LIVERPOOL INVESTMENT LETTER

January 2023

Cardiff University
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Julian Hodge Institute of Applied Macroeconomics

LIVERPOOL RESEARCH GROUP IN MACROECONOMICS

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Editorial and Research Direction: Patrick Minford†.

Senior Research Associates: Kent Matthews†, Anupam Rastogi, Peter Stoney.

Research Associates: Vo Phuong Mai Le†, David Meenagh†, Francesco Perugini, Yongdeng Xu†, Zheyi Zhu†.

† Cardiff Business School

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

REVISITING THE SHORT-RUN EFFECTS OF BREXIT ON TRADE, INVESTMENT AND GDP

In the last issue we looked at the effects of Brexit on trade, GDP and investment. We found expected evidence of trade disruption but no damaging effects on GDP or investment. We commented that we would look further at the use of the Doppelganger(D) method in estimating the effects of Brexit. We have done so and find it to be invalid. The basic point is that in macroeconomic theory a country's behaviour is determined by its consumers, firms, institutions, policies and shocks. These are in principle sui generis. Therefore, no D set of countries can exist, made up of other countries: the only D group is the UK itself. It follows that we need to examine UK behaviour itself for the effects of Brexit, as identified by the dates at which Brexit events occurred — viz the referendum and departure from the EU Single Market. Our econometric approach is written up in detail in a new working paper[1]. We explain our results in the next section.

Using a full macroeconomic model and its implied relationships to check for Brexit effects

So far we have explored some fairly simple relationships implied by a UK model for its data behaviour. Now we turn to an exploitation of a full model of the UK, estimated in recent years and which we use for our forecasting activities — for a full write-up see Zhu (2017). This model was estimated by indirect inference, with its parameters selected to create the closet possible match between the model's simulated behaviour and the actual data behaviour. The latter is represented by a VARX, in which the economy's variables (namely GDP, inflation, the interest rate, and the real exchange rate, RXR, measuring international competitiveness) are related to their own past and to exogenous variables (X) representing trend influences such as productivity. We show this below.

To discover the Brexit effects we insert our Brexit dummies into the VARX to find their estimated impact. We then see how this impact would alter the path taken by the economy according to the model.

The first and the biggest effect we find is the Brexit referendum impact on the exchange rate, depreciation of 8.5% on the day the result was announced. This shock acts as a stimulus to the economy, raising output, inflation and interest rates.

Next, we estimate a VARX for our four variables together with the Brexit dummies relating to the post-referendum and departure periods. In this VARX we find a variety of significant coefficients on these dummies. Output is reduced on departure presumably by net export disruption. Inflation rises both post-referendum and post-departure; interest rates rise post-referendum. These shocks seem to be connected with continuing sterling weakness.

When we put all these Brexit shocks into the UK model, we get an overall set of impulse responses that tend to raise output slightly, and raise inflation and interest rates measurably, largely in response to a depreciating pound. What it all amounts to therefore is no real net effects on output but modest rises in inflation and interest rates, with a depreciation of the pound. In the context of the Covid period of a weak economy with weak inflation and interest rates close to zero, these effects are hardly damaging. The big policy mistake of the Covid era was a greatly excessive monetary stimulus that pushed up asset prices and pushed interest rates close to zero. Beside this, the Brexit effects are largely nugatory. The Figure below shows the combined impact of these Brexit-related shocks on the economy since 2016.

Reference:

Zhu, Z. (2017) 'The external finance premium in the UK: a small open economy DSGE model with an empirical indirect inference assessment'. PhD Thesis, Cardiff. Available at https://orca.cardiff.ac.uk/id/eprint/105695/

[1]http://carbsecon.com/wp/E2023_1.pdf

Table 1: Summary of Forecast

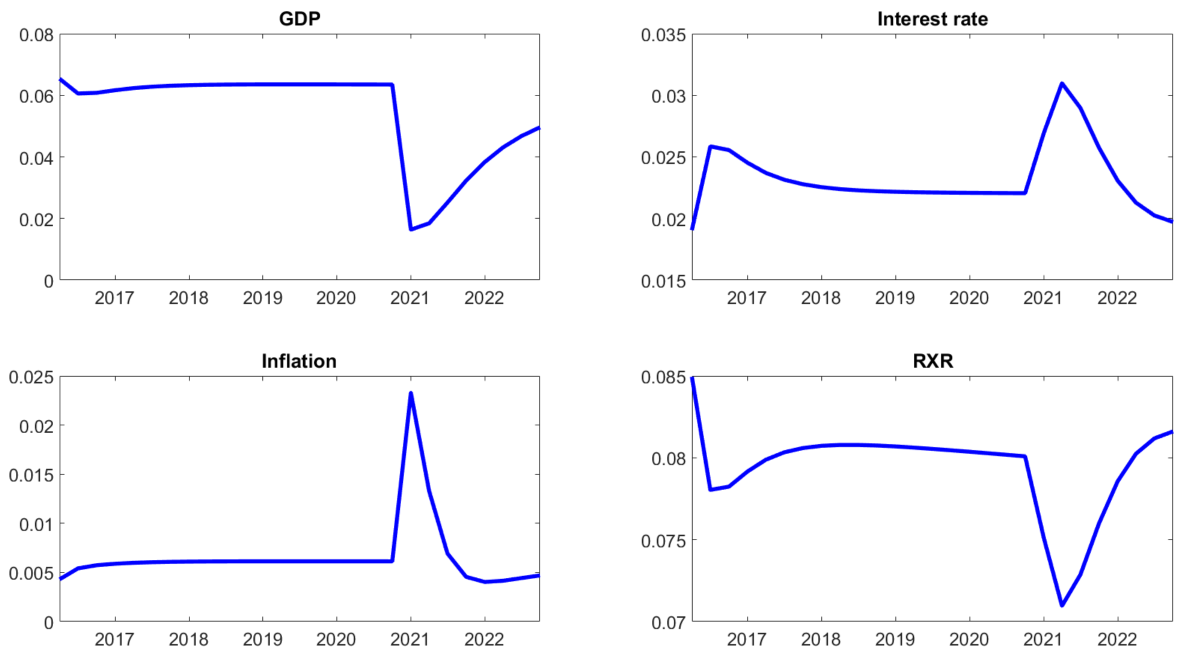
	2018	2019	2020	2021	2022	2023	2024
GDP Growth[1]	1.3	1.4	-11.0	7.5	4.6	-0.2	2.1
Inflation CPI	2.4	1.7	1.0	2.5	8.9	5.0	3.2
Wage Growth	3.0	3.5	1.6	5.8	5.8	4.5	3.2
Survey Unemployment	4.1	3.8	4.5	4.5	3.6	3.5	2.8
Exchange Rate[2]	78.6	78.3	78.2	81.5	79.4	78.1	77.9
3 Month Interest Rate	0.4	0.8	0.2	0.1	1.8	3.0	3.0
5 Year Interest Rate	1.0	0.6	0.1	0.4	2.3	3.1	3.0
Current Balance (£bn)	-87.8	-63.3	-67.5	-45.6	-97.2	-24.2	-14.7
PSBR (£bn)	39.3	64.3	312.5	133.3	72.3	45.5	26.8

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

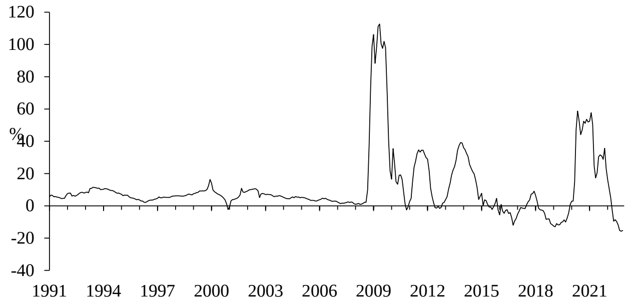
Table 2 VARX estimation results, 2005Q1 to 2022Q2

