LIVERPOOL INVESTMENT LETTER

March 2023

Cardiff Business School
Ysgol Busnes Caerdydd

Julian Hodge Institute of Applied Macroeconomics

LIVERPOOL RESEARCH GROUP IN MACROECONOMICS

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The Julian Hodge Institute was launched in autumn 1999 in a new collaboration between the Cardiff Business School of Cardiff University and Hodge. The aim of the Institute is to carry out research into the behaviour of the UK economy, and to study in particular its relationship with the other economies of Europe. The research has been particularly germane in recent years and has proved to be of significant social and political relevance as Europe has navigated the difficulties of the global financial crash, the Eurozone crisis and most recently the UK referendum on EU membership. The Liverpool Investment Letter is written by Patrick Minford, with the assistance of other members of the Group; in particular the emerging markets section is written by Anupam Rastogi, and the focus on Japan is written by Francesco Perugini. The Investment Letter is published monthly.

The Liverpool Research Group in Economics is pursuing a research programme involving the estimation and use of macroeconomic models for forecasting and policy analysis. The Group is now mainly based in Cardiff Business School, Cardiff University, and is indebted to the School and to the Hodge Foundation for their support. The Group's activities contribute to the programmes being pursued by the Julian Hodge Institute of Applied Macroeconomics. This Liverpool Investment Letter is typeset by David Meenagh and published on behalf of the group by Liverpool Macroeconomic Research Limited, which holds the copyright

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CONTENTS

HOW THE PUBLIC FINANCES DEPEND ON GROWTH AND HENCE THE IMPORTANCE OF NOT RAISING CORPORATION TAX

In the last Letter we rehearsed the arguments for abandoning the proposed rise in Corporation tax in the upcoming budget. We explained that the stated reasons given for the rise were invalid. These were two. First, that it was required for public finance solvency. Second, that it was needed to reduce inflation and so mitigate the need for rising interest rates. On the first we pointed out that solvency is a long run condition, to be established in long run projections of the finances, not with arbitrary fiscal rules over shorter run debt/GDP ratios — such as the one currently operating that it should be falling in 2026/27. According to long run projections, growth is important in achieving solvency, and the effect of raising Corporation Tax on growth actually damages solvency.

On the second we pointed to the growing evidence that inflation has peaked and will come down steadily due to interest rises already carried out or in hand. Furthermore, fiscal policy support through lower taxes can help by raising employment and post-tax wage incomes, so reducing wage inflation.

In this Letter we add more information to the solvency argument by setting out our long term projections for the UK public finances after updating them with our latest forecasts. Below we show our baseline projection with growth as lowered by the proposed rise in Corporation Tax; and also beside it the same with the higher growth and lower short run tax take if the rise does not go ahead. The key point that emerges is that under the baseline the UK government debt/GDP ratio rises steadily in the long term, reaching over 150% by 2034/5. By contrast under the no tax rise scenario it falls steadily to just over 50% by that date. These projections demonstrate the importance for the public finances of tax policies that stimulate growth. It is counter-productive to raise tax rates in the attempt to boost revenues since they simply reduce growth and so worsen fiscal prospects.

Table 1: Summary of Forecast

	2019	2020	2021	2022	2023	2024	2025
GDP Growth[1]	1.4	-11.0	7.5	4.2	-0.4	2.0	2.0
Inflation CPI	1.7	1.0	2.5	8.9	5.0	3.2	2.0
Wage Growth	3.5	1.6	5.8	6.0	5.4	3.4	3.0
Survey Unemployment	3.8	4.5	4.5	3.6	3.5	2.8	2.8
Exchange Rate[2]	78.3	78.2	81.5	79.4	78.1	77.4	76.8
3 Month Interest Rate	0.8	0.2	0.1	1.8	4.4	4.0	3.0
5 Year Interest Rate	0.6	0.1	0.4	2.3	4.3	4.0	3.0
Current Balance (£bn)	-63.3	-67.5	-34.3	-111.2	-24.2	-14.7	1.5
PSBR (£bn)	64.3	312.4	132.4	156.6	124.9	59.5	3.2

[1]Expenditure estimate at factor cost
[2]Sterling effective exchange rate, Bank of England Index (2005 = 100)

Public finance projections from 2025 to 2035

	Real GDP growth	Nominal GDP growth	Tax rate growth
Baseline	2%	4%	4%

Table 1: Baseline Forecast – Public Finances- Corporation Tax rise cancelled

	Nom PSBR (£bn)	Nom GDP (£bn)	Nom Pub Spend (£bn)	PSBR/GDP %[1]	Spend/GDP %	Nom Debt (£bn)	Debt Interest (£bn)	Debt/GDP %	Net Taxes (£bn)	Net Tax Rate%
2019/20	64.3	2316.4	514.6	2.8	22.2	1621.0	46.7	70.0	497.0	21.5
2020/21	312.4	2068	482.5	15.1	23.3	1933.4	39.9	93.5	210.0	10.2
2021/22	132.4	2413.9	479.0	5.5	19.8	2065.8	61.3	85.6	407.9	16.9
2022/23	156.6	2674.6	664.4	5.9	24.8	2222.4	60.6	83.1	568.4	21.3
2023/24	124.9	2792.1	679.7	4.5	24.3	2347.3	62.4	84.1	617.1	22.1
2024/25	59.5	2940.6	671.5	2.0	22.8	2406.8	63.9	81.8	675.9	23.0
2025/26	3.2	3058.2	669.3	0.1	21.9	2410.0	64.3	78.8	730.5	23.9
2026/27	0.2	3180.6	725.9	0.0	22.8	2410.2	64.7	75.8	790.5	24.9
2027/28	0.2	3307.8	790.0	0.0	23.9	2410.4	65.1	72.9	855.0	25.9
2028/29	0.0	3440.1	859.2	0.0	25.0	2410.4	65.5	70.1	924.7	26.9
2029/30	0.0	3577.7	934.4	0.0	26.1	2410.4	65.8	67.4	1000.2	28.0
2030/31	0.0	3720.8	1015.7	0.0	27.3	2410.4	66.1	64.8	1081.8	29.1
2031/32	0.0	3869.6	1103.6	0.0	28.5	2410.4	66.5	62.3	1170.1	30.3
2032/33	0.0	4024.4	1198.8	0.0	29.8	2410.4	66.8	59.9	1265.6	31.5
2033/34	0.0	4185.4	1301.8	0.0	31.1	2410.4	67.0	57.6	1368.8	32.7
2034/35	0.0	4352.8	1413.2	0.0	32.5	2410.4	67.3	55.4	1480.5	34.0

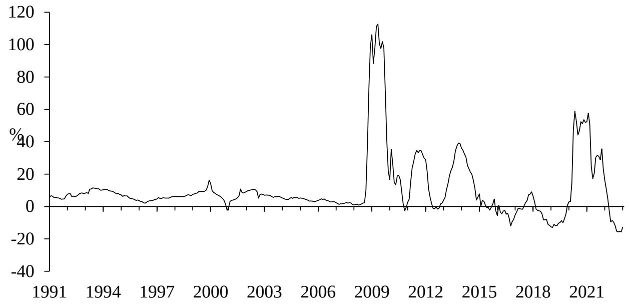
Public finance projections from 2025 to 2035

	Real GDP growth	Nominal GDP growth	Tax rate growth
New baseline	0%	1.7%	0% + £20b p.a from 2023/24

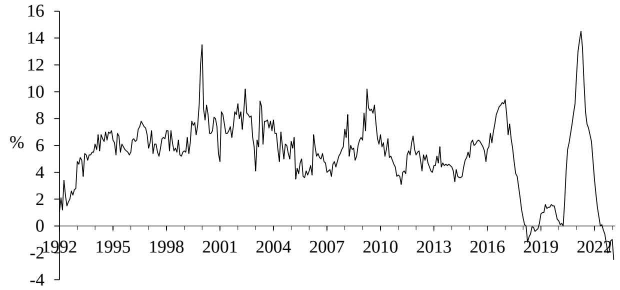
Table 2 Variant: New baseline Forecast with rise in Corporation Tax

