# LIVERPOOL INVESTMENT LETTER

## December 2019

Cardiff Business School
Ysgol Busnes Caerdydd

**Julian Hodge Institute of Applied Macroeconomics**

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**LIVERPOOL RESEARCH GROUP IN MACROECONOMICS**

## LIVERPOOL RESEARCH GROUP IN MACROECONOMICS

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This election offers massive choice between policy programmes. The effect of Labour's policies on the outlook has had little attention. We show that it would create a supply-side collapse in the economy, causing a large old-style sterling and monetary crisis. While the Zero Lower Bound (ZLB) demands fiscal expansion, Labour's policies would create a crisis that, while raising interest rates sharply, would constrain monetary policy even more tightly than the ZLB.

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# THE MENACE OF A CORBYN GOVERNMENT

In recent Letters we have explained the need for a fiscal expansion to push interest rates up off the Zero Lower Bound (ZLB) and liberate monetary policy to be effective again. It looks as if a Johnson government would take this idea to heart; and Sajid Javid would quickly introduce a stimulatory Budget once confirmed as Chancellor. The Conservative Manifesto is extremely cautious, not suggesting more than minor fiscal stimulus, with little in the way of much needed tax cuts. However, this caution is inspired by politics and in particular the need to show up the Labour programme for what it is: a reckless fiscal splurge, including large tax rises on the 'rich' and a massive 20% employer's tax in the form of an imposed 4-day week. This massive threat to the economy is the subject of this Letter.

We begin by repeating our baseline forecast, with no change from current policies other than a full Brexit. This is shown in Table 1a below.

The effects of these we familiarly project as follows:

In this baseline post-Brexit forecast we make assumptions about the Brexit effects as follows. The long-run gains, as estimated from our research, come from four main sources (Minford, 2017) https://www.economistsforfreetrade.com/wp-content/uploads/2017/08/From-Project-Fear-to-Project-Prosperity-An-Introduction-15-Aug-17-2.pdf:

1. Moving to free trade with non-EU countries that currently face high EU protection in goods trade.
2. Substituting UK-based regulation for EU-based Single Market regulation.
3. Ending the large subsidy that the 'four freedoms' forces the UK to give to EU unskilled immigrants.
4. Ending our Budget contribution to the EU.

### The Labour Alternative

However, Labour plans in their Manifesto call for a massive overturning of the UK's business environment (shown in Table 1b below).

If, as we have argued, a programme of heavier future spending/tax cuts is safe, would it not then be equally safe for Labour to go ahead with its much bigger planned programme of higher spending?

**Table 1a: Forecast Summary — Baseline**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP Growth[1] | 1.4 | 1.5 | 1.9 | 1.9 | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 | 2.0 |
| Inflation CPI | 2.5 | 1.9 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Wage Growth | 3.1 | 3.6 | 3.1 | 3.1 | 3.1 | 3.2 | 3.2 | 3.3 | 3.3 | 3.3 | 3.4 | 3.3 | 3.2 |
| Unemployment (Mill.)[2] | 0.9 | 0.9 | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Exchange Rate[3] | 78.6 | 80.1 | 80.7 | 80.6 | 80.5 | 80.4 | 80.3 | 80.2 | 80.1 | 79.9 | 79.8 | 79.7 | 79.5 |
| 3 Month Interest Rate | 0.7 | 0.9 | 4.7 | 4.2 | 3.3 | 3.0 | 2.5 | 2.3 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 |
| 5 Year Interest Rate | 1.0 | 1.0 | 1.3 | 2.4 | 3.3 | 3.4 | 3.3 | 2.6 | 2.4 | 2.2 | 2.0 | 2.0 | 2.0 |
| Current Balance (£bn) | -81.3 | -86.5 | -41.3 | -3.14 | -23.3 | -15.0 | -11.9 | -11.3 | -14.5 | -9.4 | -59. | -0.1 | 3.0 |
| PSBR (£bn) | 40.8 | 37.8 | 20.7 | 8.2 | 3.9 | 0.5 | -3.2 | -5.4 | -17.4 | -30.2 | -45.1 | -58.6 | -71.9 |

[1] Expenditure estimate at factor cost
[2] U.K. Wholly unemployed excluding school leavers (new basis)
[3] Sterling effective exchange rate, Bank of England Index (2005 = 100)

**Table 1b: Summary Table for Labour Manifesto**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP Growth[1] | 1.4 | 1.5 | -0.2 | -0.2 | -0.1 | 0.0 | -0.1 | -0.2 | 0.0 | -0.2 | 0.2 | 0.1 | 0.1 |
| Inflation CPI | 2.5 | 1.9 | 4.9 | 5.2 | 5.2 | 4.8 | 5.1 | 4.9 | 4.9 | 4.8 | 4.7 | 4.7 | 4.7 |
| Wage Growth | 3.1 | 3.6 | 3.8 | 5.8 | 6.3 | 6.0 | 6.3 | 6.1 | 6.2 | 6.1 | 6.0 | 6.1 | 6.0 |
| Unemployment (Mill.)[2] | 0.9 | 1.0 | 1.0 | 1.3 | 1.5 | 1.9 | 2.3 | 2.8 | 3.4 | 4.1 | 5.1 | 6.2 | 7.5 |
| Exchange Rate[3] | 78.6 | 80.1 | 69.6 | 66.8 | 64.5 | 62.5 | 60.4 | 58.6 | 57.0 | 55.5 | 54.0 | 52.7 | 51.4 |
| 3 Month Interest Rate | 0.7 | 0.9 | 4.9 | 5.2 | 4.6 | 4.8 | 4.7 | 4.7 | 4.7 | 4.9 | 4.9 | 4.9 | 4.9 |
| 5 Year Interest Rate | 1.0 | 1.0 | 5.0 | 5.0 | 5.1 | 4.9 | 4.9 | 4.7 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 |
| Current Balance (£bn) | -81.3 | -86.6 | -12.2 | -1.1 | 4.1 | 8.9 | 12.0 | 14.7 | 12.8 | 19.4 | 23.6 | 27.8 | 31.6 |
| PSBR (£bn) | 40.8 | 47.4 | 59.5 | 70.5 | 92.8 | 121.7 | 154.5 | 199.2 | 234.0 | 275.9 | 319.3 | 369.5 | 424.8 |

[1] Expenditure estimate at factor cost
[2] U.K. Wholly unemployed excluding school leavers (new basis)
[3] Sterling effective exchange rate, Bank of England Index (2005 = 100)

The difficulties with the Labour programme come from two damaging elements. The first and most problematic is that the 'accompanying policies' are highly damaging to growth, via effects on the economy's supply side. Labour has said it will raise income tax rates on 'the rich'; these will damage growth for just the same reasons we will argue that Fiscal-Fund-plus tax cuts would raise growth. In fact, these higher rate tax rates raise little if any money; so that income tax rates at large (or similar taxes on consumption) will need to rise. Also, Labour has suggested it will not pay full market value to shareholders and landlords whose property it nationalises (nationalisation has now been extended to BT OpenReach in a bid to spread free broadband); such a wealth tax would undermine the confidence of investors and act like other taxes in lowering growth.

