

# LIVERPOOL INVESTMENT LETTER

August 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 GOVERNMENT SHOULD TAKE A LONG-TERM APPROACH TO REDUCING ITS COVID DEBT/GDP RATIO AND SHOULD PURSUE A BOLD TAX CUTTING STRATEGY FOR GROWTH AND LEVELLING UP

The economy is now recovering from the pandemic and growth this year should be around 8%, a strong recovery from last year’s collapse and the resulting run-up in public debt to pay for the emergency. Post-Brexit and post-Covid there are major challenges for government policy; the recovery needs to be sustained, and policies must be put in place for solid long-term growth and levelling-up. This policy formulation requires the government to take a long-term view and not to panic in the face of short-term pressures.

One of those pressures is the sharp rise in public debt due to Covid, to around 100% of GDP. Over recent years the government has been concerned to bring the debt ratio down, especially after the financial crisis hit. So the natural instinct of a Conservative government is to revert to the same austerity policies. We have recently had a report from the Public Accounts Committee (Covid19 Cost Tracker update: <https://committees.parliament.uk/publications/6953/documents/72750/default/>), warning us of the dire state of the government finances post-Covid. The PAC joins the lugubrious OBR in its reports. Mind you, we should not be surprised at, or critical of, these bodies. They were set up with the role of standing guard over the public finances, and their job is, Cassandra-like, to warn about the downside risks.

However, unlike Cassandra, these bodies are wrong in their forecasts; and good policy needs to balance risks against returns; and most important of all, it must take a long-term

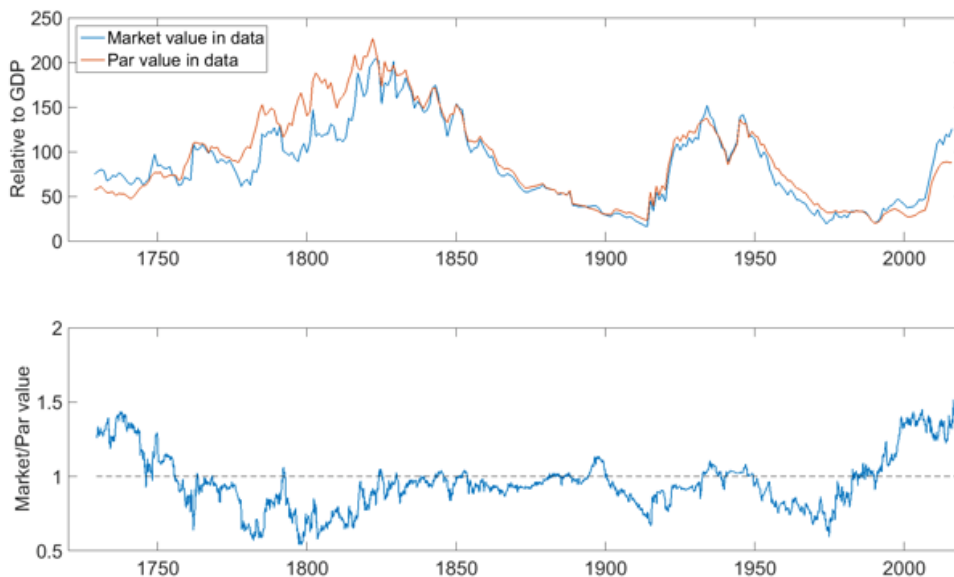
**Table 1: Summary of Forecast**

	2018	2019	2020	2021	2022	2023	2024
GDP Growth <sup>1</sup>	1.3	1.4	-9.9	8.0	8.3	2.4	2.1
Inflation CPI	2.4	1.8	1.0	1.8	5.0	4.0	3.0
Wage Growth	3.0	3.5	1.6	4.6	5.5	5.3	4.2
Survey Unemployment	4.1	3.8	4.5	4.9	5.0	3.6	2.8
Exchange Rate <sup>2</sup>	78.6	78.3	78.2	81.0	78.9	78.0	77.7
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	0.1	0.4	1.5	4.7	5.0
Current Balance (£bn)	-82.9	-89.1	-58.2	-48.4	-36.0	-24.3	-17.0
PSBR (£bn)	39.3	49.1	311.2	135.2	57.0	41.5	22.7

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

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

view at this crucial junction in our history, with the overwhelming need to boost growth and bring down regional inequality. Currently, there is a huge return from bold policies designed to boost post-Covid growth. It is growth and to a lesser extent inflation that will bring down the ratio of public debt to GDP over the long term, as it has done before in our history, as shown in the following charts. You can see the gradual fall of the debt ratio from peaks of over 200% after the Napoleonic wars and WW2. During these long adjustments there was never any panic over UK solvency, as can be seen in the second chart of market/par value. This fluctuates around unity; the fluctuation reflects fluctuating market interest rates compared with issue rates. Feared insolvency would show up as a collapse in the ratio, which we do not see. The UK has never defaulted; and it is not about to do so now.



Source: Ellison and Scott (2017) ‘323 years of UK national debt’, <https://voxeu.org/article/323-years-uk-national-debt>

In the current post-Covid situation, there will be a big bounce back in GDP, and with it in tax revenues net of welfare payments, with a fall off too in emergency spending. So the PSBR will fall back to a modest level quite quickly. A cautious approach to the finances implies keeping the PSBR low enough to ensure that growth in nominal GDP

gradually brings down the debt ratio. We show the latest forecast we have made in the Liverpool Quarterly Bulletin for the public finances, assuming no change in policies. It also projects 2% growth with no change in policies; this is about the same as growth over the past thirty years on average (1989–2019).

**Table 2: Basic Forecast**

	Nom PSBR	Nom GDP	Nom Pub Spend	Spend/ GDP	PSBR/ GDP	Nom Debt	Debt Interest	Debt/ GDP	Net Taxes	Net Tax Rate
2019/20	49.0	2201.4	473.2	21.5	2.2	1621.0	48.1	73.6	472.3	21.5
2020/21	313.6	1963.6	473.2	24.1	16.1	1934.6	39.8	98.5	199.4	10.2
2021/22	139.8	2233.3	474.5	21.2	6.3	2074.4	42.6	92.9	377.3	16.9
2022/23	58.2	2481.4	544.5	21.9	2.3	2132.6	41.1	85.9	527.3	21.3
2023/24	42.5	2660.8	587.7	22.1	1.6	2175.1	42.9	81.7	588.1	22.1
2024/25	27.8	2814.4	633.6	22.5	1	2202.9	41.1	78.3	646.9	23.0
2025/26	3.7	2931.4	658.0	22.4	0.1	2205.3	44.6	75.2	700.2	23.9
2026/27	0.2	3054.4	712.0	23.3	0	2205.5	47.9	72.2	759.7	24.9
2027/28	0.2	3180.6	771.9	24.3	0	2205.7	51.0	69.3	822.7	25.9
2028/29	0.0	3311.8	836.9	25.3	0	2205.7	53.9	66.6	890.9	26.9
2029/30	0.0	3448.3	907.9	26.3	0	2205.7	56.8	64.0	964.7	28.0
2030/31	0.0	3590.2	985.1	27.4	0	2205.7	59.4	61.4	1044.6	29.1
2031/32	0.0	3736.2	1068.6	28.6	0	2205.7	62.0	59.0	1130.5	30.3
2032/33	0.1	3889.0	1159.5	29.8	0	2205.8	64.4	56.7	1223.8	31.5
2033/34	0.0	4047.7	1258.0	31.1	0	2205.8	66.7	54.5	1324.7	32.7
2034/35	-0.1	4212.2	1364.7	32.4	0	2205.7	68.9	52.4	1433.7	34.0

But we must not forget the other side of this policy coin: that policy must sustain and encourage growth. In truth, projected growth of 2% is low and we can do better. Higher growth in turn will bring down the debt ratio, so in effect paying for those policies.