	GDP	Inflation	Interest rate	RXR
Lagged GDP (-1)	-0.352*	1.343	-0.610	-0.065
	(0.102)	(3.212)	(1.109)	(0.0690)
Lagged Inflation (-1)	0.005	0.964*	0.167*	-0.000
	(0.003)	(0.085)	(0.047)	(0.004)
Lagged Interest rate (-1)	0.010*	-0.079	0.716*	-0.005
	(0.003)	(0.099)	(0.052)	(0.004)
Lagged RXR (-1)	0.116	0.695	6.669*	1.007*
	(0.070)	(2.153)	(1.187)	(0.096)
Brexit referendum	0.009	0.591	0.610*	-0.023
	(0.011)	(0.355)	(0.202)	(0.016)
Brexit departure	-0.039*	1.913*	-0.275	0.019
	(0.014)	(0.464)	(0.204)	(0.021)
COVID	-0.180*	-0.217	-0.109	0.000
	(0.017)	(0.525)	(0.236)	(0.024)
COVID recovery	-0.079*	-1.594*	0.422	0.019
	(0.035)	(0.702)	(0.394)	(0.032)

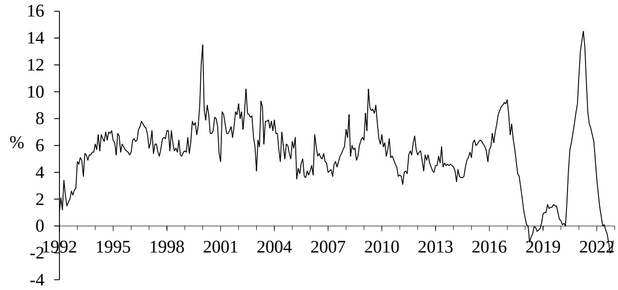
Notes on VARX: Below each coefficient in parenthesis is shown the standard error; those that are significant at 5% are asterisked and used in the model simulation. The VARX includes a time trend and the log of potential output (derived from an HP filter) as the X set of trended variables.



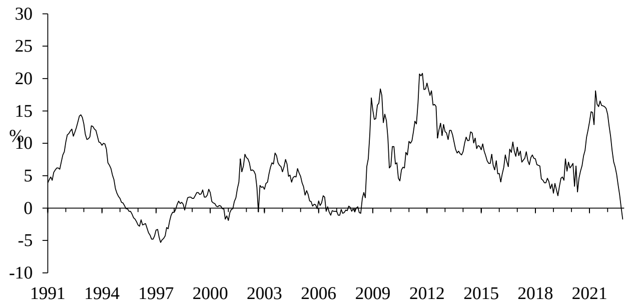
U.S.: Growth in M0 (Yr - on - Yr)



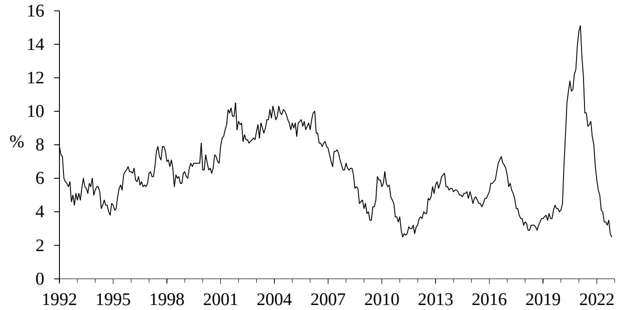
UK: Notes and Coins in Circulation Growth



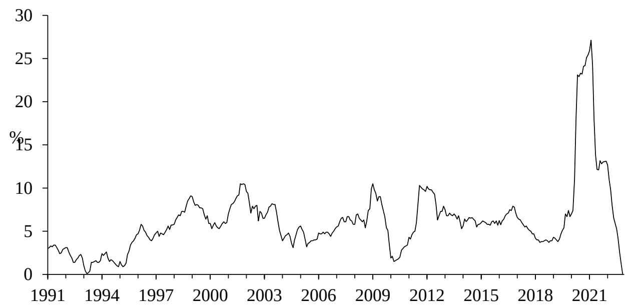
U.S.: Growth in M1 (Yr - on - Yr)



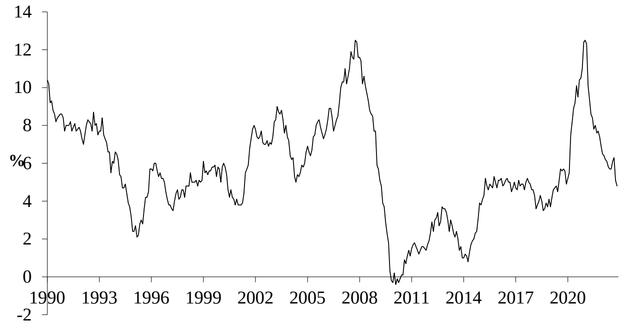
UK: M4 Growth



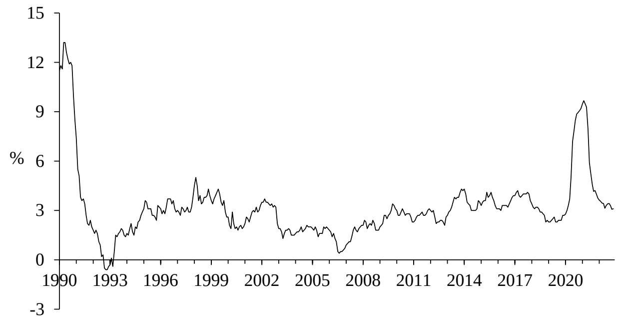
U.S.: Growth in M2 (Yr - on - Yr)



Eurozone M3 Growth



Japan: Growth of M2+CD's



FOCUS ON JAPAN

Francesco Perugini

Bank of Japan changes yield curve control

On December 20th, the Bank of Japan (BOJ) shocked markets with an unexpected widening of its target band for interest rates, sparking a rally in the yen, pushing up bond yields and triggering a slump in stocks. In a policy statement, the central bank said it will allow yields on 10-year government bonds to move up or down within 50 basis points around its 0% target, wider than the previous 25-point band. BOJ also maintained its ultra-loose monetary policy stance, kept its benchmark interest rate at –0.1%. It also promised to dramatically speed up the pace at which it buys 10-year government bonds.

While the markets were taken by surprise, Kuroda shrugged off the move, saying that the BOJ was merely responding to changes in the market conditions. "Since early spring this year, volatility in overseas financial and capital markets has increased and this has significantly affected these markets in Japan", the BOJ said in the statement. If these market conditions persist, this could have a negative impact on financial conditions such as issuance conditions for corporate bonds". The BOJ added that it "decided to modify the conduct of yield curve control in order to improve market functioning and encourage a smoother formation of the entire yield curve, while maintaining accommodative financial conditions." Such dysfunction was particularly evident in the trade of 10-year government bonds, where there were no buyers other than the BOJ recently.

Some economists believe that the shift in US monetary policy has given the BOJ wiggle room. Indeed, until recently, many central banks had to tighten policy just to keep their currencies from depreciating against the dollar. Others speculate the latest move was intended to make the job easier for Kuroda's successor. "Kuroda probably wanted to save his successor from having to deal with the problem with the yield curve control policy from day one," said Hideo Kumano, chief economist at Dai-ichi Life Research Institute. Others believe rather that the government led by the Prime Minister Kishida is looking into reviewing a 2013 accord between the government and the BOJ, under which the central bank commits itself to achieving 2% inflation as soon as possible. The agreement, introduced as part of former Prime Minister Shinzo Abe's economic program, is thought to have limited the BOJ's policy flexibility and pushed the BOJ to take extreme measures such as negative interest rates, unlimited bond buying and yield-curve control. "The accord could be revised to make 2% inflation a long-term goal, not a short-term one, and to eliminate negative interest rates", said BNP Paribas economist Ryutaro Kono.

The BOJ committed in 2016 to peg yields on 10-year Japanese Government Bonds (JGBs) around 0%, in a fight to boost persistently low inflation and stimulate the economy with short-term rates to zero. To hit that yield target, the BOJ has a standing offer to purchase any outstanding bond at a price consistent with the target yield.