On the Brexit side of policy Labour would negotiate effectively not to have Brexit — either with its proposed deal to stay in the EU in all but name or with its referendum alternative of straight Remain. This would imply a supply-side hit to the economy compared with our post-Brexit projection. This is without counting the effects of more prolonged uncertainty on the economy.

Then there is the proposal for a four day week, which again will reduce output, by about a fifth (the equivalent of a 20% tax on employment) unless the government pays workers an over-time subsidy, requiring yet more income taxes. On top of it all, Labour proposes to bring back the union laws abolished by Mrs. Thatcher, returning our industrial relations to 1970s chaos; we have not added in the effects of this, which on its own would cause massive supply-side damage.

There is much else in the fine print of Labour's programme which openly plans to replace the 'capitalist' economy we have with one of overwhelming state ownership and direction. This explicit model of state planning has been widely experimented with in other countries: Russia, Cuba, Venezuela are three prominent examples. The results have obviously been disastrous.

So, Labour's programme threatens growth directly. That is its fundamental flaw. As for its borrowing plans, it appears to plan to borrow massively for an infrastructure programme of about £100 billion a year, about £55 billion above the baseline. Cumulatively by 2027 this would come to an extra £440 billion on the baseline. On non-infrastructure spending it plans to fund the extra with the tax rises just mentioned, with their consequential damage to growth.

The Labour programme's effect on growth also seriously undermines projected ongoing tax revenue from 2027, causing a need for yet more new taxes, which must undermine confidence in its ability to remain solvent.

But in the short run it should remove the Zero Lower Bound issue rapidly. Sterling would collapse, sending inflation up sharply and causing a large outflow from the gilts market, with fears of future UK government insolvency from the fall in future revenues. Long term and short term interest rates would rise sharply. However, monetary policy would be unable to stimulate the economy by lowering rates because of the effects on inflation. So this would be an expensive 'cure' of the ZLB problem, ushering in a monetary policy as fettered as before but in a different way.

The implications of this rapid rise in interest rates is radical. It means that Labour will enjoy a quick fall in the capital value of outstanding debt, when it comes in, but that it will then pay higher interest rates for all its new debt. This is what we project for the long term balance sheet.

**The Long-Run Labour Public Sector Balance Sheet**
**Fiscal Changes Under Labour Plans**

Extra spending on infrastructure to be borrowed: £55billion p.a.

Extra income taxes to pay for other spending: c. £80billion p.a. (5% rise in top income tax rate and 7% rise in Corporation Tax rate, to pay for this) — effect on output by 2027= -6%, on top of fall of 7% due to abandoning Brexit; add effect of 32-hour working week (an effective employer tax of 20%), -10%; Total-23%. Add back the positive effect of the higher infrastructure spend on growth (assume equivalent of tax cut to same value p.a., viz c 10%); gives offsetting gain to growth of +5%. Net total= -17% (-2.1% pa off growth)

Note that for this projection, we make the most favourable possible assumptions about its manifesto commitments, namely that the taxes it proposes to raise (the 'basic top' income tax rate from 40 to 45%; and the corporation tax rate from 19% to 26%) are sufficient in their yield to fund its non-infrastructure commitments to spend more, which are set at £80 billion per year. The key effects projected are on GDP, from these tax rises and the 32-hour week (equivalent to an employer tax rise of 20%); of course, these in turn lower the revenues from existing taxes in general. In the Liverpool Model, used to estimate the effects of the Thatcher tax changes in the 1980s, a 2% rise in the income tax rate produces a 1% fall in output long term.

**Balance Sheet by 2027 Under Labour**

- Debt (net of capital gain in 2020 of 490): + £1500 billion
- GDP by 2027: - 17% (compared with post-Brexit baseline)
- Debt/GDP ratio 2027: 90%.
- Future spending incl. debt interest, % of GDP: 53
- Effect on future tax revenues of lower growth: -22% (compared with post-Brexit baseline)
- Future tax revenues, % of GDP= 45 (post-tax rises)x0.93(fall of revenue/GDP due to lower growth)=42
- Fiscal gap (%of GDP): [PV of net revenue=(11/0.05) x-9)=-220

- Required future tax rise=220x.05=11% of GDP.

What we see here is a long-term balance sheet by 2027 in which debt will reach around 90% of GDP, even after initial capital gains from higher interest rates and substantially more inflation boosting nominal GDP. While higher spending that is continuing will be balanced by higher taxation, those higher taxes will be damaging future growth and bringing down general tax revenues. To pay higher debt interest payments and fund ongoing spending, taxes will need to be raised again substantially, by 9% of GDP, from 2027; the fiscal gap in present value will be 180% of GDP. This is a recipe for insolvency, as taxpayers will be extremely hostile to yet higher tax demands, having already paid up for large tax rises in the 2020s.

**Different Policy Programmes Examined**
**Executive Summary of Forecast Projections**

We also summarise two other potential outlooks post-Brexit:

1. The Conservative manifesto: here we take the manifesto's projections for fiscal policy literally and project their effects on growth, the public finances, inflation and interest rates, adding them to the baseline, where we assume the same Brexit policies are carried out.
2. Fiscal-Fund-plus: here we consider the post-election follow-up policies that build on the supply-side reform possibilities opened up by Brexit and that we would advocate. We have noted in previous Letters the potential in the baseline public finance projections (we call this the Fiscal Fund) for a bold programme of tax cuts, plus the need to raise interest rates to escape from the Zero Lower Bound, in a way we discuss above in the Macro Background. Hence our title for this programme 'Fiscal-Fund-plus'.

**Summary of Other Forecast Scenarios**

The charts below show the key features of each forecast scenario. Essentially, the Conservative manifesto follows the baseline, apart from increased capital spending which is financed by extra borrowing. This has limited effects, simply raising debt in 2027 by about 5% of GDP.

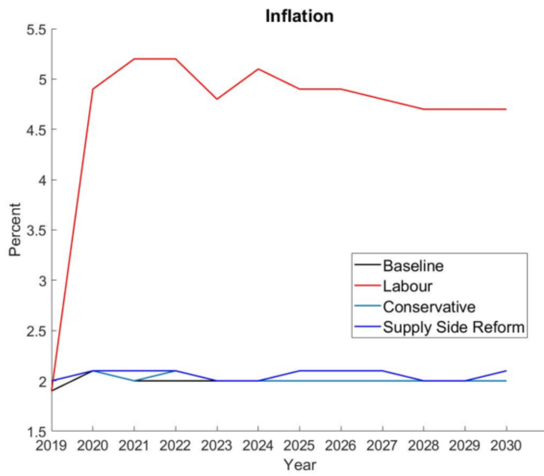
The Labour manifesto, detailed above, implies substantial damage to the supply-side and so to growth. Confidence in the UK government's solvency is greatly reduced by this hit to growth and so to public revenues. Unemployment rises sharply as employment growth basically ceases. Because of the rise in long term interest rates, the government gets a capital gain on previously issued debt which limits the rise in the terminal debt ratio but even so it rises greatly and in spite of large tax rises a lot more tax would be required in 2027.