These growth-supporting policies involve supply-side tax cuts and spending rises whose short-term effect is of course to increase the deficit. But in the long run they bring the debt ratio down, so in effect paying for themselves — as we illustrate below.

These very policies also generate ‘levelling-up’ where growth in the North exceeds that in the South — we define the South as consisting of London, the South East and the South West and the ‘North’ as all other regions (with apologies to Wales, the Midlands and the east). My research group in Cardiff has been working for the past year on a new regional model of the UK to frame the best way for policy to address this agenda. Our work (written up in

[http://carbsecon.com/wp/E2020\\_14.pdf](http://carbsecon.com/wp/E2020_14.pdf)) produces the policy results shown in Table 3. The model is based on well-known and well-tried ideas of supply-side channels through which targeted tax cuts and regulative reform raise entrepreneurial incentives to innovate as well as creating labour market flexibility and lowering labour costs. Previous work has shown that these sorts of policy have worked well in the UK to boost the economy in the 1980s and 1990s. Later in this piece we show fuller details of these effects, in the form of a full proposed policy package combining them all. Much policy commentary has criticised the government for aiming at ‘levelling-up’ without any strategy for achieving it. We show here that there is a potential strategy that is feasible without affecting public sector solvency; also that it ‘levels up’ the North without cutting down the South — all boats rise in this strategy. To embark on this strategy the main need is to close our ears to the voices of gloom that urge the need to raise taxes and cut spending to reduce the Covid debt — that way lies only a downward spiral of falling growth and a rising debt ratio — a ‘doom loop’ of stagnation, austerity and worsening finances.

**Table 3: Long run effects of different tax/regulative measures on North and South according to Regional Model- each measure costing £10 billion p.a.**

Percentage change in	GDP <sub>N</sub>	GDP <sub>S</sub>
Cut standard rate of income tax or VAT or other general income/consumption tax	1.1	0.5
Cut Corporation tax rate	0.8	0.4
Cut marginal tax rate and regulative burden on Entrepreneurs/SMEs	20	17
Increase infrastructure spending in North	1.6	-

We now discuss the prospects for growth, taxes and debt in the context of the post-Covid economic prospects — in an Appendix we discuss in detail our supporting analysis of how tax behaves in response to the economy, since this is often neglected in these discussions of fiscal policy. In brief, this reveals that a 1% rise in GDP raises net taxes, i.e. taxes minus benefits (tax credits) by about 3%, an ‘elasticity’ of 3. By implication the average tax rate rises by 2%, an elasticity of 2. Hence growth has a tonic effect on taxes and the public finances. Our research in turn shows that the policy package we propose will raise growth by 2.3% per annum, that is to 4.3% against the 2% baseline assumed above. For the sake of caution we will assume only a 1% uplift to 3% per annum in our projections.

**Table 4: A fiscal stimulus package costing £100 billion p.a.**

Tax Cuts	Amount
Cut corporation tax by 10%	£32 bn
Abolish the very top additional 5% rate	£1bn
Cut the top rate of income tax to 30%	£15bn
Cut the standard rate of income tax by 5%	£28bn
Total Tax Cuts <sup>1</sup>	£76bn
Public Spending <sup>2</sup>	£24bn
Total Package	£100 bn

<sup>1</sup> Representing a weighted average tax cut across all income of about 15%

<sup>2</sup> On public services and infrastructure

**Table 5: effects on growth in Regional Model (% of GDP over next decade) from full policy package of £100 billion p.a.**

Percentage change in	GDP <sub>N</sub>	GDP <sub>S</sub>	GDP
Cut standard rate of income tax or VAT or other general income/consumption tax	3.3	1.5	2.4
Cut Corporation tax rate	2.4	1.2	1.8
Cut marginal tax rate and regulative burden on Entrepreneurs/SMEs	20	17	18.5
Increase infrastructure spending in North	3.8	-	1.9
Total	29.5	19.2	24.6

In Table 5 we show the rising spending (corresponding roughly to Departmental spending limits, DEL, in the latest OBR report), against rising tax receipts net of tax credits (these are shown as ‘welfare spending’ by the OBR and included in Total Managed Expenditure, TME, their spending aggregate). In the Base Run forecast shown above, where current policies continue, the debt/GDP ratio falls to 52% by 2034/35, illustrating the point that there is no need to rush and pay off a large debt ratio after a crisis such as a war or Covid — it will fall steadily to a safe sustainable level with growth. Then when we implement the Fiscal-Fund-

plus-Reform package of tax cuts and infrastructure spending, we get the forecast set out in the table below. As noted above, according to our Regional Model the package raises growth by 2.3% p.a. over the decade to 2034/35; but in the Table below we have conservatively projected a higher growth rate of 1% p.a. to remain on the cautious side. With this higher growth comes a rising average net tax rate after the initial drop in revenues from the programme. Again, the debt ratio falls with now faster growth to a safe and sustainable 45% by 2034/35. In effect the package pays for itself.

**Table 5: Variant Forecast — Fiscal Stimulus Package, with assumed effect on growth of +1% p.a.**

	Nom PSBR	Nom GDP	Nom Pub Spend	Spend/ GDP	PSBR/ GDP	Nom Debt	Debt Interest	Debt/ GDP	Net Taxes	Net Tax Rate
2019/20	49.0	2201.4	473.2	21.5	2.2	1621.0	48.1	73.6	472.3	21.5
2020/21	313.6	1963.6	473.2	24.1	16.0	1934.6	39.8	98.5	199.4	10.2
2021/22	139.8	2233.3	474.5	21.2	6.3	2074.4	42.6	92.9	377.3	16.9
2022/23	58.2	2481.4	544.5	21.9	2.3	2132.6	41.1	85.9	527.3	21.3
2023/24	42.5	2660.8	587.7	22.1	1.6	2175.1	42.9	81.7	588.1	22.1
2024/25	127.0	2816.2	658.6	23.4	4.6	2302.1	41.1	81.7	572.7	20.3
2025/26	89.8	2960.8	683.0	23.1	3.1	2391.9	45.1	80.8	638.3	21.6
2026/27	75.6	3108.8	737.0	23.7	2.5	2467.5	49.0	79.4	710.4	22.9
2027/28	59.1	3264.3	796.9	24.4	2.0	2526.6	52.9	77.4	790.7	24.2
2028/29	38.6	3427.5	861.9	25.1	1.5	2565.1	56.6	74.8	880.0	25.7
2029/30	13.7	3598.9	932.9	25.9	0.9	2578.9	60.2	71.7	979.4	27.2
2030/31	-16.4	3778.8	1010.1	26.7	0.1	2562.5	63.6	67.8	1090.1	28.8
2031/32	-53.0	3967.8	1093.6	27.6	-0.6	2509.5	66.7	63.2	1213.3	30.6
2032/33	-96.4	4166.1	1184.5	28.4	-1.5	2413.1	69.4	57.9	1350.4	32.4
2033/34	-148.3	4374.5	1283.0	29.3	-2.5	2264.7	71.6	51.8	1503.0	34.4
2034/35	-209.9	4593.2	1389.7	30.3	-3.5	2054.8	73.2	44.7	1672.8	36.4

These tables show that the fiscal package pays for itself via higher growth. What does it do for the regional picture according to our new Regional Model? On our cautious assumptions in Table 5 the gap is reduced by 4%, even while both North and South grow more strongly, with average GDP up 10% over the decade. During this period the growth of the North is roughly double that of the South. The policy effect is therefore levelling up without pushing down. According to the Regional Model, growth is double what is assumed in Table 5, implying even stronger finances, with growth in the North nearly 3% p.a. higher than base and in the South, about 2% higher, and the North-South gap reduced by 8% over the decade.