	Nom PSBR (£bn)	Nom GDP (£bn)	Nom Pub Spend (£bn)	PSBR/ GDP%	Spend/ GDP%	Nom Debt (£bn)	Debt Interest (£bn)	Debt/ GDP%	Net Taxes (£bn)	Net Tax Rate%
2019/20	64.3	2316.4	514.6	2.8	22.2	1621.0	46.7	70.0	497.0	21.5
2020/21	312.4	2068	482.5	15.1	23.3	1933.4	39.9	93.5	210.0	10.2
2021/22	132.4	2413.9	479.0	5.5	19.8	2065.8	61.3	85.6	407.9	16.9
2022/23	156.6	2674.6	664.4	5.9	24.8	2222.4	60.6	83.1	568.4	21.3
2023/24	104.9	2792.1	679.7	3.8	24.3	2327.3	62.4	83.4	637.1	22.8
2024/25	39.46	2940.6	671.5	1.3	22.8	2366.8	63.9	80.5	695.9	23.7
2025/26	26.2	2990.6	669.3	0.9	22.4	2392.9	64.3	80.0	707.4	23.7
2026/27	71.5	3041.4	725.9	2.3	23.9	2464.4	64.6	81.0	719.1	23.6
2027/28	124.2	3093.1	790.0	4.0	25.5	2588.6	65.1	83.7	731.0	23.6
2028/29	181.9	3145.7	859.2	5.8	27.3	2770.5	65.7	88.1	743.1	23.6
2029/30	245.6	3199.2	934.4	7.7	29.2	3016.1	66.6	94.3	755.3	23.6
2030/31	315.6	3253.6	1015.7	9.7	31.2	3331.7	67.8	102.4	767.8	23.6
2031/32	392.5	3308.9	1103.6	11.9	33.4	3724.2	69.4	112.5	780.6	23.6
2032/33	476.8	3365.1	1198.8	14.2	35.6	4201.0	71.5	124.8	793.5	23.6
2033/34	569.4	3422.4	1301.8	16.6	38.0	4770.4	74.2	139.4	806.6	23.6
2034/35	670.9	3480.5	1413.2	19.3	40.6	5441.2	77.7	156.3	820.0	23.6

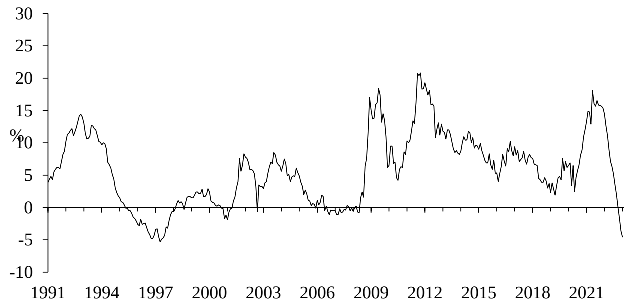
U.S.: Growth in M0 (Yr - on - Yr)



UK: Notes and Coins in Circulation Growth

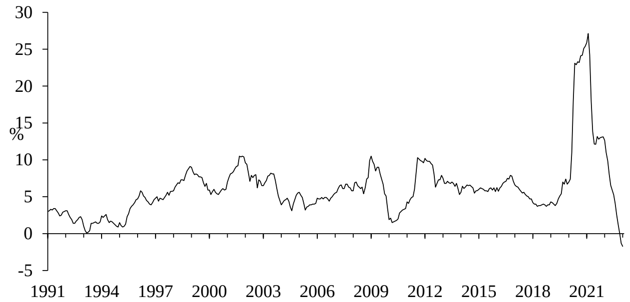


U.S.: Growth in M1 (Yr - on - Yr)

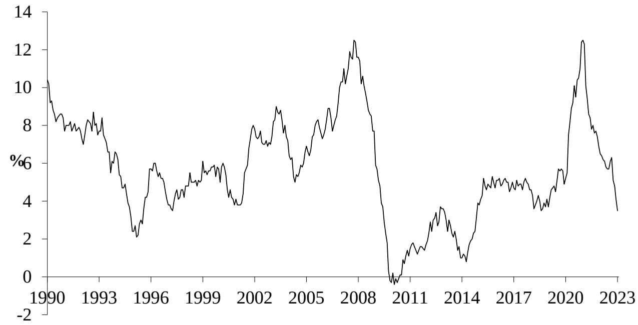


UK: M4 Growth

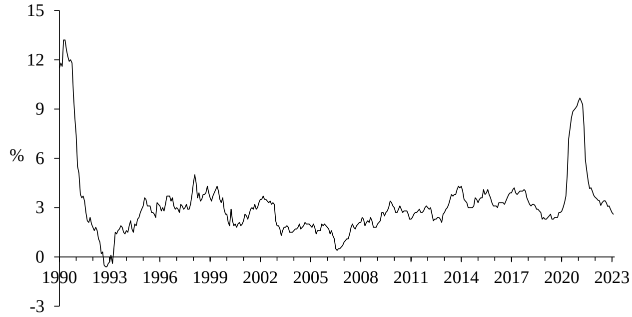
U.S.: Growth in M2 (Yr - on - Yr)



Eurozone M3 Growth



Japan: Growth of M2+CD's



FOCUS ON JAPAN

Francesco Perugini

New Bank of Japan Governor faces difficult challenges.

Japan's gross domestic product (GDP) disappointed in the fourth quarter of 2022, growing at a meagre 0.6% q-o-q, as business investment slumped, a sign of the challenge the central bank faces in phasing out its massive stimulus program. This means that GDP is below the level it first reached five years ago in 2017. That was before Japan was hit by the hike in the consumption tax in October 2019 and then Covid. Nonetheless, this confirmed the first positive eight-quarter run for real GDP growth in 28 years.

In contrast to the third quarter, growth in the fourth quarter was driven by a pick up in domestic demand, while external demand did not contribute. Within domestic demand, growth was mixed. Private consumption increased 1.9% q-o-q, following a 2.5% contraction last quarter; consumption was the only driver of growth, adding 1 percentage point to GDP. On the investment side, growth in capital expenditure offset falls in residential and public investment. Inventory investment was a 0.3 percentage points drag on real growth, following a strong contribution to growth in the third quarter. Despite sustained strong growth in exports, net exports took 0.1 percentage points off growth. This was due to an acceleration in imports, which usually occurs alongside a recovery in domestic demand. Finally, the drop in inventories jumped out as the biggest drag on the recovery. A drawing down of product stockpiles can sometimes be interpreted as a positive for the economy showing stronger demand than expected, but Mari Iwashita, chief market economist at Daiwa Securities Co., was unconvinced. Another interpretation was that companies didn't want to restock inventories because they are concerned about the outlook, which she said was more likely.

The increase in GDP was much smaller than a median market forecast for a 2.0% rise, due to this downswing in capital expenditure and inventory. "From a negative growth in July–September, the rebound isn't very impressive," said Toru Suehiro, chief economist at Daiwa Securities. "We can expect consumption to pick up as service spending stabilises. But it's difficult to project a strong recovery partly due to pressure from rising inflation," he said. Hiroyuki Ueno, senior economist at SuMi TRUST, said the outlook for the first half of 2023 "is positive", with the rise in import prices expected to taper off as inflation stabilizes in Europe and the US. But others were less optimistic, with Taro Saito of NLI Research Institute forecasting that solid domestic demand would be counterbalanced by declining exports "mainly due to the slowdown in overseas economies." "Therefore, low annual growth of around zero percent is currently estimated." However, at the end of January, the IMF revised up its forecasts for Japan's 2023 GDP growth to 1.8% from a previous estimate of 1.6%.

The economic record is mixed internationally. The US grew by 2.9% during the fourth quarter. But China experienced no GDP growth on a quarterly basis due to the lingering effects of its stringent zero-COVID policies. The eurozone was stagnant as well.

However, inflation hit 4% in December, a figure not seen in Japan for more than four decades. Despite the price pressure, Japan's central bank has declined to shift gears on its ultra-easy monetary policy, convinced that inflation is being driven by temporary factors like fuel costs. It wants to see sustained 2% price growth to help turbocharge the economy, particularly through wage increases.

This data came out just before the government submitted a nomination for the new Bank of Japan (BOJ) governor to parliament. Professor Kazuo Ueda — who served on the BOJ's policy board between 1998 and 2005 — is widely expected to replace Haruhiko Kuroda after his decade-long tenure ends in April. The nominations need the approval of both chambers of parliament, but they are effectively done deals as the ruling coalition holds solid majorities in both.

In a recent interview Ueda said monetary easing should continue in support of the economy's recovery, a comment that suggests he won't seek an immediate change in policy if he is approved to helm the central bank. "The benefits of the BOJ's stimulus outweigh its side effects" he said. However, he acknowledged that some policy shifts had to come to avoid speculation, a remark that may support the view of market players betting on change coming sooner rather than later. Some see the side effects from the BOJ's yield curve control program as increasingly weighing on the functioning of the financial market. "I think it's appropriate for monetary easing to be continued. The challenges faced by the central bank, including its impact on market functioning and its massive asset holdings, present difficulties for whoever takes the helm of the bank" he added.