Although the yield curve control change is tantamount to a long-term interest-rate hike, BOJ Governor Haruhiko Kuroda insists that it should not be interpreted as the first step in a broader process of monetary-policy tightening. "This is neither a tightening nor a step toward an exit. This is a tweak to the monetary policy operation", Kuroda told reporters at the press conference. The real interest rate, he notes, has been declining this year as the inflation rate has risen. By raising the cap on 10-year yields, the BOJ is effectively adjusting for inflation, not actually hiking the real interest rate. "Kuroda is correct on this technical point. But the tweak to the YCC could still be the first step toward monetary-policy normalization. If so, it should be heralded as a sign that the BOJ has had some success with its decade-long ultra-easy monetary policy. Kuroda's Bazooka, as it is colloquially known, may have hit its mark", said Takatoshi Ito a former Japanese deputy vice minister of finance, who is a professor at the School of International and Public Affairs at Columbia University.

Since Kuroda's appointment in 2013, the Japanese inflation rate has mostly hovered above zero but far below 2%, leading some critics to argue that the BOJ's inflation-targeting framework was a failure. But others defended the framework. "From the perspective of a flexible inflation-targeting regime, the BOJ was balancing below-target inflation with Japan's strong GDP growth (or the unemployment rate) in its evaluation", said Ito. However, the BOJ had failed to anchor inflation expectations at 2%, which was supposed to be one of the great benefits of the inflation-targeting framework. Now, the inflation rate (excluding fresh food) has risen sharply. In January 2022, it was still at just 0.2%; but it had reached 2.1% by April, and 3% by September. As in many other countries, this spike was driven by global energy- and food-price increases and a weakening currency. Still, because Japanese inflation has been far below that of the US, the UK and the Eurozone, the BOJ — until December 20 — has consistently refused to raise interest rates. As recently as October 2022, the members of its Policy Board projected that inflation would fall back to 1.6% in 2023. But this is very unlikely. The new year will instead probably bring a change in the monetary policy stance.

MARKET DEVELOPMENTS

We are coming out of the long period of zero interest rates. Bonds will now be in contention for investment once more — but not yet as they are still a huge source of volatility.

Table 1: Market Developments

	Market Levels		Prediction for Nov/Dec 2023	
	Dec 2	**Jan 10**	**Previous Letter**	**Current View**
Share Indices				
UK (FT 100)	7556	7694	8070	8218
US (S&P 500)	4057	3896	4224	4056
Germany (DAX 30)	14529	14775	19310	19635
Japan (Tokyo New)	1954	1881	2698	2597
Bond Yields (government				
UK	3.15	3.41	3.20	3.20
US	3.49	3.57	3.50	3.50
Germany	1.86	2.21	2.20	2.20
Japan	0.26	0.50	0.30	0.30
UK Index Linked	0.12	0.44	1.00	1.00
Exchange Rates				
UK ($ per £)	1.22	1.21	1.20	1.20
UK (trade weighted)	80.04	77.91	77.9	77.9
US (trade weighted)	109.30	107.33	113.2	113.2
Euro per $	0.95	0.93	0.98	0.98
Euro per £	1.17	1.13	1.18	1.18
Japan (Yen per $)	135.48	132.19	140.0	140.0
Short Term Interest Rates				
UK	3.68	3.95	3.00	3.00
US	4.77	4.78	4.00	4.00
Euro	1.97	2.27	2.60	2.60
Japan	–0.05	–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	–0.2	4.0	3.00		8.90
US	2.00	0.2	3.9	0.00	1.21	7.31
Germany	2.10	–0.9	6.8	27.00	–3.87	31.13
Japan	1.90	1.5	1.6	35.00	–4.63	35.37
UK indexed[2]	0.12		4.0	16.00		20.44
Hong Kong[3]	2.60	3.0	3.9	–32.00	1.21	–21.29
Malaysia	3.30	5.4	3.9	58.00	1.21	71.81
Singapore	3.50	3.0	3.9	22.00	1.21	33.61
India	1.40	6.5	3.9	17.00	1.21	30.01
Korea	1.10	0.0	3.9	–41.00	1.21	–34.79
Indonesia	2.20	4.5	3.9	26.00	1.21	37.81
Taiwan	2.80	3.0	3.9	27.00	1.21	37.91
Thailand	3.20	2.5	3.9	23.00	1.21	33.81

Bonds: Contribution to £ yield of:

	Redemption Yield	Changing Nominal Rates	Currency	Total
UK	3.41	2.05		5.46
US	3.57	0.74	1.21	5.53
Germany	2.21	0.07	–3.87	–1.59
Japan	0.50	2.00	–4.63	–2.13

Deposits: Contribution to £ yield of:

	Deposit Yield	Currency	Total
UK	3.95		3.95
US	4.78	1.21	5.99
Euro	2.27	–3.87	–1.60
Japan	–0.03	–4.63	–4.66

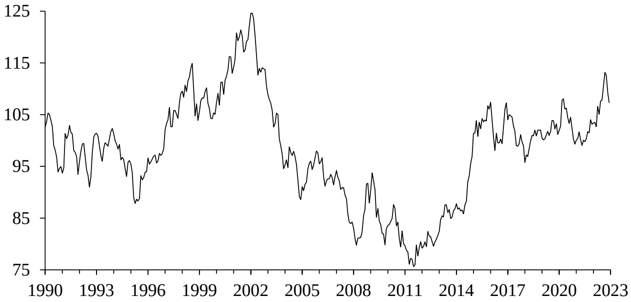
[1] Yields in terms of €s or $s can be computed by adjusting the £-based yields for the expected currency change.
[2] UK index linked bonds All Stocks
[3] Output based on China.

Table 3: Portfolio(%)

	Sterling Based Investor		Dollar Based Investor		Euro Based Investor	
	December Letter	Current View	December Letter	Current View	December 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)	-	-	-	-	-	-