## Conclusions

Not surprisingly some voices have been raised recently to urge tax rises and expenditure cuts by the government to push down the high post-Covid public debt/GDP ratio rapidly. However, for the long term good of the country fiscal policy should now focus on boosting growth, particularly in the ‘Northern’ regions outside the relatively prosperous South. In recent research on Regional growth and employment we have developed a Regional Model to assess the best policy choices for this purpose and we have combined it with our other ongoing work on the economy to forecast how these policies would affect the public finances. What we have found is that a bold package of tax cuts and targeted spending on infrastructure will boost growth across the country, but particularly in the North, reducing the North-South gap, and will also pay for itself through its long-term effect on the public finances.

## Appendix: How taxes and benefits respond to GDP

Taxes and benefits (tax credits) vary greatly with income, since the UK has a highly progressive and redistributive tax system. Usually, i.e. except when it is explicitly suspended, the tax bands are indexed to inflation, so that real tax receipts vary only with real income. But as now in fact this indexation has been suspended by the recent budget — currently inflation too raises taxes.

The average (net of benefit) tax yield is 0.20. This average rate consists about half of income taxes and half of expenditure taxes (mainly VAT). For income taxes, the top 50% of income earners have 75% of income and pay 88.4% of income tax. Their average tax rate is about 14%. For those in the bottom 50%, with 25% of income, they pay negative tax of about 9% of their income. (Source: Table 2.7 of HMRC Income Tax Statistics).

So the average net tax rate on income is  $(0.75(\text{the share of income of top 50\%}) \times 14\%) - (0.25 \times 9\%) = 8\%$ . The average tax rate on other indirect taxes would then be about 12%, so that the total net tax rate is about  $20\% = 8\% + 12\%$ . This is in line with the calculated average net tax rate. This average net rate, ART, is to be compared with the marginal tax rate. For income tax this is around 0.4 (for some it will be higher and for benefit recipients it is close to 0.7; but for very many it is the top band rate of 0.4, while for minorities it is less or much more) and for indirect taxes around 0.2 (the marginal VAT rate). Hence on £100 of income extra total tax will be £60, a marginal tax rate, MRT, of 60%. The elasticity of tax revenue to income is  $MRT/ART$ , which is therefore about 3. This implies that the ART rises by 2% for every 1% rise in GDP — an elasticity of the ART of 2 — while tax receipts

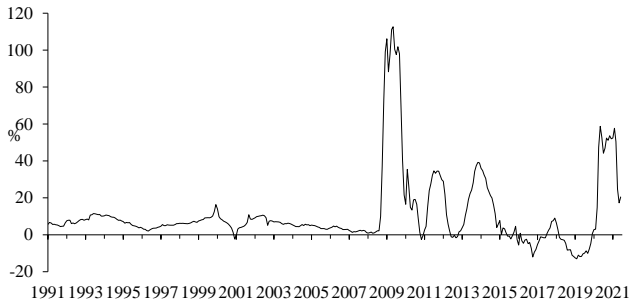
net of benefits rise by 3% for every 1% rise in GDP — a tax total elasticity of 3.

These are theoretical calculations of the elasticity to real GDP; but because they are based on the actual UK tax structure, they can be considered strongly based. In the data these changes are mixed up with many policy changes which

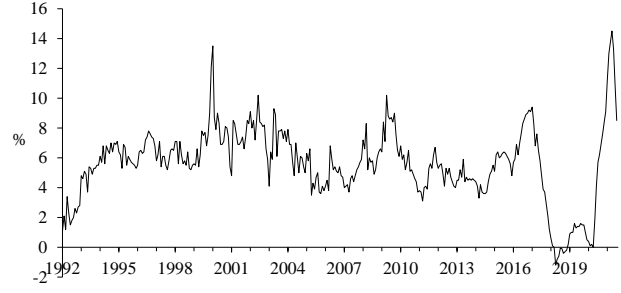
are hard to identify. For one recent period, 1993–2000, we can get a rough idea of the trend due to GDP. The ART rose 55%, while GDP rose 23%, implying an ART elasticity to GDP elasticity of about 2, in line with our theory. From 2008 to 2019, GDP rose 27% and the ART 20%, a rather smaller ART elasticity of 0.7. Empirically, an ART elasticity must be in the range of 1-2, and most probably around the top of it.



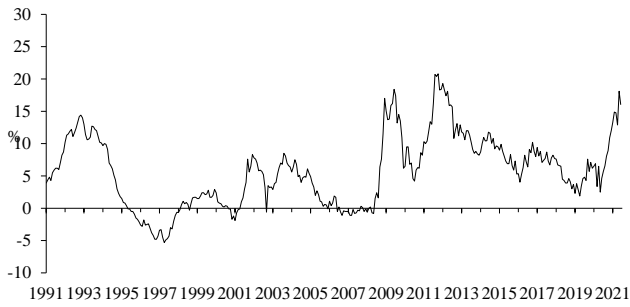
**U.S.: Growth in M0 (Yr - on - Yr)**



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



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



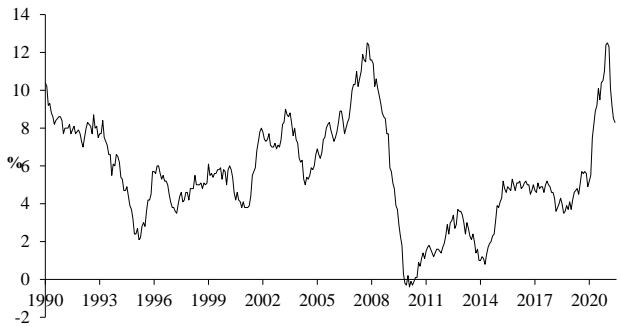
**UK: M4 Growth**



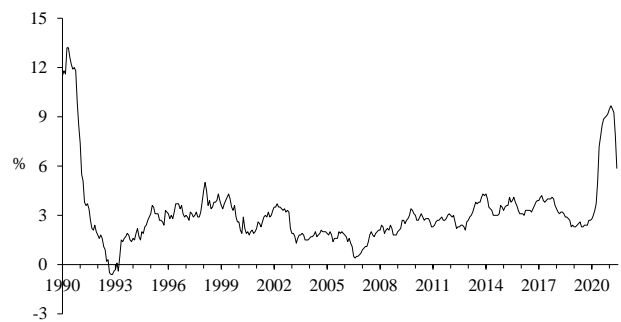
**U.S.: Growth in M2 (Yr - on - Yr)**



**Eurozone M3 Growth**



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



## FOCUS ON JAPAN

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Francesco Perugini

### Data released show the economy is improving

Japan's core consumer prices rose 0.2% in June from a year earlier to mark the fastest annual pace in over a year, a sign the impact of global commodity inflation was gradually broadening. But the increase, driven largely by higher energy costs, was much smaller than that of other major economies due to weak consumption, reinforcing expectations the Bank of Japan (BOJ) will be forced to maintain its massive stimulus for the time being.

The rise in the core consumer price index (CPI), which includes oil products but excludes volatile fresh food prices, matched a median market forecast for a 0.2% gain and followed a 0.1% increase in May. The increase, which was the fastest since March 2020, was due mostly to a 4.6% rise in energy costs with gasoline prices up 17.9%. "It's cost-push type inflation that likely won't have legs, with items propping up prices mostly energy-related," said Yasunari Ueno, chief market economist at Mizuho Securities.