As BOJ governor, Ueda will face multiple challenges, including rising inflation. The question is also how much he will support Prime Minister Kishida's economic policy, as Kuroda supported Abenomics. Unlike Abe, Kishida wants to go back to the 1980s when Japan's robust economic growth was the envy of the world. He calls it "the new capitalism" but it is really a return to Japan-style capitalism. There is an opportunity, however, to advance the third arrow of Abenomics, to grind away at the bedrock of regulation protecting the vested interests that flourished in Japan's economy once. This is probably the hardest job and the worst time to take it on.

MARKET DEVELOPMENTS

The end of the Zero Bound on interest rates is good news for savers. Bond prices will go on falling for some time as the process works through. Equities therefore remain the best focus for investment until this has reached its conclusion.

Table 1: Market Developments

	Market Levels		Prediction for Nov/Dec 2023	
	Feb 22	Mar 13	Previous Letter	Current View
Share Indices				
UK (FT 100)	7978	7549	8265	7820
US (S&P 500)	4012	3891	4140	4016
Germany (DAX 30)	15398	14959	18508	17981
Japan (Tokyo New)	1997	2001	2575	2579
Bond Yields (government				
UK	3.64	3.50	4.00	4.00
US	3.94	3.59	3.50	3.50
Germany	2.53	2.40	2.20	2.20
Japan	0.50	0.28	0.50	0.50
UK Index Linked	0.51	0.28	1.00	1.00
Exchange Rates				
UK ($ per £)	1.21	1.22	1.20	1.20
UK (trade weighted)	78.28	78.25	77.9	77.9
US (trade weighted)	107.88	108.70	113.2	113.2
Euro per $	0.94	0.93	0.98	0.98
Euro per £	1.14	1.13	1.18	1.18
Japan (Yen per $)	134.72	133.15	140.0	140.0
Short Term Interest Rates				
UK	4.22	4.34	4.00	4.00
US	4.91	5.14	4.30	4.30
Euro	2.65	2.98	3.00	3.00
Japan	–0.03	–0.03	0.10	0.10

Table 2: Prospective Yields [1]

Equities: Contribution to £ yield of:

	Dividend Yield	Real Growth	Inflation	Changing Dividend Yield	Currency	Total
UK	2.10	1.1	3.5	–1.00		5.70
US	2.00	1.2	3.0	–1.00	1.29	6.49
Germany	2.10	1.2	3.0	16.00	–3.81	18.49
Japan	1.90	1.1	1.8	26.00	–3.79	27.01
UK indexed[2]	0.51		3.5	16.00		19.78
Hong Kong[3]	2.60	3.0	3.0	–43.00	1.29	–33.11
Malaysia	3.30	5.4	3.0	47.00	1.29	59.99
Singapore	3.50	3.0	3.0	11.00	1.29	21.79
India	1.40	6.5	3.0	6.00	1.29	18.19
Korea	1.10	0.0	3.0	–52.00	1.29	–46.61
Indonesia	2.20	4.5	3.0	15.00	1.29	25.99
Taiwan	2.80	3.0	3.0	16.00	1.29	26.09
Thailand	3.20	2.5	3.0	12.00	1.29	21.99

Bonds: Contribution to £ yield of:

	Redemption Yield	Changing Nominal Rates	Currency	Total
UK	3.50	–5.01		–1.51
US	3.59	0.92	1.29	5.81
Germany	2.40	2.03	–3.81	0.62
Japan	0.28	–2.24	–3.79	–5.75

Deposits: Contribution to £ yield of:

	Deposit Yield	Currency	Total
UK	4.34		4.34
US	5.14	1.29	6.43
Euro	2.98	–3.81	–0.84
Japan	–0.03	–3.79	–3.81

[1] Yields in terms of €s or $s can be computed by adjusting the £-based yields for the expected currency change.
[2] UK index linked bonds All Stocks
[3] Output based on China.

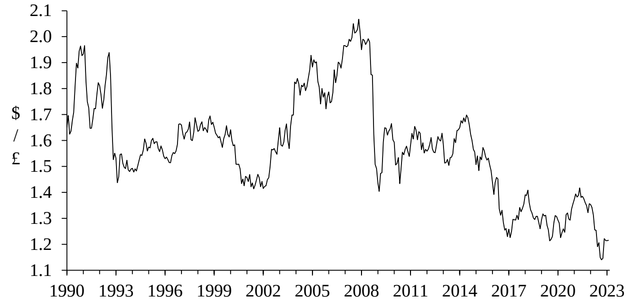
Table 3: Portfolio(%)

	Sterling Based Investor		Dollar Based Investor		Euro Based Investor	
	February Letter	Current View	February Letter	Current View	February Letter	Current View
UK Deposits (Cash)	5	5	5	5	1	1
US Deposits	-	-	-	-	-	-
Euro Deposits	-	-	-	-	-	-
Japanese Deposits	-	-	-	-	-	-
UK Bonds	-	-	-	-	-	-
US Bonds	-	-	-	-	-	-
German Bonds	-	-	-	-	-	-
Japanese Bonds	-	-	-	-	-	-
UK Shares	19	19	14	14	17	17
US Shares	14	14	19	19	16	16
German Shares	14	14	14	14	21	21
Japanese Shares	9	9	9	9	11	11
Hong Kong/Chinese Shares	4	4	4	4	4	4
Singaporean Shares	4	4	4	4	4	4
Indian Shares	4	4	4	4	4	4
Thai Shares	3	3	3	3	3	3
South Korean Shares	4	4	4	4	4	4
Taiwanese Shares	4	4	4	4	3	3
Brazilian Shares	4	4	4	4	3	3
Chilean Shares	4	4	4	4	3	3
Mexican Shares	4	4	4	4	3	3
Peruvian shares	4	4	4	4	3	3
Other:						
Index-linked bonds (UK)	-	-	-	-	-	-

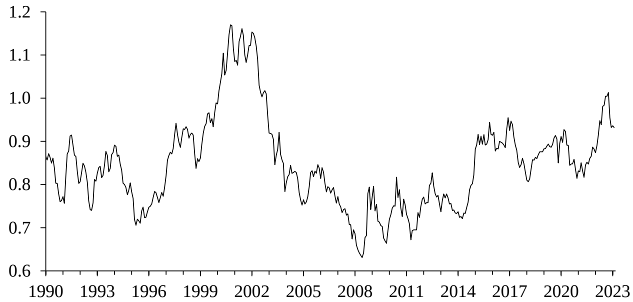
INDICATORS AND MARKET ANALYSIS
FOREIGN EXCHANGE MARKETS

US : Trade Weighted Index
(Bank of England 1990 = 100)

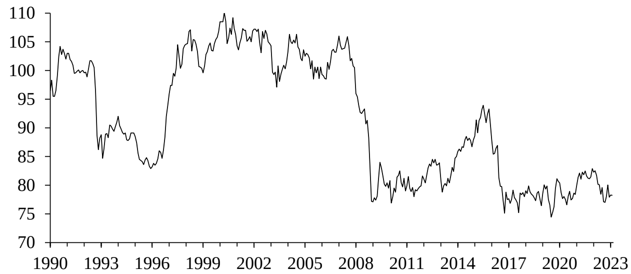
UK: Dollars Per Pound Sterling



Euro per US dollar



UK: Trade-Weighted Index
(Bank of England 1990 = 100)

