LIVERPOOL INVESTMENT LETTER

May 2022

Cardiff Business School
Ysgol Busnes Caerdydd

Julian Hodge Institute of Applied Macroeconomics

LIVERPOOL RESEARCH GROUP IN MACROECONOMICS

LIVERPOOL RESEARCH GROUP IN MACROECONOMICS

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

ISSN 0951-9262

LIVERPOOL INVESTMENT LETTER

May 2022

CONTENTS

SUPPLY INFLATION AND THE UK OUTLOOK

Much comment on the economy trumpets likely stagflation, as high inflation cuts into living standards and forces lower spending and output. But this analysis neglects the supply-shortage nature of the inflation, and the fact that commodity price/quantity fluctuations come and then typically reverse, as substitution and extra capacity kick in. We have had a pandemic followed by the Ukraine-Russia war, both of which have caused large supply interruption driving commodity prices to huge heights. The nearest parallel to today is the commodity price surge during and after WW1 and the ensuing flu pandemic — shown in the chart below. Real commodity prices had risen by 1920 to 160 compared with a pre-war 100; by 1922 they had come back to 100. Inflation in 1919 was 10%, and 15% in 1920; in 1921 it was -8.6% and in 1922 -14%. The second chart shows how inflation fluctuated due to supply interruptions over a long UK history before the modern Great Inflation due to excess demand policies after WW2. Today UK inflation is not due to excess demand but virtually entirely due to supply shortages. It follows that what has gone up will come down.

How does a rational consumer household respond to such a temporary interruption in living standards when there is credit to be had or savings to be used? The answer is not much, since it can keep its consumption stable and in line with normal or 'permanent' income by using these. It follows that there is no need for subsidies to the cost of living, as these shocks will in time be reversed. As for windfall taxes to pay for them, these are a massively damaging tax on entrepreneurial incentives, as in effect they greatly raise marginal corporation tax rates — as our recent regional growth model shows, such marginal tax rates on business dramatically reduce growth[1].

Figure 1: Commodity prices — past 150 years

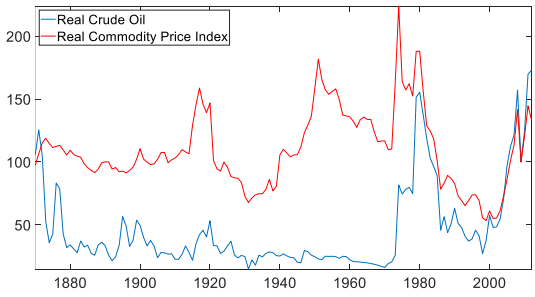
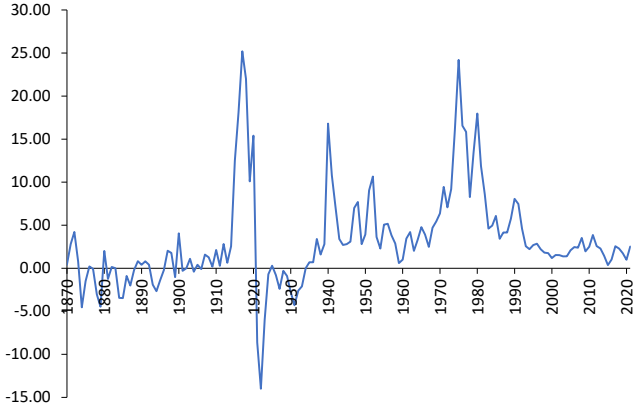


Table 1: Summary of Forecast

	2018	2019	2020	2021	2022	2023	2024
GDP Growth[1]	1.3	1.4	-9.4	7.5	5.6	2.2	2.8
Inflation CPI	2.4	1.7	1.0	2.5	7.0	4.3	3.2
Wage Growth	3.0	3.5	1.6	5.8	6.7	4.6	4.3
Survey Unemployment	4.1	3.8	4.5	4.5	4.1	3.6	2.8
Exchange Rate[2]	78.6	78.3	78.2	81.5	77.3	76.7	76.3
3 Month Interest Rate	0.4	0.8	0.2	0.1	1.5	2.4	2.9
5 Year Interest Rate	1.0	0.6	0.1	0.4	1.9	3.5	3.0
Current Balance (£bn)	-82.9	-89.1	-57.6	-63.8	-37.2	-24.9	-17.6
PSBR (£bn)	39.3	49.1	317.2	169.5	55.0	31.9	23.5

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

Figure 2: UK Consumer Price Inflation — past 150 years



As a result of this analysis we have not forecast much of a slowdown in our forecast due purely to inflation. However, we expect interest rates to rise in response to the inflation, before inflation falls back in 2024. We also see a slowdown in global growth, both as China pursues damaging lockdowns and the US tightens in the face of excess demand in its labour market. These elements cause a slower growth in 2023.

The scope for growth through free trade agreements

In our analysis of the effects of free trade achieved progressively through FTAs with a growing list of countries around the world, our World Trade Model predicts the biggest gains to come from opening our markets to non-EU imports, hitherto protected against by high EU tariffs and non-tariff barriers in respect of agriculture and manufactures. Because the UK is a small open economy, signing FTAs with a series of other non-EU countries means that their supplies into our markets at world prices could bring our home prices of these hitherto protected products down to these world levels. The mechanism is that, were our prices to remain higher, they would switch their ample supplies from the rest of the world to here, to take advantage of the higher margins.

[1] http://carbsecon.com/wp/E2020_14.pdf.

These gains are what would come from unilateral free trade. To achieve them we need to conclude FTAs with enough big suppliers of agriculture and manufactures for these supplies to be adequate for this purpose. So far, the UK has concluded FTAs with two big agricultural exporters, Australia and New Zealand. These two are likely to be sufficient to bring the bulk of agricultural prices here down to world levels, effectively eliminating agricultural protection. According to our model, the gains from fully eliminating agricultural protection are substantial, largely because the price of land is greatly reduced, which in turn lowers an important element in the UK cost base. With land in much smaller demand in agriculture, cheap land availability to the rest of the economy enables expanded production in other sectors. There is also a direct gain to UK consumers via lower food prices, while there are gains to productivity in agriculture and through the expansion of other more productive sectors. In a recent Civitas publication I reported that the Australian FTA could add 3% to UK GDP on the assumption that it would reduce agricultural prices by a moderate amount[2].

There are also gains from FTAs from the greater penetration they allow for UK exporters into non-EU markets. These gains come about because they face zero trade barriers whereas other exporters face full existing barriers. Hence UK exporters can raise their prices by this protective margin. According to the World Bank, the average unweighted tariff across all products was 2.6% in 2020. Non-tariff barriers are difficult to estimate, because they are qualitative. They are probably substantially larger. An OECD study has attempted to estimate t heir tariff equivalents (ad valorem equivalents, AVE) econometrically — its results are shown in Table 2 below. Motor vehicles, a prominent manufacture, averages 22%, while foods average similarly around 20%. Estimates suggest that total trade barriers around the non-EU world are in the range of 10–20%. Our estimates of EU total protection are for about 20% for both agriculture and manufacturing[3].