With inflation well short of its 2% target, the BOJ is likely to lag well behind its counterparts in dialling back its massive monetary support to underpin a fragile recovery. However, recently Governor Haruhiko Kuroda said that the BOJ's 2% inflation target has pulled Japan's economy out of deflation, adding that this was not a mistaken policy. "As a result of the BOJ's policy of seeking to achieve its 2% price target, we are no longer in a deflationary situation," Kuroda said, answering questions after a speech on climate change policy. Despite having failed to meet its 2% inflation target for nearly a decade, Kuroda said the central bank's policy has been on the right course. "Corporate profits and growth rates have much improved, compared to the era of deflation," he said.

Meanwhile as the state of emergency was lifted in some areas, the unemployment rate fell to 2.9% in June, reflecting a pickup in hiring at restaurants and retailers hit hard by the pandemic. The seasonally adjusted jobless rate dropped from 3.0% for May, improving for the first time since March, the Ministry of Internal Affairs and Communications said. The job availability ratio improved to 1.13 from 1.09 a month earlier, the Ministry of Health, Labour and Welfare said. The latest figure of 1.13 means that there were 113 openings for every 100 job seekers.

Japan lifted its third state of emergency, which asks alcohol-serving establishments to suspend their operations, other eateries to close early and people to refrain from unnecessary outings, in nine prefectures including Tokyo in late June, and only the southern island prefecture of Okinawa remained under the measure. But the capital was put under a state of emergency again in mid-July amid a resurgence of infections

and four other prefectures are now expected to be added to the measure, clouding the outlook for the employment environment.

Looking at figures unadjusted for seasonal factors in the reporting month, the total number of unemployed people increased 110,000 from a year earlier to 2.06 million, but people in work also rose 220,000 to 66.92 million, the ministry said. By sector, accommodation and restaurant services, hit hard by the pandemic, logged the first year-on-year gain in the number of workers in 18 months, up 130,000 from the previous year to 3.82 million. The wholesale and retail fields saw an increase of 490,000 from a year ago to 10.71 million, adding the next largest number of jobs. Among the jobless people, 770,000 people voluntarily left their jobs, up 50,000, while 530,000 were new job seekers, up 30,000. The number of people laid off declined 10,000 to 600,000, down for the first time in 17 months, which a ministry official said could be regarded as a "turning point in trends," along with the increase of employees at hotels and eateries.

Compared with a pre-pandemic figure, however, the official told reporters that the number of people on payrolls was still at a low level, saying that it was 550,000 lower than the 67.47 million in June 2019. Takuya Hoshino, a senior economist at the Dai-ichi Life Research Institute, said the number of workers has been falling on a seasonally adjusted basis since the beginning of this year as the government repeatedly issued virus emergencies, but the downward trend is "coming to a halt." Hoshino pointed out that more dining establishments are increasingly defying the government's requests amid repeated virus emergencies and that the increase in the number of people employed by hotels and eateries may be an indication of this. "The situation over the spread of virus infections is getting worse for sure, and the employment environment in the accommodation and food service industries could worsen again," he said.

Despite the above data showing signs of improvement, in its latest monthly economic assessment the government maintained its view that Japan's economy has seen increased weakness in some sectors, as measures to curb the spread of COVID-19 continued to weigh on consumption in July. The economy is showing "further" weakness in some components and remains in a severe situation due to the pandemic, the Cabinet Office said, employing the same wording for the third straight month after downgrading the evaluation in May. The government's latest view on the overall economic situation came after Tokyo entered a fourth state of emergency over the pandemic July 12, due to a surge in COVID-19 cases following the end of the third emergency late last month.

## MARKET DEVELOPMENTS

Though inflation is rising and interest rates will rise too, they will not offset the impact of the sharp post-Covid recovery on equities.

**Table 1: Market Developments**

	Market Levels		Prediction for Jun/Jul 2022	
	Jul 6	Aug 9	Previous Letter	Current View
<b>Share Indices</b>				
UK (FT 100)	7101	7132	11475	11597
US (S&P 500)	4344	4432	6020	5966
Germany (DAX 30)	15511	15745	25811	26673
Japan (Tokyo New)	1955	1929	2463	2585
<b>Bond Yields (government)</b>				
UK	0.63	0.57	1.50	1.50
US	1.35	1.32	3.00	3.00
Germany	-0.28	-0.47	0.00	0.00
Japan	0.03	0.03	0.10	0.10
UK Index Linked	-2.23	-2.53	1.00	1.00
<b>Exchange Rates</b>				
UK (\$ per £)	1.38	1.38	1.30	1.30
UK (trade weighted)	81.83	82.48	78.8	78.8
US (trade weighted)	100.05	99.78	100.5	100.5
Euro per \$	0.85	0.85	0.88	0.88
Euro per £	1.17	1.18	1.14	1.14
Japan (Yen per \$)	110.57	110.29	107.5	107.5
<b>Short Term Interest Rates</b>				
UK	0.63	0.63	1.50	1.50
US	0.19	0.19	1.00	1.00
Euro	-0.49	-0.49	-0.50	-0.50
Japan	0.00	0.00	0.10	0.10

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

	Equities: Contribution to £ yield of:			Changing Dividend Yield	Currency	Total
	Dividend Yield	Real Growth	Inflation			
UK	3.60	2.6	5.0	55.00		66.20
US	1.99	2.4	2.3	29.90	6.12	42.71
Germany	3.30	1.8	1.6	66.00	2.98	75.68
Japan	1.90	1.5	0.5	32.00	8.50	44.40
UK indexed <sup>2</sup>	-2.53		5.0	10.00		12.47
Hong Kong <sup>3</sup>	2.60	5.2	2.3	-2.00	6.12	14.22
Malaysia	3.30	6.9	2.3	81.00	6.12	99.62
Singapore	3.50	5.0	2.3	50.00	6.12	66.92
India	1.40	5.5	2.3	15.00	6.12	30.32
Korea	1.10	2.2	2.3	-11.00	6.12	0.72
Indonesia	2.20	4.8	2.3	37.00	6.12	52.42
Taiwan	2.80	3.5	2.3	40.00	6.12	54.72
Thailand	3.20	4.1	2.3	47.00	6.12	62.72
Bonds: Contribution to £ yield of: –						
	Redemption Yield	Changing Nominal Rates		Currency	Total	
UK	0.57	-9.26			-8.69	
US	1.32	-16.81		6.12	-9.37	
Germany	-0.47	-4.65		2.98	-2.13	
Japan	0.03	-0.74		8.50	7.78	
Deposits: Contribution to £ yield of:						
	Deposit Yield	Currency	Total			
UK	0.63		0.63			
US	0.19	6.12	6.31			
Euro	-0.49	2.98	2.49			
Japan	0.00	8.50	8.50			

<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	
	July Letter	Current View	July Letter	Current View	July 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

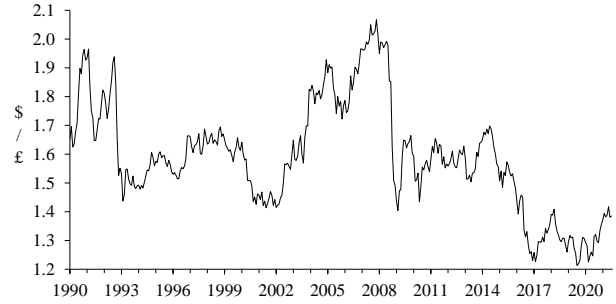
## FOREIGN EXCHANGE MARKETS

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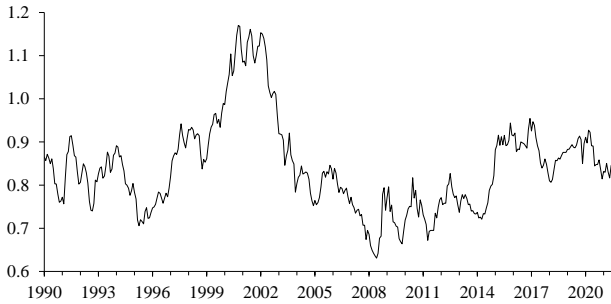
**US : Trade Weighted Index  
(Bank of England 1990 = 100)**



