# LIVERPOOL INVESTMENT LETTER

**February 2022**

Cardiff University
Prifysgol Caerdydd

Cardiff Business School
Ysgol Busnes Caerdydd

**Julian Hodge Institute of Applied Macroeconomics**

**LIVERPOOL RESEARCH GROUP IN MACROECONOMICS**

## LIVERPOOL RESEARCH GROUP IN MACROECONOMICS

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

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

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# LIVERPOOL INVESTMENT LETTER

## February 2022

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# THE RECOVERY CONTINUES AND THERE IS NO NEED TO RAISE TAXES

The latest monthly GDP estimates for November confirm that the economy is recovering well. December's figure for growth will be smaller due to the mini-lockdown measures but still positive. The economy is now above its pre-Covid level.

The PMIs from Markit are also strong in January:

| **Related** | **Latest** |
|---|---|
| Manufacturing PMI | 57.30 |
| Services PMI | 54.10 |
| Composite PMI | 54.20 |

All this suggests that the recovery is continuing strongly into 2022.

The implications of the recovery for tax revenues and benefit payments are that the PSBR will fall sharply in the coming financial year 2022/23 to around 2% of GDP, without any need for higher taxes. Subsequently it will go on falling to zero in a couple of years. This is after allowing for the likely rise in interest rates and in inflation (on index-linked bonds). All this implies that the debt ratio to GDP will fall steadily.

**Table 1: Summary of Forecast**

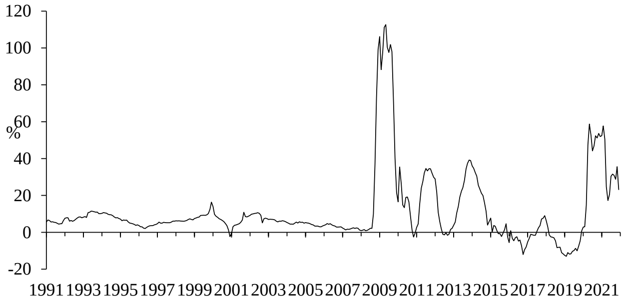
| | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** |
|---|---|---|---|---|---|---|---|
| GDP Growth[1] | 1.3 | 1.4 | -9.9 | 6.7 | 5.7 | 2.9 | 2.1 |
| Inflation CPI | 2.4 | 1.7 | 1.0 | 2.3 | 5.0 | 4.3 | 3.2 |
| Wage Growth | 3.0 | 3.5 | 1.6 | 6.1 | 4.8 | 4.6 | 4.4 |
| Survey Unemployment | 4.1 | 3.8 | 4.5 | 4.6 | 4.9 | 3.6 | 2.8 |
| Exchange Rate[2] | 78.6 | 78.3 | 78.2 | 81.0 | 78.5 | 77.5 | 77.1 |
| 3 Month Interest Rate | 0.4 | 0.8 | 0.2 | 0.1 | 0.7 | 1.4 | 2.9 |
| 5 Year Interest Rate | 1.0 | 0.6 | 0.1 | 0.3 | 1.1 | 2.5 | 3.0 |
| Current Balance (£bn) | -82.9 | -89.1 | -58.2 | -48.3 | -36.0 | -24.3 | -17.0 |
| PSBR (£bn) | 39.3 | 49.1 | 306.6 | 178.7 | 56.8 | 41.4 | 18.5 |

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

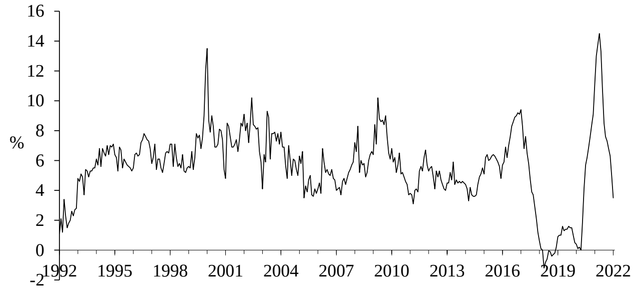
Longer term projections imply it will get to around 50% by the mid-2030s, a target for complete long term safety.

Furthermore, to boost growth a policy agenda of actually cutting taxes is not just viable but desirable. By raising growth it will pay for itself long term — as our projections in previous Letters have shown. Unfortunately the Treasury has turned a deaf ear to these points and continues to press for tax rises. However, though these are intended to bring down debt faster they may simply succeed in derailing growth and in so doing actually push debt up.

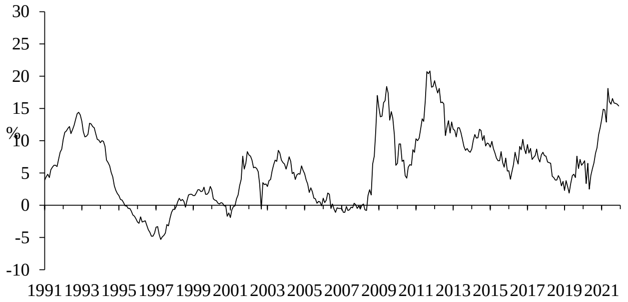
**U.S.: Growth in M0 (Yr - on - Yr)**




**UK: Notes and Coins in Circulation Growth**

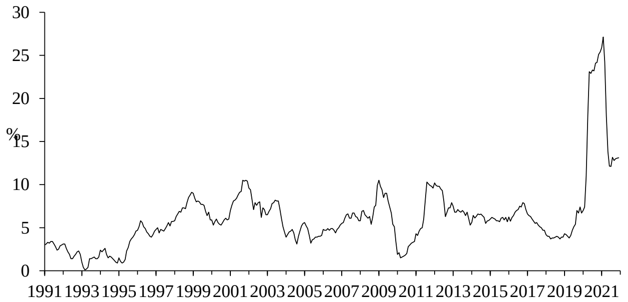



**U.S.: Growth in M1 (Yr - on - Yr)**

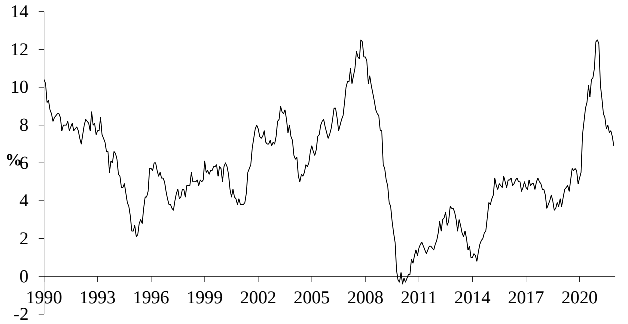



**UK: M4 Growth**

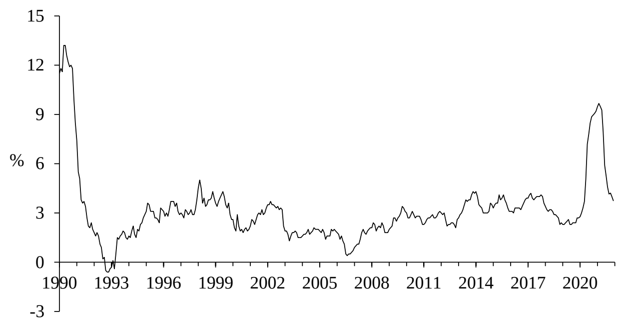

**U.S.: Growth in M2 (Yr - on - Yr)**




**Eurozone M3 Growth**




**Japan: Growth of M2+CD's**



# FOCUS ON JAPAN

Francesco Perugini

## Bank of Japan lifts inflation forecast

The Bank of Japan (BOJ) revised its inflation forecast for the first time since 2014 during its last meeting and adjusted its view of price risks, while leaving its monetary easing policy in place in a nod to lingering pandemic uncertainty. The central bank kept its negative interest rate, bond yield target and asset purchases unchanged at the end of its meeting last month. The stand-pat decision was widely expected given that Japan's gradually accelerating inflation still remains far weaker than in the US and other major European economies. The BOJ said the risks to prices are balanced instead of tilted downward, in a change that shows the bank now sees the possibility of inflation outstripping their projections, not just undershooting them.

In a quarterly report on prices and the economy, the BOJ said it now forecasts inflation of 1.1% for the fiscal year to March 2023, up from its previous forecast of 0.9%. It also revised up its forecast for the fiscal year to March 2024 to 1.1% from 1.0%, leaving the projection for the current year unchanged. "The projected rate of increase in the CPI (consumer price index) for fiscal 2022 is somewhat higher, mainly reflecting a rise in commodity prices and the pass-through of that rise to consumer prices", the central bank said.