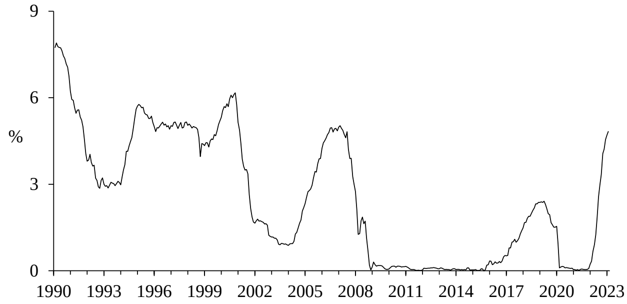


Japan : Yen Per U.S. Dollar

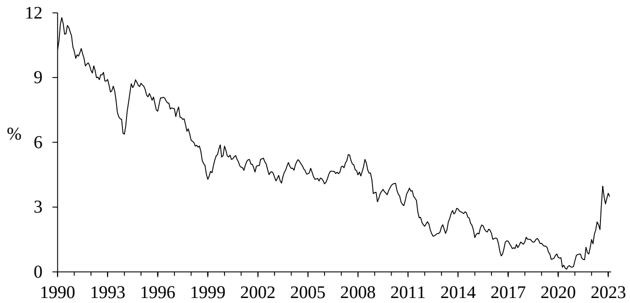
GOVERNMENT BOND MARKETS

U.S.: Yield on Long-Term Government Bonds

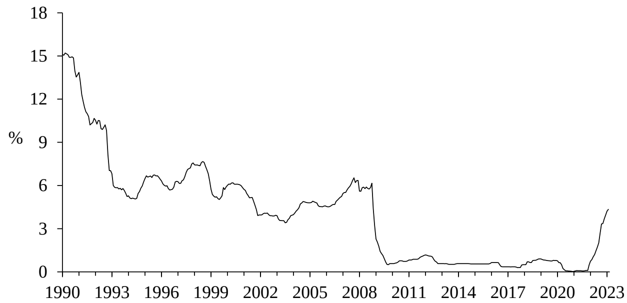
U.S. : 3-Month Treasury Bill



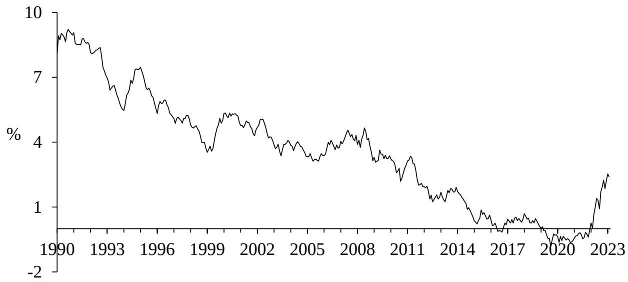
U.K.: Yield on Long-Term Government Bonds



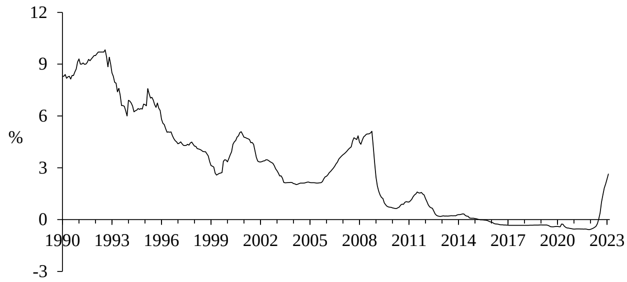
U.K. : 3-Month Certificate LIBOR Rate



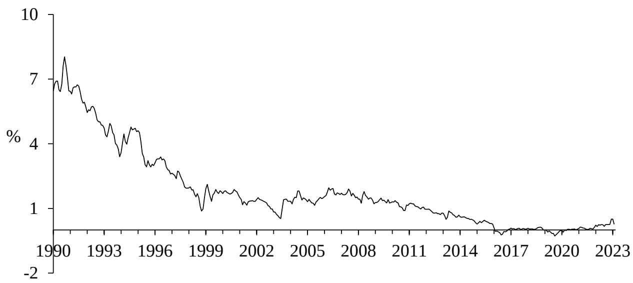
Germany: Yield on Public Authority Bonds



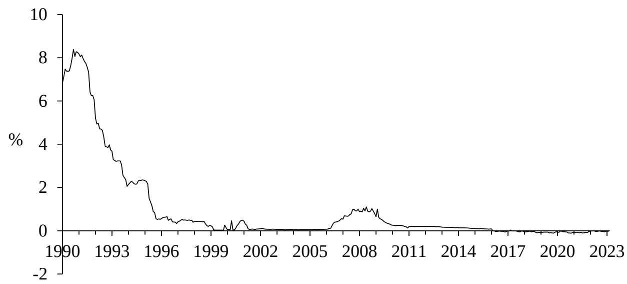
Germany : 3-Month Interbank Deposit Rate



Japan: Yield on Long-Term Government Bonds

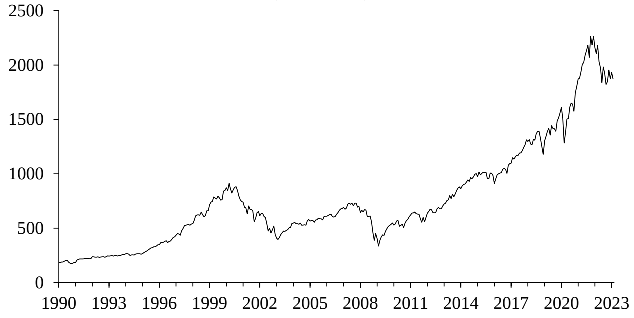


Japan : 3-Month Money Market Rate

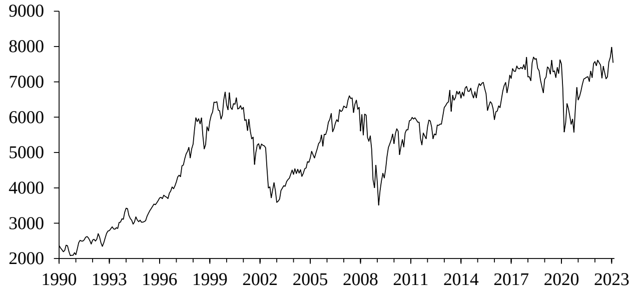


MAJOR EQUITY MARKETS

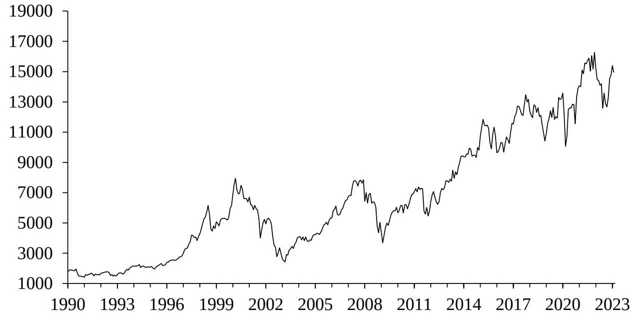
U.S. : S & P 400 Industrial
(1985=100)



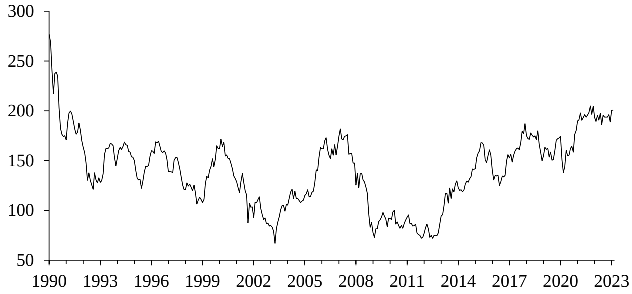
U.K. : FTSE-100 Index
(10 April 1962=100)



Germany : DAX 30



Japan : Tokyo S.E. New
(1985=100)



EMERGING MARKETS

Anupam Rastogi

India

A vibrant and confident nation is trying to emerge from an emerging economy to an emerged economy. The Indian government's pro-business tilt, a sharp increase in capital expenditure in the Budget providing a resilient economic momentum while keeping the fiscal deficit under tight control, and digitization of public services and tax collections is paying rich dividends. In the last quarter of 2022, the economy grew at a decelerating pace of 4.4%, compared to 6.3% in the July–September quarter. GDP is estimated to grow by 7% for FY23. In FY24 and FY25, we have kept our forecast of 6.5%. IMF also forecasts 6.5% this year and next, the fastest among 30 major economies.

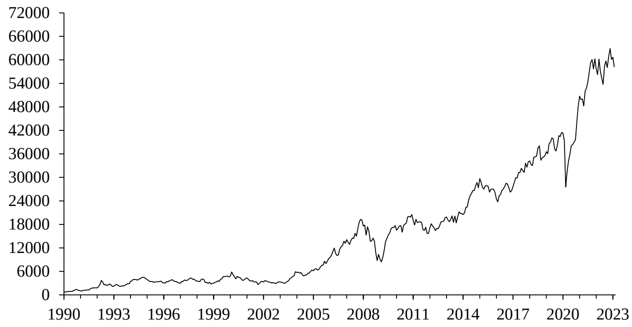
The Purchasing Managers Index (PMI) for manufacturing for February has come in at 55.3, well above the 50 mark, signifying substantial expansion from the previous month. The PMI for India's dominant services sector touched a 12-year high of 59.4 in February, showing strong demand and easing price pressures amid mild job creation in the country. The headline figure has been in the expansion zone for the nineteenth consecutive month since August 2021.