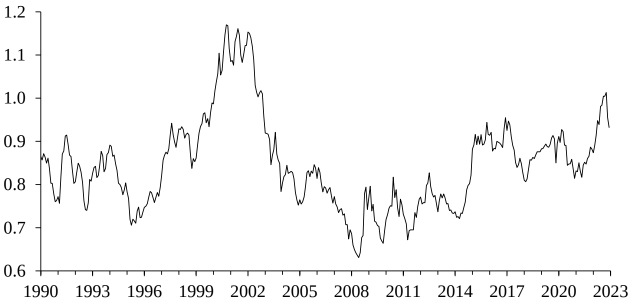
INDICATORS AND MARKET ANALYSIS
FOREIGN EXCHANGE MARKETS

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

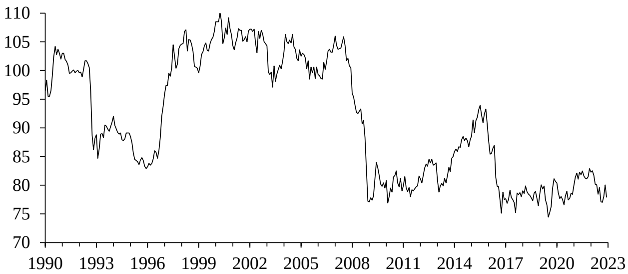


UK: Dollars Per Pound Sterling

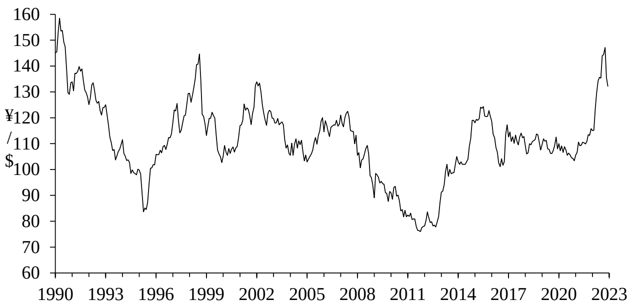
Euro per US dollar



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



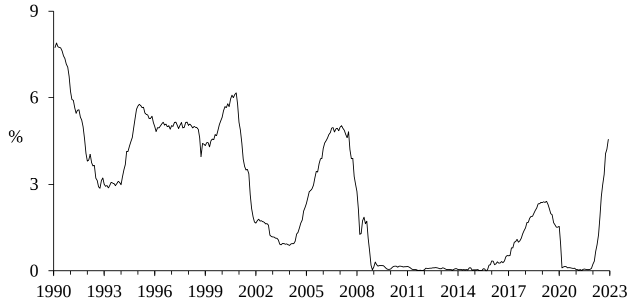
Japan : Yen Per U.S. Dollar



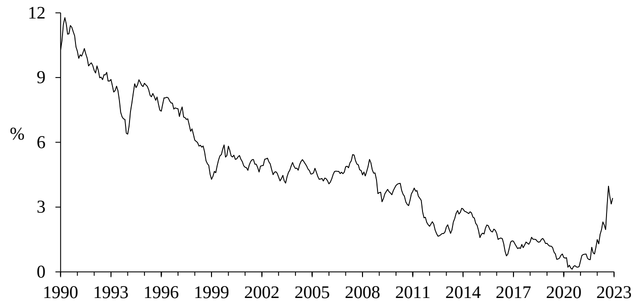
GOVERNMENT BOND MARKETS

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

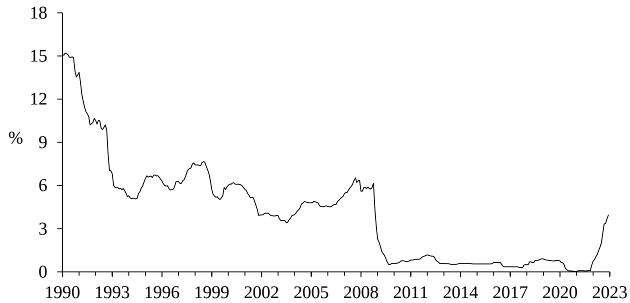
U.S. : 3-Month Treasury Bill



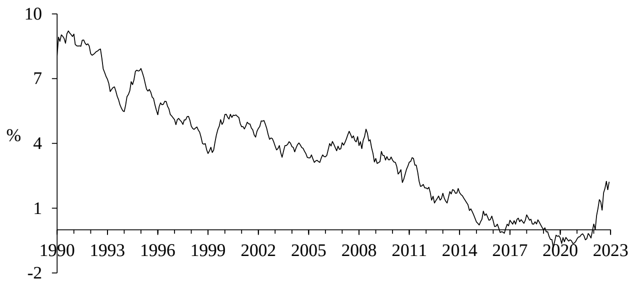
U.K.: Yield on Long-Term Government Bonds



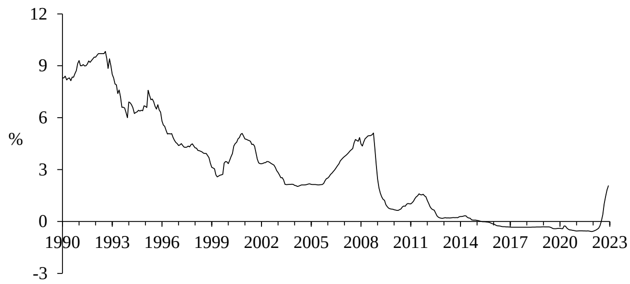
U.K. : 3-Month Certificate LIBOR Rate



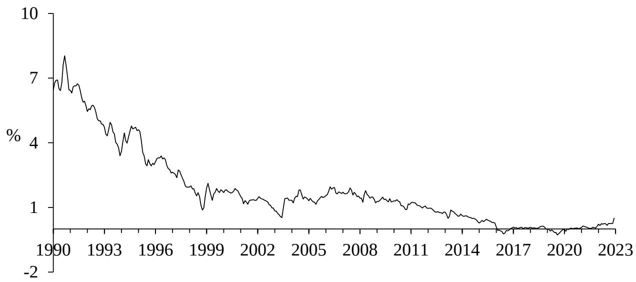
Germany: Yield on Public Authority Bonds



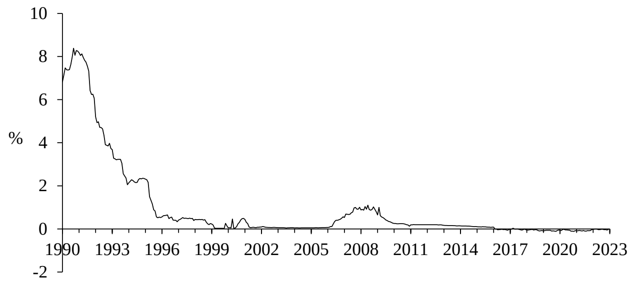
Germany : 3-Month Interbank Deposit Rate



Japan: Yield on Long-Term Government Bonds

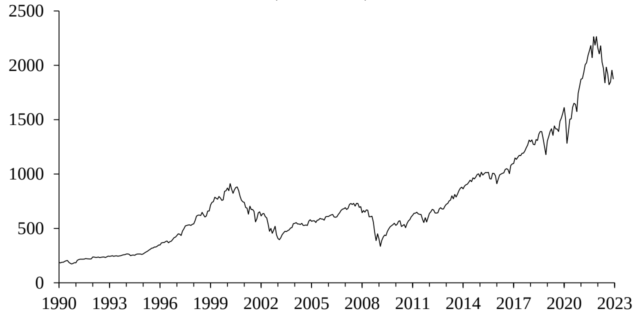


Japan : 3-Month Money Market Rate

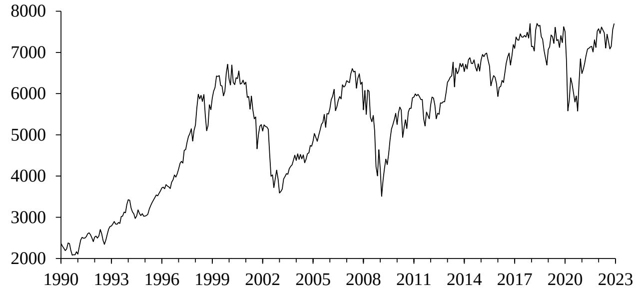


MAJOR EQUITY MARKETS

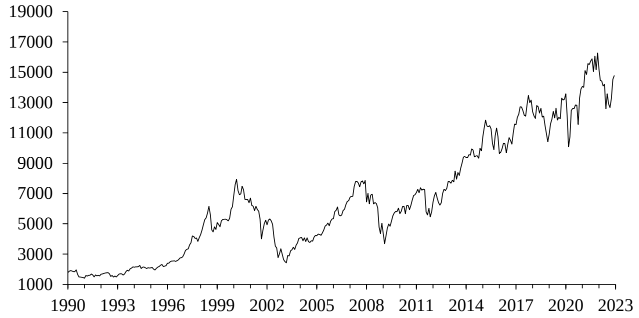
U.S. : S & P 400 Industrial (1985=100)



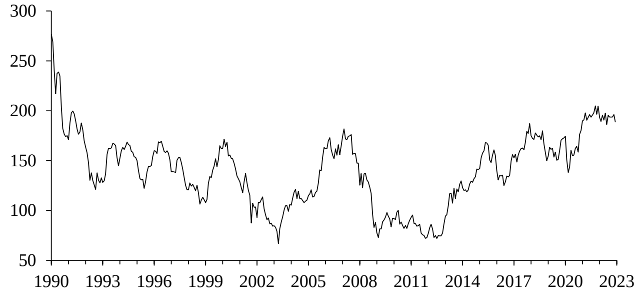
U.K. : FTSE-100 Index (10 April 1962=100)



Germany : DAX 30



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



EMERGING MARKETS

Anupam Rastogi

India

India continued to grow strongly, and all forward indicators are pointing towards continuing the same for the next few years. Some underlying reasons are that the dollar is expected to peak in 2023, outsourcing of all types of goods is being done outside China, and markets will favour those economies that follow orthodox economic policies. All these elements favour India. Advance estimates by the National Statistical Office suggest that India's economy grew by 7.0% in the current financial year 2022–23.

More evidence is pointing to growing strength in the domestic economy. In 2022, bank credit growth improved to 17% from 8% in 2021. Gross tax collections in the first eight months of FY23 are up 15% from the year-ago period. Domestic air passenger traffic is at pre-pandemic levels, indicating a healthy rebound in the travel and services sectors.