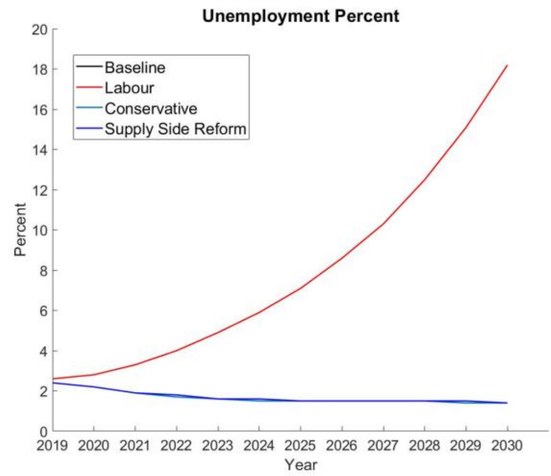
The supply-side reform programme case raises growth by increasing business incentives via tax cuts and improved infrastructure. Extra borrowing drives up interest rates to around 5% by the mid 2020s, ending the Zero Lower Bound finally, so that monetary policy can be effective again. Because of the rise in long term interest rates, the government gets a capital gain on its previously issued debt which limits the rise in the terminal debt ratio.

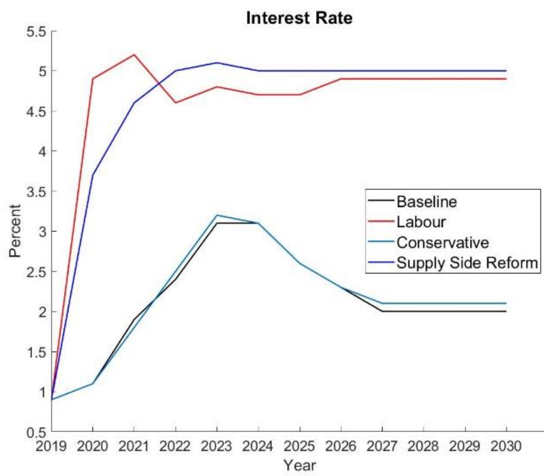
**Terminal public sector balance sheets for each forecast-values projected 2027**

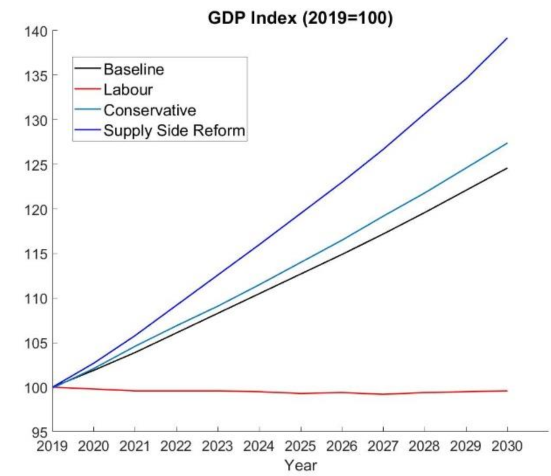
| | Baseline | Cons. | Lab. | Reform |
|---|---|---|---|---|
| Debt[†]/GDP ratio (%) | 50.7 | 62.6 | 90 | 55 |
| Ongoing 2027 spending and revenue: | | | | |
| Govt. Spending (inc. debt interest)/GDP | 40 | 40 | 53 | 40 |
| Ongoing Tax Revenue/GDP (%) | 40 | 40 | 42 | 41 |
| Required Future Tax Rise/GDP (%) | 0 | 0 | 11 | -1 |

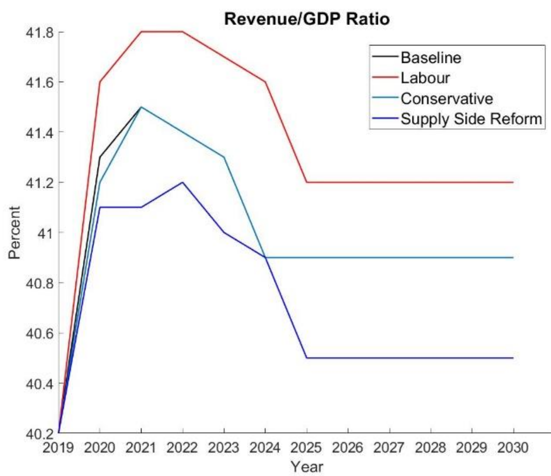
[†]Debt valued after effect of long term interest rates on capital value


Inflation
Percent
Year
Baseline
Labour
Conservative
Supply Side Reform

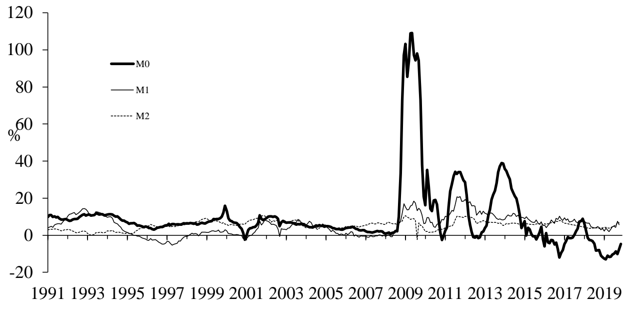

Unemployment Percent
Percent
Year
Baseline
Labour
Conservative
Supply Side Reform


Interest Rate
Percent
Year
Baseline
Labour
Conservative
Supply Side Reform

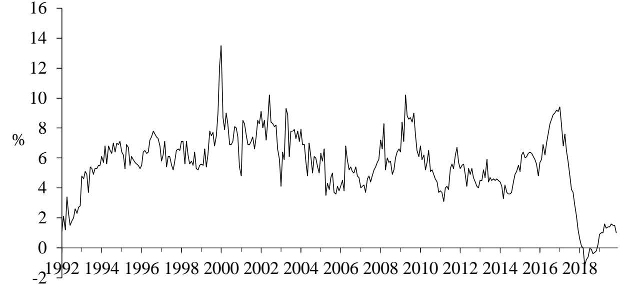

GDP Index (2019=100)
Year
Baseline
Labour
Conservative
Supply Side Reform


Revenue/GDP Ratio
Percent
Year
Baseline
Labour
Conservative
Supply Side Reform

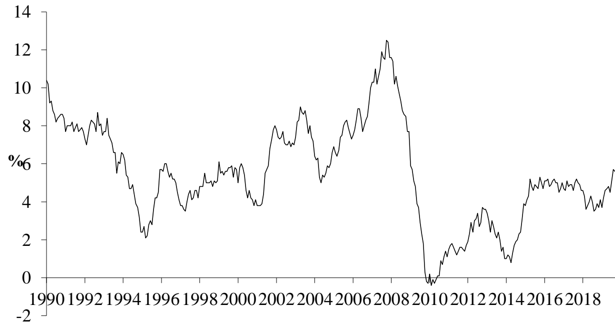
**U.S.: Growth in Monetary Aggregates (Yr - on - Yr)**



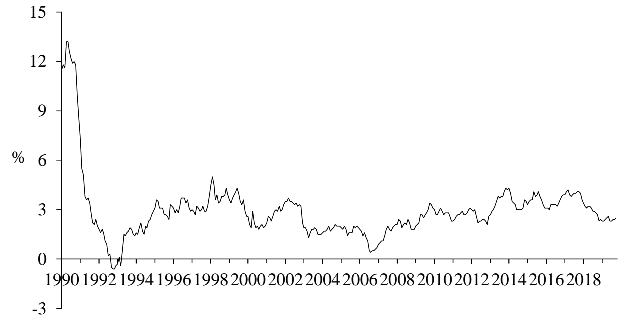

**UK: Notes and Coins in Circulation Growth**




**Eurozone M3 Growth**




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



# FOCUS ON JAPAN

Francesco Perugini

## Japan set for the biggest ever fiscal stimulus packages

In less than a month, expectations in Japan for a modest stimulus package with a face value of ¥5 trillion yen have ballooned to over ¥25 trillion yen, that's despite the country having the developed world's largest public debt load. While only about half the amount is likely to represent fresh spending, a price tag of ¥13 trillion (about 2.5% of GDP) would still make it Japan's biggest package since extra budgets to deal with the widespread destruction of the 2011 tsunami and the emergency spending that followed the global financial crisis before that.

