

# LIVERPOOL INVESTMENT LETTER

March 2021



Cardiff Business School  

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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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# THIS BUDGET WAS A MISTAKE AND ITS POLICY DIRECTION NEEDS TO BE REVERSED WHEN LOCKDOWN IS OVER

This Budget set out plans to raise marginal tax rates on business entrepreneurship to much higher levels. It does so by freezing tax thresholds on the top rates of income tax, so dragging more entrepreneurs into the higher tax bands; and also by raising the main corporation tax rate to 24% by 2025, though mercifully at least not raising the rate on smaller businesses. This reverses years of free market policy on the supply side aimed at reducing these marginal tax rates because they reduce growth. It was the Tory party that embarked on this policy under Mrs. Thatcher and never gave up on it — until now.

If this were to be a permanent change of direction, it would be a serious tragedy for this country. It would mean that the Brexit opportunity would have been lost, to use our new freedom from the EU's pull towards socialistic policy in order to boost growth. However, I prefer to see it as a temporary piece of rhetoric, to show that this government is determined on solvency post-Covid. Once the public finances have stabilised after lockdown is raised, there will be an opportunity for sensible second thoughts.

Much is being made by the Treasury of the threat of rising interest rates to the finances via the rise in interest payments on existing debt. But this threat is deliberately self-inflicted by the Treasury refusal to raise the debt maturity actively by issuing longer-term bonds, including perpetuities, in place of existing maturities. By doing this it could lock in currently low interest rates so that future interest payments would not rise on current debt until it matured; the longer the current maturity the later would interest payments rise.

One could take a cynical view of this refusal: that the Treasury is deliberately sabotaging a policy that reduces its case for budget stringency and so its own importance in government. We discuss this 'public choice' view of the Treasury below. Another reason could be pure inertia: the Debt Management Office debt issue practices are long-standing and to change them requires large policy effort. Whatever the reason it is an own goal by this government.

Our own projections of future debt and public finances are far less dire than the official ones from the Treasury and OBR. The recovery should be very strong and there will be higher inflation until the Bank gets its post-Covid act together and tightens money. If marginal tax rates were held down and cut somewhat, in a future reversal of this gloomy budget direction, rising growth and inflation would cut the debt/GDP ratio down to 60% or less within the next decade.

Our projections of the PSBR on this basis give us £13 billion in 2023/4, 0.5% of GDP. The debt ratio by 2024/5 would be about 90% of GDP, down from around 100% today; debt

**Table 1: Summary of Forecast**

|                            | 2018  | 2019  | 2020  | 2021  | 2022  | 2023  | 2024  |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| GDP Growth <sup>1</sup>    | 1.3   | 1.4   | -9.9  | 5.7   | 8.7   | 5.6   | 4.1   |
| Inflation CPI              | 2.4   | 1.8   | 0.8   | 1.5   | 1.9   | 2.0   | 2.0   |
| Wage Growth                | 3.0   | 3.5   | 1.0   | 2.6   | 2.7   | 3.3   | 3.2   |
| Survey Unemployment        | 4.1   | 3.8   | 4.5   | 6.1   | 5.2   | 3.6   | 2.8   |
| Exchange Rate <sup>2</sup> | 78.6  | 78.3  | 78.0  | 78.4  | 78.6  | 78.7  | 78.8  |
| 3 Month Interest Rate      | 0.4   | 0.8   | 0.2   | 0.1   | 1.5   | 4.5   | 5.0   |
| 5 Year Interest Rate       | 1.0   | 0.6   | 0.2   | 0.5   | 1.5   | 4.7   | 5.0   |
| Current Balance (£bn)      | -82.9 | -89.1 | -58.4 | -51.0 | -37.6 | -26.1 | -19.3 |
| PSBR (£bn)                 | 39.3  | 49.1  | 312.8 | 141.6 | 75.0  | 35.4  | 12.1  |

<sup>1</sup>Expenditure estimate at factor cost

<sup>2</sup>Sterling effective exchange rate, Bank of England Index (2005 = 100)

before the crisis was £1.7 trillion, and the extra debt by then would be another £0.7 trillion, making £2.4 trillion in all, or against GDP by then of £2.7 trillion, 88% of GDP. With nominal GDP growth of 5% p.a., and the PSBR running below 1% of GDP, the debt to GDP ratio would reach 60% in a decade from then.

The latest OBR forecast is relatively pessimistic about the recovery path in real GDP. By 2024 its nominal and real GDP projection is no less than 17% below ours. It assumes a slow recovery and a substantial permanent failure to reach the previous path; the basis for this pessimism is quite unclear and out of line with the Bank's up to date assessment of the outlook, to which our view is much closer. If we adjust the OBR tax revenues for our nominal GDP forecast, the OBR's PSBR forecast for 2024–25 becomes a surplus of £108 billion. Our projection is more cautious than this, at a deficit of £13 billion; this could occur if spending rose more in response to the higher GDP path, as in effect we assume. But given the huge uncertainties surrounding this difference between two large magnitudes, it suggests that the borrowing outlook is far from the grim picture painted by the OBR.

**Table 2: OBR projections adjusted for effects of under-forecast of GDP**

| FY | OBR Spend | OBR Tax <sup>+</sup> | GDP under-forecast by % | OBR Tax Adjusted* | OBR PSBR-adjusted |
|----|-----------|----------------------|-------------------------|-------------------|-------------------|
| 20 | 1140      | 786                  | -                       | 786               | 354               |
| 21 | 1053      | 819                  | 5                       | 872               | 181               |
| 22 | 991       | 875                  | 10                      | 989               | 3                 |
| 23 | 1030      | 924                  | 14                      | 1090              | -60               |
| 24 | 1068      | 964                  | 17                      | 1176              | -108              |

<sup>+</sup> excluding effects of Budget tax measures. Spending includes debt interest.

\* Tax raised by % under-forecast x1.3 (tax elasticity)

### **Why do civil servants not pursue the national interest?**

Over Brexit and since it has been obvious that civil servants have their own agenda. Of course this is not new. It was parodied beautifully in ‘Yes, Minister’ and ‘Yes, Prime Minister’. The point comes from ‘public choice’ theory in economics, which argues, with much supporting evidence, that civil servants should be understood in the same way as everyone else, as people pursuing their own interests subject only to the constraints of being monitored by their political masters.

Once we have grasped this point, it is no longer a mystery or a proof of evil intent that civil service departments follow what suits them, basically to enhance the power of that department. For example, BEIS was the department most opposed to Brexit because Brexit implies more business competition and is strongly opposed by business which is BEIS’ client; public choice emphasises how clients lobby their government sponsors, finding ways to reward helpful behaviour (e.g. with plum jobs after retirement).

Now post-Brexit the policy struggle is with the Treasury, which is pushing hard for higher taxes and spending cuts to pay off the Covid debt. As we have argued for some time, this is a bad idea; the Covid debt costs are low due to very low interest rates and the priority is to encourage growth and competitiveness through reformed/lower taxes and key supportive spending on infrastructure etc. With the growth of nominal GDP prospectively high, fast growing revenues will bring debt down rapidly; and any necessary further corrections can be deferred to the longer term, once we have seen how this works out. Meanwhile the Treasury can help itself by lengthening debt maturity, even moving as much as it can to perpetuities like War Loan.

However, the Treasury’s departmental interest is in keeping the finances tight: this way its power over the government is maximised, with the Treasury calling the shots on both tax and departments’ plans. So it is opposing this whole agenda: refusing to lengthen maturity much, and insisting on no tax reform, but instead large tax rises and cuts to spending. Previously it opposed Brexit, largely because it thought that in the short term it would reduce tax revenue via reduced trade with the EU and would also strengthen demands for more spending — e.g. on industrial state aid — hitherto prevented by the EU.