The cautious forecast will likely cool any speculation that the BOJ might start gearing up to normalize policy during Governor Haruhiko Kuroda's last full year at the helm. "Consumer inflation is likely to stay around 1% through the end of the BOJ's projection period. As such, there is no need to modify the BOJ's monetary easing" Kuroda said at a news conference after the day's meeting. "Japan has recently seen inflationary pressure heighten. This is driven partly by an improving output gap, reflecting a pickup in Japan's economy. When you look at Japan's past experience, such as in 2018, price gains driven by rising commodity costs had been temporary" Kuroda said. "Kuroda has essentially pushed back emerging speculation over possible policy adjustments this year. Even with the latest upward revision in prices, a change in (the BOJ's) policy stance is hard to imagine as the inflation target is still far away", said Masamichi Adachi, chief Japan economist at UBS Securities and a former BOJ official. "With no Board member expecting inflation to come close to the two percent target for the foreseeable future, talk of policy tightening is premature," added Marcel Thieliant, senior Japan economist at Capital Economics. "We are even more pessimistic than the Bank about the medium-term outlook for inflation. We're sticking to our view that the Bank will keep interest rates low for the foreseeable future".

Instead of a surge in prices across the board, inflation in Japan remains limited to items such as fuel and cooking essentials as companies continue to absorb the fastest costs increases in decades rather than risk losing business with higher price tags. But higher prices for energy and some daily necessities could still pique voters seeing their pocket books squeezed ahead of national elections in summer. That could trigger possible political pressure from Prime Minister Fumio Kishida's administration to tweak policy. The divergence from the Fed and other major central banks has also made the yen the world's worst performing major currency in the past 12 months, as investors move money into higher yielding assets. The currency's slide is a boon to Japan's exporters, but it drives up energy costs for businesses and households.

While consumer price data remains soft, there is some evidence that the key gauge is overstating the weakness. The data show core prices edging up just 0.5% in November, but the measure would have reached the BOJ's 2% target were it not for the impact of phone fees that have been cut sharply under government pressure. The phone-effect will start to fade out from April and the resulting higher price data could fuel angst among Japanese households whose inflation expectations are already running at the highest level since 2008, largely as a result of costlier gasoline. Still, most private sector analysts see inflation cooling later in 2022 as energy prices stabilize and with wage gains likely staying subdued. Stagnant pay, a longstanding problem for the country's workers, is one reason a majority of economists still don't see major action from the bank this year or next. "The BOJ will stick to its current policy framework at least until Kuroda's term ends" in April next year, said Yuichi Kodama, chief economist at Meiji Yasuda Research Institute. "Minor adjustments have made the framework sustainable, and I think the hurdle is very high for interest rate changes. That's going to be the job for Kuroda's successor," he added.

Meanwhile, as pressure from inflation is building amid the uncertain impact of the coronavirus pandemic on the economic outlook, recent data show that Japanese consumers are holding off on spending. Household spending posted an annual drop for the fourth straight month in November — minus 1.3% from a year earlier. At the same time, Japanese household assets increased 1.3% to a record ¥3.07 quadrillion ($27 trillion), i.e., 0.5% of GDP, at the end of 2020 from a year earlier.

Although the BOJ has revised up its inflation forecast, the BOJ is still missing its target of reaching an inflation rate of 2% after a decade of quantitative and qualitative monetary easing. BOJ Governor Haruhiko Kuroda's term will run to April 2023; it means the central bank has effectively given up on reaching 2% during his tenure. When he took his post in April 2013, he set a target of increasing Japan's inflation rate to 2% "in around two years", and the country embarked on a policy of a so-called "new phase of easing" injecting large amounts of money into the market. However, it seems that Japan is standing where it was in 2013. Japan is still no nearer to normal growth.

# MARKET DEVELOPMENTS

As interest rates rise, equity markets are adjusting by reducing prices on shares whose future profit flows are more tenuous. With the recovery mainstream profits should rise protecting their firms' share values.

**Table 1: Market Developments**

| | Market Levels | | Prediction for Jan/Feb 2023 | |
|---|---|---|---|---|
| | **Jan 5** | **Feb 7** | **Previous Letter** | **Current View** |
| **Share Indices** | | | | |
| UK (FT 100) | 7517 | 7573 | 12899 | 12920 |
| US (S&P 500) | 4701 | 4484 | 7065 | 6766 |
| Germany (DAX 30) | 16272 | 15207 | 28541 | 26368 |
| Japan (Tokyo New) | 2039 | 1926 | 2569 | 2427 |
| **Bond Yields (government** | | | | |
| UK | 1.13 | 1.49 | 2.00 | 2.00 |
| US | 1.73 | 1.96 | 2.00 | 2.00 |
| Germany | –0.06 | 0.27 | 0.00 | 0.00 |
| Japan | 0.13 | 0.22 | 0.10 | 0.10 |
| UK Index Linked | –2.35 | –2.10 | 1.00 | 1.00 |
| **Exchange Rates** | | | | |
| UK ($ per £) | 1.36 | 1.35 | 1.30 | 1.30 |
| UK (trade weighted) | 82.89 | 82.28 | 78.8 | 78.8 |
| US (trade weighted) | 103.13 | 103.38 | 100.5 | 100.5 |
| Euro per $ | 0.88 | 0.87 | 0.88 | 0.88 |
| Euro per £ | 1.20 | 1.18 | 1.14 | 1.14 |
| Japan (Yen per $) | 115.79 | 115.06 | 107.5 | 107.5 |
| **Short Term Interest Rates** | | | | |
| UK | 0.63 | 0.63 | 1.00 | 1.00 |
| US | 0.18 | 0.31 | 1.00 | 1.00 |
| Euro | –0.59 | –0.50 | –0.50 | –0.50 |
| Japan | 0.00 | 0.00 | 0.00 | 0.00 |

**Table 2: Prospective Yields [1]**

**Equities: Contribution to £ yield of:**

| | **Dividend Yield** | **Real Growth** | **Inflation** | **Changing Dividend Yield** | **Currency** | **Total** |
|---|---|---|---|---|---|---|
| UK | 3.60 | 2.6 | 5.0 | 63.00 | | 74.20 |
| US | 1.99 | 2.4 | 5.0 | 42.90 | 3.92 | 56.81 |
| Germany | 3.30 | 1.8 | 1.6 | 72.00 | 3.23 | 79.93 |
| Japan | 1.90 | 1.5 | 0.5 | 24.00 | 10.23 | 38.13 |
| UK indexed[2] | –2.35 | | 5.0 | 16.00 | | 18.90 |
| Hong Kong[3] | 2.60 | 5.2 | 5.0 | 5.00 | 3.92 | 21.72 |
| Malaysia | 3.30 | 4.5 | 5.0 | 64.00 | 3.92 | 80.72 |
| Singapore | 3.50 | 3.8 | 5.0 | 45.00 | 3.92 | 61.22 |
| India | 1.40 | 5.5 | 5.0 | 22.00 | 3.92 | 37.82 |
| Korea | 1.10 | 3.0 | 5.0 | 4.00 | 3.92 | 17.02 |
| Indonesia | 2.20 | 5.3 | 5.0 | 49.00 | 3.92 | 65.42 |
| Taiwan | 2.80 | 3.3 | 5.0 | 45.00 | 3.92 | 60.02 |
| Thailand | 3.20 | 4.2 | 5.0 | 41.00 | 3.92 | 56.92 |

**Bonds: Contribution to £ yield of: –**

| | **Redemption Yield** | **Changing Nominal Rates** | **Currency** | **Total** |
|---|---|---|---|---|
| UK | 1.49 | –5.07 | | –3.58 |
| US | 1.96 | –0.39 | 3.92 | 5.50 |
| Germany | 0.27 | 2.66 | 3.23 | 6.16 |
| Japan | 0.22 | 1.21 | 10.23 | 11.66 |

**Deposits: Contribution to £ yield of:**

| | **Deposit Yield** | **Currency** | **Total** |
|---|---|---|---|
| UK | 0.63 | | 0.63 |
| US | 0.31 | 3.92 | 4.23 |
| Euro | –0.50 | 3.23 | 2.73 |
| Japan | 0.00 | 10.23 | 10.23 |

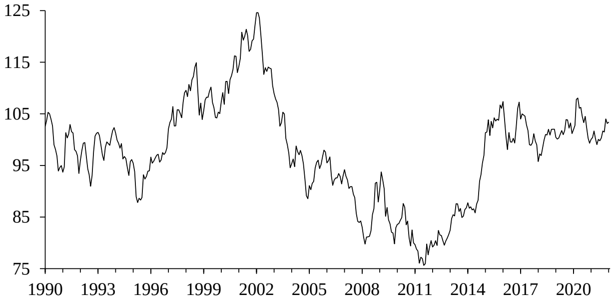
[1] Yields in terms of €s or $s can be computed by adjusting the £-based yields for the expected currency change.
[2] UK index linked bonds All Stocks
[3] Output based on China.