While the inflation forecast for FY23 has been lowered to 6.5% from 6.7% earlier, primarily led by easing vegetable prices, the persistence of core inflation at elevated levels has remained a matter of concern. For FY24, inflation is expected to remain well above the RBI's 4% mid-point target, estimated at 5.3%, thanks to the persistence of core inflationary pressures on continued pass-through of input costs, particularly in services, and high global uncertainty. The central bank is expected to hike the repurchase rate to 6.75% in April–June, before easing to 6.5% in the fourth quarter. In February, the RBI's monetary policy committee increased its policy repo rate by 25 basis points to 6.50%.

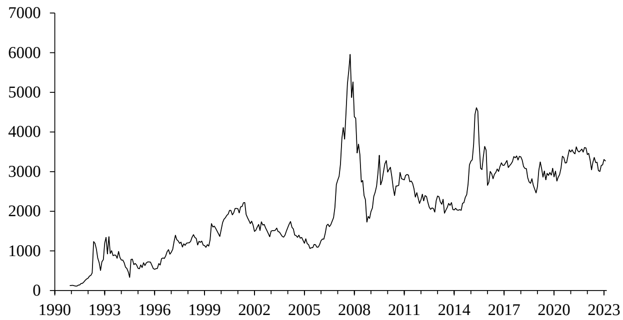
India's merchandise trade deficit dropped to a 12-month low of $17.7 billion in January, while the services trade surplus rose to an all-time high of $16.5 billion last month. The sizeable decline in the trade deficit was fuelled by a 15.8% month-on-month slump in imports. The combination of the falling goods deficit and the rising services surplus bodes well for current account dynamics. The current account deficit is expected to be 2.3% of GDP.

Improvements in macroeconomic fundamentals have made the Indian rupee more resilient, but the central bank's 'hands-on' approach amid periods of volatility will also ensure the rupee remains range bound. The central bank tends to sell dollars in both onshore and offshore markets to keep the rupee stronger than 83 and to prevent it from slipping to fresh record lows amid the dollar rally. The Indian central bank has stated that it does not defend any particular level of the currency but intervenes to smoothen volatility and avoid extreme moves in the currency.

India: BSE Sensex



China: SSE Composite Index



India's macroeconomic fundamentals are pivoted on the US and the EU policy of not importing crude oil from Russia directly and allowing petroleum products from the third country using Russian crude. It helps the US and the EU to cap Russia's earnings from crude oil export without having an oil price shock in their economy.

	20–21	**21–22**	**22–23**	**23-24**	**24-25**
GDP (%p.a.)	-6.6	8.7	7.0	6.5	6.5
WPI (%p.a.)	5.5	6.0	6.5	5.3	5.0
Current A/c(US$ bill.)	35.0	-42.0	-100.0	-90.0	-80.0
Rs./$(nom.)	75.0	74.5	81.0	83.0	85.0

China

China's annual National People's Congress kicked off on March 5th. The meeting will see the critical political changes and significant shakeups at the very top. The consolidation of power by President Xi Jinping will be complete. Li Qiang, an ally of Xi Jinping, became the premier. He is known for being business-friendly but will carry Xi Jinping's orders.

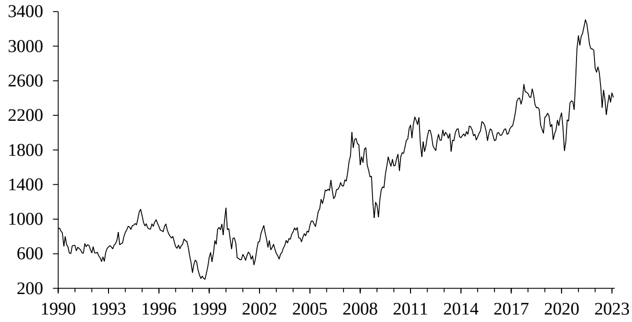
People's Bank of China Governor Yi Gang will step down, and veteran banker Zhu Hexin will become Governor. He Lifeng will replace Liu He as vice premier responsible for economic policy and is also being considered for the role of party secretary at the PBOC, the de facto chief of the central bank. These appointments and overhauling of China's financial regulatory regime would put decision-making over vital economic policies in fewer hands and centralize it under Xi. The grip of Xi over the $60 trillion financial sector will be complete. Already bankers are told to report to the party bosses and give up ostentatious living like their western counterparts. It was part of directives in a 3,500-word commentary from the country's top anti-graft watchdog. Wu Qing, a 57-year-old who earned the nickname "the broker butcher" for cracking down on traders in the mid-2000s, will head the China Securities Regulatory Commission, the nation's securities regulator. The Communist Party will govern everything, including economic and financial work, from now onwards.

China is going through a massive structural change brought about by demographic changes. Its growth trajectory is sliding down, and the 'hostile' international environment has meant that its prosperity linked to foreign demand will dwindle. It cannot depend on foreign technology to achieve its political ambitions and is under severe scrutiny from the US and the EU countries. It has found Russia as a new ally to compensate for the lost western markets.

China's economy is rebounding faster than it was expected. Covid 19 is under control. The rising subway usage and clogged road show the economy's rebound. In Shanghai, people are back to packing the metro like sardines, taxis are impossible to find late at night, and some popular restaurants are impossible to dine at without a reservation. The communist party has announced a robust 2023 growth target of 5%, which the government expects to achieve through policies to stimulate domestic consumption and stabilize the property market. Last year the economy grew just 3%, one of the lowest rates in decades, primarily due to the impact of Covid Zero policy. Both the official and privately compiled Caixin manufacturing indexes have zoomed up. The manufacturing purchasing managers' index rose to 52.6 in February, the highest reading since April 2012. A non-manufacturing gauge measuring activity in services and construction sectors improved to 56.3. We expect a rapid near-term rebound, and the latest data suggest that GDP growth will be nearly 6% in 2023 and slide down to 4% in 2024 after the rebound is over.

China's consumer prices in January increased 2.1% from a year earlier, accelerating from December's 1.8% annual rate. The CPI in China should average around 2.2% in 2023, compared with 2% last year, comfortably below the government's 3% ceiling. The subdued inflation provides the PBOC little room to hike interest rates. The bank struggles to balance fostering economic growth and curbing further weakness in the yuan. China's benchmark lending rates were kept unchanged as the world's second-largest economy showed more signs of recovery from its Covid reopening. The one-year loan prime rate remained unchanged at 3.65%, and the five-year LPR was steady at 4.3%.

Korea: Composite Index



After hitting a 14-year high of almost $420 billion last year, the surplus on the current account — the broadest measure of trade in goods and services — is expected to narrow sharply this year. It will weaken to 1.4% of GDP this year, down from 2.3% in 2022. It will continue to put pressure on the currency to depreciate. Fewer exports mean less foreign income for the country, while a surge in outbound tourism means more Chinese people will be swapping their yuan for foreign currency, resulting in more outflows.

China's yuan may breach the key 7 to the dollar level anytime now. The pressure from a strong dollar and rising US Treasury yields weigh heavily on the yuan-dollar rate.

Due to bureaucratic procedures, Mark Mobius, a leading investor in emerging markets, has expressed difficulty getting his money out of the country. Hence, getting foreign companies to stay and attracting new investment is becoming difficult. China is not a top three investment priority for most US firms for the first time in about 25 years, according to a report by the American Chamber of Commerce, citing geopolitical tensions and domestic economic issues as increasingly driving businesses to focus elsewhere in the region. It will diminish China's supply-chain dominance by 2025. American lawmakers have been intensifying efforts to find ways to decouple the US from China as the two nations spar over issues from Taiwan to technology and surveillance.

	20	**21**	**22**	**23**	**24**
GDP (%p.a.)	2.2	8.1	3.0	6.0	4.5
Inflation (%p.a.)	2.5	1.8	2.0	2.2	1.5
Trade Balance(US$ bill.)	60.0	80.0	420.0	255.0	150.0
Rmb/$(nom.)	6.7	6.4	6.8	7.0	7.2

South Korea

South Korea's economy contracted 0.4% in the fourth quarter from a quarter earlier, after 0.3% growth in the third quarter. All economic activities are in decline, albeit marginally. By expenditure, private consumption fell 0.6%.

Our forecast of consumer inflation for 2023 aligns with the Bank of Korea's (BOK) forecast. The bank expects inflation to stay around 5% in February as the upward pressure on international commodity prices will increase due to the economic reopening of China. South Korea's central bank maintained the interest rates at seven consecutive meetings to fight inflation as it trimmed its 2023 growth forecast and kept alive the possibility of a further rate increase down the road. The BOK hiked by 50 basis points at two meetings last year. The BOK's rate currently stands at 3.5%, compared with 0.5% in August 2021, when the tightening cycle began.