Table 2. Baseline AVE estimates on unit value, by HS section

	Frequency weighted AVE					Unweighted AVE			
HS Section	SPS	TBT	BCM	QRs		SPS	TBT	BCM	QRs
Live animals	3.0%	14.8%	1.5%	0.9%	20.3%	4.6%	16.5%	2.8%	4.4%
Vegetable products	4.1%	10.0%	1.5%	0.3%	15.8%	5.5%	17.1%	6.9%	3.0%
Fats and Oil	10.8%	7.1%	0.8%	1.4%	20.0%	17.7%	9.1%	4.6%	4.6%
Processed food	14.8%	12.0%	0.3%	1.6%	28.7%	13.5%	12.1%	1.3%	6.6%
Chemical products	1.6%	5.8%	0.3%	0.7%	8.5%	5.8%	9.3%	1.9%	5.6%
Rubber Plastics	3.6%	4.5%	1.2%	0.6%	9.9%	10.5%	6.8%	13.0%	11.5%
Raw hide skins	0.1%	7.7%	0.7%	1.9%	10.4%	0.4%	6.0%	5.0%	14.4%
Wood	7.9%	13.9%	0.3%	4.7%	26.8%	25.0%	30.2%	0.5%	10.3%
Paper	2.1%	4.0%	0.1%	1.5%	7.7%	8.6%	10.4%	0.2%	4.8%
Textile	0.6%	10.8%	0.6%	0.9%	12.9%	11.4%	15.1%	3.3%	5.4%
Footwear	0.2%	0.9%	1.2%	6.0%	8.3%	5.1%	1.5%	4.4%	24.0%
Stone Cement	1.1%	6.8%	0.1%	0.4%	8.4%	11.2%	12.2%	0.7%	10.9%
Precious stones	0.4%	5.5%	0.9%	2.7%	9.5%	15.9%	16.1%	7.2%	18.9%
Base Metals	0.0%	4.4%	0.6%	1.3%	6.4%		9.1%	3.0%	13.4%
Machinery & Electrical Equipment	0.0%	4.8%	0.4%	0.9%	6.1%		10.1%	1.4%	7.9%
Motor Vehicles	0.0%	15.9%	0.7%	5.7%	22.3%		20.4%	1.5%	23.4%
Optical Medicals	0.0%	5.1%	1.1%	1.5%	7.7%		8.6%	4.2%	13.5%
Miscellaneous	0.0%	7.5%	0.0%	1.0%	8.6%		8.9%	2.1%	6.3%

Note: SPS is Sanitary and Phytosanitary measures, TBT is Technical barriers (standards), BCM is Border control measures and QRs is Quantitative restrictions.
For unweighted series the cases for products in a country with no NTM are not taken into account in calculating the average, while in the frequency weighted series the AVE in such cases are set to zero. Therefore unweighted AVEs capture the restrictiveness of an NTM when it is applied while frequency-weighting captures the average effect of NTMs when accounting for their incidence.
Source: OECD estimates.

Source: Cadot, O., J. Gourdon and F. van Tongeren (2018-05-16), "Estimating Ad Valorem Equivalents of Non-Tariff Measures: Combining Price-Based and Quantity-Based Approaches", OECD Trade Policy Papers, No. 215, OECD Publishing, Paris. http://dx.doi.org/10.1787/f3cd5bdc-en

[2] https://www.civitas.org.uk/publications/free-trade-under-brexit-why-its-benefits-to-the-uk-have-been-widely-underestimated/

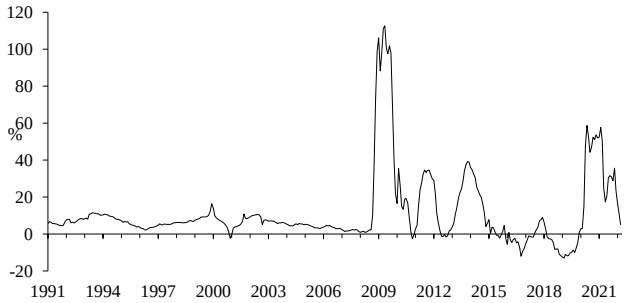
[3] See Minford et al , 2015 – Should Britain leave the EU? An economic analysis of a troubles relationship, 2nd edition, chapter 4

Plainly the potential gain to UK exporters in obtaining zero barriers via an FTA will depend on the size of the barrier preference and the value of exports sent to each FTA market. The gain in UK % of GDP is the % barrier x the UK exports sent to that market as % of UK GDP. To illustrate what this might amount to on all FTAs in total once eventually concluded across the non-EU world, suppose the average tariff and non-tariff barrier in these countries is 10% in total; all UK non-EU exports are around 18% of GDP. Thus the potential gain from the extra margin on these exports would be about 2% of GDP. By for example switching another 5% of GDP to these non-EU export markets, this could be raised to 2.5% of GDP. Notice that the FTA with the EU, already signed, brings with it a gain of 20% on the 7% of our GDP exported as goods to the EU-around another 1.4% gain, currently concealed by the initial disruption of post-Brexit paper work.

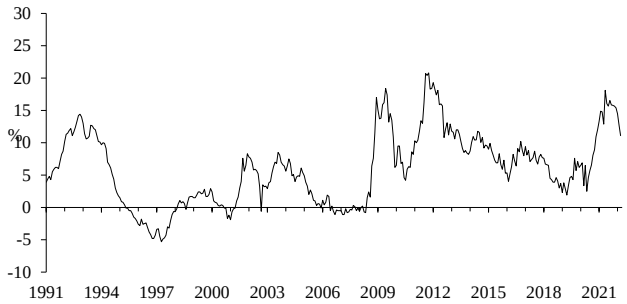
What this reveals is that, over and above the major gain from lowering the UK's own trade barriers just reviewed, there is on any particular FTA some additional gain to be had from the extra margin available on exports to that trading partner. Its size is greater the more protectionist that partner is to the world in general and the larger UK potential exports to that partner can be made.

It follows from all this that the agenda of concluding FTAs around the non-EU world offers considerable gains to the economy in the future. We have put this at about 7% of GDP due to the opening of our markets, to which should be added the potential gain from others opening theirs to us, which could add about another 3% of GDP. This underlines the importance of continuing robustly with the post-Brexit FTA agenda, and ignoring the noisy protectionist voices from the farming and manufacturing lobbies.

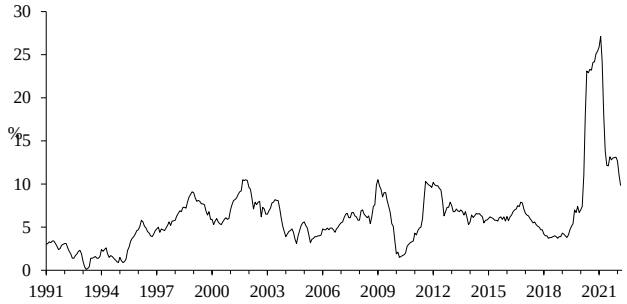
U.S.: Growth in M0 (Yr - on - Yr)



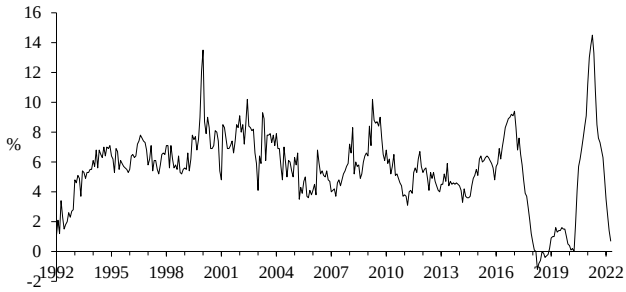
U.S.: Growth in M1 (Yr - on - Yr)