In these circumstances we need a Chancellor that can stand up to the Treasury. However, it now seems that Rishi Sunak

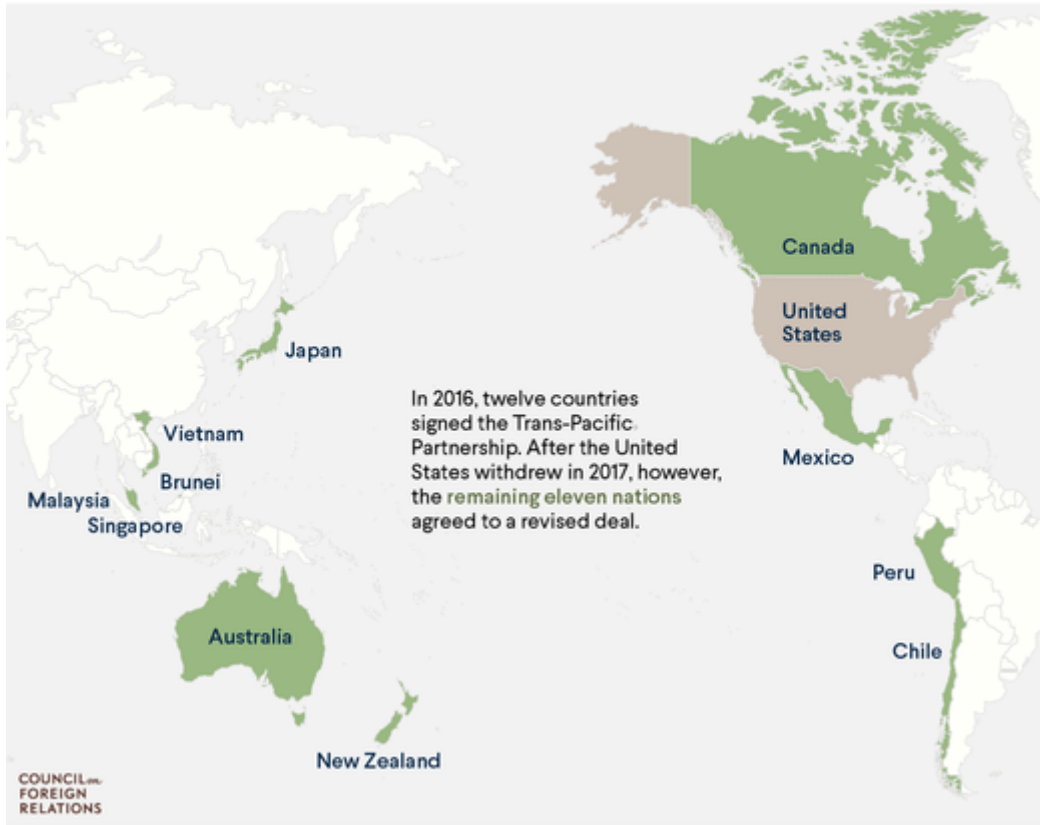
has ‘gone native’ and it is only No. 10 that might stand up to the Treasury’s opposition. With No. 10 now being run by civil servants due to Boris Johnson’s recent personnel changes, it too may offer less resistance than before- as we have seen happen with this budget. The main pushback to the Civil Service is coming from Tory backbenchers; however their power is limited by Labour’s interests in stopping Tory success by voting in tax rises and spending cuts, whatever its protestations of opposition. So the budget will inevitably be voted through Parliament, however badly constructed, as we have now seen it is. For now Boris Johnson’s desire to spend, especially on Northern projects, has been accommodated — it seems at the price of those planned tax rises. Yet of course these target the very entrepreneurs needed for the growth process.

### **The silver lining of new trade agreements**

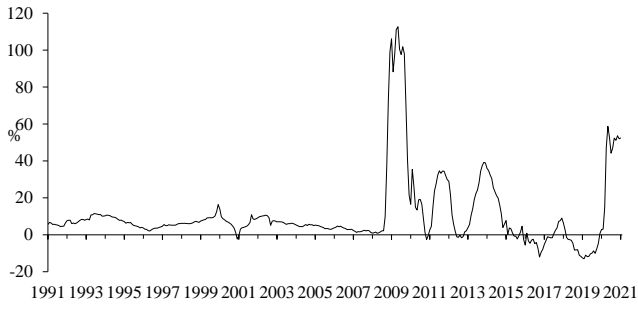
In all this gloom. there are some glimmerings of hope, in the form of the trade agreement agenda. Liz Truss at the Trade Department — which has a departmental interest in this agenda’s success — has managed to roll over the vast majority of the EU agreements with non-EU countries; and has also signed a key new agreement with Japan, a major UK trading partner. Talks with the US are quite advanced; and while Joe Biden has expressed no enthusiasm for it, he is increasingly becoming warmed to the UK’s support on many fronts, including China, the democratic alliance and climate; while besides the US has a strong interest in access to the large UK markets in agriculture and manufacturing from which the EU has kept them out for 40 years. It costs the US competition little to give UK service and other industries access to the large US market, as they will only be small players given small UK size. UK domestic opposition to US food standards can be met by labelling, leaving consumers to choose. So there is a good chance that there will be a UK-US FTA, probably bringing in the rest of NAFTA as well.

Once that is in place, other agreements could follow quickly: notably the UK joining the multi-nation Pacific trade agreement now known as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). Interestingly, as the map of current members shows below, it would at a stroke wrap up most of the UK’s currently planned agreements. If the US were to join, as is now possible, it would sidestep the need for the US-UK agreement.

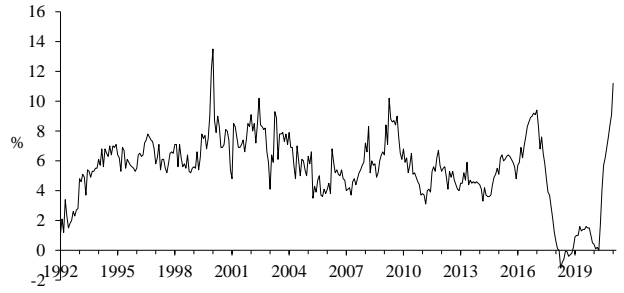
### The Trans-Pacific Partnership Nations



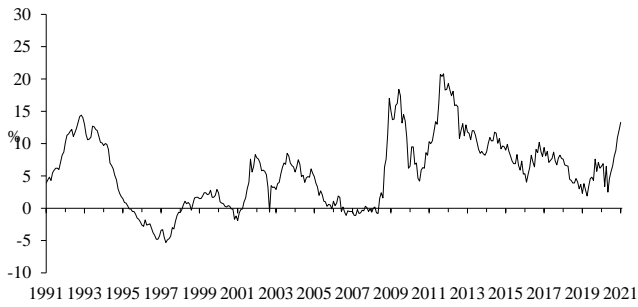
**U.S.: Growth in M0 (Yr - on - Yr)**



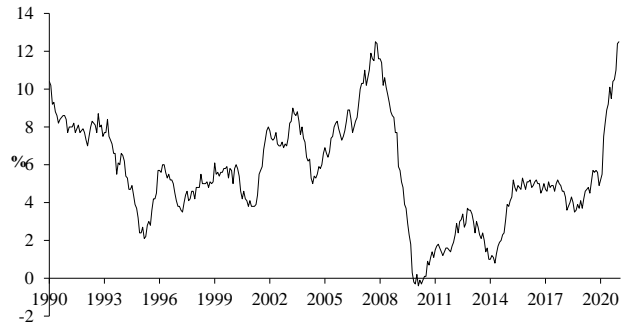
**UK: Notes and Coins in Circulation Growth**



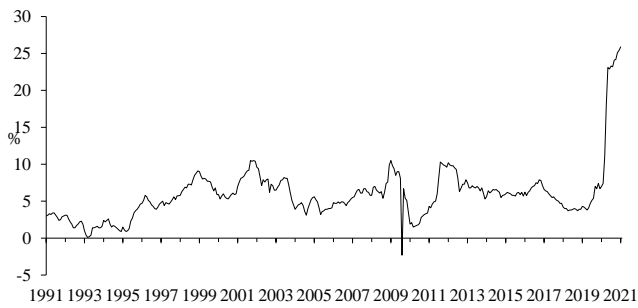
**U.S.: Growth in M1 (Yr - on - Yr)**



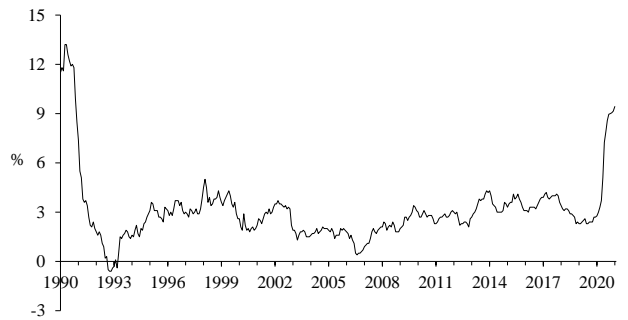
**Eurozone M3 Growth**



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



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



## FOCUS ON JAPAN

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Francesco Perugini

### Japan's Growth Rebounds

For Japan's economy, 2020 wasn't as bad as experts thought it would be. Japan's GDP beat analysts' expectations to rise 3% in the last quarter of 2020 versus the previous quarter, boosted by private consumption, a jump in exports, and a rise in private investment. Compared with the previous year, fourth-quarter GDP dropped only 1.2% — in the UK GDP dropped by 7.8%, in the US 2.4% and 4.8% in the EU27. The fourth-quarter results mean the economy shrank 4.8% in 2020 versus 2019, outperforming the 5.3% drop projected by the IMF, the OECD and the World Bank. After Japan published the better-than-expected fourth-quarter GDP results earlier last month, the Nikkei 225, Japan's leading stock index, hit its highest levels in more than 30 years.