Supplementary budgets of more than ¥10 trillion have only been compiled four times in the past, including after Japan's devastating earthquake and tsunami in 2011. The spending would be earmarked in a supplementary budget for this fiscal year and an annual budget for the coming fiscal year from April. Both budgets will be compiled later this month, officials said, declining to be identified because the package has not been finalized. "Prime Minister Shinzo Abe told us to compile a sizable package to take all possible steps on the economy," Economy Minister Yasutoshi Nishimura told a news conference after the meeting between senior officials of Japan's ruling coalition. "We want to craft a strong economic package, taking into account the economic situation, global economy and damage caused by typhoons, which were larger than last year, so as to get the economy on a solid growth path."

The total bill, including from local governments, private financial institutions and companies, is expected to exceed ¥25 trillion yen (4.5% of GDP). With this bill, the government aims at supporting corporate productivity and personal consumption through large-scale economic measures amid growing uncertainty about the future of the economy. Some ¥5–6 trillion will be allocated to the general account of the revised budget plan for 2019 fiscal year and the original budget plan for 2020. The government also plans to utilize its Fiscal Investment and Loan Program and foreign exchange special accounts, which are non-tax revenues, to secure funds. Local governments will be expected to shoulder more than ¥1.5 trillion, while the national expenses, mainly composed of general account and special account, are expected to be around ¥7 trillion. Of the general account, public investment is expected to be around ¥3–4 trillion. Construction bonds will be issued as financial resources. A major focus will be flood control measures after the damage caused by a typhoon in October.

But analysts expressed doubt about Abe's ability to spend such a large amount given that Japan's government debt is already twice the size of its $5 trillion economy, making it the industrial world's heaviest public debt burden. Major infrastructure spending programs could also face serious execution problems given that the country's labour market is tighter than it has been in decades as the population ages rapidly. "Even if the government secured a budget for big public works, it would be difficult to implement it smoothly," said Kiichi Murashima, economist at Citigroup Global Markets Japan. "Chances are low for the government to compile a supplementary budget worth ¥13 trillion. We expect the size of this fiscal year's extra budget to fall short of ¥5 trillion". And despite the headline size of the stimulus, actual spending would be smaller in the current fiscal year, and economists are not expecting much of a boost. "We expect this fiscal year's extra budget to total around ¥3 to ¥4 trillion. We should not expect it to substantially push up the GDP growth rate," said Takuya Hoshino, senior economist at Dai-ichi Life Research Institute.

The escalating spending figure demonstrates Prime Minister Shinzo Abe's determination to stop a sales tax hike, typhoons and weakness in the world economy triggering a recession that would tarnish the legacy of his Abenomics project to restore stable growth. Already Japan's economy is expected to shrink this quarter as exports continue to slump and consumption is whiplashed by the tax increase. The rising figure may also reflect a need to shore up Abe's political support after recent scandals, with a possible view to seek another term as premier or call an early election — a favourite tactic of Japan's longest-running prime minister.

In a recent interview, BOJ Governor Haruhiko Kuroda called on the government to spend wisely with its spending package. "Japan is the easiest place in the developed world to increase spending," said Masamichi Adachi, chief Japan economist at UBS Securities Co. "Politicians love it and they've probably gotten tired of all the warnings of a debt crisis that hasn't actually happened over the last decade." A top advisory panel to Finance Minister Taro Aso also urged the government to keep its grip on fiscal reform, warning against any complacency about low borrowing costs thanks to years of the Bank of Japan's monetary stimulus. A prolonged low-rate environment due to the central bank's massive monetary easing could lead to a view that fiscal reform can take a backseat as long as nominal interest rates undershoot nominal growth, helping lower the debt-to-GDP ratio, the advisory panel said in its recommendation. Even the IMF called for closer coordination between Japan's government and the central bank in its latest recommendation last week, essentially giving its support for the use of fiscal policy in the shorter term, though it said Japan should also get out of the habit of annual extra budgets.

Still, there seems little doubt now, that a hefty package is now in the works. Slowing global growth, a higher sales tax and a string of natural disasters are giving policy makers in

Japan plenty of reasons to lead a world-wide shift toward a double-barrelled approach of supporting the economy through fiscal measures and ultra-loose monetary policy.

The essential problem facing Japan, as also many other developed countries, is the impotence of monetary policy now at the Zero Lower Bound. To get monetary policy leverage again interest rates must rise. Hence the calls for expansionary fiscal policy across the OECD, most recently in the EU from outgoing ECB President Draghi; its aim would be to stimulate demand and raise interest rates to a more normal 5% region, offsetting the current worldwide excess of savings over investment. With the US having under Trump launched a large fiscal expansion, and the UK about to act similarly with whatever new government comes in, Japan will be joining a wide policy shift across developed countries.

# MARKET DEVELOPMENTS

Plainly a Labour election win followed by its economic policy debacle would devastate the UK's investment outlook, the polls and bookie odds indicate it is highly improbable. Even if Labour was able to form a coalition, which looks unlikely, it would rely on support from the Lib Dems and the SNP which would prevent much of its programme from being implemented. Assuming a Johnson majority government, the investment outlook is as favourable to equities as before.