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

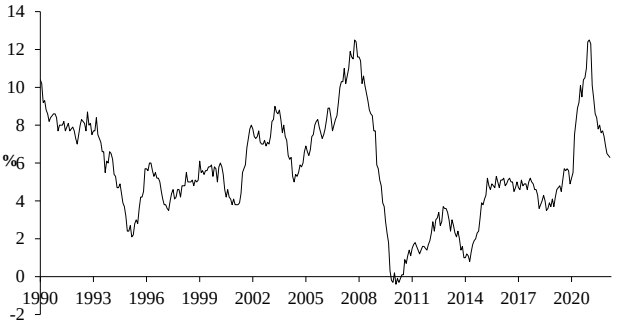


UK: Notes and Coins in Circulation Growth

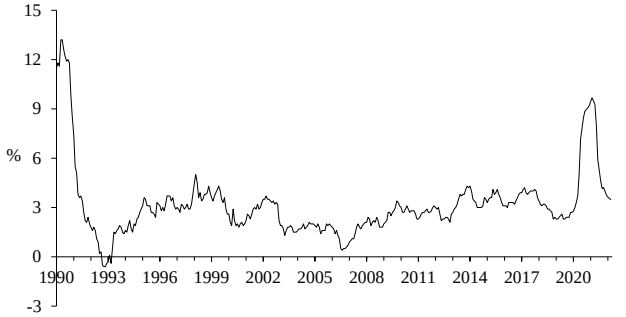


UK: M4 Growth

Eurozone M3 Growth



Japan: Growth of M2+CD's



FOCUS ON JAPAN

Francesco Perugini

Factory output grows while yen slides

Japanese factories saw output rise in March for the second straight month, by 0.3% quarter-on-quarter, as strong global demand for high-tech chips helped to ease some doubts that are weighing on the country's economic outlook. Output increased in eight sectors including production machinery but declined in seven sectors including automobiles. Data also showed retail sales were stronger than expected after the government lifted pandemic curbs, rising 0.9% in March from a year earlier. However, private consumption, which accounts for more than half of gross domestic product, has yet to fully shake off the drag from the pandemic, after a record omicron surge delayed its recovery. "Personal consumption will likely pick up ahead, but supply constraints are going to affect output," said Takumi Tsunoda, senior economist at Shinkin Central Bank Research Institute.

The Ministry of Economy, Trade and Industry, retained its basic assessment for March that industrial production was showing signs of picking up. "We will continue to watch for a potential rise in coronavirus infections, parts supply shortages and rising prices, in addition to monitoring the situation in Ukraine," the Minister told reporters at a press conference. For the whole of fiscal year 2021, industrial output expanded at a record 5.8% from the previous year after two straight years of setbacks under the pandemic. The rate of increase, following a 9.6% plunge in the previous year, was the highest since comparable data became available in fiscal 2014.

Despite the modest increase in manufacturing output, the economic outlook remains fragile. After struggling to stage a convincing recovery from the coronavirus pandemic, the Japanese economy is facing pressure from Russia's war in Ukraine, high energy and commodity prices and strict Chinese lockdown measures that are hurting demand. A rapid weakening of the yen has also saddled exporters with higher input costs — late last month the yen dropped to a 20-year low and breached the 130-to-the-dollar level.

The fragile recovery has prompted the Bank of Japan (BOJ) to remain resolute in its ultra-easy stance, moving against the tide of tighter policy embarked on by many major economies. At a two-day policy meeting concluding later last month the BOJ left its monetary stimulus unchanged. The bank kept its yield curve control settings and the scale of its asset purchases unchanged, according to the BOJ statement. The decision had been widely expected among economists despite ongoing speculation the BOJ might take action in light of the recent slide in the yen to a two-decade low.

The BOJ also raised its inflation forecast closer to its 2% goal in the fiscal year that started last month on the impact of energy prices but projected it to weaken the following year. Its forecast for the year to March 2025 also showed inflation averaging well below its price goal. With the decision, BOJ governor Haruhiko Kuroda and his board pushed back against the market chatter that it will have to tweak policy to help stop the currency from weakening more and to ease the pressure on its rock-bottom yield target. Looking ahead, the BOJ also stuck with its view that rates would stay low or go even lower. That's in stark contrast to the US Federal Reserve and other central banks that are racing to push up borrowing costs to keep a lid on accelerating prices.

The growing divergence in interest rates is helping drive the yen down against the dollar to a level that is causing pain for some households and businesses. Economists see further slides in the yen as inevitable, but say the government is more likely to ramp up its relief measures for soaring energy and food prices before considering intervening in markets to prop up the currency. "The BOJ wants to make it abundantly clear that it will stick with stimulus and that the yen is not part of its considerations," said Hiromichi Shirakawa, chief economist at Credit Suisse Securities. "This also sends a clear message that the bank is not joining the Federal Reserve or the European Central Bank on tightening moves."

With the Fed and others racing to push up borrowing costs to keep a lid on accelerating prices, the divergence in interest rates with the BOJ is growing. "The BOJ has shown some concern over the rapid fall of the yen, but when it comes to its level, it seems very tolerant," said Mari Iwashita, chief market economist at Daiwa Securities Co. "I don't think the BOJ is thinking 130 against the dollar is going to be some terrible inflection point."

For now the central bank and Prime Minister Fumio Kishida's administration appear committed to a division of labour that sees the BOJ stimulating a fragile economy while the government tries to offer relief for the effects of soaring energy and food prices amplified by the weaker yen. The BOJ's quarterly outlook report showed that it now sees inflation rising to 1.9% this year from its 1.1% forecast just three months ago. That means the bank is predicting the highest price growth in three decades outside the tax hike years of 1997, 2014 and 2019.

MARKET DEVELOPMENTS

Equities remain a good hedge against rising interest rates and the temporary inflation shock.

Table 1: Market Developments

	Market Levels		Prediction for Apr/May 2023	
	Apr 05	May 04	Previous Letter	Current View
Share Indices				
UK (FT 100)	7614	7545	13743	12486
US (S&P 500)	4525	4217	6883	5962
Germany (DAX 30)	14424	14098	26671	25137
Japan (Tokyo New)	1949	1900	2723	2555
Bond Yields (government				
UK	1.73	1.95	2.00	3.50
US	2.64	2.96	2.30	2.80
Germany	0.66	0.99	0.20	0.80
Japan	0.25	0.23	0.10	0.20
UK Index Linked	–2.04	–1.68	1.00	1.00
Exchange Rates				
UK ($ per £)	1.31	1.26	1.30	1.36
UK (trade weighted)	81.73	80.18	78.7	78.7
US (trade weighted)	102.68	106.58	100.5	100.5
Euro per $	0.91	0.95	0.88	0.88
Euro per £	1.20	1.19	1.20	1.20
Japan (Yen per $)	123.30	129.56	110.5	110.5
Short Term Interest Rates				
UK	0.63	0.63	1.00	2.20
US	0.93	1.30	1.00	2.40
Euro	–0.45	–0.59	–0.50	0.20
Japan	0.00	–0.05	0.00	0.10

Table 2: Prospective Yields [1]

Equities: Contribution to £ yield of:

	Dividend Yield	Real Growth	Inflation	Changing Dividend Yield	Currency	Total
UK	3.60	2.2	4.3	59.00		69.10
US	1.99	2.3	3.2	35.90	–8.32	35.07
Germany	3.30	2.5	2.8	73.00	–0.56	81.04
Japan	1.90	1.8	0.7	32.00	7.61	44.01
UK indexed[2]	–1.68		4.3	16.00		18.63
Hong Kong[3]	2.60	4.0	3.2	–7.00	–8.32	–5.52
Malaysia	3.30	5.4	3.2	73.00	–8.32	76.58
Singapore	3.50	3.0	3.2	37.00	–8.32	38.38
India	1.40	6.4	3.2	31.00	–8.32	33.68
Korea	1.10	2.3	3.2	–3.00	–8.32	–4.72
Indonesia	2.20	5.3	3.2	49.00	–8.32	51.38
Taiwan	2.80	3.0	3.2	42.00	–8.32	42.68
Thailand	3.20	4.0	3.2	53.00	–8.32	55.08

Bonds: Contribution to £ yield of: –

	Redemption Yield	Changing Nominal Rates	Currency	Total
UK	1.95	–15.50		–13.55
US	2.96	1.58	–8.32	–3.57
Germany	0.99	1.88	–0.56	2.30
Japan	0.23	0.25	7.61	8.09

Deposits: Contribution to £ yield of:

	Deposit Yield	Currency	Total
UK	0.63		0.63
US	1.30	–8.32	–7.02
Euro	–0.59	–0.56	–1.15
Japan	–0.05	7.61	7.56

[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.