**Table 3: Portfolio(%)**

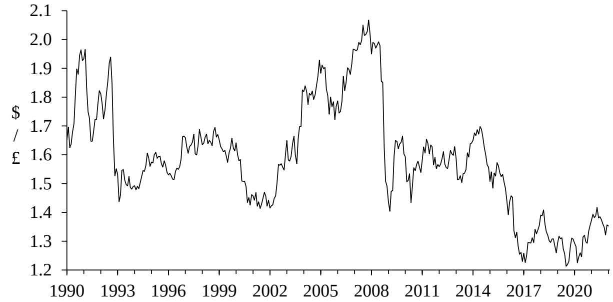
| | Sterling Based Investor | | Dollar Based Investor | | Euro Based Investor | |
|---|---|---|---|---|---|---|
| | January Letter | Current View | January Letter | Current View | January Letter | Current View |
| UK Deposits (Cash) | 5 | 5 | 5 | 5 | 1 | 1 |
| US Deposits | - | - | - | - | - | - |
| 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

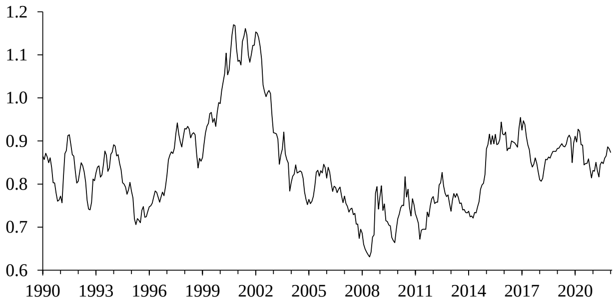
**US : Trade Weighted Index**
**(Bank of England 1990 = 100)**