Looking back to the whole of 2020, the Japanese economy had entered the year in a weakened state brought about by a rise in the national consumption tax, a stark drop in trade with China and a devastating typhoon. The pandemic then struck a major blow. As other economies crashed, Japan's shrank to its worst performance since 1955, when the country began using gross domestic product to measure its economy. But thanks in large part to the country's efforts to keep the pandemic under control, Japan avoided the worst of the economic damage that savaged the US and much of Europe. This autumn, while many consumers in the West sheltered at home, people in Japan were travelling, eating out and going to movies.

As for the last quarter of 2020, business investment rose 4.5% quarter-on-quarter after two consecutive periods of declines, while private consumption, which accounts for more than half of Japan's economy, grew 2.2%. Consumption was supported by the government who offered domestic tourism subsidies that boosted regional economies. "Government income support — like cash handouts and financial subsidies for small businesses — and discounts for travel and eating out also helped boost consumer spending through the third and fourth quarters", said Stefan Angrick, senior economist in Japan for Oxford Economics. Shipments of electronic parts and cars to China, and increased exports to the US and Europe, pushed exports up 11.1% from the previous quarter. "We expect the export rebound to continue as demand from China remains strong, and US demand should accelerate further in 2021, buoyed by President Biden's fiscal plans," Angrick said. China is Japan's largest trading partner, and China's relatively successful economic recovery — its GDP grew 2.3% in 2020 — has helped Japan's exports tick back up as China's demand for imports returns to pre-pandemic levels. In March, when lockdowns swept China and cratered demand, Japan's overall exports slumped the most in almost four years, with exports to China dropping 8.7% through March compared with the prior year.

Economic revitalization minister Yasutoshi Nishimura said in a statement the 2020 GDP figure reflected "the very severe situation," while the October–December outcome suggested a "bottoming out and the potential resilience of Japan's economy". However, many analysts predict Japan will post negative growth again in the January–March period, as Tokyo and nine other of the nation's 47 prefectures are currently under a second state of emergency amid a third wave of virus infections. Indeed, the emergency, which is expected to end on March 7, asked restaurants and bars to shut early and urged companies to employ work-from-home schemes. Moreover, "the spike in COVID-19 cases at the end of last year caused service sector consumption to dip in December, leading to a 0.4% contraction in GDP that month from November", the Japan Center for Economic Research said. Further complicating the economic picture for the new year, Japan has been slow to start vaccinations. At the end of last month, the Pfizer shot became the first to receive approval from Japanese regulators. Frontline health care workers are expected to receive their first doses earlier this month, but it will be months before the public is eligible. The pandemic's effects have been much less severe in Japan than in the West. Total deaths are under 7,000, and daily infection levels peaked in early January at around 8,000. "But a robust vaccination program could give more people the confidence to return to shops and restaurants", said Toshihiro Nagahama, an economist at Dai-ichi Life Research. To get the economy back on track in the long run, "increasing vaccination rates is the only option," he said. "Without that, any monetary or fiscal measures you take are pointless."

Some analysts are more optimistic saying that "the (consumption) fall will not be nearly as severe as last spring, when lockdowns destroyed demand for exports and Japan's national emergency extended across the whole country", said Akane Yamaguchi, an economist at the Daiwa Institute of Research. Hideo Kumano, chief economist at the Dai-ichi Life Research Institute also said that "Japan's economy has mostly regained the pre-COVID level, and the recovery owes much to policy measures", including cash handouts. "Employment protection subsidies have kept unemployment low and have helped keep up consumer confidence", he said.

The immediate outlook now depends on how long the government wants to continue with the state of emergency. So far, the state of emergency has been lifted in six prefectures — Aichi, Gifu, Osaka, Kyoto, Hyogo and Fukuoka — outside the Tokyo region amid signs of an improvement in the infection situation. But GDP data release now means that the scope for a domestic recovery in 2021 and beyond appears less dramatic than predicted for some harder-hit economies.



## MARKET DEVELOPMENTS

Rising interest rates on the back of rising inflation prospects threaten equities; but the recovery from Covid towards a stronger economy should largely offset this except for speculative stocks with uncertain profits. Profits

should rise generally with prices, while central banks will only reluctantly raise rates, so real rates may well remain negative.

**Table 1: Market Developments**

|                                  | Market Levels |        | Prediction for Feb/Mar 2022 |              |
|----------------------------------|---------------|--------|-----------------------------|--------------|
|                                  | Feb 5         | Mar 1  | Previous Letter             | Current View |
| <b>Share Indices</b>             |               |        |                             |              |
| UK (FT 100)                      | 6489          | 6589   | 10143                       | 10298        |
| US (S&P 500)                     | 3887          | 3902   | 5290                        | 5310         |
| Germany (DAX 30)                 | 14057         | 14013  | 23067                       | 22995        |
| Japan (Tokyo New)                | 1891          | 1902   | 2216                        | 2230         |
| <b>Bond Yields (government)</b>  |               |        |                             |              |
| UK                               | 0.51          | 0.76   | 0.50                        | 0.50         |
| US                               | 1.18          | 1.44   | 1.30                        | 1.30         |
| Germany                          | -0.43         | -0.34  | -0.20                       | -0.20        |
| Japan                            | 0.07          | 0.13   | 0.00                        | 0.00         |
| UK Index Linked                  | -2.15         | -2.02  | 1.00                        | 1.00         |
| <b>Exchange Rates</b>            |               |        |                             |              |
| UK (\$ per £)                    | 1.37          | 1.39   | 1.30                        | 1.30         |
| UK (trade weighted)              | 80.00         | 81.37  | 80.0                        | 80.0         |
| US (trade weighted)              | 100.05        | 100.40 | 102.5                       | 102.5        |
| Euro per \$                      | 0.83          | 0.83   | 0.88                        | 0.88         |
| Euro per £                       | 1.14          | 1.16   | 1.14                        | 1.14         |
| Japan (Yen per \$)               | 105.47        | 106.65 | 107.5                       | 107.5        |
| <b>Short Term Interest Rates</b> |               |        |                             |              |
| UK                               | 0.83          | 0.83   | 0.30                        | 0.30         |
| US                               | 0.22          | 0.22   | 1.00                        | 1.00         |
| Euro                             | -0.40         | -0.51  | -0.50                       | -0.50        |
| Japan                            | -0.05         | -0.05  | 0.10                        | 0.10         |