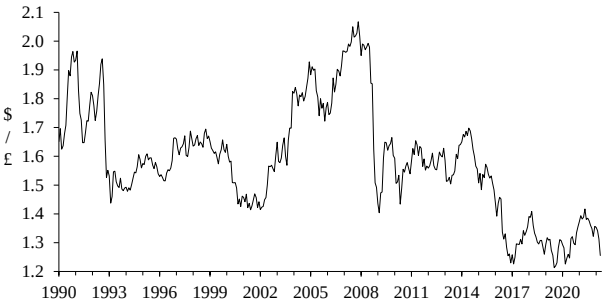
Table 3: Portfolio(%)

	Sterling Based Investor		Dollar Based Investor		Euro Based Investor	
	April Letter	**Current View**	**April Letter**	**Current View**	**April 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)	-	-	-	-	-	-

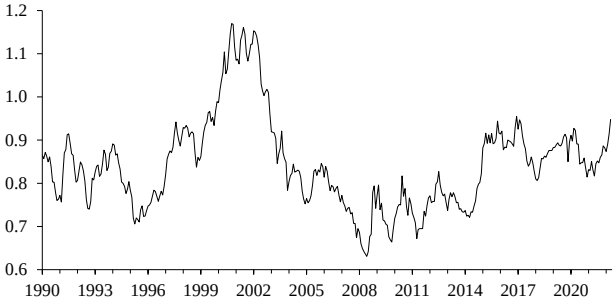
INDICATORS AND MARKET ANALYSIS
FOREIGN EXCHANGE MARKETS

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

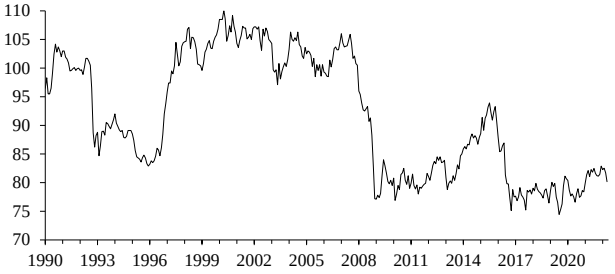
UK: Dollars Per Pound Sterling



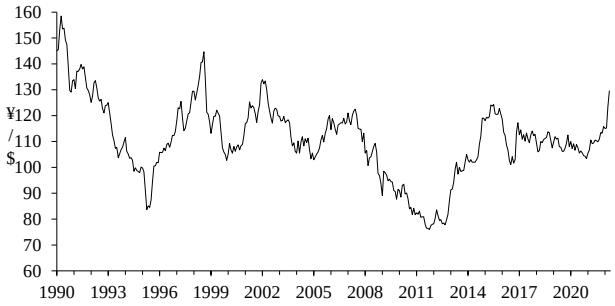
Euro per US dollar



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



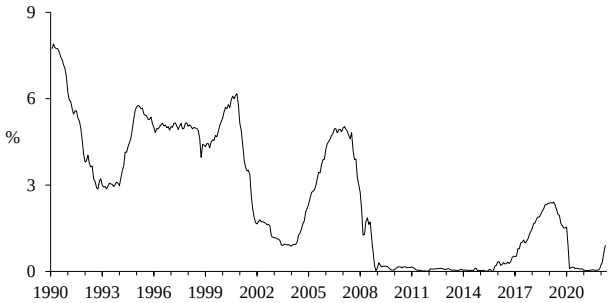
Japan : Yen Per U.S. Dollar



GOVERNMENT BOND MARKETS

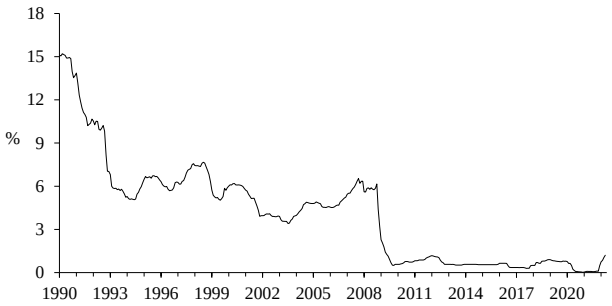
U.S.: Yield on Long-Term Government Bonds

U.S. : 3-Month Treasury Bill

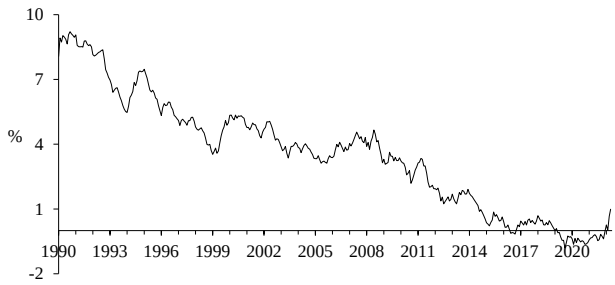


U.K.: Yield on Long-Term Government Bonds

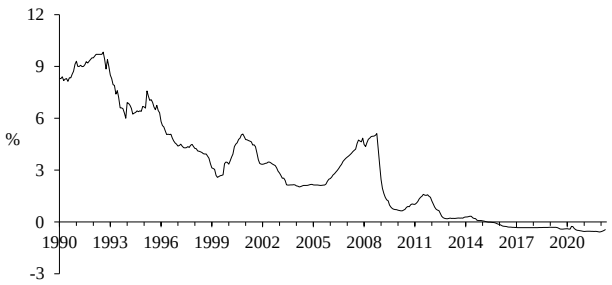
U.K. : 3-Month Certificate LIBOR Rate



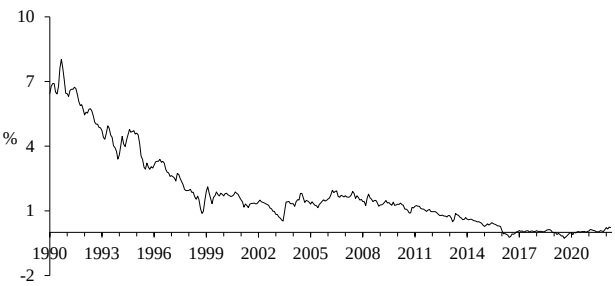
Germany: Yield on Public Authority Bonds



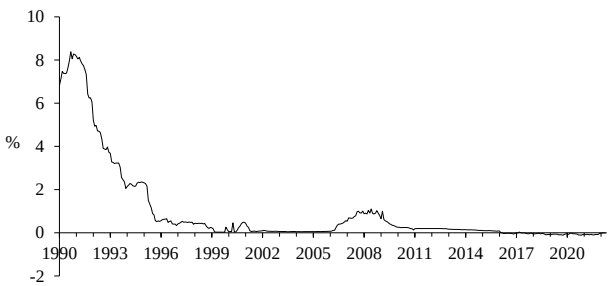
Germany : 3-Month Interbank Deposit Rate