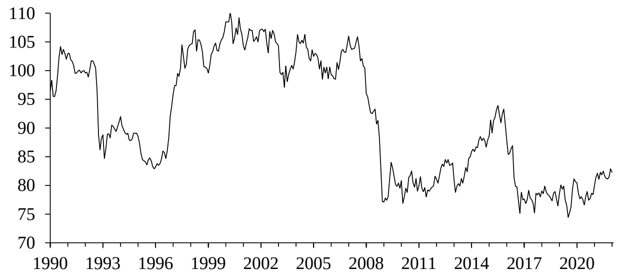

**UK: Dollars Per Pound Sterling**



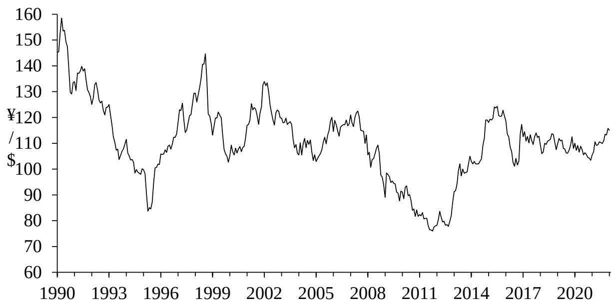

**Euro per US dollar**




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



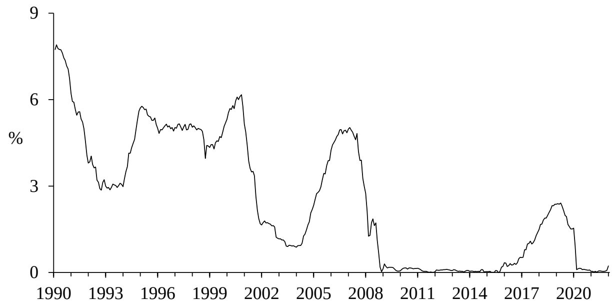

**Japan : Yen Per U.S. Dollar**



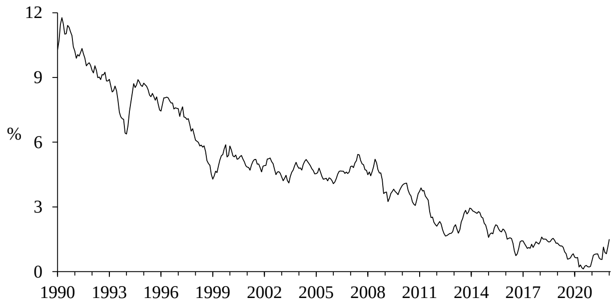
# GOVERNMENT BOND MARKETS

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

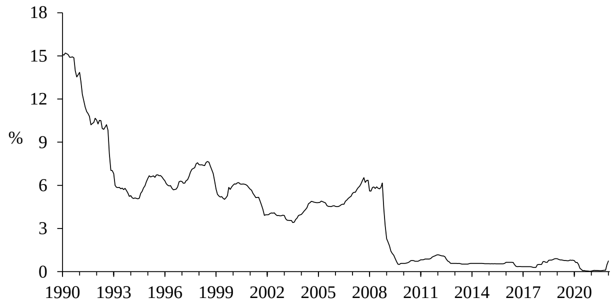

**U.S. : 3-Month Treasury Bill**



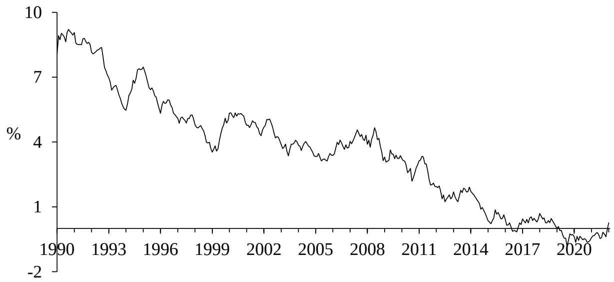

**U.K.: Yield on Long-Term Government Bonds**



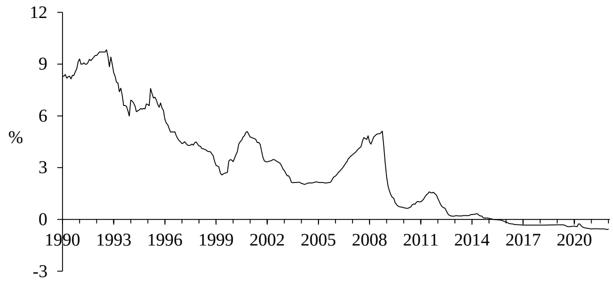

**U.K. : 3-Month Certificate LIBOR Rate**



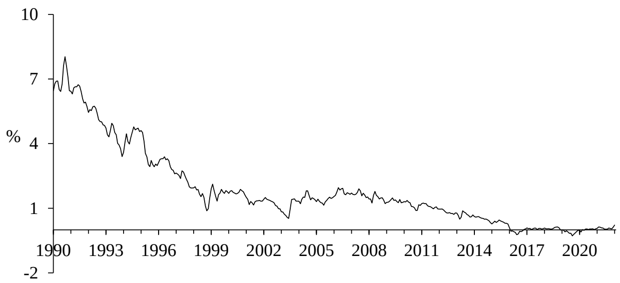

**Germany: Yield on Public Authority Bonds**



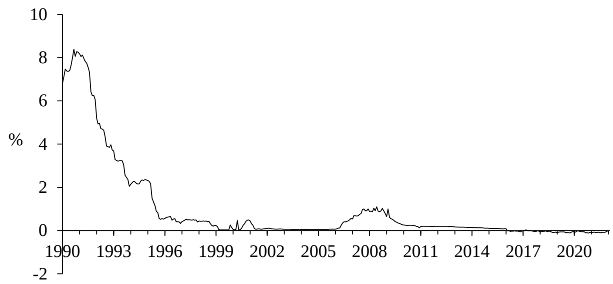

**Germany : 3-Month Interbank Deposit Rate**




**Japan: Yield on Long-Term Government Bonds**

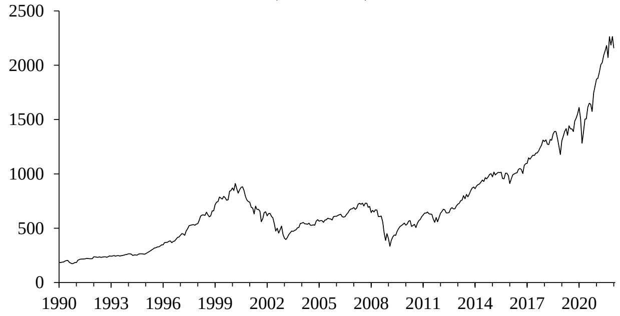



**Japan : 3-Month Money Market Rate**

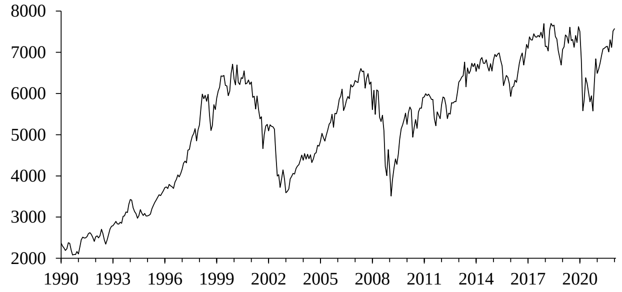


# MAJOR EQUITY MARKETS

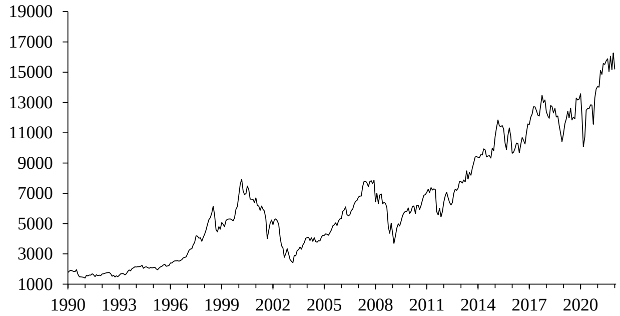
**U.S. : S & P 400 Industrial**
**(1985=100)**




**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 plans to battle Covid-19 by accelerating vaccinations and now a massive investment in the infrastructure sector with fiscal consolidation portends well for the economy in the medium term. Many Indian states have reopened schools and all restrictions on domestic travel are removed. Most of the medical doctors are nudging the public to treat Covid-19 like malaria and dengue from now on. The course of the pandemic repeatedly forced the government to deviate from its initial script but they have been able to adapt quickly to changing circumstances.

More than 75% of India's adult population has been fully vaccinated against Covid-19. Without a scientific study, the government is not declaring that India has got herd immunity but in practice it seems that it has. Deaths in the third wave have remained mere fractions of the previous waves — a factor that experts credited, at least in part, to the success of the vaccination campaign.

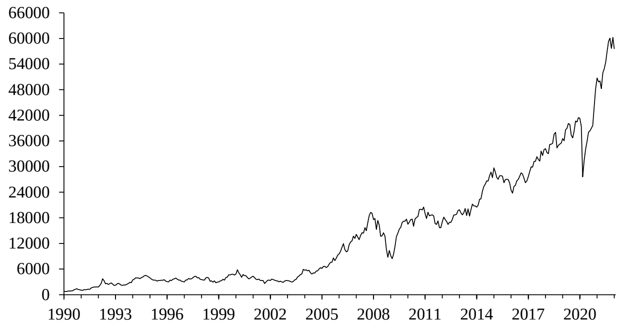
The Indian economy shrank by 6.6% in 2020–21, as compared to growth of 3.7% during 2019–20. We expect GDP to grow 9.2% in the fiscal year 2021–22 and 7.5% in the following fiscal year. Our forecast is on the conservative side compared to the IMF forecast of 9% in 2022–23, on top of a 9% growth in 2021–22, and follow that up with a 7.1% growth in 2023–24. For an economy of India's size and diversity to negotiate the worst years of the pandemic and come out with a 4.21% compound annual growth rate is very respectable.

The Manufacturing Purchasing Managers' Index fell to 54.0 in January from December's 55.5. But a number of measures such as output, new orders and input buying remained in expansion mode. Although growth rates eased, they remain historically strong.

Consumer prices accelerated to a five-month high of 5.6% in December. It is close to the upper end of the central bank's mandated inflation band of 2% to 6%. We expect the RBI to focus on reining in inflation to 4% from current high levels through next year with domestic growth on a relatively better footing and assuming no surprises on the COVID-19 front.

India's central bank has held its key repo rate at a record low of 4% since May 2020, and assured the markets it will continue to keep its policy stance accommodative until economic recovery is firmly entrenched. In the forthcoming policy review on February 9, we expect a hike of 25 bps in the reverse repo rate to restore normalcy and provide clarity. This would revise their accommodative stance as a countermeasure to the expansionary budget.

**India: BSE Sensex**




Exports of both goods and services have been exceptionally strong so far in 2021–22 but imports also recovered strongly with recovery in domestic demand as well as higher international commodity prices. India has set a target to touch $400 billion in merchandise exports by the end of this fiscal, having already crossed $300 billion in the first 9 months. During April–December 2021–22, exports rose 49.7% to $301.4 billion. Imports during the period surged 68.9% to $443.8 billion, leaving a trade deficit of $142.4 billion compared to a trade deficit of $15.7 billion a year ago. Service exports have expanded well ensuring that trade deficit is manageable.

The current account deficit was negative for the first half of the year, at -0.2% of GDP, which is not a worry. A deficit up to the 2.5% level is expected in a growing economy. Once the 3% threshold is crossed, the central bank examines whether any intervention is required to moderate the deficit. Normally as the deficit widens, the rupee tends to fall unless the capital flows — like FII and FDI — are robust.

India is pursuing several new Free Trade Agreements (FTAs) to expand opportunities for Indian exporters. India is currently in the process of negotiating FTAs with the UK, UAE, Australia, Israel and the EU and is aiming to close interim trade deals with the UAE, Australia and the UK within this year.

The Budget presented on February 1, expects a virtuous cycle of investment to revive on account of capital expenditure and crowd in private investment. It is grounded in an efficient and leak-proof delivery of direct benefits to the poorest and finally the building of hard, visible infrastructure.

Overall, the Budget is growth-inducing and does the heavy lifting by sharply increasing capital expenditure. It has been a pragmatic budget trying to create the right ecosystem for putting the Indian economy on a high growth. There was no direct stimulus to spur consumption and no major announcement on privatization. The focus was on boosting manufacturing as well as an underlined emphasis on areas such as start-ups, modern mobility, and clean energy.

Having privatised Air India in the current fiscal year and all set to divest a small portion of Life Insurance of India, the government has won its creditability as a reform-oriented government.

In the budget, Finance Minister Nirmala Sitharaman announced the Reserve Bank of India (RBI) will launch its own Digital Rupee in the new financial year. Moreover, by taxing crypto currency, the government has indirectly legalized it in India. Indian stock markets broke all sorts of records in 2021 and very high valuations may cap further upside this year.

| | **20–21** | **21–22** | **22–23** | **23-24** | **24-25** |
|---|---|---|---|---|---|
| GDP (%p.a.) | -6.9 | 9.2 | 7.5 | 6.4 | 6.5 |
| WPI (%p.a.) | 5.5 | 6.0 | 5.5 | 5.3 | 5.1 |
| Current A/c(US$ bill.) | 35.0 | -35.0 | -30.0 | -30.0 | -30.0 |
| Rs./$(nom.) | 75.0 | 74.5 | 75.0 | 76.0 | 77.0 |

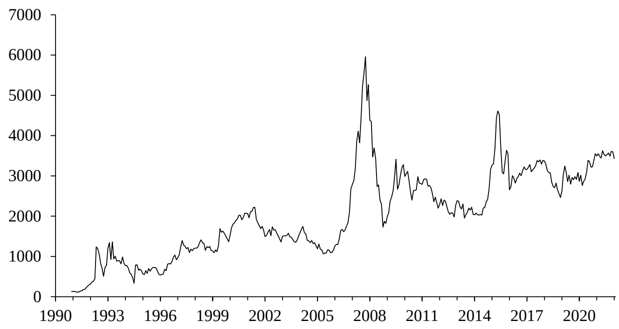
## China

The 2022 Winter Olympics inauguration in Beijing was spectacular except that the Olympic village looks more like a hospital than a sports arena. The inauguration of inter China's zero-Covid policy aimed at controlling the pandemic and Beijing's unwavering insistence on stamping out any trace of the coronavirus are going to have a long-term impact on the Chinese economy as well as the world economy. As viruses do not respect any national boundaries, China will become a hermetic country once again until the debate between reformists and more-conservative Chinese Communist Party officials over whether the market or the state can more efficiently allocate capital and economic resources settles down. A few Party officials have urged a loosening of Mr. Xi's flagship "Common Prosperity" campaign. But 2022 is a crucial year for Mr. Xi because he is seeking a third five-year term at the Chinese Communist Party's 20th Party Congress this fall — and then potentially rule for life. He wants to prevent any disruption of China's economic, financial, or social stability for the time being. The economic destruction Mr. Xi's centralization of power has given his critics leverage that they haven't had for years.