**Table 2: Prospective Yields<sup>1</sup>**

| <b>Equities: Contribution to £ yield of:</b> |                  |                        |           |                         |          |        |
|--|------------------|------------------------|-----------|-------------------------|----------|--------|
|  | Dividend Yield   | Real Growth            | Inflation | Changing Dividend Yield | Currency | Total  |
| UK   | 3.60             | 2.4                    | 1.9       | 52.00                   |          | 59.90  |
| US   | 1.99             | 2.2                    | 2.0       | 31.90                   | 6.73     | 44.82  |
| Germany                                      | 3.30             | 1.6                    | 1.5       | 61.00                   | 1.09     | 68.49  |
| Japan  | 1.90             | 0.6                    | 1.6       | 15.00                   | 5.98     | 25.08  |
| UK indexed <sup>2</sup>                      | -2.02            |                        | 2.0       | 8.00                    |          | 7.89   |
| Hong Kong <sup>3</sup>                       | 2.60             | 5.5                    | 2.0       | 5.00                    | 6.73     | 21.83  |
| Malaysia                                     | 3.30             | 6.9                    | 2.0       | 85.00                   | 6.73     | 103.93 |
| Singapore                                    | 3.50             | 5.0                    | 2.0       | 54.00                   | 6.73     | 71.23  |
| India  | 1.40             | 5.0                    | 2.0       | 14.00                   | 6.73     | 29.13  |
| Korea  | 1.10             | 2.0                    | 2.0       | -9.00                   | 6.73     | 2.83   |
| Indonesia                                    | 2.20             | 4.8                    | 2.0       | 41.00                   | 6.73     | 56.73  |
| Taiwan                                       | 2.80             | 2.9                    | 2.0       | 38.00                   | 6.73     | 52.43  |
| Thailand                                     | 3.20             | 4.1                    | 2.0       | 51.00                   | 6.73     | 67.03  |
| <b>Bonds: Contribution to £ yield of: –</b>  |                  |                        |           |                         |          |        |
|  | Redemption Yield | Changing Nominal Rates |           | Currency                |          | Total  |
| UK   | 0.76             | 2.60                   |           |                         |          | 3.36   |
| US   | 1.44             | 1.38                   |           | 6.73                    |          | 9.54   |
| Germany                                      | -0.34            | -1.41                  |           | 1.09                    |          | -0.66  |
| Japan  | 0.13             | 1.32                   |           | 5.98                    |          | 7.43   |
| <b>Deposits: Contribution to £ yield of:</b> |                  |                        |           |                         |          |        |
|  | Deposit Yield    | Currency               |           | Total                   |          |        |
| UK   | 0.83             |                        |           | 0.83                    |          |        |
| US   | 0.22             | 6.73                   |           | 6.95                    |          |        |
| Euro   | -0.51            | -1.09                  |           | 0.58                    |          |        |
| Japan  | -0.05            | 5.98                   |           | 5.93                    |          |        |

<sup>1</sup> Yields in terms of €s or \$s can be computed by adjusting the £-based yields for the expected currency change.

<sup>2</sup> UK index linked bonds All Stocks

<sup>3</sup> Output based on China.

**Table 3: Portfolio(%)**

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

# INDICATORS AND MARKET ANALYSIS

## FOREIGN EXCHANGE MARKETS

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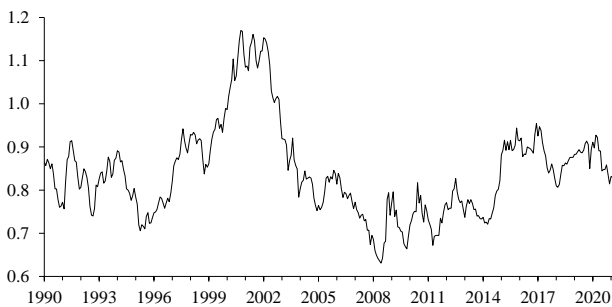
**US : Trade Weighted Index  
(Bank of England 1990 = 100)**



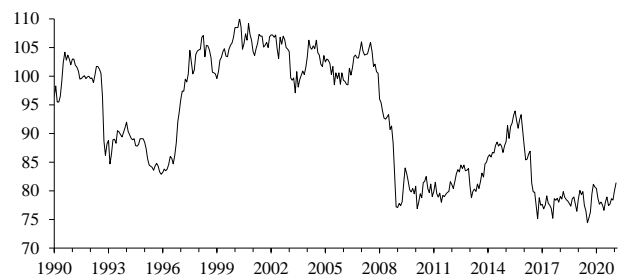
**UK: Dollars Per Pound Sterling**



**Euro per US dollar**



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



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

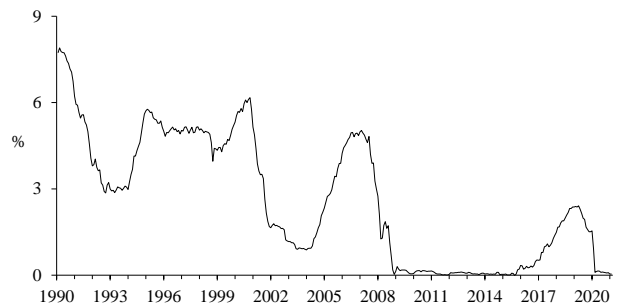


# GOVERNMENT BOND MARKETS

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



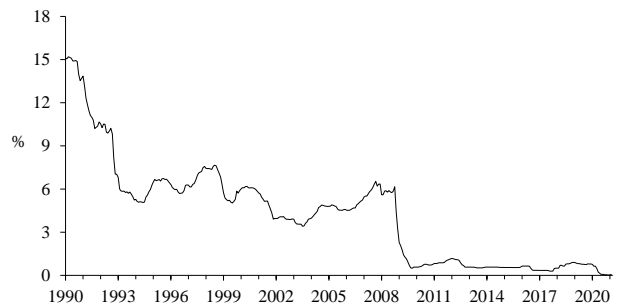
**U.S. : 3-Month Treasury Bill**



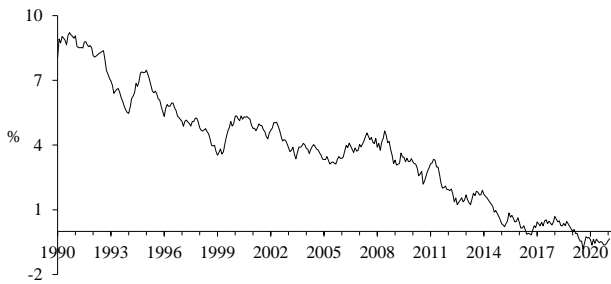
**U.K.: Yield on Long-Term Government Bonds**



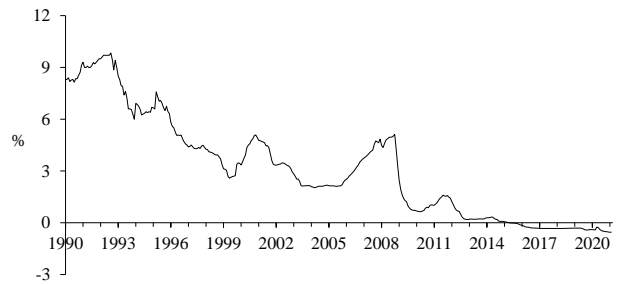
**U.K. : 3-Month Certificate LIBOR Rate**



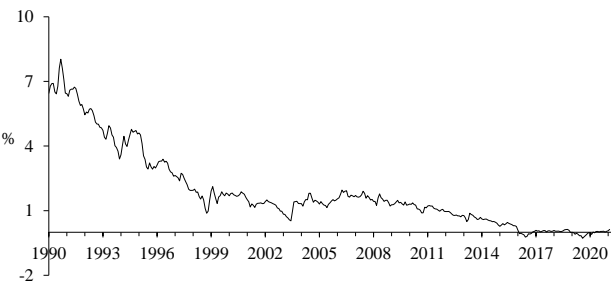
**Germany: Yield on Public Authority Bonds**



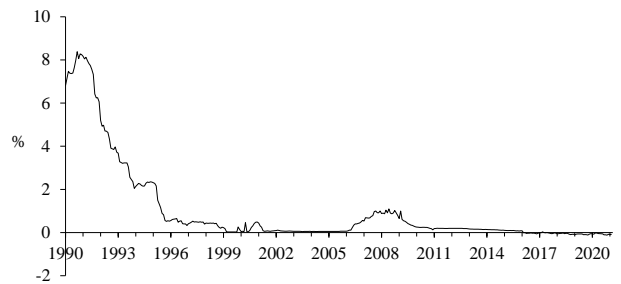
**Germany : 3-Month Interbank Deposit Rate**



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



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



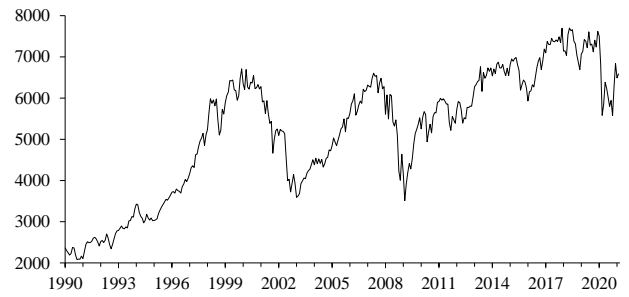
# MAJOR EQUITY MARKETS

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**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

The Indian economy posted economic growth in Q3FY21 after contracting on a YoY basis in the previous two quarters. The expansion was primarily led by a robust recovery in investments (+2.6% YoY), partly attributed to strong capital spending by the Centre as well as states, even as consumption — private and interestingly, public — contracted, despite a strong festive season. The broader pace of economic recovery has remained fairly steady, with FY22's fiscal impulse via higher capital expenditure expected to provide an added impetus. Even though there is a change in the trend of the Covid-19 infections in the past month, the accelerated pace of the vaccination drive will support the ongoing economic recovery.