**Table 1: Market Developments**

| | Market Levels | | Prediction for Nov/Dec 2020 | |
|---|---|---|---|---|
| | Nov 7 | Dec 6 | Previous Letter | Current View |
| **Share Indices** | | | | |
| UK (FT 100) | 7406 | 7240 | 9636 | 9419 |
| US (S&P 500) | 3085 | 3146 | 3452 | 3520 |
| Germany (DAX 30) | 13289 | 13167 | 20027 | 19842 |
| Japan (Tokyo New) | 1698 | 1713 | 2216 | 2236 |
| **Bond Yields (government)** | | | | |
| UK | 0.36 | 0.67 | 1.30 | 1.30 |
| US | 1.63 | 1.63 | 2.00 | 2.00 |
| Germany | –0.25 | –0.30 | –0.40 | –0.40 |
| Japan | –0.17 | –0.08 | –0.10 | –0.10 |
| UK Index Linked | –1.89 | –1.86 | 1.00 | 1.00 |
| **Exchange Rates** | | | | |
| UK ($ per £) | 1.28 | 1.31 | 1.32 | 1.32 |
| UK (trade weighted) | 79.43 | 81.13 | 80.7 | 80.7 |
| US (trade weighted) | 102.24 | 103.23 | 102.5 | 102.5 |
| Euro per $ | 0.91 | 0.91 | 0.85 | 0.85 |
| Euro per £ | 1.16 | 1.19 | 1.12 | 1.12 |
| Japan (Yen per $) | 109.34 | 108.66 | 112.5 | 112.5 |
| **Short Term Interest Rates (3-month deposits)** | | | | |
| UK | 0.84 | 0.83 | 2.00 | 2.00 |
| US | 1.88 | 1.88 | 1.80 | 1.80 |
| Euro | –0.48 | –0.46 | –0.50 | –0.50 |
| Japan | –0.20 | –0.20 | –0.10 | –0.10 |

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

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

| | Dividend Yield | Real Growth | Inflation | Changing Dividend Yield | Currency | Total |
|---|---|---|---|---|---|---|
| UK | 3.60 | 2.1 | 2.0 | 26.00 | | 33.70 |
| US | 1.99 | 1.9 | 2.1 | 7.90 | –0.71 | 13.18 |
| Germany | 3.30 | 1.0 | 1.7 | 48.00 | 5.42 | 59.42 |
| Japan | 1.90 | 0.3 | 1.2 | 29.00 | –4.27 | 28.13 |
| UK indexed[2] | –1.86 | | 2.0 | 5.00 | | 2.15 |
| Hong Kong[3] | 2.60 | 5.6 | 2.1 | –15.00 | –0.71 | –5.41 |
| Malaysia | 3.30 | 4.4 | 2.1 | 39.00 | –0.71 | 48.09 |
| Singapore | 3.50 | 1.0 | 2.1 | –7.00 | –0.71 | –1.11 |
| India | 1.40 | 6.5 | 2.1 | 8.00 | –0.71 | 17.29 |
| Korea | 1.10 | 1.8 | 2.1 | –32.00 | –0.71 | –27.71 |
| Indonesia | 2.20 | 5.1 | 2.1 | 23.00 | –0.71 | 31.69 |
| Taiwan | 2.80 | 2.6 | 2.1 | 14.00 | –0.71 | 20.79 |
| Thailand | 3.20 | 2.1 | 2.1 | 10.00 | –0.71 | 16.69 |

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

| | Redemption Yield | Changing Nominal Rates | Currency | Total |
|---|---|---|---|---|
| UK | 0.67 | –6.30 | | –5.63 |
| US | 1.63 | –3.70 | –0.71 | –2.78 |
| Germany | –0.30 | 0.96 | 5.42 | 6.08 |
| Japan | –0.08 | 0.20 | –4.27 | –4.15 |

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

| | Deposit Yield | Currency | Total |
|---|---|---|---|
| UK | 0.83 | | 0.83 |
| US | 1.88 | –0.71 | 1.17 |
| Euro | –0.46 | 5.42 | 2.96 |
| Japan | –0.20 | –4.27 | –4.47 |

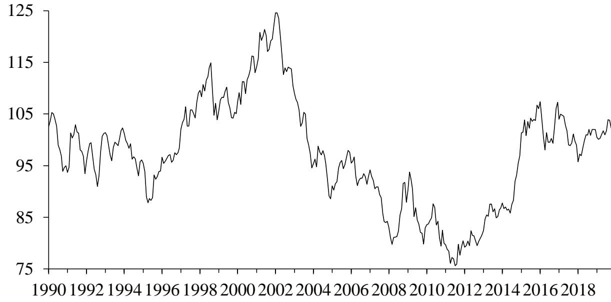
[1] Yields in terms of €s or $s can be computed by adjusting the £-based yields for the expected currency change.
[2] UK index linked bonds All Stocks
[3] Output based on China.

**Table 3: Portfolio(%)**

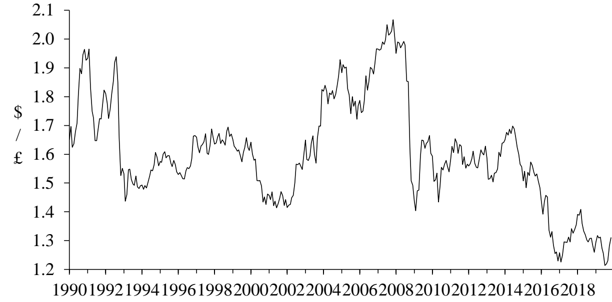
| | Sterling Based Investor | | Dollar Based Investor | | Euro Based Investor | |
|---|---|---|---|---|---|---|
| | December Letter | Current View | December Letter | Current View | December Letter | Current View |
| UK Deposits (Cash) | 5 | 5 | 5 | 5 | 1 | 1 |
| US Deposits | - | - | - | - | - | - |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

# INDICATORS AND MARKET ANALYSIS
# FOREIGN EXCHANGE MARKETS

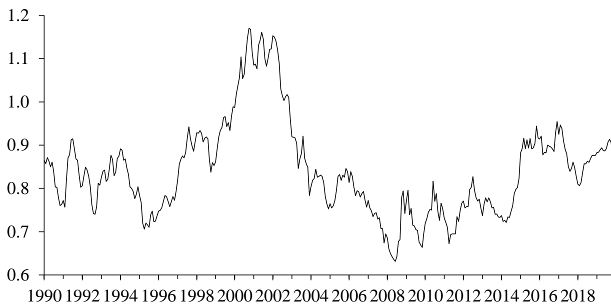
**US : Trade Weighted Index**
**(Bank of England 1990 = 100)**