Beneath the surface of Chinese politics, there is other evidence of a political reaction to Mr. Xi's attacks on the private sector and his overall negative views on the role of the market. This is seen in some circles as a response to those members who are frustrated with Mr. Xi's ideological move to the left, redirection of politics and the state-controlled economy. The Chinese economy could face, if not turbulent, tougher times in 2022, where economic policies move in opposite direction. The underlying theme would be Mr. Xi should get re-elected.

China's economy expanded 8.1% last year. But weakening growth in the closing months of 2021 suggests that trouble is still on the horizon as the country contends with a

**China: SSE Composite Index**




deepening real estate crisis, renewed Covid outbreaks and Beijing's strict no-tolerance approach to controlling the virus. China's gross domestic product grew by 2.2% in 2020 from the prior year. We maintain our forecast of GDP growth of 5.2% and 5% in 2022 and 2023 respectively. This makes GDP growth of 5.1% in the period 2020-23, but step fall after that as many headwinds face the economy. The IMF predicts GDP growth to fall to 4.8% in 2022. Our view is that political pressure to ensure a strong growth ahead of the Communist Party conclave later in the year will force the government to have a course correction.

China's PMI, which includes both services and construction activity, fell to 51.1 in January from December's 52.7. The subindex measuring services activity dropped to 50.3 in January, the lowest level in five months, from December's 52.0, dragged down by coronavirus outbreaks across the country. The granular economic data provides the first glimpse this year into the health of the economy. The economy lost momentum in the final months of 2021. The domestic economy is under the triple pressure of demand contraction, supply shock and weakening expectations.

According to the IMF assessment, in its Article IV review, there exists a growing concern among officials that greater state intervention in the economy could be hindering China's long-held goal of "high-quality" growth — one driven by consumption rather than investment. Authorities' strict pandemic restrictions have made consumers hesitant to spend. A cascade of policy measures over the past year — centred on reining in what President Xi Jinping views as capitalist excesses, including property speculation — have also dampened the sentiment among both private businesses and individuals.

China's inflation pressures moderated in December, giving the central bank scope to cut interest rates to cushion the economy's downturn just as most major nations look to tightening policy.

The producer price index rose 10.3% from a year earlier, down from November's 12.9%, while the consumer price index increased 1.5%, compared with 2.3% in November. Prompted by the reduction in inflation, the People's Bank of China cut the borrowing cost of medium-term loans for the first time since April 2020. The central bank added to a pattern of gradual easing by cutting the one-year policy loans rate by 10 basis points to 2.85% and the rate on seven-day reverse repurchase agreements to 2.1%.

China cut its benchmark lending rates for a second straight month in mid-January. The central bank cut the one-year loan prime rate to 3.70%, 10 basis points lower than last month's 3.80% level. The five-year loan prime rate was lowered to 4.60%, from 4.65%.

China's politically volatile global trade surplus surged to $676.4 billion in 2021, the highest ever recorded by any country, as exports jumped 29.9% over a year earlier despite semiconductor shortages that disrupted manufacturing. The country's trade surplus in December swelled 20.8% over a year earlier to a monthly record of $94.4 billion.

Exports rose to $3.3 trillion in 2021 despite shortages of processor chips for smartphones and other products as global demand rebounded from the pandemic. Chinese imports in 2021 rose 30.1% to $2.7 trillion as the economy rebounded from the pandemic. The Olympics will see a steady rollout of China's central bank digital currency (CBDC). By the end of 2021, the digital yuan had 261 million users, up from just 21 million at the end of June 2021. China became one of the first major countries to commence CBDC trials: essentially, just digital versions of the paper currency and coins that central banks issue. Beijing seems to be implementing a "learning by doing" strategy, conducting small-scale trials before rolling out the initiative nationwide. China's trials of the digital yuan started in April 2020 as part of a broader initiative by China's central bank to improve retail payments. The e-CNY would also keep the central bank at the fulcrum of China's monetary system, even as the use of cash declines rapidly.

The onshore yuan rose to 6.3238 per dollar, the strongest since April 2018. But the longer-term outlook is more subdued. An expected slowdown in export growth and policy divergence may weigh on the currency.

| | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|
| GDP (%p.a.) | 2.2 | 8.1 | 5.2 | 5.0 | 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 | 6.4 | 6.4 | 6.3 |

## South Korea

South Korea's economy grew 4% in 2021 despite the pandemic. The decline in capital investment and a slow recovery in the coronavirus-hit service sectors were more than compensated by a jump in exports and construction activity.

We maintain our GDP growth forecast of 3% for 2022 as South Korea continue to derive benefits from strength in computer chips exports and increased public spending,

**Korea: Composite Index**


though record local COVID-19 cases may shave off couple of basis points from consumption.

The government set up a 14 trillion won ($11.7 billion) supplementary budget to boost the incomes of small business owners hit by the pandemic. The budget will easily pass the National Assembly as both ruling and opposition parties are eager to provide support to the public ahead of the presidential election on March 9.

The Bank of Korea (BOK) expects consumer inflation to run in the 3% range for "a considerable time," exceeding the 2% projection. Soaring inflation has put pressure on the BOK to act, as consumer inflation for the whole year of 2021 surged to 2.5%. We expect consumer inflation to be 2.2% in 2022 as crude oil prices remain elevated.

Back-to-back rate hikes by the BOK, not seen since 2007, comes as global policymakers from the U.S. Federal Reserve to the U.K. move to end emergency stimulus to contain rapid consumer price rises. Maintaining a premium over U.S. interest rates helps in maintaining stability in local markets and prevent a further weakening of the won. The currency is depreciating since July 2020. Surging property values and household debt have raised pressure on policymakers to act. The BOK has been at the forefront of global stimulus withdrawal as many central banks start to shift away from the view that faster inflation that came as a by-product of the pandemic is transitory.

The upturn in South Korea's economy paved the way to tighter monetary policy this year. The central bank raised its key rate to 1.25% on January 14. The BOK Governor Lee Ju-yeol has turned hawkish and has signalled that he may tighten further as growth and inflationary pressures remain strong. Lee may be keen to stay ahead of the US Fed moves and maintain stability in currency markets that have already priced in more than three Korean rate hikes this year.

South Korea recorded its biggest monthly trade deficit in more than three decades after costlier fuel imports outweighed export growth in figures that suggest global demand remains largely robust despite a surge in Covid infections and rising inflation fears. The deficit swelled to $4.9 billion in January, the biggest deficit since 1989 as imports expanded at a faster-than-expected pace of 35.5% from a year earlier. Exports rose 15.2%, narrowing from an 18.3% gain in December.

| | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|
| GDP (%p.a.) | -0.9 | 4.0 | 3.0 | 2.5 | 2.3 |
| Inflation (%p.a.) | 0.5 | 2.5 | 2.2 | 2.0 | 2.0 |
| Current A/c(US$ bill.) | 70.0 | 91.0 | 80.0 | 40.0 | 35.0 |
| Won/$(nom.) | 1070 | 1150 | 1170 | 1200 | 1210 |

## Taiwan

Taiwan's economy grew last year at its fastest pace in more than a decade, driven by strong tech exports during the COVID-19 pandemic as demand for computer chips grew and consumer confidence recovered in the domestic market.

For 2021, GDP is expected to clock 6.3%. This is the fastest pace since an expansion of 10.25% in 2010. GDP grew a preliminary 4.88% in the fourth quarter of 2021 from a year earlier after a rise of 3.7% in the period from July to September. The GDP growth in 2022 is set to grow 3.6% this year from an unprecedented spending spree by its large companies.