The IHS Markit India Manufacturing Purchasing Managers' Index stood at 57.5 in February compared with 57.7 in January. Demand continued to be domestic-led, as the pandemic restricted international demand for Indian goods. High frequency data such as Goods and services tax collection remained buoyant.

Headline CPI inflation contracted to a 16-month low of 4.1% in January 2021, continuing its downward trend for the third month in a row. The arrest of inflation was led by a sharp fall in food inflation.

Exports grew 6.16% in January, while imports expanded 2% on a year-on-year basis, resulting in a trade deficit of \$14.54 billion compared to \$15.17 billion in the same month last year. India is likely to post a current account surplus after a gap of 17 years, at 2% of GDP during 2020–21, on the back of resilient software services export. India's current account deficit averaged 2.2% of gross domestic product (GDP) in the last 10 years

The rupee may depreciate as firming up of crude oil prices may affect rupee in the coming months. India announced close to \$1 billion in incentives to persuade companies to make more electronic hardware within India. The government hopes that it can capitalize on China+1 policy which suggests that companies in the West want to have one more supplier of goods other than China to support their businesses. The rising labour costs in China, the geopolitical trade and security environment and the coronavirus outbreak have compelled global companies to look at alternative destinations to diversify their supply chains.

Prime Minister Narendra Modi's strong defence of the private sector has surprised many in the industry. He has thrown his weight behind the government's agenda of privatisation and sent a clear message that the days of stealthy economic reforms are over. Mr Modi's assertion

India: BSE Sensitive



China: SSE Composite Index



that abusing wealth creators for votes by opposition parties was no longer acceptable, and that the bureaucracy should take a backseat in the running of factories and businesses.

The government released new rules for social media, digital news, and OTT platforms. We think that India will follow the Australian model. The social media companies have little choice as they would not like to leave a lucrative Indian market.

|                         | 19–20 | 20–21 | 21–22 | 22–23 | 23–24 |
|-------------------------|-------|-------|-------|-------|-------|
| GDP (%p.a.)             | 4.0   | -7.5  | 11.0  | 5.5   | 6.0   |
| WPI (%p.a.)             | 3.6   | 5.5   | 5.0   | 5.0   | 4.8   |
| Current A/c(US\$ bill.) | -20.0 | 35.0  | 20.0  | -10.0 | -10.0 |
| Rs./\$(nom.)            | 73.0  | 75.0  | 76.0  | 77.0  | 78.0  |

### China

New coronavirus outbreaks and pandemic-containment measures have affected factory production and the country's services recovery. For the time being, it looks that China's economy will be able to post growth of 7.5% this year after expanding 2.3% in 2020. But if consumer confidence doesn't improve amid the outbreaks of Covid 19, in different parts of the country, the economic growth may slow down. Consumer spending hasn't kept pace with the broader recovery in economic output.

China's manufacturing activity dropped in February as the Lunar New Year holidays disrupted production, while travel restrictions to contain virus outbreaks cut spending on services. The manufacturing PMI fell to 50.6 from 51.3 in January as export orders plunged. But the decline is mainly due to the Lunar New Year holidays.

China's National People's Congress will hold its annual session on March 5. It shall be attended by President Xi Jinping and other top leaders. This year's gathering marks the 100th anniversary of the founding of the Communist Party of China. The event may last shorter than the regular two weeks because of the pandemic.

Inflation remains benign. China's consumer prices in January fell 0.3% from a year earlier. The price pressures may pick up in the coming quarters. The PBOC concerned about credit risks will tighten monetary policy this year.

China reported a current account surplus of 299 billion U.S. dollars in 2020 as the economy recovered from the Covid 19 pandemic. The recovery is led by exports. To meet the demand, factories offered staff incentives to work through the holidays.

The Chinese yuan is steadily gaining ground. In London — the world's centre of foreign exchange — there's more yuan changing hands than ever before. Options on the Chinese currency exceed those referencing the Japanese yen, and buying or selling the yuan is now as cheap as trading the British pound. Against this backdrop, there are signs the yuan is playing an increasingly larger role in influencing broad dollar moves. The highest yield being offered by government bonds is increasing interests of institutional investors and speculators. Liquidity has improved substantially in the yuan market. The yuan's appreciation is adversely affecting Chinese exporters.

The yuan has risen more than 9% against the U.S. dollar since June. It reached the strongest level since mid-2018 to 6.46 per dollar, but Beijing's official response has been relatively mild. They see a stronger yuan providing the status it deserves in the world and eases a bone of contention with Washington, which regularly criticizes China for currency manipulation.

China became the first country to unveil anti-competitive behaviour of internet based companies including E-commerce. The regulations will curb anti-competitive behaviour such as sharing sensitive consumer data, forming alliances that squeeze out smaller rivals and subsidizing below cost services to eliminate competitors.

**Korea: Composite Index**



|                           | 19   | 20   | 21   | 22   | 23   |
|---------------------------|------|------|------|------|------|
| GDP (%p.a.)               | 6.1  | 2.0  | 7.5  | 5.2  | 5.0  |
| Inflation (%p.a.)         | 2.9  | 2.5  | 1.8  | 2.0  | 2.0  |
| Trade Balance(US\$ bill.) | 40.0 | 60.0 | 50.0 | 40.0 | 42.0 |
| Rmb/\$ (nom.)             | 7.1  | 6.7  | 6.3  | 6.2  | 6.0  |

### South Korea

The Bank of Korea expects the real GDP to expand 2.5% in 2022, after rebounding this year amid the COVID-19 pandemic. Frequent lock-downs have introduced uncertainty but the manufacturing sector is expanding at the fastest pace in more than a decade. We expect the economy to expand 3% in 2021. January's industrial-production estimates are going to support continued expansion of the economy in the current year.

The Bank of Korea has raised its consumer inflation forecast to 1.3% for 2021. This suggests that the monetary policy would remain accommodative as the country continues fighting a Covid-19 resurgence. For 2022, the bank expects the South Korean economy to expand 2.5% and inflation to average 1.4%, both marginally higher than our forecast of GDP and inflation.

South Korea exports rose in February amid the global recovery. Current account surplus is expected to be better than the previous estimate of US\$60 billion to US\$64 billion U.S. dollars for 2021.

The won has dropped almost 3.3% versus the US dollar in 2021. It is underperforming all its emerging Asian peers. The central bank is getting some relief from a weaker won as manufacturers had complained that the currency's appreciation is hurting exports. The currency's weakness may be short-lived. Global funds are investing in the nation's equity market and this may halt won's depreciation.

|                         | 19   | 20   | 21   | 22   | 23   |
|-------------------------|------|------|------|------|------|
| GDP (%p.a.)             | 1.8  | -1.0 | 3.0  | 2.2  | 1.5  |
| Inflation (%p.a.)       | 0.4  | 0.5  | 1.0  | 1.2  | 1.0  |
| Current A/c(US\$ bill.) | 60.0 | 70.0 | 60.0 | 40.0 | 10.0 |
| Won/\$ (nom.)           | 1200 | 1070 | 1000 | 1000 | 950  |

## Taiwan

Taiwan GDP expanded 3.11% last year and it is going to benefit more from demand for its technology as trade rebounds. It will grow at its fastest pace in seven years in 2021 riding on the booming demand for semiconductors. Government expects GDP to expand 4.64% this year.

Exports are going to benefit as its semiconductors support 5G wireless, the internet of things and high-performance computing all over the world. Automotive chips would add to semiconductor conductor chipmakers additional revenue.

Taiwan was listed in the U.S. Treasury’s foreign exchange watchlist in December last year. Taiwan’s central bank said its current account and trade surpluses with the US have led to this rather than currency intervention. The monetary authority of Taiwan has said that the U.S. had not urged Taiwan to allow the local dollar to appreciate further. It has blamed the U.S. trade war with China for the expansion of Taiwan’s trade surplus. The Taiwan dollar has strengthened almost 8% against the U.S. dollar over the past 12 months.