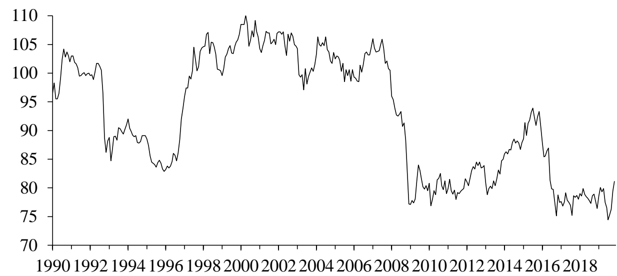

**UK: Dollars Per Pound Sterling**



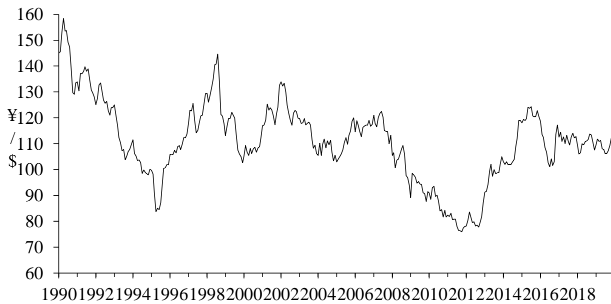

**Euro per US dollar**




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



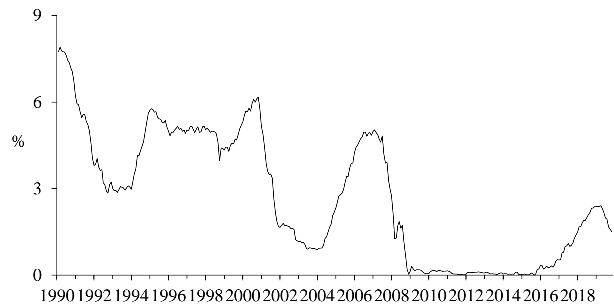

**Japan : Yen Per U.S. Dollar**



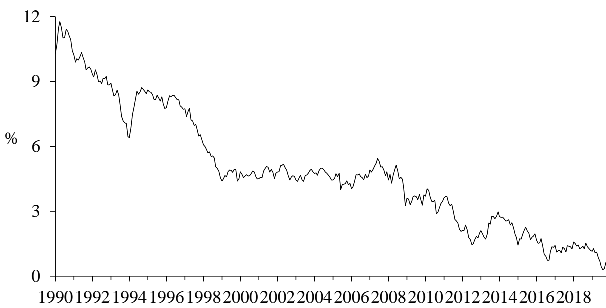
# GOVERNMENT BOND MARKETS

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

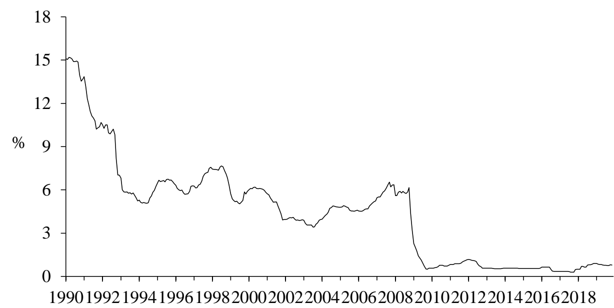
**U.S. : 3-Month Treasury Bill**




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

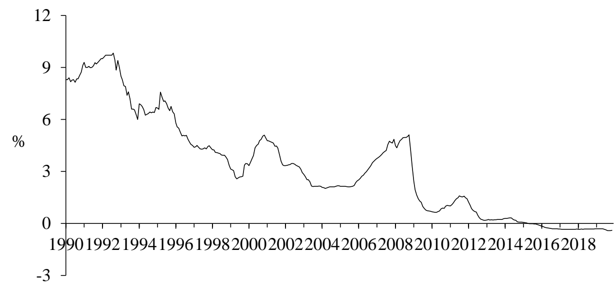



**U.K. : 3-Month Certificate of Deposit Rate**

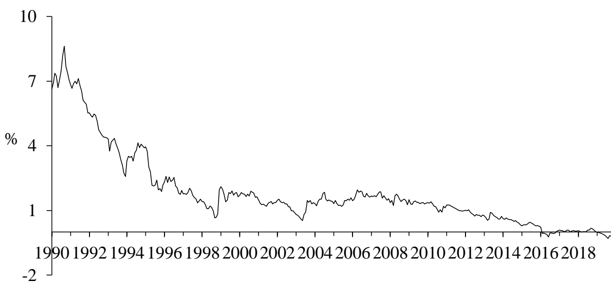



**Germany: Yield on Public Authority Bonds**

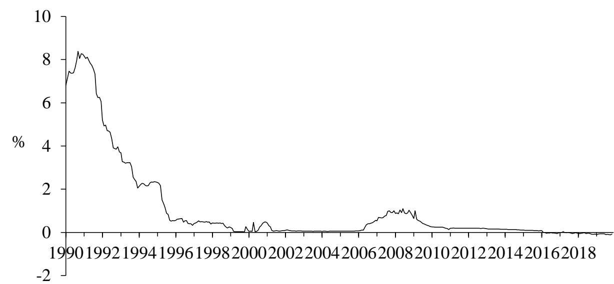
**Germany : 3-Month Interbank Deposit Rate**




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

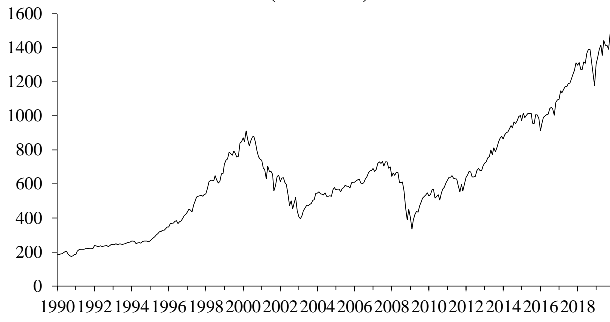



**Japan : 3-Month Money Market Rate**

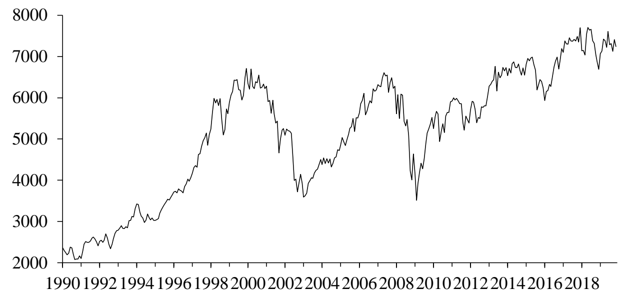


# MAJOR EQUITY MARKETS

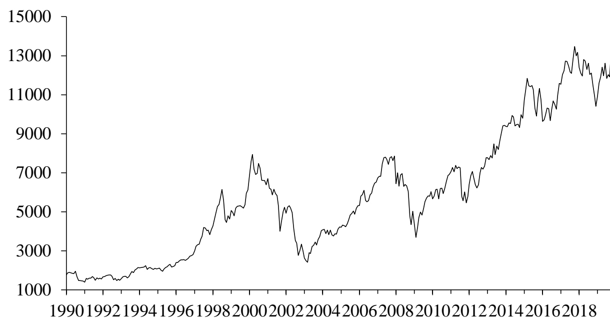
**U.S. : S & P 400 Industrial**
**(1985=100)**




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




**Germany : DAX 30**




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

# EMERGING MARKETS

Anupam Rastogi

## India

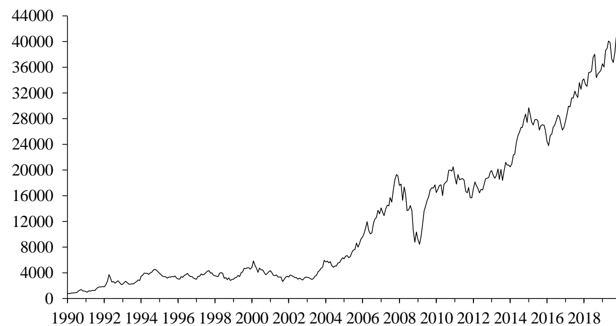
India's GDP growth rate slowed to 4.5% in the three months ended September compared to 5% in the previous quarter. This is its worst performance since March 2013. The government has launched multiple measures to boost lending, investment, and consumption in recent months to lift the growth rate. The government maintains that the downturn is only temporary. We have moderated India's growth rate to 5.6% in 2019–20 while keeping the growth rate for 2020–21 as 6.5%. We expect economic growth to show a sharp recovery on the back of a good monsoon. The Nikkei Manufacturing Purchasing Managers' Index, compiled by IHS Markit, in November was 51.2 compared to 50.6 in October. This suggests continuous expansion in the manufacturing sector in the last two months. Moreover, despite lowering of indirect tax, Goods and Services Tax (GST), on many items in August and September, the GST collections in November rose to a seven-month high of INR1.035 trillion, more than 6% higher than the previous month. This indicates that growth in consumption and manufacturing is intact and the aberration of declining growth in the three months ended in September, was due to fewer working days in that quarter, relative to 2018, as a result of Diwali vacations coming in the month of October and various disruptions in businesses were caused by flooding in various parts of the country.