Consumer prices in Taiwan rose 2.62% in December from a year earlier, which is above the government's 2% inflationary target for the fifth consecutive month. The inflation was mainly driven by an increase in the price of airline tickets, fruit, vegetables, eggs, meat, and clothing.

The growth in consumption and surging fuel prices have led to inflation rising above the central bank's 2% comfort zone. This is leading policy makers to raise the benchmark rate from a record-low 1.125%. The central bank is expected to consider its first rate hike since 2011 at its next meeting scheduled for mid-March. The central bank may decide to leave the rate hike in March to give a breathing space to the Taiwan dollar.

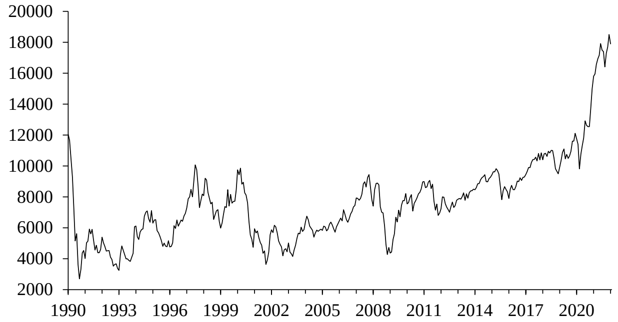
Taiwan exports climbed to a record high in 2021, registering annual growth of almost 30%, driven by solid global demand for tech gadgets and old economy items. Meanwhile, Taiwan's imports totalled US$35 billion in December, up 28.1% from a year earlier. The trade surplus increased 1.1% year-on-year, which stood at US$5.8 billion.

Appreciation of the Taiwan dollar is of concern to the central bank as it hurts exports. Taiwan's policy makers slow the currency's gains as it approaches 27.5 to the US dollar.

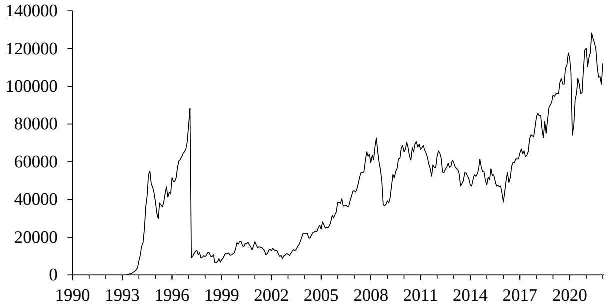
The US and NATO response to the Ukraine-Russia crisis has given an indirect assurance to Taiwan. It has given a clear signal to China that any misadventure in the Taiwan strait will be met with military might of near and far democratic nations.

| | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|
| GDP (%p.a.) | 3.1 | 6.3 | 3.6 | 3.2 | 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 | 27.2 | 27.0 | 27.0 |

**Taiwan: Weighted TAIEX Price Index**




**Brazil: Bovespa**




## Brazil

The spread of the omicron strain of Covid-19 has strained Brazil's economy further. Besides this the central bank is hell bent upon squeezing inflation. The steep interest rate hikes have crimped domestic demand. The International Monetary Fund (IMF) expects almost no growth in 2022 and recovery in 2023 to be very tepid. GDP growth is expected to be 0.3% and 1.6% in 2022 and 2023 respectively. We are maintaining our forecast to be 1% and 2% for 2022 and 2023 respectively and expect the economy to remain on even keel in the coming two years. Even though retail sales have fallen in three of the past six months, industrial output rose in December for the first time since May.

Annual inflation in mid-January stood at 10.20%. The central bank has forecast consumer prices to end 2022 at 5.4%, above the ceiling of this year's target range. In 2023, the bank expects inflation to be 3.2% at the end of the year. We are maintaining our forecast of 4.5% and 4% for 2022 and 2023. Inflation is caused by costlier fuel, kinks in global supply chains and a series of extreme weather events, from droughts to floods, that have stoked food and raw material prices.

To fight inflation aggressively, the central bank lifted the Selic to 10.75% that has boosted borrowing costs by 875 basis points since March 2021. The central bank signalled the monetary tightening cycle is closer to an end after delivering its third straight interest rate hike of 150 basis points, taking borrowing costs past 10% for the first time in nearly five years. The central bank intend to slow the pace of rate increases, though they didn't specify by how much.

Brazil posted a record $61 billion trade surplus in 2021, and the Economy Ministry expects that figure to reach $80 billion in 2022 due to a decline in imports. However, we expect a marginal current account deficit in 2022 as well as in 2023.

Many Latin American countries have elected leftist leaders in 2021 and investors are increasingly turning their attention to Brazil’s election, which could mark Luiz Inacio Lula da Silva’s comeback. Both Chile and Peru have elected leftist presidents and polls show Colombian and Brazilian voters may follow suit later this year. The Brazilian Real gained after the leftist ex-President, the front-runner in this year’s presidential race, announced his intention to have former Sao Paulo Governor Geraldo Alckmin as his running mate. This signalled that he shall follow moderate policies if elected. The Real strengthened more than 5% to 5.28 per U.S. dollar, leading gains among emerging market currencies.

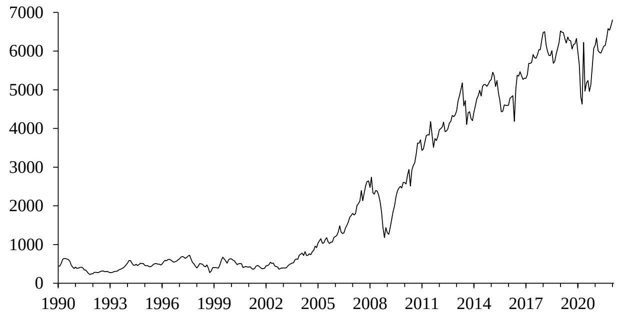
Celo, a blockchain-based mobile app service provider, launched cReal, a stable coin whose value is tied to the Brazilian local currency Real. There has been a demand for this for quite some time as Brazil has been suffering from severe currency devaluation and its citizens resorted to buying cryptocurrencies to protect their wealth.

| | **20** | **21** | **22** | **23** | **24** |
|---|---|---|---|---|---|
| GDP (%p.a.) | -4.5 | 4.4 | 1.0 | 2.0 | 2.0 |
| Inflation (%p.a.) | 4.5 | 8.5 | 4.5 | 4.0 | 4.0 |
| Current A/c(US$ bill.) | -7.6 | -10.0 | -10.0 | -12.0 | -20.0 |
| Real/$(nom.) | 5.5 | 5.2 | 5.5 | 5.5 | 5.6 |