The stellar performance of the economy has led to a boom in the stock market. Taiwan’s index rose to the highest level since April 2010, but gave up some of its gains as supply chain constraints and container shortages emerged, which will pinch the exports of Taiwan.

|                         | 19   | 20   | 21   | 22   | 23   |
|-------------------------|------|------|------|------|------|
| GDP (%p.a.)             | 2.0  | 3.0  | 4.0  | 3.0  | 3.0  |
| Inflation (%p.a.)       | 1.0  | -1.0 | 1.0  | 1.0  | 1.0  |
| Current A/c(US\$ bill.) | 70.0 | 71.0 | 70.0 | 60.0 | 65.0 |
| NT\$/\$(nom.)           | 31.0 | 29.0 | 28.5 | 28.0 | 27.0 |

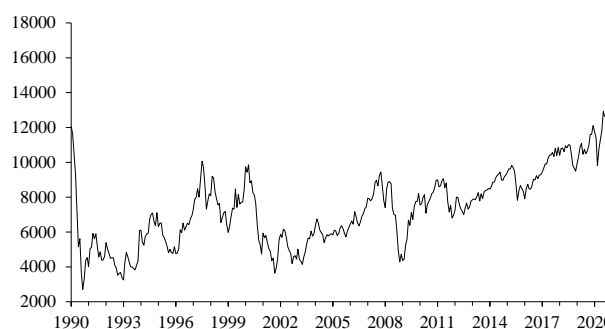
## Brazil

A rebound in Brazil’s GDP is expected as the economy recovers from Covid-19. However, it will take some time for the country to get back to its pre-2020 level of economic activity. The achilles heel for the Brazilian economy is a large deficit and high public debt burden.

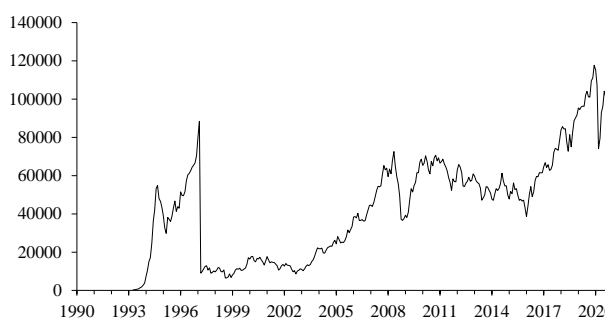
Low interest rates are able to sustain public debt but it may constrain the economy moving forward.

The benchmark annual IPCA consumer inflation rate has been above 4%, having more than doubled from the record low below 2% last May. The central bank maintains its target of 3.75%, with a margin of error of 1.5 percentage points on

Taiwan: Weighted TAIEX Price Index



Brazil: Bovespa



either side, as the year end target. We expect that as the growth picks up, inflation would average to nearly 4% in 2021.

The current account deficit narrowed to 0.9% of GDP from 2.7% in 2019, mainly due to import compression and reductions in outbound travel and profit remittances. Inward FDI got squeezed as well. It was just USD17 billion, but it covered fully the current account deficit.

Brazilian Economy Minister Paulo Guedes, who had promised to lead a free-market revolution in Brazil, finds himself in a tight corner as President Jair Bolsonaro deepens the state’s role in the economy. He has fallen short of his promise of lowering public debt as Bolsonaro chose to fight the Covid 19 pandemic with doling out money to the public.

|                         | 19    | 20   | 21    | 22    | 23    |
|-------------------------|-------|------|-------|-------|-------|
| GDP (%p.a.)             | 0.8   | -4.5 | 3.0   | 2.5   | 3.0   |
| Inflation (%p.a.)       | 4.3   | 4.5  | 4.0   | 4.0   | 4.0   |
| Current A/c(US\$ bill.) | -36.0 | -7.6 | -20.0 | -26.0 | -22.0 |
| Real/\$(nom.)           | 4.2   | 5.5  | 4.9   | 4.8   | 4.7   |

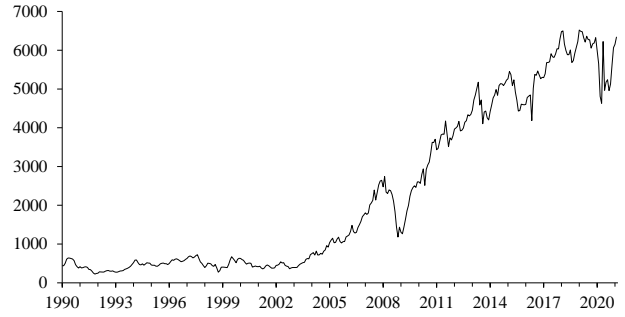


## Other Emerging Markets

**Hong Kong: FT-Actuaries**



**Indonesia: Jakarta Composite**



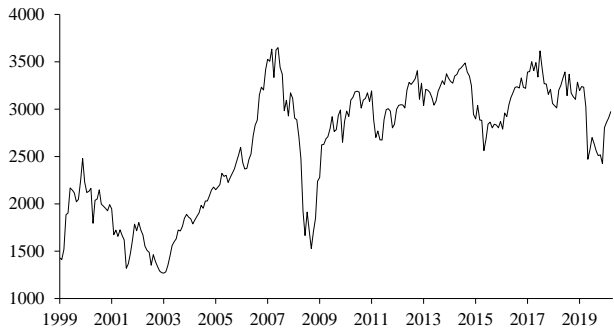
**Malaysia: FT-Actuaries  
(US\$ Index)**



**Thailand: Composite Index**



**Singapore: Straits Times Index**

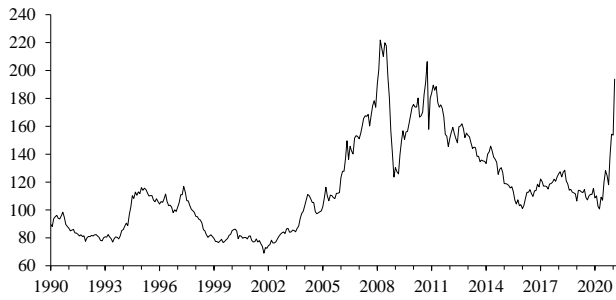


**Philippines: Manila Composite**

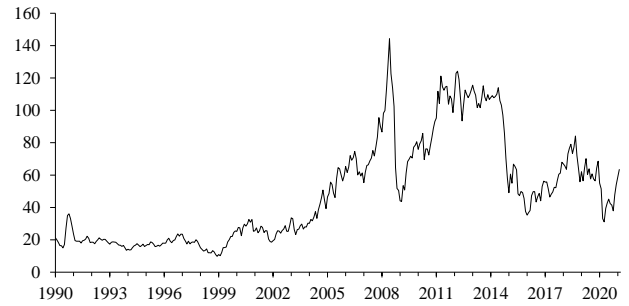


# COMMODITY MARKETS

**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 % <sup>1</sup><br>(CPI) | Short Dated<br>(5 Year)<br>Interest Rates | 3 Month<br>Int. Rates | Nominal<br>Exchange<br>Rate (2005=100) <sup>2</sup> | Real Exchange<br>Rate <sup>3</sup> | Real 3 Month<br>Int. Rates % <sup>4</sup> | Inflation<br>(RPIX) | Real Short<br>Dated Rate of<br>Interest <sup>5</sup> |
|--------|-----------------------------------|---|-----------------------|---|------------------------------------|---|---------------------|--|
| 2019   | 1.8                               | 0.6                                       | 0.8                   | 78.3  | 73.8                               | 0.0                                       | 2.6                 | -1.0   |
| 2020   | 0.8                               | 0.3                                       | 0.2                   | 78.0  | 72.7                               | -1.2                                      | 1.6                 | -1.6   |
| 2021   | 1.5                               | 0.5                                       | 0.1                   | 78.4  | 73.2                               | -1.4                                      | 2.3                 | -1.4   |
| 2022   | 1.9                               | 1.5                                       | 1.5                   | 78.6  | 73.7                               | -0.5                                      | 2.6                 | -0.5   |
| 2023   | 2.0                               | 4.7                                       | 4.5                   | 78.7  | 74.3                               | 2.5                                       | 2.7                 | 2.5  |
| 2024   | 2.0                               | 5.0                                       | 5.0                   | 78.8  | 74.8                               | 3.0                                       | 2.7                 | 3.0  |
| 2020:1 | 1.4                               | 0.4                                       | 0.6                   | 79.5  | 74.9                               | -0.4                                      | 2.7                 | -1.4   |
| 2020:2 | 0.8                               | 0.0                                       | 0.1                   | 77.6  | 71.9                               | -1.5                                      | 1.3                 | -1.9   |
| 2020:3 | 0.6                               | 0.4                                       | 0.1                   | 77.3  | 72.0                               | -1.3                                      | 1.1                 | -1.5   |
| 2020:4 | 0.5                               | 0.4                                       | 0.1                   | 77.7  | 72.1                               | -1.4                                      | 1.1                 | -1.5   |
| 2021:1 | 0.8                               | 0.5                                       | 0.1                   | 78.0  | 72.7                               | -1.5                                      | 1.1                 | -1.5   |
| 2021:2 | 1.5                               | 0.5                                       | 0.1                   | 78.8  | 73.4                               | -1.4                                      | 3.0                 | -1.5   |
| 2021:3 | 1.7                               | 0.6                                       | 0.2                   | 78.3  | 73.4                               | -1.3                                      | 2.5                 | -1.4   |
| 2021:4 | 1.8                               | 0.6                                       | 0.2                   | 78.5  | 73.3                               | -1.3                                      | 2.6                 | -1.4   |
| 2022:1 | 2.0                               | 1.0                                       | 1.0                   | 78.2  | 73.3                               | -1.0                                      | 2.7                 | -1.0   |
| 2022:2 | 1.9                               | 1.5                                       | 1.5                   | 79.0  | 73.9                               | -0.5                                      | 2.6                 | -0.5   |
| 2022:3 | 1.9                               | 1.6                                       | 1.7                   | 78.5  | 73.9                               | -0.4                                      | 2.6                 | -0.4   |
| 2022:4 | 1.9                               | 2.0                                       | 2.0                   | 78.7  | 73.9                               | 0.0                                       | 2.6                 | 0.0  |