**UK: Dollars Per Pound Sterling**



**Euro per US dollar**



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



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

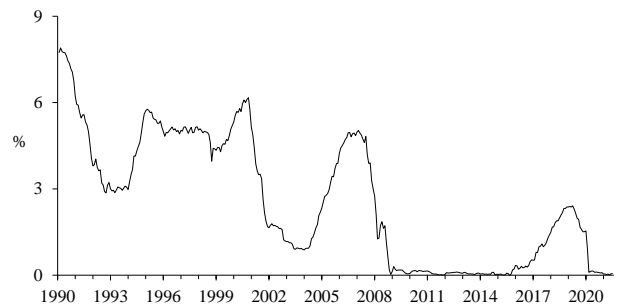


# GOVERNMENT BOND MARKETS

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



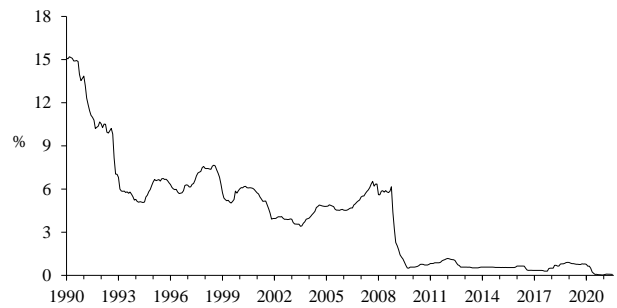
**U.S. : 3-Month Treasury Bill**



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



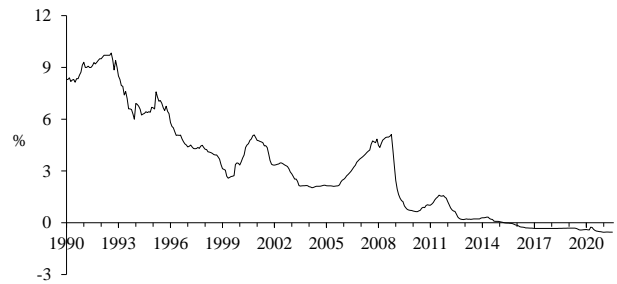
**U.K. : 3-Month Certificate LIBOR Rate**



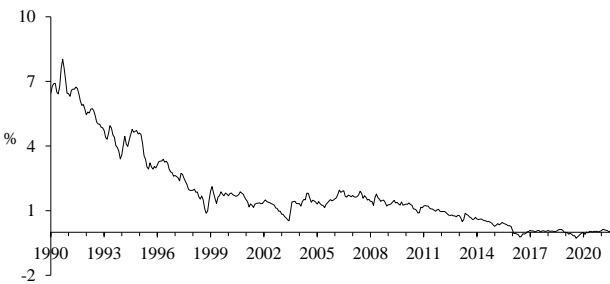
**Germany: Yield on Public Authority Bonds**



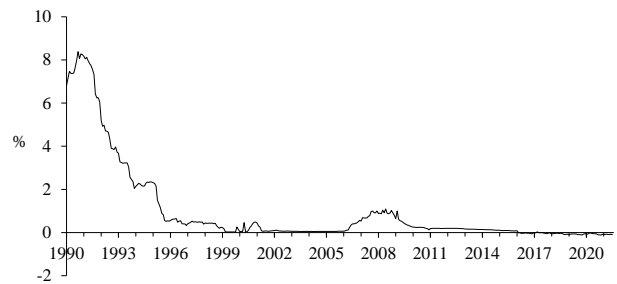
**Germany : 3-Month Interbank Deposit Rate**



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



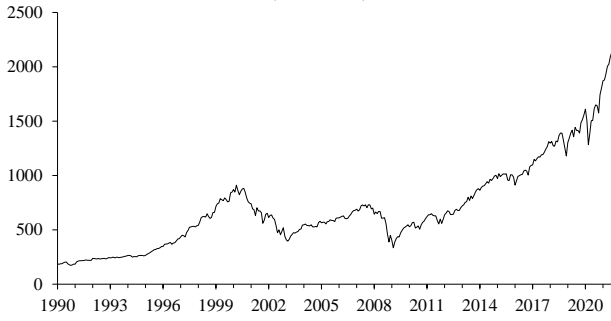
**Japan : 3-Month Money Market Rate**



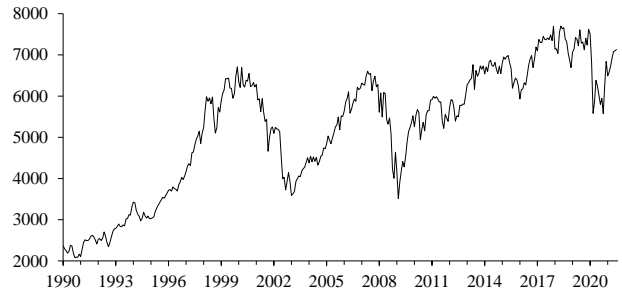
# MAJOR EQUITY MARKETS

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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

Our COVID analysis across the country finds a significant, comforting rise in jobs since the third week of June with central procurement, amidst a steady rise in the asking rate towards meeting year-end goals. Despite over 470 million shots since January, only ~6% of Indians have got double dose and ~32% have single dose. But, the daily cases, in the country as a whole, have remained over 40,000 new cases per day in the last week of July.

On the supply side, agricultural conditions are turning buoyant with the revival in the monsoon, but the recovery of manufacturing and services sectors has been interrupted by the second wave. High frequency data which include e-way bills, freight, electricity generation, and housing are showing a healthy growth. As states eased the lockdowns in phases, the Google mobility index is higher than the same period last year. From August 1, many states would allow in-person teaching in schools. All these developments make us optimistic to maintain our growth forecast of 10% in fiscal year 2021–22 and 5.5% in the next fiscal year. IMF has reduced India's economic growth forecast for FY22 to 9.5%. However, IMF sees India's gross domestic product (GDP) growing by 8.5% in the next financial year (FY23). Should that happen, India would become the most rapidly expanding large economy in the world with the closest competitor, China, projected to grow by 5.7%.

India is experiencing something similar to China's cost-push inflation, where higher input prices are the main factors pushing up the cost of goods and services. Due to supply bottlenecks, the wholesale price index has been growing in double-digits in the last two quarters and its impact on CPI has been significant. For the time being we are maintaining our CPI forecast to be 6% as it depends on crude oil prices. If crude oil prices fall in the near future the CPI would shrink. We expect the Reserve Bank of India to keep interest rates down at least until the end of the year, and markets to remain resilient so long as demand holds up and corporate profitability improves. The asset manager expects companies to positively surprise on earnings as economic activity gradually picks up amid a ramp up in vaccinations and falling mortality rates.

The country's merchandise exports rose by 48.34% to \$32.5 billion for the seventh straight month in June, tracking

India: BSE Sensitive



growth in shipments across sectors such as petroleum products, gems and jewellery, and chemicals, leather and marine goods. The exports momentum began in March 2021, which witnessed the highest ever exports in a single month, clocking \$34.45 billion. India's average monthly exports in FY20 were \$26.14 billion, nearly the same as in FY14.

Imports in June too rose by 98.31% to \$41.9 billion, driven by a rise in oil and gold imports, leaving a trade deficit of \$9.4 billion as against a trade surplus of \$0.8 billion in the same month last year.