Japan: Yield on Long-Term Government Bonds

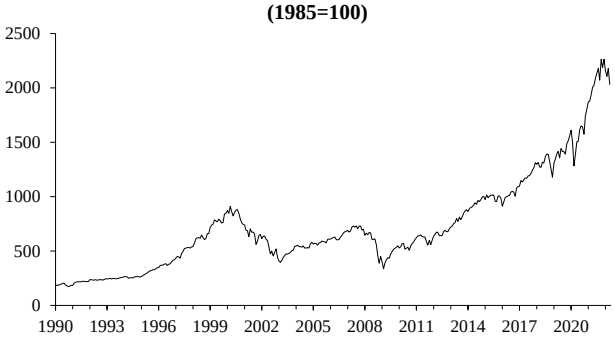


Japan : 3-Month Money Market Rate

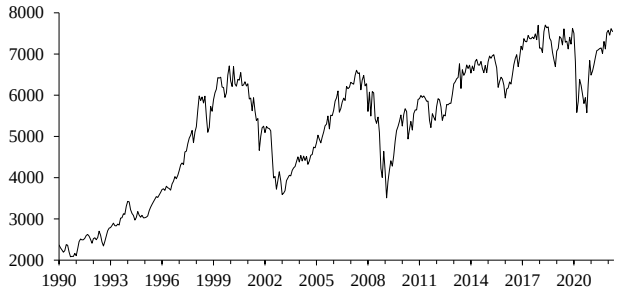


MAJOR EQUITY MARKETS

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 is experiencing an all-out revenge consumption in urban and rural sectors. Consumption demand has been recovering strongly as the pandemic-related restrictions have been lifted, especially in contact-intensive sectors. Rural consumption is likely to remain strong as terms of trade improve and India exports its agricultural produce to newer markets in the Middle East and Africa. GDP growth for the current fiscal may exceed our cautious prediction of 7.5% and 6.4% for the next fiscal year. The IMF expects GDP growth of 8.2% growth in the current fiscal and expects it to remain the fastest-growing major economy globally. Monsoon rainfall in India is likely to average for the fourth straight year. It will boost farm output and cool inflation further. Factory activity picked in April. The manufacturing Purchasing Managers' Index (PMI) improved to 54.7 in April from 54 in March.

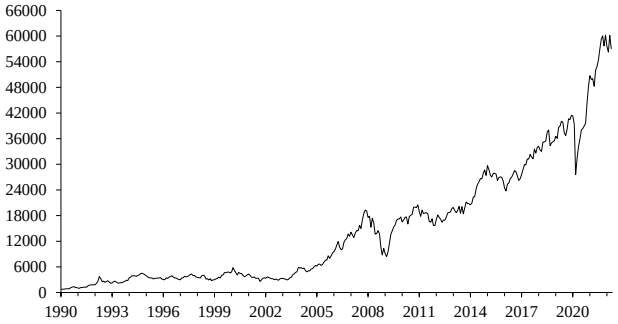
The goods and services tax (GST) collection touched a record high of Rs 1.68 trillion in April, surpassing the Rs 1.5 trillion mark for the first time since the introduction of the tax regime in 2017. The buoyancy in the indirect tax collection indicates an improved economic activity despite the escalating geopolitical conflict. Even though the steep GST collection partly benefits from year-end adjustments, the high growth trend is likely to continue in the coming months. GST collections have remained over the Rs 1.10trillion mark since July 2021.

On the macro front, inflation continues to rise (6.95% in March 22), surpassing the RBI's upper bound for the third month. The April policy forced the RBI to shift its narrative from growth to inflation. With inflation already running above the central bank's 6% upper tolerance limit, we expect 6.5% inflation in the current fiscal year. Expectations that commodity and oil prices would cool down in 2022 as the pandemic ebbed were belied by the Russia-Ukraine conflict, which exacerbated existing pressures. Fresh lockdowns in China are also extending the pandemic-induced supply-chain bottlenecks.

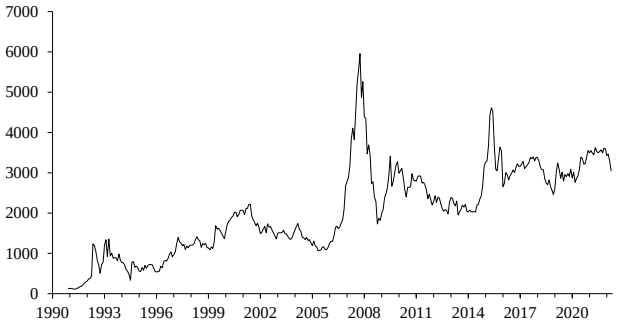
We expect an increase in its main interest rate in the current quarter ending June to fight inflationary pressure. The repurchase rate is expected to be raised by 25 basis points to 4.25% during the period. We see the rate rising to 5.5% through five more quarter-point hikes by September 2024.

India's external vulnerability has shot up meaningfully. We expect a widening of the current account deficit by 170bps to 3.5% in FY23 if crude averages at $100/bbl. India's merchandise trade deficit in March touched $18.5 billion. While total exports during 2021–22 increased to a record high of USD 420 billion, imports too soared to USD 612 billion, leaving a trade gap of USD 192 billion.

India: BSE Sensex



China: SSE Composite Index



India is making an all-out effort to become a reliable trade partner globally. After inking back-to-back trade deals with UAE and Australia, India is now working on a trade deal with the United Kingdom. The trade deal featured prominently on the agenda when British Prime Minister Boris Johnson visited India. The two countries agreed to conclude the third round of negotiations on the new free trade agreement by October. Like India's other regional and bilateral trade agreements, the deal in the works is quite ambitious. India and the U.K. agreed to double trade in goods and services to about $100 billion by 2030.

A widening current account deficit may impart a depreciating bias to the INR. India has strong foreign exchange reserves and active intervention by the RBI. But the central bank wants to see an orderly slide in the rupee to maintain export competitiveness.

	20–21	**21–22**	**22–23**	**23-24**	**24-25**
GDP (%p.a.)	-6.6	8.9	7.5	6.4	6.5
WPI (%p.a.)	5.5	6.0	6.5	6.0	5.5
Current A/c(US$ bill.)	35.0	-35.0	-30.0	-30.0	-30.0
Rs./$(nom.)	75.0	74.5	77.0	79.0	80.0

China

Chinese people are experiencing at present what the world experienced in April–May 2020. Coronavirus 2, which causes Covid-19 among people, has worked worldwide and has now decided to work from home. The consequences of

this on the world economy are being felt in South Korea, Taiwan, and Brazil.

In China, Shanghai residents are running out of food and growing angrier by the day. A rapidly depreciating yuan is the precursor of the worst to come. China's current wave is its worst yet, and if the government presses on with Zero Covid, it will inflict a serious slowdown on Chinese growth. More than 340 million people in regions that contribute to about 35% of China's GDP are limited by some form of Covid-related lockdowns. Meanwhile, much of the rest of the world is out of the full-blown explosive pandemic phase. It is moving to a transitional phase where there is a deceleration of the numbers. Soon it will be a more controlled phase, and the Covid-19 will become an endemic disease.

In China, the story may pan out differently depending on the policy response by its political leadership. The absolutist dogma of "zero covid" pushed by the country's ruling authorities entails the risk of more public disquiet and further economic disruption at home and abroad.

Under these circumstances, forecasting economic growth is challenging even though we know the impact of Covid-19 on other economies. But China's financial institutions work differently.

Across-the-board contraction in the PMIs marked a turning point for the economy and came as daily Covid cases spiked. The PMI, a key gauge of manufacturing activity clocked 47.4 in April. This is the lowest level in two years. Already President Xi Jinping has pressed the panic button. He wants an "all-out" infrastructure push to boost the economy. In the first quarter, investment in public facilities, such as water conservation and rail transport, rose a seemingly respectable 8.5% year on year. There was hardly any incremental boost to the real economy once we account for the 8.3% producers' inflation. We predict a 4% GDP growth for the whole year in 2022 and 2023. It is well below the official government target for a 5.5% increase. The IMF expects GDP growth to be 4.4% in 2022.

China's inflation is under control. But China's central bank will follow an expansionist monetary policy. To shore up its slowing economy amid growing headwinds, it has cut its reserve requirement ratio (RRR), or the amount of cash banks must hold in reserve. The People's Bank of China (PBOC) said that the current level of liquidity is sufficient, and the move is aimed at helping sectors hit by the coronavirus pandemic.

The party leadership, led by President Xi Jinping, and the government have spun the narrative that China has handled the pandemic much better than the decadent West. This narrative does not hold anymore, and as we hinted the last time, President Xi's third term is not certain anymore.

Korea: Composite Index

The Chinese stock market is under a bear grip. The Chinese stock market has been at the lowest point in the past 30 years, and popular discontent in China has been the highest in the past 30 years.