<sup>1</sup> Consumer's Expenditure Deflator

<sup>2</sup> Sterling Effective Exchange Rate Bank of England

<sup>3</sup> Ratio of UK to other OECD consumer prices adjusted for nominal exchange rate

<sup>4</sup> Treasury Bill Rate less one year forecast of inflation

<sup>5</sup> Short Dated 5 Year Interest Rate less average of predicted 5 year ahead inflation rate

### Labour Market and Supply Factors (Seasonally Adjusted)

|        | Average<br>Earnings<br>(1990=100) <sup>1</sup> | Wage<br>Growth <sup>2</sup> | Unemployment (New<br>Basis)<br>Percent <sup>3</sup> | Millions | Real Wage<br>Rate <sup>4</sup><br>(1990=100) |
|--------|--|-----------------------------|---|----------|--|
| 2019   | 275.7  | 3.5                         | 3.8   | 1.0      | 148.8  |
| 2020   | 279.3  | 1.5                         | 4.5   | 1.3      | 149.8  |
| 2021   | 287.6  | 2.9                         | 6.1   | 1.9      | 152.1  |
| 2022   | 296.3  | 3.0                         | 5.2   | 1.6      | 153.7  |
| 2023   | 306.0  | 3.3                         | 3.6   | 1.0      | 155.6  |
| 2024   | 315.8  | 3.2                         | 2.8   | 0.7      | 157.5  |
| 2020:1 | 279.7  | 2.7                         | 4.0   | 1.1      | 150.0  |
| 2020:2 | 270.1  | -0.5                        | 4.1   | 1.2      | 145.9  |
| 2020:3 | 279.1  | 0.3                         | 4.8   | 1.4      | 149.4  |
| 2020:4 | 288.3  | 3.7                         | 5.2   | 1.5      | 154.1  |
| 2021:1 | 285.0  | 1.8                         | 5.3   | 1.6      | 151.6  |
| 2021:2 | 280.0  | 3.6                         | 6.1   | 1.9      | 149.0  |
| 2021:3 | 287.7  | 3.1                         | 6.9   | 2.2      | 151.4  |
| 2021:4 | 297.7  | 3.1                         | 6.3   | 2.0      | 156.3  |
| 2022:1 | 293.1  | 2.9                         | 5.8   | 1.8      | 152.9  |
| 2022:2 | 288.8  | 3.1                         | 5.2   | 1.6      | 150.7  |
| 2022:3 | 296.4  | 3.0                         | 5.0   | 1.5      | 153.0  |
| 2022:4 | 306.8  | 3.0                         | 4.7   | 1.4      | 158.1  |

<sup>1</sup> Whole Economy

<sup>2</sup> Average Earnings

<sup>3</sup> Wage rate deflated by CPI

**Estimates and Projections of the Gross Domestic Product<sup>1</sup> (£ Million 1990 Prices)**

|         | Expenditure Index | £ Million '90 prices | Non-Durable Consumption <sup>2</sup> | Private Sector Gross Investment Expenditure <sup>3</sup> | Public Authority Expenditure <sup>4</sup> | Net Exports <sup>5</sup> | AFC      |
|---------|-------------------|----------------------|--------------------------------------|--|---|--------------------------|----------|
| 2019    | 167.8             | 803514.3             | 475369.3                             | 308458.5   | 209136.4                                  | -70959.7                 | 118490.2 |
| 2020    | 151.2             | 724216.9             | 419988.4                             | 260629.6   | 199161.5                                  | -33375.3                 | 122187.3 |
| 2021    | 158.9             | 761043.7             | 447029.6                             | 266904.5   | 206976.7                                  | -29520.3                 | 130346.8 |
| 2022    | 172.4             | 825710.2             | 453553.6                             | 327754.3   | 208200.4                                  | -23629.7                 | 140168.4 |
| 2023    | 181.9             | 870949.8             | 460358.3                             | 366934.4   | 209439.6                                  | -18606.3                 | 147176.2 |
| 2024    | 189.4             | 906871.6             | 467263.6                             | 397973.3   | 210696.2                                  | -15890.2                 | 153171.3 |
| 2019/18 | 1.4               |                      | 0.3                                  | 3.1  | 3.0                                       |                          | -0.6     |
| 2020/19 | -9.9              |                      | -11.7                                | -15.3  | -4.8                                      |                          | 7.6      |
| 2021/20 | 5.7               |                      | 7.4                                  | 4.3  | 4.4                                       |                          | 5.7      |
| 2022/21 | 8.7               |                      | 1.5                                  | 25.3   | 0.6                                       |                          | 8.0      |
| 2023/22 | 5.6               |                      | 1.5                                  | 13.1   | 0.6                                       |                          | 5.4      |
| 2024/23 | 4.1               |                      | 1.5                                  | 8.5  | 0.6                                       |                          | 4.1      |
| 2020:1  | 163.4             | 195632.5             | 118032.8                             | 72147.1  | 51656.8                                   | -11632.2                 | 34572.0  |
| 2020:2  | 132.4             | 158502.4             | 91565.8                              | 47009.3  | 43743.5                                   | 429.6                    | 24245.8  |
| 2020:3  | 154.4             | 184828.8             | 99906.5                              | 75030.8  | 50861.9                                   | -9722.9                  | 31247.5  |
| 2020:4  | 154.7             | 185253.2             | 110483.3                             | 66442.5  | 52899.3                                   | -12449.8                 | 32122.1  |
| 2021:1  | 147.3             | 176382.8             | 112227.8                             | 55947.2  | 51108.2                                   | -12795.0                 | 30105.4  |
| 2021:2  | 152.7             | 182821.4             | 111100.8                             | 54808.5  | 51381.7                                   | -3100.0                  | 31369.6  |
| 2021:3  | 160.0             | 191505.0             | 111235.2                             | 69004.6  | 51169.7                                   | -6655.3                  | 33249.2  |
| 2021:4  | 175.7             | 210334.5             | 112465.9                             | 87144.1  | 53317.1                                   | -6970.0                  | 35622.6  |
| 2022:1  | 164.4             | 196774.8             | 113836.8                             | 76154.1  | 51398.8                                   | -10980.6                 | 33634.3  |
| 2022:2  | 167.0             | 199920.6             | 112659.4                             | 72579.5  | 51689.2                                   | -2877.3                  | 34130.2  |
| 2022:3  | 178.0             | 213100.3             | 112904.5                             | 89790.4  | 51475.5                                   | -5098.7                  | 35971.4  |
| 2022:4  | 180.3             | 215914.6             | 114152.9                             | 89230.3  | 53637.0                                   | -4673.1                  | 36432.5  |

<sup>1</sup> GDP at factor cost. Expenditure measure; seasonally adjusted

<sup>2</sup> Consumers expenditure less expenditure on durables and housing

<sup>3</sup> Private gross domestic capital formation plus household expenditure on durables and clothing plus private sector stock building

<sup>4</sup> General government current and capital expenditure including stock building