The government took several steps, including a big cut in the corporate tax rate in September, to boost investments and bolster economic growth. The impact of this will come through in the following quarters.

Moody's Investors Service has downgraded its outlook for India to negative from stable, citing increased risks to its economic growth, which according to Moody's, will be lower than in the past.

Indian retail inflation exceeded the Reserve Bank of India's (RBI) medium-term target of 4% in October for the first time in 15 months, mainly because of rising vegetable prices. Prices of most vegetables climbed during the month as monsoon downpours delayed harvests and disrupted supplies. But, we expect RBI's monetary policy committee (MPC) to cut the repo rate, at which RBI lends to banks, by 25 basis points (bps) to 4.9% and maintain an accommodative stance. The RBI has cut its key interest rate by a cumulative 135 basis points this year to 5.15%.

**India: BSE Sensitive**




India's merchandise exports fell by 1.1% in October, while imports fell for the fifth month in a row by 16.3%, leading to a trade deficit of $11 billion.

We do not expect the rupee to depreciate much from here as it has just adjusted to roughly 2.5% higher inflation compared to the US rate of inflation. The crude oil prices are likely to remain soft as U.S. crude futures fell more than 5% to $55.17 a barrel on the New York Mercantile Exchange, giving away most of their November rebound and logging their biggest drop since mid-September. Moreover, Indian stock markets had been on a record-breaking rally in November in expectations of an economic recovery over the next few quarters. Both the foreign direct investment and the foreign portfolio investments are growing at a healthy pace and boosting Indian forex reserves. The Indian rupee has depreciated more than 2.5% year to date and the central bank is satisfied with the rupee level.

India is planning to offer 324 companies including Tesla Inc. and GlaxoSmithKline Plc, incentives to set up factories in India in a bid to capitalize from the trade war between China and the U.S. The government proposes to provide the manufacturers land to set up a factory along with power, water and road access, according to the Department for Promotion of Industry and Internal Trade, and Invest India. Other companies that officials will reach out to include, Eli Lilly & Co., South Korea's Hanwha Chemical Corp., and Taiwan's Hon Hai Precision Industry Co. The government is still to summon the political will to loosen labour laws and restrictions on land use. The former makes it onerous to set up large-scale manufacturing ventures while the latter impedes the consolidation of agricultural land.

| | **18–19** | **19–20** | **20–21** | **21–22** | **22–23** |
|---|---|---|---|---|---|
| GDP (%p.a.) | 6.8 | 5.6 | 6.5 | 7.2 | 7.4 |
| WPI (%p.a.) | 3.9 | 3.6 | 3.8 | 3.9 | 4.0 |
| Current A/c(US$ bill.) | -70.0 | -52.0 | -64.0 | -65.0 | -65.0 |
| Rs./$(nom.) | 79.5 | 71.0 | 72.0 | 72.5 | 73.5 |

## China

China's manufacturing purchasing managers' index breaching the level of 50 came as a surprise as it indicates that after six months of decline, the manufacturing sector has resumed growth. The index clocked 50.2 in November compared to 49.3 in October. The 50 mark separates expansion from contraction. The recovery in manufacturing activity also boosted China's measure of activity outside factory gates. Non-manufacturing PMI rose to 54.4 in November from 52.8 in October, as services and logistics related to factory productions registered big jumps. GDP is expected to grow 6.1% in 2019 and expand 5.8% in 2020. Our revised forecast for 2020 is in line with the International Monetary Fund forecast.

China's central bank lowered marginally the interest rate on its regular reverse repurchase open market operations for the first time since October 2015, aiming to boost market confidence and prop up slowing growth. The seven-day reverse repurchase rate is lowered to 2.5% from 2.55%. China's central bank continued to maintain its accommodative stance to support Beijing's continuous efforts to stimulate both domestic demand and slowing economic growth while embroiled in a trade war with the U.S.

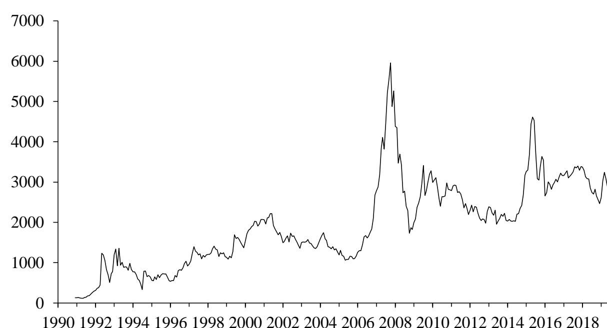
China's inflation continues to increase, driven by the sharp rise in pork prices triggered by China's African swine fever epidemic. The CPI rose 3.8% in October from a year earlier compared to 3.0% in September. This was a seven-year high, complicating policy makers' decision on whether to further ease funding for the country's weakening industrial sector. Industrial profits fell 9.9%, on year in October compared with a 5.3% decline in September.

China's October exports fell for the third straight month, down 0.9% from a year earlier compared to September's 3.2% contraction. China's imports shrank for the sixth consecutive month, though the 6.4% drop was smaller than September's 8.5% decline. That left China with a trade surplus of $43 billion in October, versus September's $40 billion surplus. The depreciation of currency by 2.3% year-to-date against the US dollar seems to have cushioned the exporters.

The Chinese government has taken a momentous decision to allow companies to fail. It has left creditors angry, debtors fighting to save their businesses and judges on a mission to promote the benefits of bankruptcy. Most of the country's bankruptcy tribunals have opened since 2015. New courts were added this year in Beijing, Shanghai and Shenzhen. Court-appointed administrators — law firms and accounting firms — help verify claims, organize creditors' meetings, list and sell assets.

The trade talk between the US and China could get complicated as Mr. Trump signed a bill supporting Hong Kong's anti-government protesters. China has labelled it as interference in its domestic affairs and warned of unspecified countermeasures. But, neither side wants the trade talks to fall apart. One important deadline is December 15, when Mr. Trump has threatened to impose punitive tariffs on about $156 billion worth of Chinese smartphones, laptops, toys, videogames and other products. The US is trying to avoid these tariffs as much as the Chinese because they fear a price increase in top-selling consumer goods would lead to a consumer backlash against the China trade offensive. Farmers in the US are already restive because Chinese retaliatory tariffs have targeted U.S. agricultural exports. So far, China has held off from retaliation against the U.S. after President Trump signed the bill supporting Hong Kong's anti-Beijing protesters, as both sides remained confident that they can sign a partial trade deal in the coming weeks. Beijing has strong incentives to move ahead with the trade deal, which could help alleviate pressure on the country's fast-weakening economy. So is the US, as the administration does not want to upset its agricultural exports too much.