	20	**21**	**22**	**23**	**24**
GDP (%p.a.)	2.2	8.1	4.0	4.0	4.5
Inflation (%p.a.)	2.5	1.8	2.0	2.0	1.5
Trade Balance(US$ bill.)	60.0	80.0	60.0	52.0	45.0
Rmb/$(nom.)	6.7	6.4	6.3	6.3	6.2

South Korea

China's Covid-19 lockdowns in various parts of the country have fanned worries that the world economy may slow down, as it is impacting the international supply chain. It is on top of setbacks encountered by the world economy due to the war in Ukraine. Dependent on world trade, the South Korean economy shrivelled sooner than expected. Output returned to expansion in April after shrinking in March but is unlikely to keep the pace.

South Korea's economic growth decelerated in the first quarter as pandemic restrictions weighed on private consumption and investment. Gross domestic product grew 0.7% during the January–March period from the prior quarter, slower than a revised 1.2% expansion for the fourth quarter of 2021, according to preliminary estimates of the Bank of Korea. Exports have kept solid growth on demand for semiconductors and chemicals. But it may not last very long. The economy expanded 3.1% in the first quarter, following the prior quarter's revised 4.2% growth. We expect GDP to grow only 2.4% in 2022 and 2023 due to the impact of the Ukraine war and fallout from China's lockdowns in key industrial cities — Shanghai and Shenzhen. The International Monetary Fund and the Bank of Korea expect GDP growth to slow down this year. Both are a little more optimistic than our growth forecast.

In April, consumer spending in South Korea may pick up in the second quarter as the government removed most of the Covid-19 social-distancing restrictions with the omicron variant's spread slowing within Korea. Inflation was 4% in March for the first time in over a decade. The Bank of Korea sees prices staying above its target of 2% this year. We expect inflation to be 3.2% in 2022. CPI rose 4.8% in April from a year before. It was a 13 year high.

South Korea's central bank raised its base rate in mid-April, further tightening policy to fight inflation. It increased its benchmark seven-day repurchase rate by 25 basis points to 1.5%, its fourth rate increase since August 2021. The bank has signalled that stronger-than-expected price growth warrants more rate increases later this year. The bank is striving to curb surging inflation, fuelled by soaring commodities prices in the wake of global supply bottlenecks.

Exports in March grew 18.2% from a year earlier to a record $63.48 billion. Exports have extended gains for 17 straight months. Imports, meanwhile, jumped 27.9% to a record $63.62 billion, with a combined $16.19 billion worth of imports of crude oil, gas, and coal taking the lead. That brought the trade balance to a $140 million deficit after logging an $831 million surplus in February.

South Korea's export growth is set to slow on a very high base effect and slowing growth momentum in China. In April, export growth was the slowest in 14 months.

The Korean won dipped to the lowest level in 25 months on growing uncertainties. Investors prefer safe assets in a volatile market caused by external economic risks associated with the U.S. Fed's aggressive credit tightening, China's expanding city-wide Covid-19 lockdowns, and the prolonged Russia-Ukraine war. The won will continue to weaken for a while, as there's a high chance that South Korea may experience a trade deficit for a couple of months and as the difference in interest rates between the country and the U.S. may grow. It is weighing down the stock market as well.

	20	**21**	**22**	**23**	**24**
GDP (%p.a.)	-0.9	4.2	2.4	2.3	2.3
Inflation (%p.a.)	0.5	2.5	3.2	2.5	2.0
Current A/c(US$ bill.)	70.0	91.0	50.0	40.0	35.0
Won/$(nom.)	1070	1150	1250	1300	1310

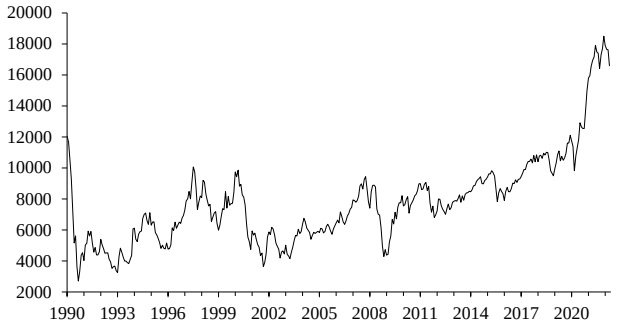
Taiwan

Taiwan's economic growth cooled in the first quarter to 3.06% in the first quarter of 2022, with lockdowns in China posing new challenges to growth in the months ahead. The outlook is clouded as Taiwan is witnessing a significant omicron outbreak, with cases soaring past 10,000 in mid-April. The rising case numbers have alarmed consumers, with domestic consumption remaining almost stagnant.

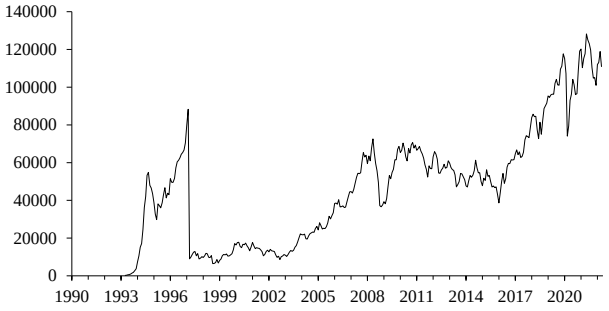
Taiwan central bank governor Yang Chin-long expects inflation to slow by the third quarter, and any rate rise decisions would depend on consumer price data. Last month, the central bank raised its benchmark interest rate by a much more significant margin than some expected, citing concerns about inflation, which have been driven by supply chain disruptions from the war in Ukraine. Taiwan's March consumer price index (CPI) rose an on-year 3.27%, driven by rising global energy costs due to the Ukraine war.

Taiwan faces a strong global chip demand and investment boom in the semiconductor industry. It would underpin Taiwan's exports in the future. But, as it grapples with

Taiwan: Weighted TAIEX Price Index



Brazil: Bovespa



Covid-19 outbreaks in the near term, we may see a sharp slowdown to Taiwan's export and GDP growth. The fear is manifested in the depreciation of the Taiwan dollar, down around 5% so far this year against the U.S. dollar. The depreciation of the Taiwanese dollar added to inflationary pressures, but its effect has been mild so far. The central bank will intervene to ensure the currency's stability.

Soon after the Ukraine war began, a similar attack on Taiwan was talked about. In our opinion, it is over-exaggerated. A war over Taiwan has receded further because if one broke out, it would pit the world's two largest militaries against each other, with the world's two largest economies hanging in the balance. But the island's military is considering extending conscription to 12 months from the current four — a proposition that was widely considered a political impossibility before the war.

The flip side of the Ukraine war is an all-out tech race to win the subsequent Cold War. For example, micro-satellite-based internet provided an edge for the Ukraine army over its enemies. The rise of China and the war in Ukraine have expedited the global push to the next innovation frontier. It will benefit Taiwan in the long run.

	20	**21**	**22**	**23**	**24**
GDP (%p.a.)	3.1	6.5	4.0	3.0	2.8
Inflation (%p.a.)	-1.0	2.6	2.2	1.8	1.6
Current A/c(US$ bill.)	71.0	90.0	100.0	65.0	60.0
NT$/$(nom.)	29.0	27.5	27.5	27.0	27.0

Brazil

The impact of the Ukraine war, coupled with the political changes expected later in the year, has started showing up in

the growth figures of Brazil. Of course, the unrelenting pursuit to control inflation impacts GDP growth. Brazilian gross domestic product is expected to grow just 0.5% this year and 1.5% in 2023. International Monetary Fund has also trimmed its forecast. GDP growth was just 0.9% on the year in the first quarter from 1.6% at the end of 2021. The economic growth stagnates in the current quarter, and the condition will persist until next year. Official GDP figures for January–March are scheduled for release on June 2.

