leyen
Japan	Apr Apr May	End of term of Bank of Japan Governor Haruhiko Kuroda Nationwide local elections G7 Summit (Hiroshima)	Jul	End of term of the governor of Tokyo
Asia	Mar By May By Jul By Aug	China: National People's Congress Thailand: election of the House of Representatives (lower house) Cambodia: general election Myanmar: general election	Jan Feb 1H By mid-year	Taiwan: presidential election Indonesia: presidential and parliamentary elections South Korea: legislative election India: general election
Other	Oct Nov By year-end By year-end	Argentina: presidential and legislative elections COP28 (UAE) G20 Summit (India) Turkey: presidential and legislative elections	Jun By year-end By year-end	Mexico: presidential election and legislative elections G20 Summit (Brazil) COP29

Source: Made by MHRT based upon media reports, etc.