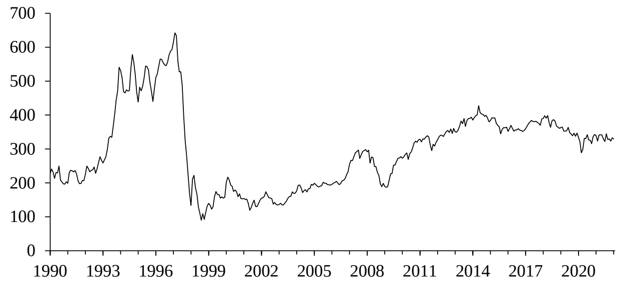
## Other Emerging Markets

**Hong Kong: FT-Actuaries**


**Indonesia: Jakarta Composite**

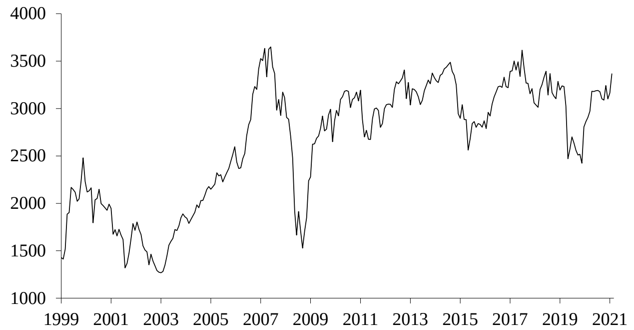



**Malaysia: FT-Actuaries (US$ Index)**




**Thailand: Composite Index**

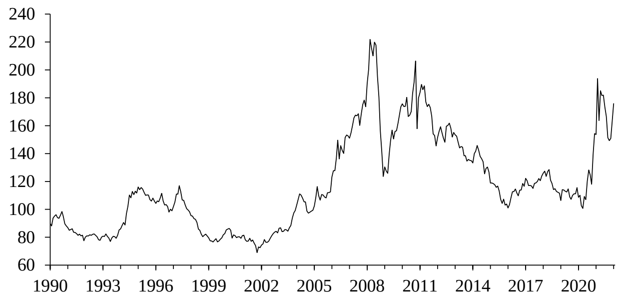

**Singapore: Straits Times Index**



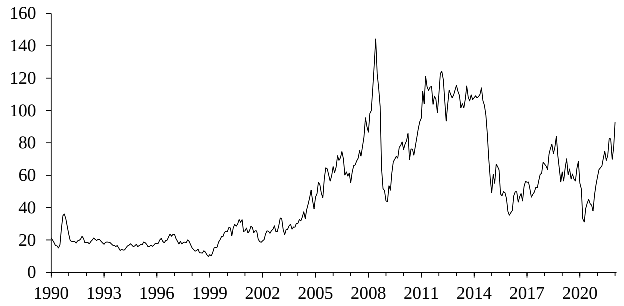

**Philippines: Manila Composite**

# COMMODITY MARKETS

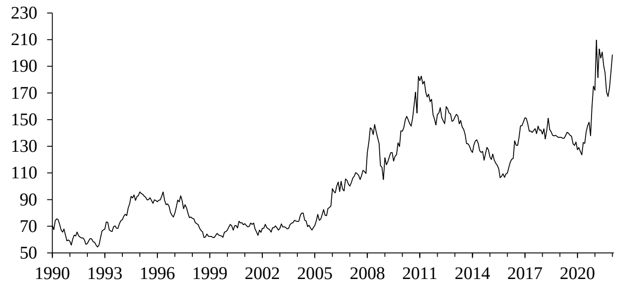
**Commodity Price Index (Dollar)**
**(Economist, 2015 = 100)**



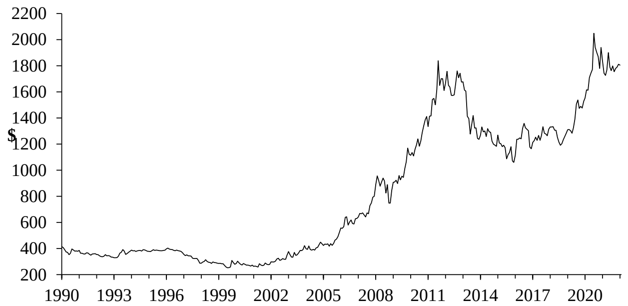

**Oil Price: North Sea Brent (in Dollars)**



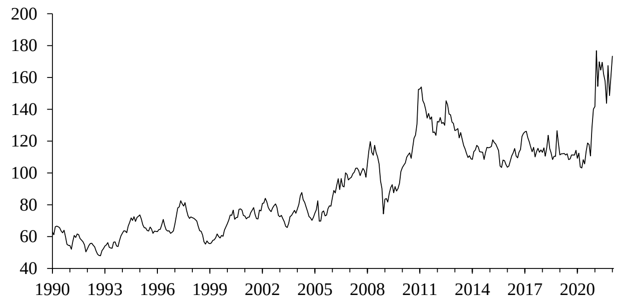

**Commodity Price Index (Sterling)**
**(Economist, 2015 = 100)**




**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 | 2.3 | 0.3 | 0.1 | 81.0 | 77.4 | -4.1 | 4.0 | -3.9 |
| 2022 | 5.0 | 1.1 | 0.7 | 78.5 | 77.6 | -4.0 | 6.7 | -3.6 |
| 2023 | 4.3 | 2.5 | 1.4 | 77.5 | 78.9 | -2.1 | 5.7 | -1.0 |
| 2024 | 3.2 | 3.0 | 2.9 | 77.1 | 80.0 | 0.5 | 4.3 | 0.6 |
| | | | | | | | | |
| 2021:1 | 0.9 | 0.2 | 0.1 | 80.7 | 76.2 | -3.2 | 1.4 | -3.1 |
| 2021:2 | 2.1 | 0.4 | 0.1 | 81.7 | 77.6 | -3.9 | 3.4 | -3.6 |
| 2021:3 | 2.7 | 0.3 | 0.1 | 81.8 | 78.7 | -4.5 | 4.5 | -4.3 |
| 2021:4 | 3.5 | 0.4 | 0.2 | 79.8 | 77.0 | -4.8 | 6.7 | -4.6 |
| | | | | | | | | |
| 2022:1 | 4.8 | 0.5 | 0.3 | 79.0 | 77.3 | -4.7 | 7.0 | -4.5 |
| 2022:2 | 5.0 | 0.7 | 0.7 | 78.7 | 77.3 | -4.1 | 6.7 | -4.1 |
| 2022:3 | 5.0 | 1.2 | 0.8 | 78.0 | 77.3 | -3.8 | 6.5 | -3.4 |
| 2022:4 | 5.1 | 2.0 | 1.0 | 78.2 | 78.4 | -3.3 | 6.5 | -2.3 |
| | | | | | | | | |
| 2023:1 | 4.8 | 2.0 | 1.0 | 77.6 | 78.7 | -2.9 | 6.4 | -1.9 |
| 2023:2 | 4.4 | 2.5 | 1.2 | 77.6 | 78.7 | -2.4 | 6.0 | -1.1 |
| 2023:3 | 4.0 | 2.5 | 1.5 | 77.2 | 78.7 | -1.9 | 5.5 | -0.9 |
| 2023:4 | 3.8 | 3.0 | 2.0 | 77.5 | 79.7 | -1.2 | 5.0 | -0.2 |

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 | 6.1 | 4.6 | 1.3 | 155.3 |
| 2022 | 310.2 | 4.8 | 4.9 | 1.5 | 155.0 |
| 2023 | 324.6 | 4.6 | 3.6 | 1.0 | 155.5 |
| 2024 | 338.7 | 4.4 | 2.8 | 0.7 | 157.4 |
| | | | | | |
| 2021:1 | 292.1 | 4.5 | 4.7 | 1.4 | 155.3 |
| 2021:2 | 289.7 | 7.3 | 4.5 | 1.3 | 153.4 |
| 2021:3 | 298.4 | 7.1 | 4.5 | 1.3 | 155.5 |
| 2021:4 | 304.0 | 5.5 | 4.6 | 1.4 | 157.0 |
| | | | | | |
| 2022:1 | 305.6 | 4.6 | 5.0 | 1.5 | 155.0 |
| 2022:2 | 303.4 | 4.7 | 5.0 | 1.5 | 152.9 |
| 2022:3 | 312.3 | 4.7 | 5.0 | 1.5 | 155.0 |
| 2022:4 | 319.6 | 5.1 | 4.7 | 1.4 | 157.0 |
| | | | | | |
| 2023:1 | 321.2 | 5.1 | 4.2 | 1.2 | 155.5 |
| 2023:2 | 316.8 | 4.4 | 3.6 | 1.0 | 152.9 |
| 2023:3 | 325.8 | 4.3 | 3.4 | 0.9 | 155.4 |
| 2023:4 | 334.4 | 4.6 | 3.2 | 0.9 | 158.3 |