The Indian rupee is hovering around Rs 75 to a US dollar and is unlikely to move much unless there are strong flows or negative triggers. Indian rupee is expected to remain within the range of Rs 74-75 per US dollar. Foreign exchange reserves reached an all-time high of \$610 billion on July 2, equivalent to 18.4 months of 2020–21 imports.

Corporate performance in Q4FY21 has been strong, with FY21 earnings growth at 25% beating consensus expectations of 18% in April'20 and slated to rise at a CAGR of 28% over FY21–23. At current levels, Indian markets are at ~21x forward consensus earnings. Moreover, government support to the manufacturing sector is attracting many MNCs to set up shop in India and existing firms are taking advantage of China+1 policy of MNCs. This is keeping profitability of large corporations very healthy and FDI and FPIs very strong.

	19–20	20–21	21–22	22–23	23–24
GDP (%p.a.)	4.0	-7.3	10.0	5.5	6.0
WPI (%p.a.)	3.6	5.5	6.0	5.5	5.3
Current A/c(US\$ bill.)	-20.0	35.0	-20.0	-10.0	-10.0
Rs./\$(nom.)	73.0	75.0	74.0	76.0	78.0



## China

China's strict control on spreading of the virus is not able to keep the Covid-19 virus under control. The recent outbreaks in South China led to closures of major ports that will result in months-long shipping delays. The Chinese vaccine is also not as effective as other vaccines. Outbreaks of Covid-19 here-and-there would continue to linger for a long time to come.

Record rainfall in central China triggered flooding that swamped subways and forced about 100,000 people to relocate. This is taking away the sheen of Chinese governance and quality of its infrastructure.

In the first two quarters of 2021 China's economy expanded 12.7% compared with the pandemic-scarred first six months of 2020. It is unlikely to maintain the same pace. The official manufacturing Purchasing Manager's Index (PMI) eased to 50.4 in July from 50.9 in June. But we expect the economy to clock 8% in 2021 and 5.2% in 2022 even though outbreaks of Covid 19 linger on. China's economy is facing headwinds in the second half of the year. Beijing has been careful in managing economic expectations this year, given the myriad uncertainties around the coronavirus pandemic and the global recovery.

All is not well and is well understood by the economic planners here. China is cutting its reserve requirement ratios, or RRRs, for all banks. This means that they can lend more, and so injects more money into the Chinese economy. The central bank has released RMB 1 trillion (US\$155 billion) of liquidity into the economy. The past history of RRR cuts (of any kind) suggests that this tool is never used when the economy is doing well. So now that the trigger has been pulled, two things are clear. First, the economy is not doing well. Second, China's easing cycle has started. Another RRR cut of 50bp is expected in the fourth quarter.

China's exports surged in June while import growth slowed to a still-robust level as its economic rebound from the coronavirus levelled off. Exports rose 32.2% from a year earlier to \$281.4 billion, up from May's 28% growth. Imports grew 36.7% to \$229.9 billion. For the first half of 2021, China's foreign trade volume was worth US\$2.8 trillion, a 27.1% increase from a year ago.

Regulatory fears are spreading to Chinese assets, after Beijing stepped up restrictions on its education sector, and continued its crackdown on its internet companies. Investors are grappling with an uncertain regulatory landscape. It is the fear of the unknown and market sentiments are on thin ice. China's government bonds and the yuan slid in tandem, amid speculation that overseas hedge funds have stepped up liquidating the country's assets after a rout in shares deepened.

The yuan is likely to continue trading against the dollar in a volatile manner, rather than "one-way trades" which it

China: SSE Composite Index



experienced in the last four years. It will likely be a rather bumpy and volatile path upward for the onshore and offshore yuan against the US dollar.

China's recent actions must be interpreted as China turning inward because technology which gives voice to people and open access which kills secrecy do not go together with the philosophy of the Communist Party of China of complete control. The Cyberspace Administration of China cited the need to prevent data security risks and safeguard national security i.e. safeguard of the party.

Presumably the government is shielding interactions between Chinese companies and state-owned banks, or dealings between the private economy and a corrupt party-state apparatus.

A more benign interpretation of the events is that Beijing is concerned about four pillars of stability: banking, antitrust regulation, data security and social equality. Beijing wants more market reforms and more opening up because leadership is aware that the private sector is the most dynamic part of the economy. But, at the same time, it wants to control its direction, for instance, by having Communist Party members on company boards. The leadership wants a more equal, liveable society, and any obstacles will be swept away. In the short term, China does not care if stock investors, many of them foreigners, lose billions of dollars. The government knows that people like these regulatory crackdowns. In the future, China's big tech will be less exciting and unable to exploit consumer data to make more money. In turn, China's technology companies might have to be valued in terms of their book value or even net cash. Liquidation risk is real in China.

President Biden is revealing a hard-edged China policy that suggests relations between the world's two biggest economies are only going to get worse.

	19	20	21	22	23
GDP (%p.a.)	6.1	2.3	8.0	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	80.0	60.0	52.0
Rmb/\$(nom.)	7.1	6.7	6.3	6.2	6.0

## South Korea

South Korea has recorded a surge in COVID-19 infections over the past couple of weeks, with the nation's daily confirmed cases reaching a record high 1,615 on July 14. The Seoul metropolitan area has been under the strictest restrictions of the country's four-tier social distancing system since July 12, placing severe constraints on small businesses and population mobility. Consumption may slow in the third quarter due to strong social distancing rules amid the fourth coronavirus wave hitting the country from July. The Korean parliament passed a 34.9 trillion won (\$30.2 billion) extra budget to pay 250,000 won in "disaster subsidies" to every person, except high-income earners and owners of expensive houses.

South Korea's economy grew 5.9% on the year in the second quarter of 2021, as a recovery in private consumption and the government's aggressive expenditure led the way. We expect GDP to grow 4% this year in spite of rising COVID-19 cases. South Korea Nikkei Markit Manufacturing PMI fell from previous 53.9 to 53 in July.

South Korea's inflation moderated to 2.4% year-on-year in June from 2.6% year-on-year in May. This marked the third consecutive month that the inflation rate was above the Bank of Korea's (BOK) 2% target with a low comparison base continuing to contribute to the gains. We expect inflation to be 2% in line with the BOK forecast.

Bank of Korea Governor, Lee Ju-yeol, said officials will discuss raising its key interest rate from its next meeting in August after playing down the likelihood that the latest virus surge will dent the economy's recovery. They left rates unchanged at 0.5% at the end of their policy meeting. But, there are enough signals that he intends to start tightening policy rate this year.

South Korean exports marked a fourth consecutive month of double-digit growth in June, albeit at a reduced pace, propelled by solid economic recovery in major markets globally and continued strong demand for memory chips and automobiles.

South Korea's exports eased in July on a fading base effect from last year's trade slump. Outbound shipments in July were seen expanding 30.2% from a year earlier.

The dollar-won exchange rate is gradually appreciating due to weakness of the US dollar. We expect the won to appreciate further as the government's vaccination program gets going again.

	19	20	21	22	23
GDP (%p.a.)	1.8	-1.0	4.0	3.0	2.5
Inflation (%p.a.)	0.4	0.5	2.0	1.4	1.0
Current A/c(US\$ bill.)	60.0	70.0	60.0	40.0	40.0
Won/(nom.)	1200	1070	1100	1100	950

Korea: Composite Index



Taiwan: Weighted TAIEX Price Index



## Taiwan

Taiwan's rapid GDP growth got a sudden jolt of rising COVID-19 in the country. The outbreak has now been brought well under control, with the alert level lowering and restrictions on gatherings and restaurant dining easing in the last week of July. However, it has made people a bit cautious. Taiwan's economy grew faster than expected in the second quarter, fuelled by strong export demand that offset the impact of island-wide COVID-19 restrictions. Gross domestic product grew 7.47% in the second quarter from a year earlier. But, GDP growth this year will be marginally slower than our last forecast. We expect the economy to grow 5% in 2021. As the growth drivers of 2022 slow down, the GDP growth of Taiwan will come down to 3.5% in 2022.