Exports dropped 4.6%, while imports declined 3.7% in February. It posted a trade deficit for the twelfth consecutive month in February as exports posted negative growth for the fifth straight month. There is no relief in sight. In February, export value totalled US$50 billion, down by 7.5% from the same month in 2022, while imports stood at US$55 billion, a rise of 3.6%. The balance of trade amounted to a deficit of US$5 billion. It is the first time the South Korean trade balance has remained negative for a whole year from January 1995 to May 1997, just before the Asian financial crisis of the late 1990s.

The Korean won was the best-performing Asian currency in the month of February. It appreciated 6.9% in February as the BOK held interest rates at 3.50% and hinted at raising rates that began in late-2021.

	20	**21**	**22**	**23**	**24**
GDP (%p.a.)	-0.9	4.1	2.6	1.0	3.0
Inflation (%p.a.)	0.5	2.5	5.1	5.0	3.0
Current A/c(US$ bill.)	70.0	91.0	50.0	40.0	35.0
Won/$(nom.)	1070	1150	1450	1300	1300

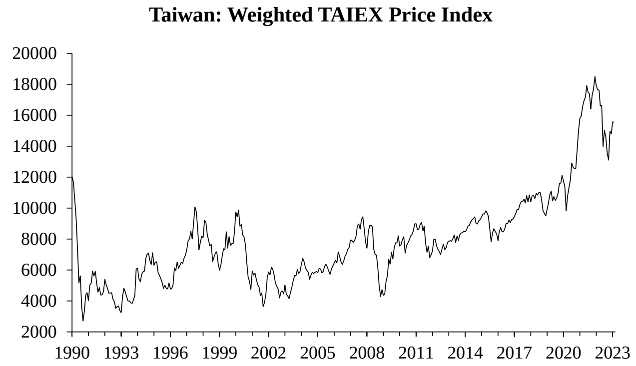
Taiwan

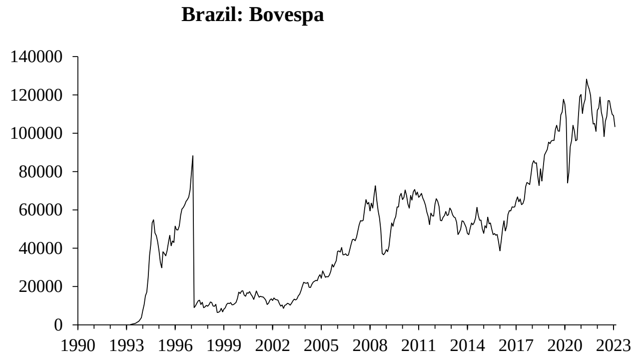
According to the Directorate General of Budget, Accounting, and Statistics, Taiwan's GDP for 2023 is expected to grow by 2.1%. We forecast GDP growth of 2.4% for 2023 as a trade-dependent economy will likely benefit from China's rebounding economy. The economy is severely affected by a slump in exports on weakening external demand due to global inflation, rate rises, and the impact of the war in Ukraine.

According to the central bank governor Yang Chin-long, Taiwan's inflation will slow to around 2% this year, and the economy is not expected to fall into stagflation. The central bank raised its policy rate by 12.5 basis points to 1.75% and signalled an end to rate hikes in 2023, given that inflation is under control. The central bank holds its next scheduled rate-setting meeting on March 23rd.

In 2023 exports are expected to shrink by 6% on last year. Taiwan's exports fell by the most since 2009 in February as waning global demand for technology products and the Lunar New Year holiday weighed on international trade. Imports shrank 16.6%, the most in three years, leaving a shrinking trade surplus of $2.3 billion.

China is willing to forge closer ties with Taiwan's main opposition party as campaign season heats up for a presidential election on the democratically run island in January. Chinese President Xi Jinping appears to be calculating that easing off could boost a candidate's





chances from the Kuomintang, which shares the view that Taiwan is part of China.

	20	**21**	**22**	**23**	**24**
GDP (%p.a.)	3.1	6.5	2.5	2.4	2.8
Inflation (%p.a.)	-1.0	2.0	2.9	2.0	1.6
Current A/c(US$ bill.)	71.0	90.0	90.0	65.0	60.0
NT$/$(nom.)	29.0	27.5	32.0	30.5	30.0

Brazil

President Luiz Inacio Lula da Silva is at war with the central bank chief Roberto Campos Neto. Lula is vociferously questioning the debate about powers of a central bank. He feels the central bank's power to raise interest rates to control inflation should be clipped. Lula does not want to see a hard landing, but that is what Roberto Neto engineered to break the back of inflationary expectations.

Brazil's economy shrank 0.2% in the October-to-December period compared with the previous quarter. Overall, the economy grew 2.9% in 2022 as the services sector did well, but there is a loss of momentum, and we maintain our forecast of zero growth in 2023. The economic activities are cooling down due to high-interest rates, tapering of benefits linked to the reopening of the economy, and volatility prevailing in the external sector.

The government debt fell to 73.1% of GDP in January, from 73.4% in December, the lowest level since June 2017. The reduction was mainly due to nominal GDP growth, followed by net debt redemptions. The government wants to further reduce the fiscal deficit by re-imposing fuel taxes.

Brazil's consumer prices rose by more than expected in mid-February, data from government statistics agency IBGE showed on Friday, with annual inflation remaining well above target after speculation that the goal could be boosted.

Brazil's annual inflation reached 5.63% in the first fortnight of February, down from 5.87% a month earlier. The credit squeeze is functioning rather slowly. The government led by Lula has argued that Brazil should have an inflation target of 4.5% rather than 3% as an emerging market economy. To pursue the target, the central bank has raised the selic interest rates to 13.75%, choking the economy. Lula said, "This citizen who was not elected to anything thinks he has the power to decide things. This country can't be held hostage to a single man." He was referring to the central bank chief Roberto Campos Neto

Policymakers held the benchmark Selic rate at 13.75% for the fourth straight meeting in mid-February. The 3% inflation target will take some time to achieve. Hence, we expect the central bank to keep rates steady for longer.

Foreign direct investment in Brazil is gaining traction. FDI totalled $6.9 billion in January, the best since 2018. Last year, FDI reached $90.6 billion, the highest annual figure in 10 years.

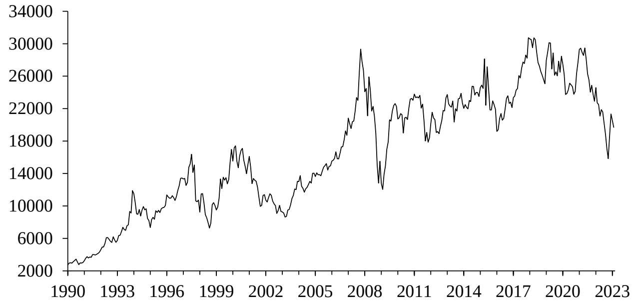
Brazil's real strengthened to the highest since June after central bankers kept interest rates on hold and remained hawkish in their commentary.

President Lula is traveling abroad to meet world leaders. He met President Biden in early February. He is scheduled to meet Chinese leader Xi Jinping on March 28th. He is expected to hold talks on trade, investments, and the war in Ukraine.

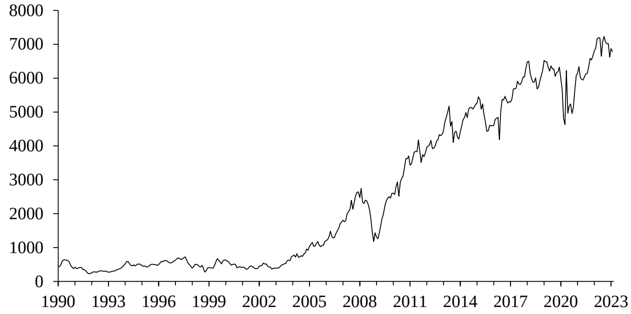
	20	**21**	**22**	**23**	**24**
GDP (%p.a.)	-3.9	4.6	2.9	0.0	2.0
Inflation (%p.a.)	4.5	8.5	8.0	5.5	4.0
Current A/c(US$ bill.)	-7.6	-10.0	-10.0	-12.0	-20.0
Real/$(nom.)	5.5	5.3	5.2	5.3	5.4