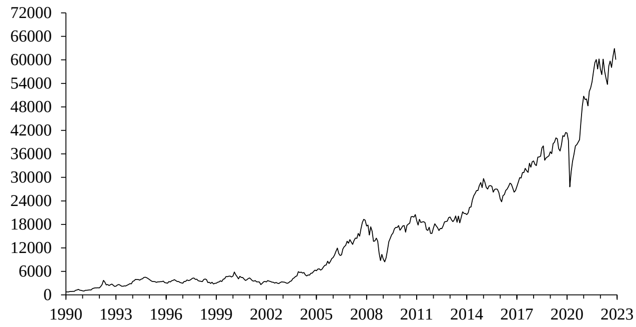
Healthy trends in bank credit, vehicle dispatches, air passenger traffic, and electricity data corroborate a healthy print of the Purchasing Managers Index (PMI). The manufacturing PMI rose to its highest levels in 13 months in December 2022. Over the coming decade, the economy is expected to grow at an average of 6.5%. The India Manufacturing Purchasing Managers' Index stood at 57.8 in December, up from 55.7 in November.

Inflation remains a concern for the time being. The Ukraine war's impact was increased domestic prices of essential commodities. The RBI has raised its key policy rate by 225 basis points starting from May 2022. The repo rate is now at its highest level in over three years. The central bank has decided to focus on bringing prices under control. We expect another hike in repo rates of roughly 50 basis points.

India continues to face headwinds from external factors as geopolitical challenges remain. India's current account deficit (CAD) surged to an all-time high of $36.4 billion in July–September. Indian merchandise exports are expected to touch $450 billion this financial year and will likely keep the same trend in the coming year. India's merchandise imports are also likely to be around $725 billion in 2022, higher than $573 billion in 2021. India's CAD is expected to be 3% of GDP in the current fiscal year as India benefits from remittances, which helps lower the CAD.

India's stock markets were surprisingly resilient in 2022 — a year that witnessed high inflation, rising interest rates, sporadic Covid outbreaks, and bloody war in Europe. The Sensex ended the year with gains of 4.4%. The MSCI Emerging Markets index declined 22.3% this year, and the MSCI World index fell 19.2%. The market is expected to register better gains in 2023. The optimism is driven by strong corporate earnings, a post-pandemic retail boom, and an economy set to grow by 6.5% in the next fiscal year

India: BSE Sensex



The Fitch Ratings affirmed India's sovereign rating at the lowest investment grade (BBB minus) with a stable outlook holding that the country's robust medium-term growth outlook is a crucial supporting factor. Fitch expects the government to follow orthodox policies in the long term.

The Indian rupee is allowed to find its level and hovers around 83 rupees to a US dollar.

The Reserve Bank of India set up India's rupee trade settlement mechanism in July 2022 to attract interest from countries worldwide. Russia already uses it, and Sri Lanka is expected to use the Indian rupee trade settlement mechanism soon. Countries keen on rupee trade include neighbours such as Bangladesh, Nepal, and Myanmar, which have grappled with a dollar reserve shortage. Other countries like Tajikistan, Cuba, Luxembourg, and Sudan have also been talking to India about using the mechanism.

The standoff between India and US tech giants will intensify in 2023 as New Delhi enacts its digital competition act regulating alleged anticompetitive practices by top tech players.

All eyes are set on the forthcoming union budget. It is going to be presented on February 1st. We hope the government will continue pushing capital expenditure while remaining committed to strong macroeconomic fundamentals and financial stability despite global headwinds. It is worth underlining that during the Covid-19 pandemic, the Government of India adopted a more calibrated fiscal path to strike a balance between growth and fiscal consolidation. Benefits of the same it is reaping now.

	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

Once again, we will witness the triumph of a democratic system, with all its governance shortcomings, over an authoritarian regime that leads to irreversible disasters. In the case of China, the Covid pandemic handling falls in the same category as that of the Cultural Revolution and the One Child policy.

The biggest mystery at the current time is why Xi Jinping reversed his Zero-Covid policy in China. Our study of the fiscal situation of China and other socio-political events suggests that China is facing a triple emergency of a struggling economy, an endangered population, and growing distrust in Xi Jinping's government. These emergencies in China's given duopolistic governance system led Xi Jinping to change the course and implement policies that would allow economic growth and build trust in the government. The first-course correction meant to dump the Zero-Covid policy and led people to decide about their health. In almost all democratic systems, governments implemented an accelerated vaccination policy. But China spent so much on testing, tracing, and forcing people to remain locked up that they ignored vaccination altogether. China could not accept that its vaccination is ineffective and needs to depend on foreign vaccination. In almost all democracies, the vulnerable population was given priority for vaccination but not in China. It resulted in many older people having very poor immunity to the Covid-19 virus.

Based on the spread and mortality of other large countries, we expect mortality to peak in the last week of January. The second wave of Covid-19 can be expected in mid-2023 before the current infection wave runs its course. The mortality of the second wave will depend on how vaccination is handled in China.

There are severe repercussions of China's abrupt opening of its borders for the world economy and its impact on soft lending of the world economy amid the US Fed tightening its monetary policy.

Having junked the Zero Covid policy, we expect the business acumen and credibility of the presumed incoming premier, Li Qiang, to be in full play. A series of recent developments suggest the new leadership team is willing to give the private sector more space and support and favours some rapprochement with democratic nations. On the international relations front, the "kinder, gentler" veneer is visible in China's new foreign minister, Qin Gang, who offered effusive praise for the American people.

China's more significant problems are at home. Infections are rampant. Medical supplies are running out. Hospitals

are becoming overwhelmed, and crematoriums can't handle the surge of fatalities.

Based on growth-oriented economic policies and a challenging world trade environment, we expect China's GDP to grow by 3.5% in 2023 and 5% in 2024. The first two quarters of 2023 will see a recession. The government has announced that the economy grew 4.4% in 20211. The official manufacturing purchasing managers' index (PMI) slumped to 47 in December from 48 in November. It was the most significant drop since February 2020 and marked the index's third month of contraction.

The non-manufacturing PMI, which measures service sector activity, plunged to 41.6 in December from 46.7 in November. It also marked the lowest level in nearly three years. China's growth will accelerate to 5% in 2024 as the economy is expected to be relieved from the spread of COVID-19 and virus-related restrictions in the second half of 2023. The government aims to use fiscal and monetary policies to support domestic demand. According to the National Bureau of Statistics, the official manufacturing PMI slumped to 47 last month from 48 in November. It was the most significant drop since February 2020 and marked the index's third month of contraction. A reading below 50 indicates that activity is shrinking. The non-manufacturing PMI, which measures service sector activity, plunged to 41.6 last month from 46.7 in November. It also marked the lowest level in nearly three years.

In an agenda-setting meeting in December, the ruling Communist Party's Politburo emphasized that in 2023 the government would focus on stabilizing growth, promoting domestic demand, and opening to the outside world. To begin with, the restrictions on real estate are being loosened. The government has allowed PE funds to raise money for housing projects.

Inflation in China slowed for the second month in November 2022 as a new wave of Covid-19 infections disrupted recovery. China's consumer price inflation is expected to be 2.5% in 2023. The People's Bank of China (PBOC) said it would "comprehensively use multiple monetary policy tools and keep liquidity reasonably ample." We expect the PBOC to keep monetary policy loose for at least the next few months, with the economy still suffering disruption from widespread virus infections. The one-year loan prime rate stood at 3.65% while the five-year rate was 4.3%, both unchanged for a fourth straight month. The government will also keep prices stable ahead of the Lunar New Year holiday later this month. It is generally done by ensuring the supply of critical products like energy, vegetables, grain, and medicine.

China's exports and imports shrank at their steepest pace in at least two and a half years in November, as weak global and domestic demand, COVID-led production disruptions, and a property slump at home pressured the economy. Exports contracted 8.7% from a year earlier in November, marking the worst performance since February 2020. Imports fell 10.9%, down from the previous month's 0.7% fall, signalling an economic slowdown. China's global trade surplus narrowed by 2.5% from a year earlier to $70 billion.