<sup>5</sup> Exports of goods and services less imports of goods and services

**Financial Forecast**

|        | PSBR/GDP % <sup>1</sup> | GDP <sup>1</sup> (£bn) | PSBR (£bn)     | Debt Interest (£bn) | Current Account (£ bn) |
|--------|-------------------------|------------------------|----------------|---------------------|------------------------|
|        |                         |                        | Financial Year |                     |                        |
| 2019   | 2.3                     | 2166.6                 | 49.1           | 24.1                | -89.1                  |
| 2020   | 16.5                    | 1943.8                 | 312.8          | 26.0                | -58.4                  |
| 2021   | 6.6                     | 2190.7                 | 141.6          | 27.3                | -51.0                  |
| 2022   | 3.2                     | 2416.3                 | 75.0           | 29.5                | -37.6                  |
| 2023   | 1.4                     | 2568.5                 | 35.4           | 34.3                | -26.1                  |
| 2024   | 0.5                     | 2720.1                 | 12.9           | 38.7                | -19.3                  |
| 2020:1 | -0.9                    | 542.0                  | -5.0           | 6.5                 | -18.7                  |
| 2020:2 | 27.3                    | 431.7                  | 118.0          | 6.4                 | -11.9                  |
| 2020:3 | 14.4                    | 508.7                  | 73.5           | 6.5                 | -15.5                  |
| 2020:4 | 13.7                    | 510.9                  | 70.2           | 6.5                 | -12.3                  |
| 2021:1 | 10.4                    | 492.4                  | 51.2           | 6.6                 | -21.7                  |
| 2021:2 | 9.0                     | 507.7                  | 45.6           | 6.7                 | -19.4                  |
| 2021:3 | 7.5                     | 533.6                  | 39.9           | 6.8                 | -9.0                   |
| 2021:4 | 4.0                     | 591.9                  | 23.8           | 6.9                 | -0.8                   |
| 2022:1 | 5.8                     | 557.5                  | 32.4           | 6.9                 | -17.2                  |
| 2022:2 | 5.6                     | 564.2                  | 31.9           | 7.0                 | -19.0                  |
| 2022:3 | 2.9                     | 608.6                  | 17.8           | 7.3                 | -5.7                   |
| 2022:4 | 1.6                     | 619.2                  | 9.8            | 7.4                 | 4.3                    |

<sup>1</sup> GDP at market prices (Financial Year)

## WORLD FORECAST DETAIL

### Growth Of Real GNP

|         | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---------|------|------|------|------|------|------|
| U.S.A.  | 2.3  | 3.0  | 2.2  | -3.6 | 4.0  | 2.5  |
| U.K.    | 1.8  | 1.3  | 1.4  | -9.9 | 5.7  | 8.7  |
| Japan   | 2.2  | 0.3  | 0.7  | -5.3 | 2.6  | 1.0  |
| Germany | 2.6  | 1.3  | 0.6  | -5.4 | 3.9  | 2.0  |
| France  | 2.4  | 1.8  | 1.5  | -9.3 | 5.9  | 2.0  |
| Italy   | 1.7  | 0.9  | 0.3  | -9.0 | 4.9  | 1.9  |

### Growth Of Consumer Prices

|         | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---------|------|------|------|------|------|------|
| U.S.A.  | 2.1  | 2.4  | 1.8  | 2.0  | 2.0  | 2.0  |
| U.K.    | 2.6  | 2.4  | 1.8  | 0.8  | 1.5  | 1.9  |
| Japan   | 0.5  | 1.0  | 0.5  | 0.0  | 0.0  | 0.5  |
| Germany | 1.5  | 1.8  | 1.4  | 0.5  | 1.5  | 1.7  |
| France  | 1.0  | 1.8  | 1.1  | 0.5  | 0.8  | 1.5  |
| Italy   | 1.2  | 1.2  | 0.6  | -0.2 | 0.4  | 1.0  |

### Real Short-Term Interest Rates

|         | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---------|------|------|------|------|------|------|
| U.S.A.  | -1.0 | 0.6  | -0.5 | -1.6 | -1.0 | 0.0  |
| U.K.    | -2.0 | -1.1 | -0.0 | -1.2 | -1.4 | -0.5 |
| Japan   | -0.9 | -0.4 | 0.1  | 0.0  | -0.4 | -0.5 |
| Germany | -2.1 | -1.7 | -0.9 | -1.9 | -2.2 | -1.9 |
| France  | -2.1 | -1.4 | -0.9 | -1.2 | -2.0 | -1.7 |
| Italy   | -1.5 | -0.9 | -0.2 | -0.8 | -1.5 | -1.4 |

### Nominal Short-Term Interest Rates

|         | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---------|------|------|------|------|------|------|
| U.S.A.  | 1.4  | 2.4  | 1.5  | 0.4  | 1.0  | 2.0  |
| U.K.    | 0.4  | 0.7  | 0.8  | 0.2  | 0.1  | 1.5  |
| Japan   | 0.1  | 0.1  | 0.1  | 0.0  | 0.1  | 0.1  |
| Germany | -0.3 | -0.3 | -0.4 | -0.4 | -0.5 | -0.1 |
| France  | -0.3 | -0.3 | -0.4 | -0.4 | -0.5 | -0.1 |
| Italy   | -0.3 | -0.3 | -0.4 | -0.4 | -0.5 | -0.1 |

### Real Long-Term Interest Rates

|         | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---------|------|------|------|------|------|------|
| U.S.A.  | 0.4  | 0.9  | 0.1  | 0.3  | 0.8  | 1.0  |
| U.K.    | -1.2 | -0.7 | -1.0 | -1.6 | -1.4 | -0.5 |
| Japan   | -0.6 | -0.6 | -0.6 | -0.5 | -0.6 | -0.7 |
| Germany | -1.2 | -1.4 | -1.9 | -2.3 | -2.2 | -2.0 |
| France  | -0.6 | -0.7 | -1.4 | -1.9 | -1.7 | -1.6 |
| Italy   | 0.9  | 1.8  | 0.2  | -0.6 | -0.5 | -0.3 |

### Nominal Long-Term Interest Rates

|         | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---------|------|------|------|------|------|------|
| U.S.A.  | 2.4  | 2.9  | 2.1  | 2.3  | 2.8  | 3.0  |
| U.K.    | 0.6  | 1.0  | 0.6  | 0.3  | 0.5  | 1.5  |
| Japan   | 0.1  | 0.0  | 0.0  | 0.1  | 0.1  | 0.1  |
| Germany | 0.4  | 0.2  | -0.2 | -0.5 | -0.3 | 0.0  |
| France  | 0.8  | 0.7  | 0.1  | -0.3 | 0.0  | 0.2  |
| Italy   | 1.9  | 2.8  | 1.4  | 0.7  | 0.9  | 1.2  |

### Index Of Real Exchange Rate(2000=100)<sup>1</sup>

|         | 2017  | 2018  | 2019  | 2020  | 2021  | 2022  |
|---------|-------|-------|-------|-------|-------|-------|
| U.S.A.  | 94.5  | 93.5  | 96.3  | 96.2  | 95.5  | 94.9  |
| U.K.    | 75.5  | 76.9  | 73.8  | 72.7  | 73.2  | 73.7  |
| Japan   | 58.3  | 57.8  | 56.3  | 54.2  | 51.4  | 48.0  |
| Germany | 94.3  | 96.5  | 95.6  | 94.1  | 92.2  | 90.0  |
| France  | 95.3  | 97.4  | 96.3  | 94.5  | 92.1  | 89.4  |
| Italy   | 101.2 | 102.8 | 104.5 | 105.2 | 103.8 | 101.7 |

<sup>1</sup> 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)

|                     | 2017   | 2018   | 2019   | 2020   | 2021   | 2022   |
|---------------------|--------|--------|--------|--------|--------|--------|
| U.S.A. <sup>1</sup> | 101.68 | 109.96 | 104.31 | 106.53 | 105.84 | 104.43 |
| U.K.                | 1.29   | 1.34   | 1.28   | 1.28   | 1.28   | 1.30   |
| Japan               | 112.14 | 110.43 | 109.03 | 106.79 | 107.50 | 107.30 |
| Eurozone            | 0.89   | 0.85   | 0.89   | 0.88   | 0.88   | 0.87   |

<sup>1</sup> The series for the USA is a trade weighted index (1990=100); the series for the UK is \$ per £

\* Forecasts based on the Liverpool World Model