Other Emerging Markets

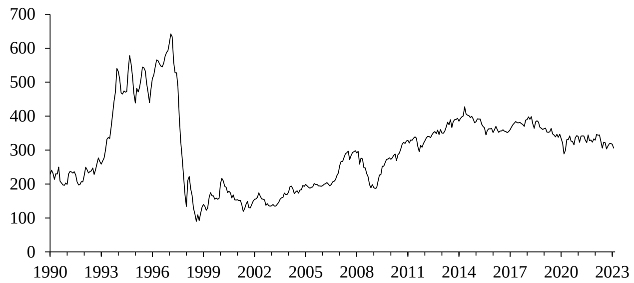
Hong Kong: FT-Actuaries



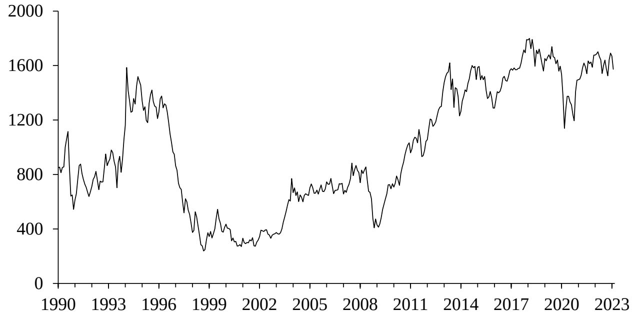
Indonesia: Jakarta Composite



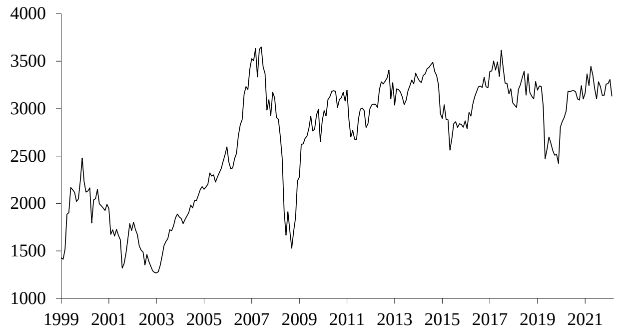
Malaysia: FT-Actuaries (US$ Index)



Thailand: Composite Index



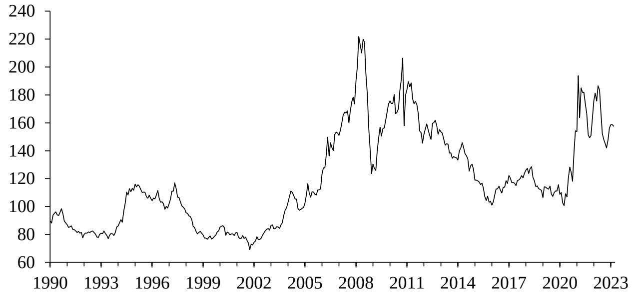
Singapore: Straits Times Index



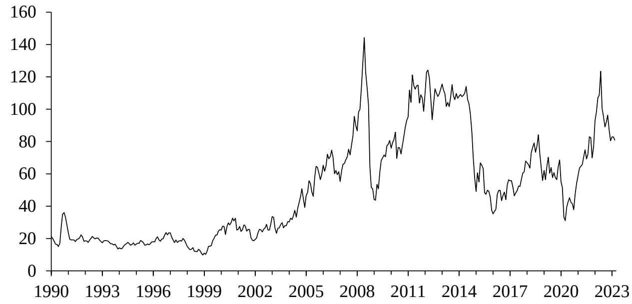
Philippines: Manila Composite

COMMODITY MARKETS

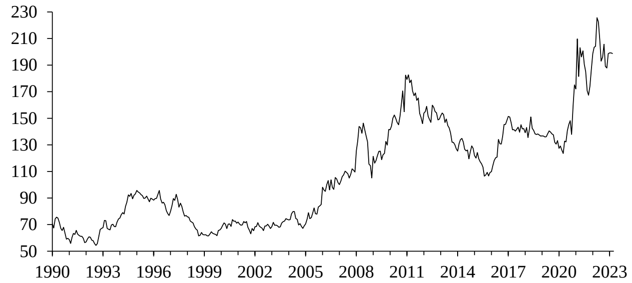
Commodity Price Index (Dollar)
(Economist, 2015 = 100)



Oil Price: North Sea Brent (in Dollars)

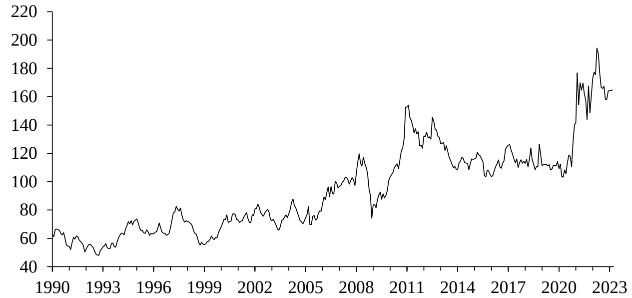


Commodity Price Index (Sterling)
(Economist, 2015 = 100)



Gold Price (in Dollars)

Commodity Price Index (Euro)
(Economist, 2015 = 100)



UK FORECAST DETAIL

Prices, Wages, Interest Rates and Exchange Rate Forecast (Seasonally Adjusted)

	Inflation %[1] (CPI)	Short Dated (5 Year) Interest Rates	3 Month Int. Rates	Nominal Exchange Rate (2005=100)[2]	Real Exchange Rate[3]	Real 3 Month Int. Rates %[4]	Inflation (RPIX)	Real Short Dated Rate of Interest[5]
2020	1.0	0.1	0.2	78.2	72.9	-1.3	1.5	-1.4
2021	2.5	0.4	0.1	81.4	78.0	-6.4	4.1	-5.7
2022	8.9	2.3	1.8	79.7	81.8	-5.5	11.4	-5.0
2023	5.0	4.3	4.4	78.1	82.7	0.7	8.1	0.6
2024	3.2	4.0	4.0	77.4	84.2	1.6	4.6	1.6
2025	2.0	3.0	3.0	76.8	84.9	1.0	2.8	1.0
2022:1	6.2	1.4	0.8	82.3	81.9	-8.4	8.4	-7.8
2022:2	9.2	2.1	1.4	80.2	81.8	-6.8	11.5	-6.1
2022:3	10.1	2.8	2.0	78.2	81.7	-4.7	12.4	-3.9
2022:4	10.7	3.0	3.0	78.1	81.6	-2.0	13.1	-2.0
2023:1	6.6	4.0	4.2	78.0	81.1	-0.3	11.0	-0.3
2023:2	5.5	4.1	4.5	77.5	82.6	0.8	9.0	0.4
2023:3	4.0	4.5	4.5	77.9	83.7	1.1	6.4	1.1
2023:4	4.0	4.5	4.5	77.5	83.6	1.3	6.0	1.3
2024:1	3.5	4.0	4.0	77.9	83.5	1.2	5.5	1.2
2024:2	3.2	4.0	4.0	77.3	84.3	1.5	5.0	1.5
2024:3	3.0	4.0	4.0	77.3	84.5	1.8	4.0	1.8
2024:4	3.0	4.0	4.0	77.1	84.3	2.0	4.0	2.0

1 Consumer's Expenditure Deflator
2 Sterling Effective Exchange Rate Bank of England
3 Ratio of UK to other OECD consumer prices adjusted for nominal exchange rate
4 Treasury Bill Rate less one year forecast of inflation
5 Short Dated 5 Year Interest Rate less average of predicted 5 year ahead inflation rate

Labour Market and Supply Factors (Seasonally Adjusted)

	Average Earnings (1990=100)[1]	Wage Growth[2]	Unemployment (New Basis) Percent[3]	Millions	Real Wage Rate[4] (1990=100)
2020	279.1	1.6	4.5	1.3	149.7
2021	295.0	5.9	4.5	1.3	154.8
2022	314.5	6.0	3.6	1.0	150.2
2023	327.5	5.4	3.5	0.9	150.7
2024	338.9	3.4	2.8	0.7	151.0
2025	338.9	3.0	2.8	0.7	152.6
2022:1	308.5	5.9	3.7	1.0	154.8
2022:2	307.5	6.2	3.8	1.1	149.0
2022:3	315.5	5.8	3.7	0.9	149.0
2022:4	317.2	6.3	3.7	0.9	147.8
2023:1	323.9	5.9	3.8	1.0	153.8
2023:2	321.0	5.6	3.6	1.0	149.2
2023:3	329.3	5.0	3.4	0.9	150.4
2023:4	329.9	5.1	3.2	0.9	149.4
2024:1	335.9	3.9	2.9	0.8	154.4
2024:2	331.3	3.7	2.8	0.7	150.0
2024:3	339.2	2.9	2.8	0.7	150.3
2024:4	339.8	3.1	2.8	0.7	149.5