Chinese yuan will probably strengthen once the headwinds from the zero-Covid policy are gone. We expect the yuan to remain in the range of 6.6–6.8 yuan to a dollar.

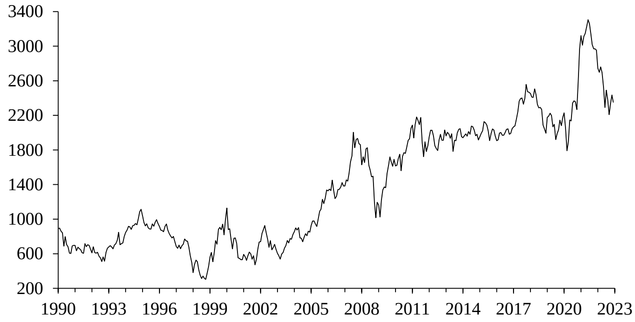
	20	21	22	23	24
GDP (%p.a.)	2.2	8.1	4.4	3.5	5.0
Inflation (%p.a.)	2.5	1.8	2.5	2.5	1.5
Trade Balance(US$ bill.)	60.0	80.0	150.0	82.0	80.0
Rmb/$(nom.)	6.7	6.4	6.8	6.8	6.8

South Korea

South Korea's economic growth will slow down further as China faces a tough time in the next two quarters and the world plunges into a mild recession. We maintain our GDP forecast of 2% in 2022 and no growth in 2023. This forecast is prudent compared to the Ministry of Economy and Finance's GDP growth of 1.6% for 2023 and 2.5% in 2022. The government admits that the world economy will lose momentum and pent-up domestic consumption after Covid-19 curbs are lifted fades.

We expect inflation to slow to 3.5% this year after hitting 5% in 2022, the fastest since 1998 when the country suffered from the impact of the Asia financial crisis. Inflation remained elevated in December to justify another interest rate hike in the new year. We expect the Bank of Korea to raise the base interest rate by 25 basis points to 3.5% in its first meeting of the year, scheduled to be held on January 13th. In the last Monetary Policy Committee meeting held in November, the Bank of Korea raised its benchmark interest rate by 25 basis points, signalling a slowdown in its rate hikes following a twofold rise of 50 basis points. The consumer price index is in the 5% range after reaching its peak at 6.3% in July. But it still exceeds the 2% target set by the central bank. Governor Rhee Chang-yong observed in a New Year speech that the central bank should also monitor financial and foreign exchange markets and take proactive action if needed to maintain stability.

Korea: Composite Index



South Korea's exports continued to decline in December, a sign of cooling global demand as higher interest rates weigh on consumption. Overseas shipments dropped 9.5% from a year earlier. Imports fell 2.4%. The trade shortfall was $4.7 billion in December, resulting in the first annual deficit since the global financial crisis as elevated oil prices battered many trade-dependent nations.

For 2022, Korean exports increased by 6.6%, while imports rose by 18.9%. The contraction in monthly shipments began in October, with weaker chip demand leading to the decline. Semiconductor sales plunged 29.1% from a year earlier in December, the fifth straight monthly drop. According to the finance ministry, exports will probably fall by 4.5% in 2023, and imports will likely decline by 6.4%.

China is South Korea's leading export destination for semiconductor-related products. With China's economy in a tight spot, Korea's exports are expected to contract by 4.5% in 2023.

The Korean won has appreciated on the back of tight monetary policy and falling inflation since October 2022. It may depreciate in the coming months depending on monetary relaxation by the US Fed and the Bank of Korea. Overall, our forecast of an average rate of 1300 won to the US dollar suggests that the won will depreciate from its current rate of 1250 won to a dollar.

	20	21	22	23	24
GDP (%p.a.)	-0.9	4.1	2.0	0.0	2.0
Inflation (%p.a.)	0.5	2.5	5.0	3.5	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

Taiwan is facing headwinds due to China's slowdown and will continue to meet them in 2023. The country's leading economic think tank, the Chung-Hua Institution for Economic Research (CIER), is forecasting GDP growth rate of 3%. In 2023, we will maintain our conservative estimates of a GDP growth rate of 2.4%. The CIER has lowered its GDP growth rate forecast to 2.81%. The government plans to inject a fiscal stimulus of NT$380 billion ($12.4 billion) to support the local economy and combat inflation amid global uncertainties.

Taiwan's consumer price index was up 2.4% in November compared to a year earlier. It was the lowest inflation in nine months. We expect inflation to drop below 2% in 2023. The central bank had been cautious in its quarterly monetary policy meeting. It raised the benchmark discount rate by 12.5 basis points to 1.75%. However, it has announced an end to the recent rate hikes and no new rise in the various ratios it sets for banks' reserve requirements.

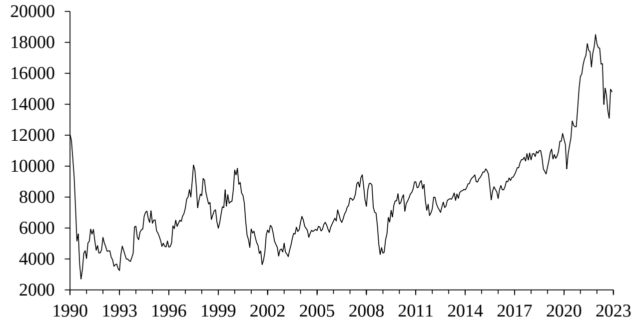
In November, exports plunged at the fastest rate in almost seven years, and the near future is bleak, hit by Covid-19 lockdowns in China, global inflation woes, and the war's impact in Ukraine. From Jan. to Nov. 2022, Taiwan's exports totalled a record $396.6 billion, a rise of 14.3% compared to the same period in 2021. The trade surplus for the first 11 months of 2022 amounted to $47.15 billion, a decline of $11.52 billion compared to Jan–Nov. 2021.

The New Taiwan dollar plunged almost 10% against the US dollar last year, the steepest decline in 25 years, as aggressive interest rate hikes by the US Federal Reserve bolstered the greenback. The NT dollar is expected to move between NT$30 and NT$31 against the US dollar this year, and it would be unlikely to challenge the NT$29 level.

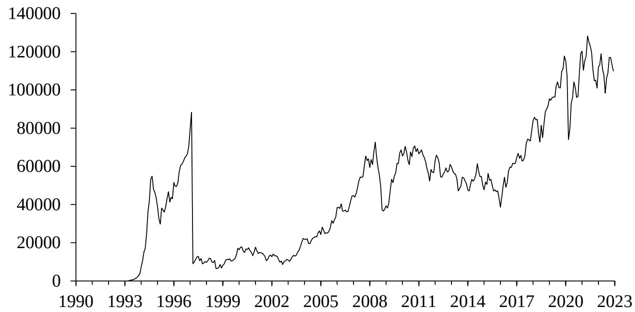
Taiwanese President Tsai Ing-wen seems to assuage as China is making conciliatory overtures towards the USA. She urged Beijing to resume talks with Taipei to help maintain stability in the region in the face of renewed threats by Beijing to use force against Taiwan.

	20	**21**	**22**	**23**	**24**
GDP (%p.a.)	3.1	6.5	3.0	2.4	2.4
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

Taiwan: Weighted TAIEX Price Index



Brazil: Bovespa



Brazil

An update in methodology for calculating GDP has revised 2022's GDP growth estimates to 2.9%, according to Brazil's central bank. The bank expects the economy to grow by only 1% in 2023. We maintain our forecast of GDP growth remaining at a standstill as monetary policy tightening will stay in place far longer than expected.

President Lula took office on January 1st and would like to boost the economy by increasing government expenditure to 169 billion real ($32.1 billion) in 2023. He has promised prosperity driven by state-owned companies and public banks. It will fan inflation as the paychecks of these companies go up, and minimum wages are revised upward. Tax breaks on fuel, which controlled inflation in 2022, will remain in force until March 1st.

Prospects of controlling inflation are weak. Finance Minister Fernando Haddad will discuss a new fiscal rule to replace the old spending ceiling law, even though he pledged to "harmonize" monetary and fiscal policy, in a speech that investors interpreted as more fiscally responsible.