Consumer price inflation will remain well under control in 2021 and 2022. Exports are expected to expand 15.2% year-on-year to NT\$14.5 trillion (US\$523 billion) this year, while imports are predicted to increase 16% to NT\$11 trillion, thanks to a rapid economic recovery in the US, Europe and other parts of the world. That would give Taiwan a trade surplus of NT\$3.5 trillion, up 11.5% from a year earlier, on the back of solid demand for electronics used in smartphones, laptops, wearables, televisions and vehicles.

Taiwan has been concerned about the strength of its local dollar, which could make exports from the trade-dependent island more expensive.

President Tsai Ing-wen may get a bilateral trade deal with the US which would add another feather in her cap. While

much of Taiwan’s exports to the U.S. are already tariff-free, an agreement with the US will provide political cover for similar deals with nations that want to boost ties but are wary of a backlash from China, which claims the island as its territory.

	19	20	21	22	23
GDP (% p.a.)	2.0	3.1	5.0	3.5	3.0
Inflation (% p.a.)	1.0	-1.0	1.5	1.0	1.0
Current A/c(US\$ bill.)	70.0	71.0	90.0	100.0	65.0
NT\$/\$(nom.)	31.0	29.0	28.5	27.5	27.0

## Brazil

Brazil’s economy is expected to grow around 5% this year but it will be a jobless recovery after this year’s inflation surge. The next year’s expected growth is 2.2% as demand side would remain muted. The IMF’s World Economic Outlook report is more optimistic than our forecast and predicts Brazil’s gross domestic product growing 5.3% in 2021. For 2022, however, the growth forecast is estimated to be 1.9%.

Brazilian inflation in June turned out to be an annual rate of 8.4%. This is the highest in nearly five years and more than double the central bank’s year-end goal. This is going to have a major impact on borrowing costs in the coming months. There is a growing consensus that the central bank will quicken the pace of policy tightening in the coming months. The central bank has raised its benchmark Selic rate to 4.25%, and is likely to raise it by at least another 75 basis points on August 4. The central bank will raise the Selic rate to around 6% to keep 2022 inflation expectations in check.

Brazil’s trade surplus widened in June as exports of agricultural goods and products from extractive industries



increased. The country recorded a surplus of \$10.4 billion in June, after a surplus of \$9.3 billion in May.

The real was expected to benefit from a strong economic recovery in Brazil this year. But a laggard job market and spiking inflation will keep it in check. The central bank’s push to raise the lending rates is to curb the outflow of real.

Another political storm is brewing in Brazil. Brazil’s Supreme Court authorized prosecutors to investigate President Jair Bolsonaro over accusations that he ignored alleged irregularities in his government’s procurement process to buy India’s Covaxin COVID-19 vaccine. The probe centres on whether Mr. Bolsonaro ignored potential wrongdoing by senior members of the Health Ministry, who are alleged to have pushed ahead with a vaccine deal that others in the ministry had raised concerns about.

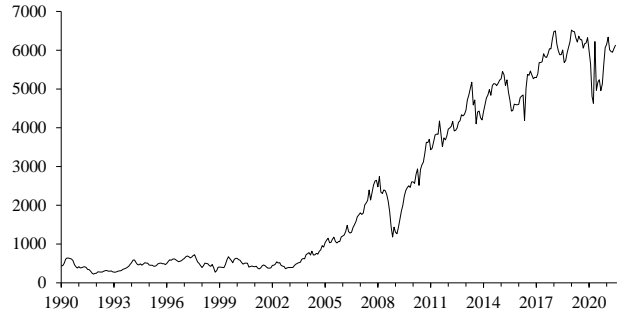
	19	20	21	22	23
GDP (%p.a.)	0.8	-4.5	5.0	2.2	2.0
Inflation (%p.a.)	4.3	4.5	6.0	4.0	4.0
Current A/c(US\$ bill.)	-36.0	-7.6	-10.0	-16.0	-22.0
Real/\$(nom.)	4.2	5.5	5.0	5.1	5.3

## Other Emerging Markets

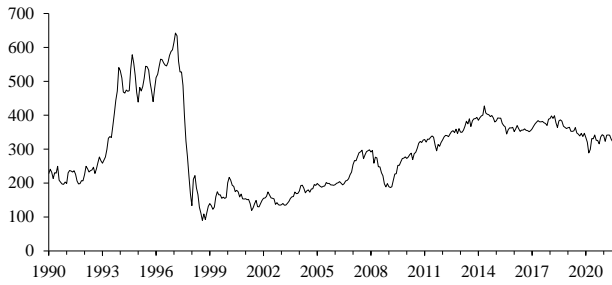
**Hong Kong: FT-Actuaries**



**Indonesia: Jakarta Composite**



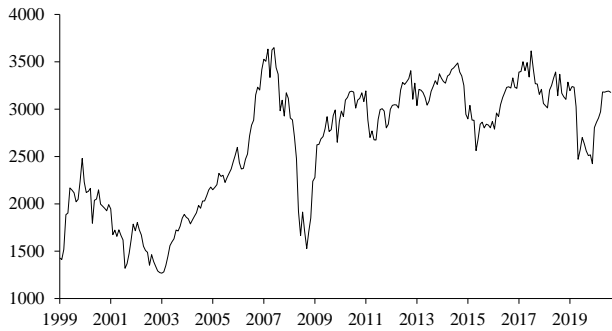
**Malaysia: FT-Actuaries  
(US\$ Index)**



**Thailand: Composite Index**



**Singapore: Straits Times Index**

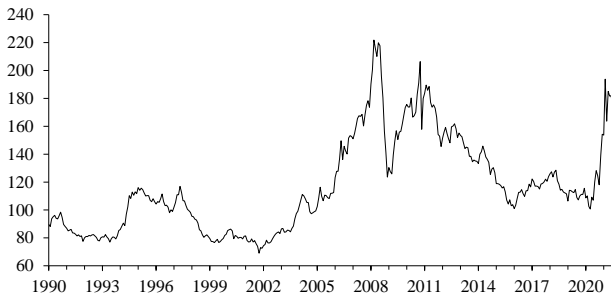


**Philippines: Manila Composite**

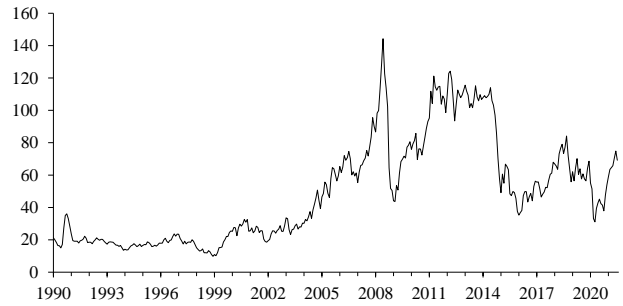


# COMMODITY MARKETS

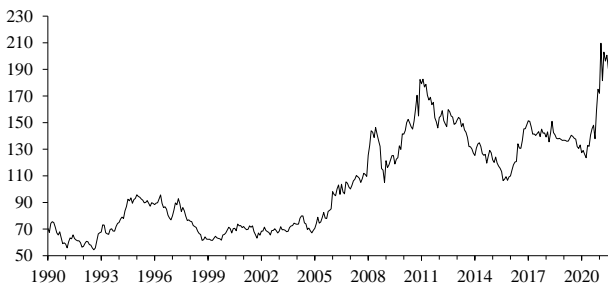
**Commodity Price Index (Dollar)**  
(Economist, 2015 = 100)