1 Whole Economy
2 Average Earnings
3 Wage rate deflated by CPI

Estimates and Projections of the Gross Domestic Product[1] (£ Million 1990 Prices)

	Expenditure Index	£ Million '90 prices	Non-Durable Consumption[2]	Private Sector Gross Investment Expenditure[3]	Public Authority Expenditure[4]	Net Exports[5]	AFC
2020	149.0	713432.6	427576.4	244157.8	199232.3	-33095.4	124438.5
2021	160.2	767344.3	453969.6	258155.2	224537.2	-36883.0	132434.5
2022	166.8	798577.4	473683.2	257528.5	228362.6	-23838.4	137158.1
2023	166.1	795317.2	475719.5	248799.5	225311.5	-18632.0	135881.3
2024	169.5	811597.0	489778.6	243503.8	232154.4	-15890.1	137949.7
2025	172.9	827988.2	505714.4	242189.8	239194.3	-18456.2	140654.2
2020/19	-11.0		-10.1	-16.2	-4.8		5.0
2021/20	7.5		6.2	-1.0	4.8		6.4
2022/21	4.2		4.3	-5.6	3.1		3.6
2023/22	-0.4		0.4	-1.5	3.0		-0.9
2024/23	2.0		3.0	9.9	3.0		1.5
2025/24	2.0		3.3	-16.2	-4.8		2.0
2022:1	167.2	200167.8	118589.6	68746.5	56345.5	-9205.1	34308.7
2022:2	167.4	200403.4	118225.6	62024.6	57458.7	-2866.9	34438.6
2022:3	165.2	197801.6	118034.3	62937.1	56975.0	-6092.0	34052.8
2022:4	167.2	200204.7	118833.7	63820.2	57583.3	-5674.5	34358.0
2023:1	165.8	198481.4	118824.7	69129.5	55701.1	-11222.9	33951.0
2023:2	166.4	199201.0	118812.9	60935.7	56116.4	-2756.3	33907.7
2023:3	166.3	199048.6	118801.0	59953.0	56538.3	-2249.7	33994.0
2023:4	165.9	198586.2	119280.9	58781.4	56955.7	-2403.2	34028.6
2024:1	167.7	200740.0	120213.3	67069.4	57389.5	-9638.5	34293.7
2024:2	169.4	202819.3	122254.5	59537.5	57819.9	-2462.3	34330.3
2024:3	170.2	203787.8	123116.9	58859.8	58254.1	-1824.2	34618.8
2024:4	170.6	204249.9	124193.9	58037.1	58690.9	-1965.1	34706.9

1 GDP at factor cost. Expenditure measure; seasonally adjusted
2 Consumers expenditure less expenditure on durables and housing
3 Private gross domestic capital formation plus household expenditure on durables and clothing plus private sector stock building
4 General government current and capital expenditure including stock building
5 Exports of goods and services less imports of goods and services

Financial Forecast

	PSBR/GDP %[1]	GDP[1] (£bn)	PSBR (£bn) Financial Year	Current Account (£ bn)
2020	15.6	2068.0	312.4	-67.5
2021	5.6	2413.9	132.4	-34.3
2022	5.8	2674.6	156.6	-111.5
2023	4.5	2792.1	124.9	-24.2
2024	2.0	2940.6	59.5	-14.7
2025	0.1	3087.7	3.2	1.5
2022:1	1.6	633.5	10.1	-46.5
2022:2	7.5	655.7	49.1	-35.1
2022:3	3.6	662.9	23.9	-19.4
2022:4	8.5	686.5	58.4	-10.5
2023:1	3.8	669.5	25.2	-9.6
2023:2	4.7	688.4	32.5	-9.8
2023:3	4.6	694.7	31.8	-3.3
2023:4	4.3	708.7	30.4	-1.5
2024:1	4.3	700.3	30.2	-7.3
2024:2	2.3	723.6	16.3	-8.6
2024:3	1.9	732.9	14.1	0.1
2024:4	1.9	751.8	14.6	1.1

1 GDP at market prices (Financial Year)

WORLD FORECAST DETAIL

Growth Of Real GNP

	2019	2020	2021	2022	2023	2024
U.S.A.	2.2	–2.8	5.9	2.1	0.7	1.2
U.K.	1.4	–11.0	7.5	4.2	–0.4	2.0
Japan	–0.4	–4.3	2.2	1.0	1.1	1.1
Germany	1.1	–3.7	2.6	1.9	–0.3	1.4
France	1.9	–7.9	6.8	2.5	0.3	0.6
Italy	0.5	–9.1	6.6	3.3	–0.1	0.3

Growth Of Consumer Prices

	2019	2020	2021	2022	2023	2024
U.S.A.	1.8	1.3	4.7	8.0	3.9	2.5
U.K.	1.7	1.0	2.5	8.9	5.0	3.2
Japan	0.5	0.0	–0.2	2.5	2.1	1.2
Germany	1.4	0.5	3.1	7.9	6.2	2.7
France	1.1	0.4	1.7	5.4	4.0	2.0
Italy	0.6	–0.1	1.9	7.6	5.0	2.4

Real Short-Term Interest Rates

	2019	2020	2021	2022	2023	2024
U.S.A.	0.2	–4.6	–7.1	–1.7	2.4	2.0
U.K.	–0.7	–1.3	–6.4	–5.5	0.7	1.6
Japan	0.1	0.3	–2.4	–2.1	–1.1	–1.4
Germany	–0.9	–3.6	–8.5	–5.9	0.4	0.5
France	–0.8	–2.2	–6.0	–3.7	1.1	0.8
Italy	–0.3	–2.4	–8.2	–4.7	0.7	0.7

Nominal Short-Term Interest Rates

	2019	2020	2021	2022	2023	2024
U.S.A.	1.5	0.1	0.1	2.2	4.9	4.0
U.K.	0.8	0.2	0.1	1.8	4.4	4.0
Japan	0.1	0.1	0.1	0.0	0.1	0.1
Germany	–0.4	–0.5	–0.6	0.3	3.1	2.8
France	–0.4	–0.5	–0.6	0.3	3.1	2.8
Italy	–0.4	–0.5	–0.6	0.3	3.1	2.8

Real Long-Term Interest Rates

	2019	2020	2021	2022	2023	2024
U.S.A.	–2.2	–3.3	–2.1	1.3	1.5	1.2
U.K.	–0.4	–1.4	–5.7	–5.0	0.6	1.6
Japan	–1.1	–1.3	–1.7	–1.5	–1.1	–1.3
Germany	–4.3	–5.0	–4.4	–0.9	0.1	0.0
France	–2.6	–3.3	–2.9	–0.6	0.9	0.7
Italy	–2.0	–3.3	–2.6	0.3	2.3	2.2

Nominal Long-Term Interest Rates

	2019	2020	2021	2022	2023	2024
U.S.A.	1.9	0.9	1.6	3.8	3.6	3.2
U.K.	0.6	0.1	0.4	2.3	4.3	4.0
Japan	0.0	0.0	0.1	0.2	0.5	0.5
Germany	–0.2	–0.6	–0.2	2.1	2.3	2.1
France	0.1	–0.3	0.2	1.8	2.9	2.7
Italy	1.4	0.5	1.2	3.0	4.4	4.2

Index Of Real Exchange Rate (2010=100)[1]

	2019	2020	2021	2022	2023	2024
U.S.A.	117.1	118.7	116.1	128.3	128.0	128.5
U.K.	99.5	99.6	106.5	111.8	113.0	115.0
Japan	77.0	77.8	71.0	59.9	59.2	59.3
Germany	96.0	97.1	97.9	95.0	95.1	95.4
France	93.9	94.7	94.0	89.6	89.5	89.0
Italy	95.0	95.4	95.1	91.6	91.3	89.9

[1] The real exchange rate is the domestic price level relative to the foreign price level converted into domestic currency. A rise in the index implies an appreciation in the real exchange rate.

Nominal Exchange Rate (Number of Units of Local Currency To $1)

	2019	2020	2021	2022	2023	2024
U.S.A.[1]	122.52	124.77	119.77	127.34	126.90	127.40
U.K.	1.28	1.29	1.37	1.22	1.21	1.24
Japan	109.10	106.60	110.45	133.10	136.20	137.80
Eurozone	0.89	0.87	0.85	0.95	0.98	0.99

[1] The series for the USA is a nominal broad U.S dollar index (2010=100); the series for the UK is $ per £

* Forecasts based on the Liverpool World Model