We expect Brazil's central bank to be very cautious in the new political environment. They will slowly reduce their benchmark interest rate from the current 13.75% level. Elevated benchmark interest rates may remain as inflation expectations deteriorate over the first few years of Lula's presidency. We expect the benchmark Selic rate to reach 12.25% by December 2023.

Consumer prices are forecast to grow 5.5% this year and 4% in 2024. The central bank had highlighted the inflationary risks arising from the multi-billion spending package of President Lula to meet campaigning promises, which has already been approved in the Senate.

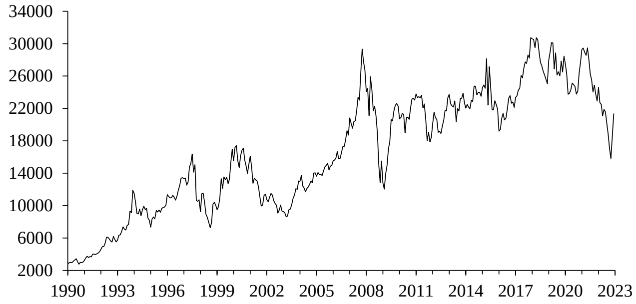
Brazil's real may depreciate further. The real, the top-performing Latin American currency in 2022, is hovering around 5.4 per dollar, its lowest level in over a month against the dollar.

A copycat storming of the presidential palace, Congress, and the Supreme Court in the capital Brasília took place on January 8th. Police arrested some 300 people. The government, on its part, removed one of the key allies of ex-president Bolsonaro, Brasília's federal district governor, from his post.

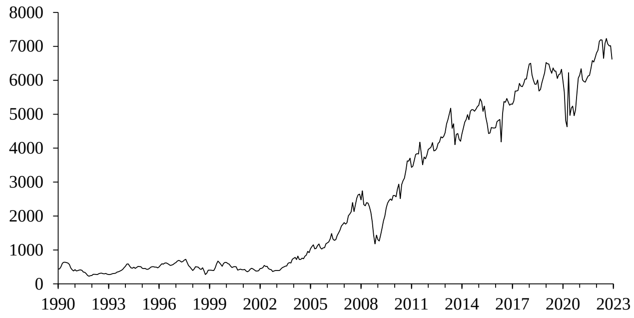
	20	**21**	**22**	**23**	**24**
GDP (%p.a.)	-3.9	4.6	2.9	0.0	2.0
Inflation (%p.a.)	4.5	8.5	8.0	5.5	4.0
Current A/c(US$ bill.)	-7.6	-10.0	-10.0	-12.0	-20.0
Real/$(nom.)	5.5	5.3	5.2	5.3	5.4

Other Emerging Markets

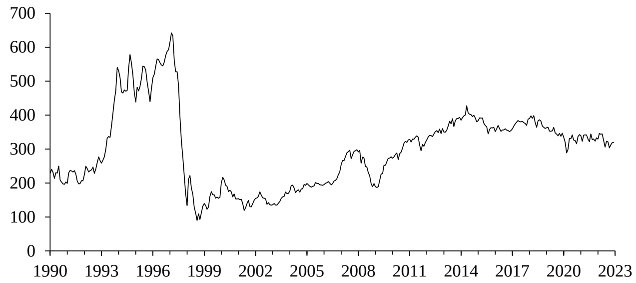
Hong Kong: FT-Actuaries



Indonesia: Jakarta Composite

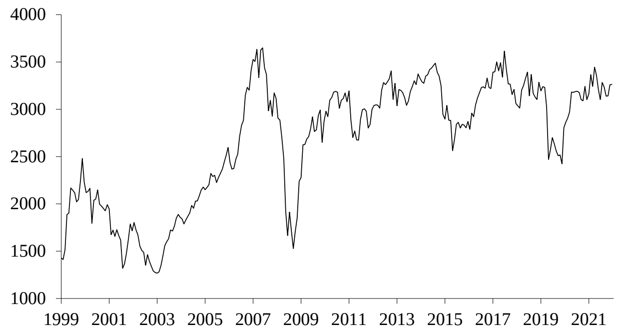


Malaysia: FT-Actuaries (US$ Index)

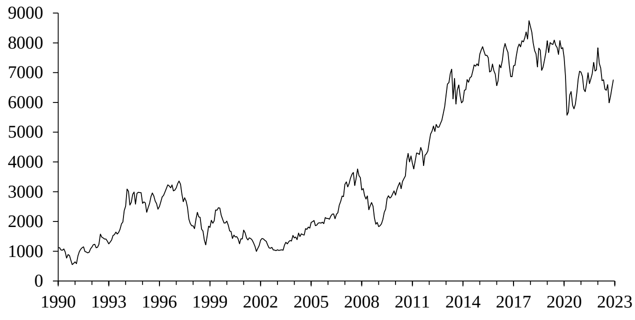


Thailand: Composite Index

Singapore: Straits Times Index



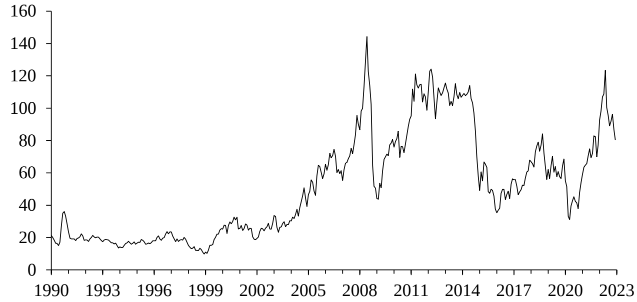
Philippines: Manila Composite



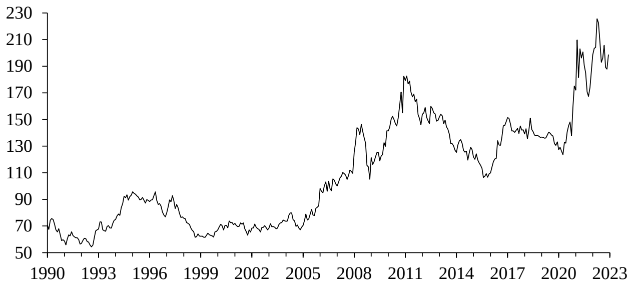
COMMODITY MARKETS

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

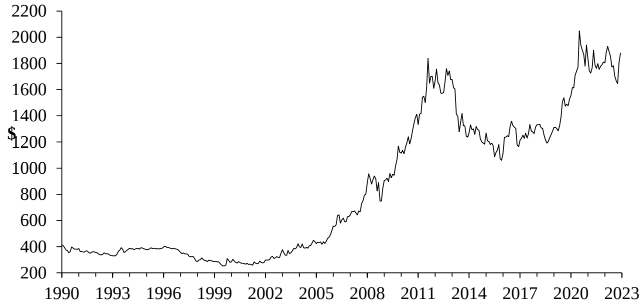
Oil Price: North Sea Brent (in Dollars)



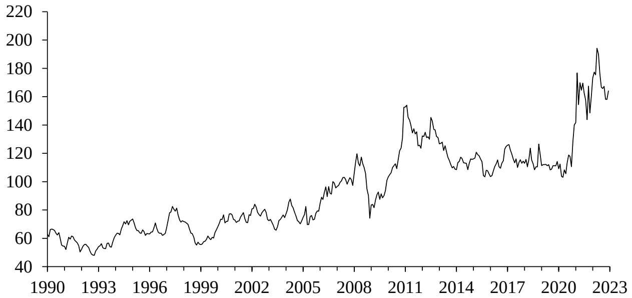
Commodity Price Index (Sterling)
(Economist, 2015 = 100)