**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> (CPI)	Short Dated (5 Year) Interest Rates	3 Month Int. Rates	Nominal Exchange Rate (2005=100) <sup>2</sup>	Real Exchange Rate <sup>3</sup>	Real 3 Month Int. Rates % <sup>4</sup>	Inflation (RPIX)	Real Short Dated Rate of Interest <sup>5</sup>
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	-1.1	1.7	-1.2
2021	1.8	0.4	0.1	81.0	76.8	-3.8	3.1	-3.4
2022	5.0	1.5	1.5	78.9	77.6	-2.8	6.1	-2.9
2023	4.0	4.7	4.5	78.0	78.9	1.1	5.5	1.4
2024	3.0	5.0	5.0	77.7	80.0	2.6	4.6	2.6
2020:1	1.7	0.4	0.6	79.5	74.9	-0.2	2.7	-0.4
2020:2	0.8	0.0	0.1	77.6	71.9	-1.1	1.3	-1.2
2020:3	0.8	-0.1	0.1	77.6	72.2	-1.4	1.3	-1.6
2020:4	0.8	0.0	0.1	78.0	72.6	-1.7	1.4	-1.8
2021:1	0.8	0.2	0.1	80.7	76.2	-2.7	1.6	-2.6
2021:2	1.9	0.4	0.1	81.7	77.6	-3.4	3.5	-3.1
2021:3	2.0	0.6	0.1	80.5	76.5	-4.2	3.5	-3.7
2021:4	2.1	0.6	0.2	81.1	77.0	-4.8	3.6	-4.4
2022:1	4.9	1.0	1.0	79.0	77.3	-3.8	5.4	-3.8
2022:2	5.0	1.5	1.5	78.8	77.3	-3.0	6.5	-3.0
2022:3	5.0	1.6	1.7	78.5	77.3	-2.6	6.3	-2.7
2022:4	5.1	2.0	2.0	79.2	78.4	-2.0	6.3	-2.0

<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 Earnings (1990=100) <sup>1</sup>	Wage Growth <sup>2</sup>	Unemployment (New Basis) Percent <sup>3</sup>	Millions	Real Wage Rate <sup>4</sup> (1990=100)
2019	275.7	3.5	3.8	1.0	148.8
2020	279.4	1.6	4.5	1.3	149.9
2021	292.1	4.6	4.9	1.5	154.0
2022	308.0	5.5	5.0	1.5	154.7
2023	324.4	5.3	3.6	1.0	156.7
2024	338.1	4.2	2.8	0.7	158.5
2020:1	279.7	2.7	4.0	1.1	150.0
2020:2	270.1	-0.2	4.1	1.2	145.9
2020:3	279.3	0.2	4.8	1.4	149.4
2020:4	288.5	3.7	5.2	1.6	154.2
2021:1	292.5	4.6	4.9	1.5	155.5
2021:2	287.3	6.4	4.8	1.4	152.1
2021:3	289.9	3.8	5.0	1.5	152.0
2021:4	298.7	3.5	5.0	1.5	156.3
2022:1	309.3	5.7	5.3	1.6	156.9
2022:2	299.2	4.1	5.2	1.6	150.7
2022:3	306.5	5.7	5.0	1.5	153.0
2022:4	317.3	6.2	4.7	1.4	158.0

<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	151.3	724452.0	427617.5	255473.0	199184.4	-33404.9	124418.0
2021	162.3	777193.5	444344.2	283365.6	211516.4	-29469.4	132563.2
2022	175.6	840963.8	466406.2	314227.1	224219.9	-23606.4	140282.9
2023	179.8	861269.6	480436.0	311886.2	230959.3	-18606.2	143405.8
2024	183.6	879364.0	493915.4	309700.1	237826.1	-15888.6	146189.2
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	8.0		4.7	14.0	6.6		6.5
2022/21	8.3		5.0	10.9	6.0		6.8
2023/22	2.4		3.0	-0.9	3.0		2.2
2024/23	2.1		2.8	-0.7	3.0		1.9
2020:1	163.4	195632.5	118032.8	72147.1	51656.8	-11632.2	34572.0
2020:2	131.6	157502.4	91565.8	47009.3	43743.5	429.6	25245.8
2020:3	154.0	184370.2	109964.7	64379.7	50846.1	-9700.7	31119.6
2020:4	156.1	186946.9	108054.2	71936.9	52938.0	-12501.5	33480.7
2021:1	153.4	183686.9	105676.5	71230.6	51082.9	-12804.4	31498.7
2021:2	159.9	191456.1	107095.1	68616.5	51382.2	-3077.5	32560.2
2021:3	164.7	197154.1	112801.6	72113.8	52872.3	-6617.5	34016.1
2021:4	171.1	204896.5	118771.0	71404.8	56179.0	-6970.1	34488.2
2022:1	173.5	207744.0	111591.7	87887.4	54146.0	-11003.8	34877.3
2022:2	175.0	209495.8	113522.4	79255.9	54465.4	-2829.7	34918.2
2022:3	176.4	211190.6	115432.9	80155.3	56071.4	-5098.5	35370.5
2022:4	177.5	212533.4	125859.2	66928.5	59537.0	-4674.4	35116.9

<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) Financial Year	Current Account (£ bn)
2019	2.3	2166.6	49.1	-89.1
2020	16.1	1988.4	311.2	-58.2
2021	5.9	2297.8	135.2	-48.4
2022	2.2	2549.3	57.0	-36.0
2023	1.5	2707.0	41.5	-24.3
2024	0.8	2846.1	22.7	-17.0
2020:1	-0.9	549.4	-5.0	-18.7
2020:2	27.0	437.6	118.0	-11.9
2020:3	14.5	514.8	74.8	-15.3
2020:4	13.8	519.8	71.9	-12.3
2021:1	9.0	516.1	46.5	-21.3
2021:2	6.3	541.4	34.3	-18.8
2021:3	6.4	558.4	35.6	-8.2
2021:4	5.6	586.2	32.7	-0.1
2022:1	5.3	611.8	32.6	-17.6
2022:2	2.1	622.6	13.3	-18.9
2022:3	2.4	632.2	15.2	-4.9
2022:4	2.4	639.5	15.3	5.4

<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	-3.5	5.7	4.0
U.K.	1.8	1.3	1.4	-9.9	8.0	8.3
Japan	2.2	0.3	0.7	-5.3	2.7	2.3
Germany	2.6	1.3	0.6	-5.4	3.5	3.8
France	2.4	1.8	1.5	-9.3	5.5	3.7
Italy	1.7	0.9	0.3	-9.0	4.1	4.0

### Growth Of Consumer Prices

	2017	2018	2019	2020	2021	2022
U.S.A.	2.1	2.4	1.8	1.2	2.4	5.0
U.K.	2.6	2.4	1.7	1.0	1.8	5.0
Japan	0.5	1.0	0.5	0.0	0.0	0.5
Germany	1.5	1.8	1.4	0.5	2.0	1.6
France	1.0	1.8	1.1	0.5	1.0	1.1
Italy	1.2	1.2	0.6	0.0	0.8	0.9

### 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	-0.7	-1.1	-3.8	-2.8
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.	-1.8	-1.7	-0.5	-1.2	-3.4	-2.9
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	0.1	0.4	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	72.9	76.8	77.6
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

### 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	101.96	104.31	106.43	101.34	100.53
U.K.	1.29	1.34	1.28	1.28	1.36	1.38
Japan	112.14	110.43	109.03	106.79	104.70	103.90
Eurozone	0.89	0.85	0.89	0.88	0.83	0.82

<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.

<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