High interest rates have curtailed consumer spending. Political worries also mount at home ahead of October's presidential vote, and a prolonged Russian offensive in Ukraine does not augur well for the economy.

In March, consumer prices jumped again and recorded 11.3% inflation in the last 12 months. We expect inflation to remain at an elevated 8% rate and slow to 4% in 2023. It implies that the central bank's target of 3.5% will be breached in 2022, despite having raised Brazil's rates to 11.75% from 2.0% in 2021, and the central bank may hike the interest rate further to 13.25% in 2022 Q2. In mid-April, consumer prices rose 12.03% from a year earlier, pushed higher by hikes in fuel prices and air travel.

Like in the past, the sitting president Bolsonaro, may begin to pump up spending to bolster his popularity and strengthen his chances against former President Luiz Inacio Lula da Silva. He is leading polls before the election. Brazil's debt is expected to remain high on the foreseeable horizon.

Brazil's trade balance registered a 7.4 billion U.S. dollars surplus in March. It is an increase of 19.3% over the surplus balance of 6.5 billion U.S. dollars in March of last year. Brazil has recorded a trade surplus of 11.3 billion U.S. dollars in the first quarter of the year.

Exports in March totalled 29.1 billion U.S. dollars, while imports stood at 21.7 billion U.S. dollars.

The result of external sales was a record for all months, favoured by the increase in the price of raw materials. In addition, exports increased by 25% and imports by 27.1%, compared to March 2021. The results are primarily due to a 17.2% increase in prices for all items of the trade balance in the period.

With the increase in the prices of foreign trade products, the government raised the estimated trade surplus for 2022 from 79.4 billion U.S. dollars to 112 billion U.S. dollars, which would be a record if realized. The current year is expected to be good for exports.

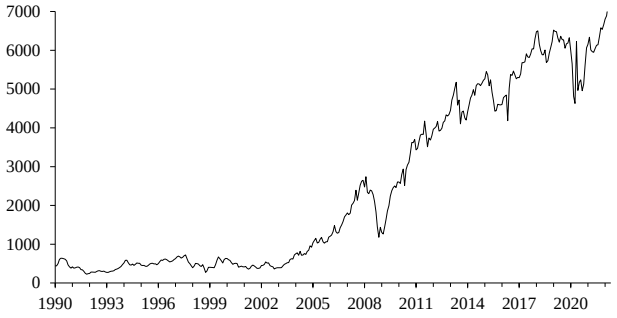
The Brazilian real depreciated against a bullish dollar as demand for a safe currency has increased due to the Ukraine war.

	20	**21**	**22**	**23**	**24**
GDP (%p.a.)	-3.9	4.6	0.5	1.5	2.0
Inflation (%p.a.)	4.5	8.5	8.0	4.0	4.0
Current A/c(US$ bill.)	-7.6	-10.0	-10.0	-12.0	-20.0
Real/$(nom.)	5.5	5.3	4.8	4.9	4.9

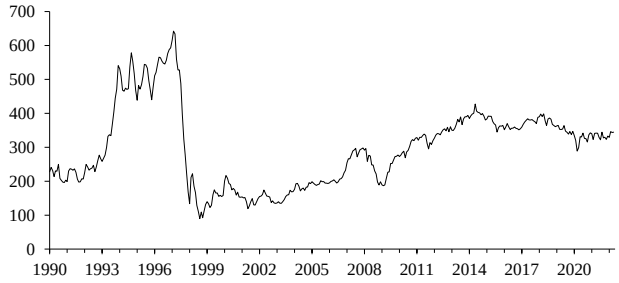
Other Emerging Markets

Hong Kong: FT-Actuaries

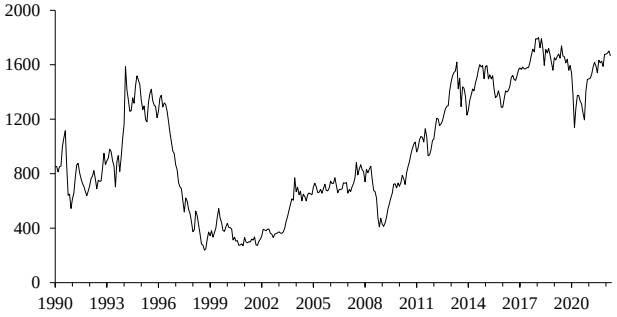
Indonesia: Jakarta Composite



Malaysia: FT-Actuaries (US$ Index)



Thailand: Composite Index



Singapore: Straits Times Index

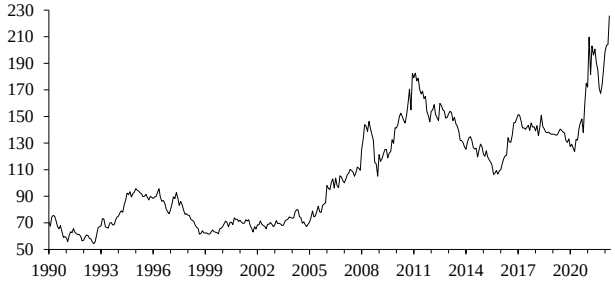
Philippines: Manila Composite

COMMODITY MARKETS

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

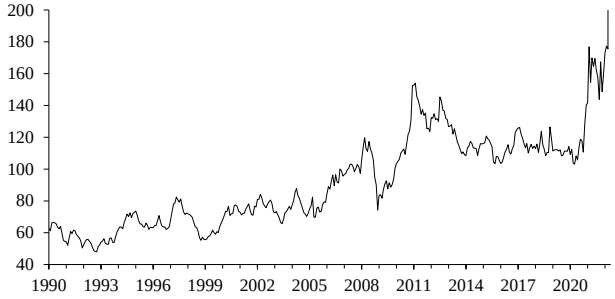
Oil Price: North Sea Brent (in Dollars)

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	-5.6	4.0	-5.3
2022	7.0	1.9	1.5	77.3	77.6	-4.0	8.7	-3.5
2023	4.3	3.5	2.4	76.7	78.9	-1.1	5.7	0.0
2024	3.2	3.0	2.9	76.3	80.0	0.5	4.3	0.6
2020:1	1.7	0.4	0.6	79.5	74.9	-0.2	2.6	-0.4
2020:2	0.8	0.0	0.1	77.6	71.9	-1.0	1.2	-1.1
2020:3	0.8	-0.1	0.1	77.6	72.2	-1.5	1.1	-1.7
2020:4	0.8	0.0	0.1	78.0	72.6	-2.7	1.1	-2.7
2021:1	0.9	0.2	0.1	80.6	76.2	-3.9	1.4	-3.8
2021:2	2.1	0.4	0.1	81.7	77.6	-5.2	3.4	-4.9
2021:3	2.7	0.3	0.1	81.7	78.7	-6.3	4.5	-6.1
2021:4	4.4	0.6	0.1	81.9	80.2	-6.9	6.7	-6.4
2022:1	6.9	0.7	0.3	77.8	77.4	-6.2	9.0	-5.8
2022:2	7.1	1.7	1.7	77.7	77.3	-4.2	8.7	-4.2
2022:3	7.0	2.2	1.8	76.9	77.3	-3.3	8.5	-2.9
2022:4	7.0	3.0	2.0	76.9	78.4	-2.3	8.5	-1.3

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	296.1	5.8	4.5	1.3	154.5
2022	314.8	6.7	4.1	1.1	154.0
2023	328.4	4.3	3.6	1.0	154.0
2024	341.1	4.1	2.8	0.7	155.4
2020:1	279.7	2.7	4.0	1.1	150.0
2020:2	270.1	-0.2	4.1	1.2	145.9
2020:3	278.6	0.2	4.8	1.4	149.0
2020:4	288.2	3.7	5.2	1.6	154.0
2021:1	292.1	4.5	4.9	1.4	155.3
2021:2	289.7	7.3	4.7	1.3	153.4
2021:3	298.4	7.1	4.3	1.3	155.5
2021:4	301.1	4.5	4.1	1.2	153.6
2022:1	311.7	6.7	4.0	1.1	155.0
2022:2	309.3	6.8	4.1	1.1	152.9
2022:3	318.3	6.7	4.1	1.1	155.0
2022:4	319.9	6.7	4.1	1.1	153.1