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]
2019	1.7	0.6	0.8	78.3	73.8	-0.7	2.6	-0.5
2020	1.0	0.1	0.2	78.2	72.9	-1.3	1.5	-1.4
2021	2.5	0.4	0.1	81.5	78.2	-6.3	4.1	-5.7
2022	8.9	2.3	1.8	79.4	82.4	-5.3	11.4	-4.8
2023	5.0	3.1	3.0	78.1	83.6	-0.6	8.2	-0.5
2024	3.2	3.0	3.0	77.9	85.2	0.6	4.9	0.6
2021:1	0.9	0.6	0.1	80.7	76.2	-3.6	1.4	-3.1
2021:2	2.1	0.9	0.1	81.7	77.6	-5.0	3.4	-4.2
2021:3	2.7	0.7	0.1	81.8	78.7	-6.5	4.5	-5.9
2021:4	4.4	0.9	0.2	81.5	79.7	-7.5	6.9	-6.8
2022:1	6.2	1.4	0.8	81.7	81.9	-8.2	8.4	-7.6
2022:2	9.2	2.1	1.4	79.3	81.8	-6.6	11.5	-5.9
2022:3	10.1	2.8	2.0	77.9	81.7	-4.5	12.4	-3.7
2022:4	10.1	3.0	3.0	78.8	84.1	-2.0	13.1	-2.0
2023:1	6.5	3.0	3.0	77.7	81.1	-1.2	11.0	-1.2
2023:2	5.4	3.1	3.0	77.5	82.6	-0.7	9.0	-0.6
2023:3	4.0	3.2	3.0	77.9	83.7	-0.4	6.4	-0.2
2023:4	4.0	3.2	3.0	79.2	87.0	-0.2	6.0	0.0

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)
2019	275.7	3.5	3.8	1.0	148.8
2020	279.1	1.6	4.5	1.3	149.7
2021	295.0	5.8	4.5	1.3	154.5
2022	314.5	5.8	3.6	1.0	151.0
2023	327.5	4.5	3.5	0.9	149.6
2024	338.9	3.2	2.8	0.7	150.0
2021:1	292.1	4.4	4.9	1.5	155.3
2021:2	289.6	7.2	4.7	1.4	153.4
2021:3	298.3	7.1	4.3	1.3	155.5
2021:4	299.8	4.0	4.1	1.2	153.6
2022:1	308.5	5.6	3.7	1.0	155.5
2022:2	307.5	6.2	3.8	1.1	150.7
2022:3	315.5	5.8	3.7	0.9	149.8
2022:4	317.2	5.8	3.7	0.9	147.8
2023:1	323.9	5.0	3.8	1.0	151.5
2023:2	321.0	4.4	3.6	1.0	149.2
2023:3	329.3	4.4	3.4	0.9	150.4
2023:4	329.9	4.0	3.2	0.9	147.4

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
2019	167.8	803514.3	475369.3	308458.5	209136.4	-70959.7	118490.2
2020	149.3	715006.3	427575.8	246057.9	199232.3	-33095.4	124764.3
2021	160.5	768793.3	450341.3	280156.7	208540.0	-36924.4	133320.2
2022	167.9	803906.7	473783.5	275003.3	218570.5	-23805.2	139645.1
2023	167.5	802137.7	475227.7	259739.4	225319.8	-18605.7	139543.5
2024	171.0	818787.7	489583.1	255476.5	232155.8	-15890.2	142537.6
2019/18	1.4		0.3	3.1	3.0		3.0
2020/19	-11.0		-10.0	-20.8	-4.8		4.9
2021/20	7.5		6.4	16.8	5.2		7.2
2022/21	4.6		5.4	-1.0	4.8		4.7
2023/22	-0.2		0.3	-5.6	3.1		-0.1
2024/23	2.1		3.0	-1.5	3.0		2.7
2021:1	151.5	181382.2	104673.5	64909.8	51080.6	-7817.8	31463.9
2021:2	160.8	192546.3	112096.6	63123.7	51382.5	-662.5	33394.0
2021:3	163.2	195423.4	116099.6	74733.3	52897.8	-14444.1	33863.2
2021:4	166.6	199441.4	117471.6	77389.9	53179.1	-14000.1	34599.1
2022:1	168.0	201169.5	118189.6	73166.3	53945.4	-9205.0	34926.8
2022:2	167.9	201024.3	118323.4	65976.9	54465.5	-2828.3	34913.2
2022:3	167.8	200923.2	118433.8	68620.1	54874.0	-6098.9	34905.8
2022:4	167.7	200789.7	118836.6	67240.0	55285.5	-5673.1	34899.3
2023:1	167.5	200544.9	118824.7	72117.9	55700.2	-11225.5	34872.4
2023:2	167.3	200293.2	118812.9	62928.0	56117.9	-2725.5	34840.1
2023:3	167.5	200534.2	118801.0	62334.6	56538.8	-2249.0	34891.2
2023:4	167.7	200765.4	118789.1	62358.9	56962.9	-2405.7	34939.8

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)
2019	2.8	2316.4	64.3	-63.3
2020	15.7	2076.8	312.5	-67.5
2021	5.6	2421.9	133.3	-45.6
2022	4.7	2685.5	72.3	-97.2
2023	4.5	2800.8	45.5	-24.2
2024	0.9	2976.7	26.8	-14.7
2021:1	7.8	540.3	42.3	-12.3
2021:2	10.4	576.6	60.1	-6.9
2021:3	6.2	595.3	37.2	-23.1
2021:4	4.7	616.9	29.1	-3.2
2022:1	1.1	633.2	6.8	-43.9
2022:2	6.4	650.8	41.8	-33.8
2022:3	1.6	667.8	10.7	-10.1
2022:4	1.5	693.3	11.2	-9.5
2023:1	1.3	673.6	8.6	-9.6
2023:2	2.0	684.4	14.0	-9.8
2023:3	1.7	693.7	11.8	-3.3
2023:4	1.4	721.5	10.2	-1.5

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	1.7	0.2	1.6
U.K.	1.4	–9.4	7.5	4.6	–0.2	2.1
Japan	–0.4	–4.6	1.7	1.5	1.5	1.2
Germany	1.1	–3.7	2.6	1.4	–0.9	1.5
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	1.2	4.7	8.0	3.9	2.4
U.K.	1.7	1.0	2.5	8.9	5.0	3.2
Japan	0.5	0.0	–0.2	2.2	1.6	0.7
Germany	1.4	0.5	3.1	8.1	6.8	2.5
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.	0.3	–4.6	–7.1	–1.6	0.2	0.6
U.K.	–0.7	–1.3	–5.8	–5.3	–0.6	0.6
Japan	0.1	0.3	–2.9	–0.9	–0.6	–0.8
Germany	–0.9	–3.6	–6.0	–2.6	–2.3	0.6
France	–0.9	–2.2	–5.1	–1.4	–1.6	0.5
Italy	–0.3	–2.4	–5.2	–1.2	–1.4	0.5

Nominal Short-Term Interest Rates

	2019	2020	2021	2022	2023	2024
U.S.A.	1.5	0.4	0.1	2.2	3.5	3.0
U.K.	0.8	0.2	0.1	1.8	3.0	3.0
Japan	0.1	0.1	0.1	0.0	0.1	0.1
Germany	–0.4	–0.5	–0.6	0.3	2.4	2.5
France	–0.4	–0.5	–0.6	0.3	2.4	2.5
Italy	–0.4	–0.5	–0.6	0.3	2.4	2.5

Real Long-Term Interest Rates

	2019	2020	2021	2022	2023	2024
U.S.A.	–1.8	–3.1	–2.2	1.2	1.2	1.0
U.K.	–0.4	–1.4	–5.7	–4.8	–0.5	0.6
Japan	–0.6	–0.8	–1.1	–0.8	–0.5	–0.5
Germany	–3.1	–3.8	–4.8	–1.0	0.0	0.1
France	–2.2	–1.9	–1.8	–0.4	0.0	0.4
Italy	–0.4	–1.5	–1.0	1.2	1.6	1.9

Nominal Long-Term Interest Rates

	2019	2020	2021	2022	2023	2024
U.S.A.	1.9	0.9	1.6	3.8	3.5	3.3
U.K.	0.6	0.1	0.4	2.3	3.1	3.0
Japan	0.0	0.0	0.1	0.2	0.3	0.4
Germany	–0.2	–0.6	–0.2	2.1	2.2	2.2
France	0.1	–0.3	0.2	1.8	2.7	2.6
Italy	1.4	0.5	1.2	3.0	4.2	4.1

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	103.4	109.0	110.6	110.4
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