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 | 151.3 | 724452.0 | 427617.5 | 255473.0 | 199184.4 | -33404.9 | 124418.0 |
| 2021 | 161.5 | 773430.7 | 444381.6 | 278695.0 | 211525.7 | -29492.9 | 131678.7 |
| 2022 | 170.6 | 817215.5 | 466389.4 | 286916.0 | 224211.8 | -23600.0 | 136701.7 |
| 2023 | 175.6 | 840913.4 | 480433.8 | 287796.4 | 230958.3 | -18612.3 | 139662.8 |
| 2024 | 179.4 | 858903.3 | 494089.1 | 285247.4 | 237888.0 | -15890.6 | 142430.6 |
| 2019/18 | 1.4 | | 0.3 | 3.1 | 3.0 | | -0.1 |
| 2020/19 | -9.9 | | -10.1 | -17.3 | -4.8 | | 5.0 |
| 2021/20 | 6.7 | | 4.8 | 13.0 | 6.6 | | 5.8 |
| 2022/21 | 5.7 | | 5.0 | 2.7 | 6.0 | | 3.8 |
| 2023/22 | 2.9 | | 3.0 | 0.1 | 3.0 | | 2.2 |
| 2024/23 | 2.1 | | 2.9 | -0.9 | 3.0 | | 2.0 |
| 2021:1 | 154.0 | 184353.8 | 105676.5 | 72020.2 | 51082.9 | -12804.4 | 31621.4 |
| 2021:2 | 162.4 | 194420.4 | 107095.1 | 72112.9 | 51382.2 | -3077.5 | 33092.3 |
| 2021:3 | 164.2 | 196612.6 | 112840.6 | 71080.8 | 52882.5 | -6641.1 | 33550.2 |
| 2021:4 | 165.4 | 198044.0 | 118769.3 | 63481.1 | 56178.1 | -6969.9 | 33414.6 |
| 2022:1 | 167.9 | 201014.9 | 111605.2 | 80613.2 | 54149.8 | -10996.2 | 34357.1 |
| 2022:2 | 169.9 | 203457.2 | 113521.3 | 72071.6 | 54465.3 | -2834.6 | 33766.4 |
| 2022:3 | 171.6 | 205461.7 | 115429.0 | 73573.5 | 56068.1 | -5094.0 | 34514.9 |
| 2022:4 | 173.1 | 207281.7 | 125833.7 | 60657.7 | 59528.5 | -4675.2 | 34063.0 |
| 2023:1 | 173.8 | 208090.7 | 114937.8 | 83267.9 | 55769.9 | -11225.2 | 34659.7 |
| 2023:2 | 175.3 | 209926.7 | 116926.9 | 74469.1 | 56099.2 | -2732.1 | 34836.4 |
| 2023:3 | 176.0 | 210739.5 | 118895.3 | 71382.2 | 57753.0 | -2249.2 | 35041.8 |
| 2023:4 | 177.2 | 212156.4 | 129673.9 | 58677.2 | 61336.2 | -2405.7 | 35125.2 |

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 | 2.3 | 2166.6 | 49.1 | -89.1 |
| 2020 | 15.9 | 1990.1 | 306.6 | -58.2 |
| 2021 | 7.9 | 2281.4 | 178.7 | -48.3 |
| 2022 | 2.3 | 2504.7 | 56.8 | -36.0 |
| 2023 | 1.6 | 2668.7 | 41.4 | -24.3 |
| 2024 | 0.7 | 2812.3 | 18.5 | -17.0 |
| 2021:1 | 8.7 | 517.9 | 44.8 | -21.3 |
| 2021:2 | 11.6 | 549.3 | 63.5 | -18.8 |
| 2021:3 | 8.2 | 562.3 | 46.3 | -8.0 |
| 2021:4 | 6.3 | 575.0 | 36.1 | -0.1 |
| 2022:1 | 5.5 | 594.7 | 32.8 | -17.6 |
| 2022:2 | 2.2 | 606.0 | 13.5 | -18.9 |
| 2022:3 | 2.4 | 621.3 | 14.6 | -4.9 |
| 2022:4 | 2.4 | 633.1 | 14.9 | 5.4 |
| 2023:1 | 2.1 | 644.3 | 13.8 | -18.5 |
| 2023:2 | 1.8 | 652.1 | 11.6 | -19.1 |
| 2023:3 | 2.2 | 661.1 | 14.3 | 1.9 |
| 2023:4 | 1.2 | 672.2 | 8.1 | 11.4 |

1 GDP at market prices (Financial Year)

# WORLD FORECAST DETAIL

**Growth Of Real GNP**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| U.S.A. | 2.9 | 2.3 | –3.4 | 5.6 | 4.0 | 3.0 |
| U.K. | 1.3 | 1.4 | –9.9 | 6.7 | 5.7 | 2.9 |
| Japan | 0.6 | 0.0 | –4.7 | 2.7 | 2.2 | 2.0 |
| Germany | 1.1 | 1.1 | –4.6 | 2.5 | 3.8 | 2.5 |
| France | 1.8 | 1.8 | –8.0 | 6.4 | 3.3 | 2.3 |
| Italy | 0.9 | 0.4 | –8.9 | 6.2 | 4.1 | 2.1 |

**Growth Of Consumer Prices**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| U.S.A. | 2.4 | 1.8 | 1.2 | 4.6 | 4.6 | 3.8 |
| U.K. | 2.4 | 1.7 | 1.0 | 2.3 | 5.0 | 4.3 |
| Japan | 1.0 | 0.5 | 0.0 | –0.2 | 0.5 | 0.8 |
| Germany | 1.8 | 1.4 | 0.5 | 3.1 | 2.7 | 2.5 |
| France | 1.9 | 1.1 | 0.5 | 1.8 | 2.2 | 2.1 |
| Italy | 1.2 | 0.6 | –0.2 | 0.8 | 1.9 | 2.3 |

**Real Short-Term Interest Rates**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| U.S.A. | 0.6 | 0.3 | –4.5 | –4.5 | –3.3 | –1.5 |
| U.K. | –1.1 | –0.7 | –1.3 | –4.1 | –4.0 | –2.1 |
| Japan | –0.4 | 0.1 | 0.2 | –0.6 | –0.8 | –0.7 |
| Germany | –1.7 | –0.9 | –3.5 | –3.3 | –2.6 | –2.2 |
| France | –1.4 | –0.9 | –2.2 | –2.8 | –2.2 | –1.9 |
| Italy | –0.9 | –0.2 | –1.2 | –2.5 | –2.4 | –2.1 |

**Nominal Short-Term Interest Rates**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| U.S.A. | 2.4 | 1.5 | 0.1 | 0.1 | 0.5 | 1.5 |
| U.K. | 0.7 | 0.8 | 0.2 | 0.1 | 0.7 | 1.4 |
| Japan | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 |
| Germany | –0.3 | –0.4 | –0.5 | –0.6 | –0.1 | 0.1 |
| France | –0.3 | –0.4 | –0.4 | –0.6 | –0.1 | 0.1 |
| Italy | –0.3 | –0.4 | –0.4 | –0.6 | –0.1 | 0.1 |

**Real Long-Term Interest Rates**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| U.S.A. | –0.5 | –1.5 | –2.8 | –1.7 | –0.9 | 1.2 |
| U.K. | –1.7 | –0.5 | –1.4 | –3.9 | –3.6 | –1.0 |
| Japan | –0.6 | –0.4 | –0.5 | –0.7 | –0.9 | –0.9 |
| Germany | –1.8 | –2.4 | –3.0 | –2.6 | –2.2 | –1.9 |
| France | –0.8 | –1.6 | –2.3 | –2.1 | –1.8 | –1.6 |
| Italy | 1.7 | 0.0 | –1.1 | –1.2 | –0.9 | –0.6 |

**Nominal Long-Term Interest Rates**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| U.S.A. | 2.7 | 1.9 | 0.9 | 1.5 | 1.8 | 3.5 |
| U.K. | 1.0 | 0.6 | 0.1 | 0.3 | 1.1 | 2.5 |
| Japan | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 |
| Germany | 0.2 | –0.2 | –0.6 | –0.3 | 0.0 | 0.2 |
| France | 0.7 | 0.1 | –0.3 | 0.0 | 0.2 | 0.4 |
| Italy | 2.8 | 1.4 | 0.7 | 0.9 | 1.2 | 1.4 |

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

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| U.S.A. | 95.1 | 97.8 | 99.3 | 96.7 | 95.9 | 95.4 |
| U.K. | 76.9 | 73.8 | 72.9 | 77.4 | 77.6 | 78.9 |
| Japan | 59.4 | 61.2 | 61.8 | 56.6 | 54.0 | 52.1 |
| Germany | 97.6 | 96.2 | 97.2 | 98.2 | 96.1 | 95.4 |
| France | 97.9 | 96.5 | 97.3 | 96.7 | 96.2 | 95.7 |
| Italy | 103.2 | 101.0 | 101.5 | 101.3 | 101.7 | 101.1 |

[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] | 118.54 | 122.51 | 124.77 | 119.15 | 117.42 | 116.87 |
| U.K. | 1.34 | 1.28 | 1.28 | 1.38 | 1.39 | 1.40 |
| Japan | 110.43 | 109.03 | 106.79 | 109.76 | 109.50 | 108.10 |
| Eurozone | 0.85 | 0.89 | 0.88 | 0.85 | 0.88 | 0.87 |

[1] The series for the USA is a trade weighted index (2010=100); the series for the UK is $ per £

* Forecasts based on the Liverpool World Model