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	152.0	728097.3	427575.8	258732.0	199232.3	-33095.4	124347.4
2021	163.3	782161.7	452309.6	292118.7	208538.0	-36908.1	133896.5
2022	172.3	825357.2	479861.8	289024.0	218557.2	-23886.6	138199.2
2023	176.1	843295.7	494513.6	282408.2	225319.4	-18612.0	140333.5
2024	181.0	866882.8	509517.7	285194.7	232155.8	-15890.3	144095.1
2019/18	1.4		0.3	3.1	3.0		-0.1
2020/19	-9.4		-10.1	-16.2	-4.8		4.9
2021/20	7.5		6.8	15.8	5.2		7.7
2022/21	5.6		6.2	-0.3	4.8		3.2
2023/22	2.2		3.1	1.2	3.1		1.5
2024/23	2.8		3.0	1.7	3.0		2.7
2020:1	163.4	195632.5	118032.8	72147.1	51656.8	-11632.2	34572.0
2020:2	131.6	157502.4	91565.8	47009.3	43743.5	429.6	25245.8
2020:3	155.3	185971.2	109964.7	64749.1	50846.1	-8204.0	31384.7
2020:4	157.9	188991.2	108012.5	74826.5	52985.9	-13688.8	33144.9
2021:1	155.5	186205.9	106678.2	68183.6	51087.4	-7838.9	31904.4
2021:2	163.9	196217.8	112089.9	66707.0	51382.2	-672.0	33289.3
2021:3	166.4	199176.5	116084.7	78828.1	52892.3	-14394.2	34234.4
2021:4	167.5	200561.5	117456.8	78400.1	53176.1	-14003.1	34468.4
2022:1	169.2	202535.5	118569.8	73860.3	53932.3	-9285.7	34541.2
2022:2	172.2	206121.1	119522.6	69230.1	54465.4	-2829.4	34267.6
2022:3	173.5	207696.3	120433.1	73370.9	54873.9	-6098.3	34883.3
2022:4	174.6	209004.2	121336.4	72562.6	55285.5	-5673.1	34507.2

[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	2.2	2196.3	49.1	-89.1
2020	15.8	2006.2	317.2	-57.6
2021	7.4	2311.2	169.9	-63.8
2022	2.1	2579.1	55.0	-37.9
2023	1.2	2732.3	31.9	-25.5
2024	0.8	2903.4	23.5	-18.1
2020:1	-0.9	549.4	-5.0	-18.7
2020:2	30.6	437.6	133.8	-11.9
2020:3	14.6	519.2	76.0	-12.3
2020:4	12.2	525.7	64.3	-14.8
2021:1	8.2	523.6	43.0	-11.3
2021:2	11.1	554.9	61.6	-13.9
2021:3	7.1	568.4	40.1	-24.0
2021:4	5.8	582.1	33.9	-14.6
2022:1	5.7	605.7	34.2	-15.0
2022:2	2.1	625.2	13.2	-19.3
2022:3	2.3	638.1	14.5	-6.9
2022:4	2.1	654.1	13.7	3.3

[1] GDP at market prices (Financial Year)

WORLD FORECAST DETAIL

Growth Of Real GNP

	2018	2019	2020	2021	2022	2023
U.S.A.	3.0	2.2	–3.5	5.7	3.2	2.2
U.K.	1.3	1.4	–9.4	7.5	5.6	2.2
Japan	0.6	0.0	–4.7	1.7	2.1	1.8
Germany	1.3	0.6	–4.6	2.7	2.2	2.5
France	1.8	1.8	–8.0	7.0	3.8	1.1
Italy	0.9	0.3	–9.0	6.7	4.1	1.3

Growth Of Consumer Prices

	2018	2019	2020	2021	2022	2023
U.S.A.	2.4	1.8	1.2	4.7	7.0	3.2
U.K.	2.5	1.8	1.0	2.5	7.0	4.3
Japan	1.0	0.5	0.0	–0.2	1.6	1.0
Germany	1.8	1.4	0.5	3.1	6.3	2.7
France	1.9	1.3	0.5	1.7	4.6	1.5
Italy	1.2	0.6	-0.1	1.9	4.6	1.3

Real Short-Term Interest Rates

	2018	2019	2020	2021	2022	2023
U.S.A.	0.6	0.3	–4.6	–7.1	-1.6	0.2
U.K.	–1.4	–0.2	–2.3	–6.9	–2.8	–1.9
Japan	–0.4	0.1	0.3	–2.9	–0.9	–0.6
Germany	–1.7	–0.9	–3.6	–6.0	–2.6	–2.3
France	–1.6	–0.9	–2.2	–5.1	–1.4	–1.6
Italy	–0.9	–0.3	–2.4	–5.2	–1.2	–1.4

Nominal Short-Term Interest Rates

	2018	2019	2020	2021	2022	2023
U.S.A.	2.4	1.5	0.4	0.1	1.6	2.6
U.K.	0.4	0.8	0.2	0.1	1.5	2.4
Japan	0.1	0.1	0.1	0.1	0.1	0.1
Germany	–0.3	–0.4	–0.5	–0.6	0.1	0.4
France	–0.3	–0.4	–0.5	–0.6	0.1	0.4
Italy	–0.3	–0.4	–0.5	–0.6	0.1	0.4

Real Long-Term Interest Rates

	2018	2019	2020	2021	2022	2023
U.S.A.	–0.9	–1.8	-3.1	-1.9	0.0	0.4
U.K.	–0.8	–0.4	–2.4	–6.6	–2.4	–0.8
Japan	–0.6	–0.6	–0.8	–0.9	–0.6	–0.6
Germany	–2.6	–3.1	–3.8	–3.2	–1.7	–1.4
France	–1.8	–2.2	–1.9	–1.8	–0.4	0.0
Italy	1.1	–0.4	–1.5	–1.0	1.2	1.6

Nominal Long-Term Interest Rates

	2018	2019	2020	2021	2022	2023
U.S.A.	2.7	1.9	0.9	1.6	2.6	2.8
U.K.	1.0	0.6	0.1	0.4	1.9	3.5
Japan	0.0	0.0	0.0	0.1	0.2	0.2
Germany	0.2	–0.2	–0.6	–0.2	0.5	0.7
France	0.1	–0.3	0.2	0.3	1.0	1.4
Italy	2.8	1.4	0.5	0.9	2.4	2.8

Index Of Real Exchange Rate (2000=100)[1]

	2018	2019	2020	2021	2022	2023
U.S.A.	93.5	96.3	97.6	95.5	98.5	97.0
U.K.	77.4	78.6	78.3	78.2	77.6	78.9
Japan	57.8	59.4	60.6	54.8	52.1	51.5
Germany	96.5	94.8	95.8	96.6	94.3	93.8
France	97.4	95.6	96.4	95.7	93.2	93.1
Italy	102.8	100.4	100.9	100.5	100.0	99.5

[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)

	2018	2019	2020	2021	2022	2023
U.S.A.[1]	112.01	115.73	117.78	113.13	111.49	112.10
U.K.	1.34	1.28	1.28	1.38	1.35	1.35
Japan	112.10	110.40	109.02	106.78	115.10	114.80
Eurozone	0.85	0.89	0.88	0.85	0.88	0.88

[1] The series for the USA is a nominal broad U.S dollar index (2006=100); the series for the UK is $ per £

* Forecasts based on the Liverpool World Model