**China: SSE Composite Index**




**Korea: Composite Index**

| | **18** | **19** | **20** | **21** | **22** |
|---|---|---|---|---|---|
| GDP (%p.a.) | 6.6 | 6.1 | 5.8 | 5.4 | 5.2 |
| Inflation (%p.a.) | 2.2 | 2.3 | 2.3 | 2.0 | 1.8 |
| Trade Balance(US$ bill.) | 50.0 | 60.0 | 40.0 | 20.0 | 0.0 |
| Rmb/$(nom.) | 6.8 | 7.1 | 7.3 | 7.3 | 7.3 |

## South Korea

South Korea has got entangled in the US-China trade war. It should have benefitted from it but its public spat with Japan took away that advantage. South Korea's factory activity shrank for the eighth straight month in November. The Nikkei/Markit purchasing managers' index (PMI) in November rose to 49.4, from 48.4 in October. The indicator

below the 50-point level separates growth from contraction. Manufacturing output continued to shrink, but comparatively at a milder pace as new product launches gave a lift to auto and electronics makers and their suppliers.

The Bank of Korea (BOK) expects GDP to expand 2.0% in 2019 and 2.3% in 2020. But it looks an uphill task until it sorts out its differences with Japan and the EU economies come out of economic morass. The bank held its policy interest rate unchanged at 1.25%, while slashing its growth and inflation projections, which suggests that its view on the economy is far more uncertain compared to its public utterances. Hence, the bank kept its policy rate unchanged after cutting it twice this year.

The bank forecasts inflation may come in at 0.4% this year and 1.0% next year, softer than its earlier forecasts of 0.7% and 1.3%, respectively.

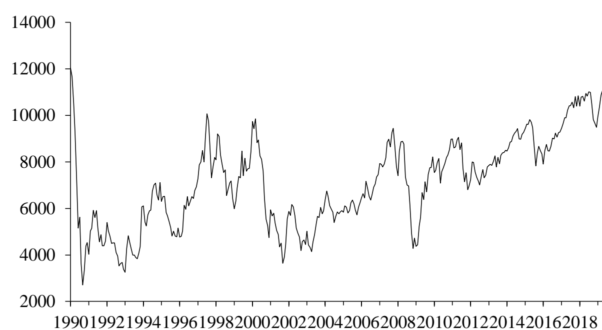
South Korea's exports saw another month of double-digit contraction in November, with few signs of recovery in semiconductors and Chinese demand. Exports dropped 14.3% from a year earlier in November for a sixth straight double-digit decline and imports decreased 13%. Both figures have turned out to be worse than expected. The Korean economy is among the hardest hit by the prolonged U.S.-China tariff war and cooling global demand. The only hope for the economy is an export recovery next year as the U.S. and China move towards a preliminary trade deal. The nation's trade surplus for November was $3.4 billion, narrowing from $5.3 billion in October.

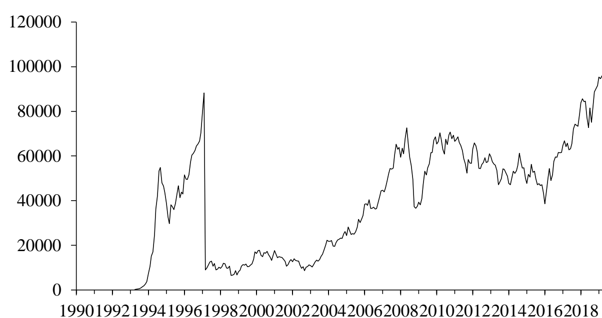
It seems that different views on historical events between Korea and Japan are going to be buried and pragmatism on the economic policy and trade front are poised to prevail. This would lead their relations on the mend as both sides need relations to normalize. The chairman of the U.S. Joint Chiefs of Staff has requested South Korea to stay in a military information-sharing pact with Japan, part of a high-level U.S. push to hold together the agreement between two of its closest allies days before it is due to expire.

| | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|
| GDP (%p.a.) | 2.7 | 1.6 | 1.8 | 2.2 | 2.2 |
| Inflation (%p.a.) | 1.5 | 1.1 | 1.5 | 1.5 | 1.5 |
| Current A/c(US$ bill.) | 86.0 | 80.0 | 78.0 | 70.0 | 70.0 |
| Won/$(nom.) | 1130 | 1220 | 1240 | 1260 | 1260 |

## Taiwan

Taiwan has moved into preparation for the presidential and legislative elections to be held on January 11, 2020. The students' protests in Hong Kong have positively rubbed on the pro-independence Democratic Progressive Party. The opinion polls put President Tsai Ing-wen far ahead of her main opponent Han Kuo-yu from the Kuomintang party, which favours close ties with China. Ms Tsai is from the pro-independence party and she is disliked by China. Taiwan's central bank has instructed two major foreign exchange banks on the island to bring in more U.S. dollars before the end of the year to prepare for increased demand in case of political uncertainty in January elections.




Taiwan's economy continues to enjoy a steady growth rate with almost no inflation as the US-China trade disputes continue to move along. Taiwan's inflation moved up mildly in October and November. For the January–October period, the CPI rose 0.5% year on year on average.

Taiwan has a large current account surplus. It enjoys the sixth largest forex reserves in the world. Its reserves stood at $473 billion at the end of October. But, its trade surplus with the United States has started worrying the island nation. In the first nine months of this year, the United States recorded a $17.4 billion trade deficit with Taiwan. This year the trade surplus is expected to pass $20 billion, one of the criteria Washington uses to put a currency on the list of manipulator. Taiwan's dollar is one of the few currencies which has appreciated marginally, year-to-date, in 2019.

| | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|
| GDP (%p.a.) | 2.6 | 2.5 | 2.6 | 2.6 | 2.2 |
| Inflation (%p.a.) | 1.2 | 1.0 | 1.0 | 1.0 | 1.0 |
| Current A/c(US$ bill.) | 68.0 | 70.0 | 71.0 | 70.0 | 60.0 |
| NT$/$(nom.) | 29.8 | 31.0 | 31.0 | 31.0 | 31.0 |

## Brazil

The Brazilian economy seems to be stabilizing now as the Bolsonaro government is able to establish its credibility by delivering on its promise of pension reforms. The government is confident enough to revise its GDP growth rate from 0.85% to 0.90% for the current year. It expects that

GDP growth would be 2.3% next year, up from 2.2% previously. Inflation would be 3.5% instead of 3.9%, and the dollar to average 4.00 reais over the year instead of 3.80 reais in 2020. We are maintaining our forecast of GDP, inflation and real as before. The central bank's official inflation target for 2019 is 4.25%, and 4.00% in 2020.

High unemployment and a below potential production in the economy is pushing inflation well below target, allowing the central bank to slash borrowing costs. The annual rate of consumer price inflation in the month of November turned out be less than 3%, suggesting that inflationary expectations are well under control. The central bank president Roberto Campos Neto is confident that the bank could reduce the benchmark Selic rate by 50 basis points to a new record low 4.50%, in its next monetary policy meeting.

The Brazilian trade deficit was US$630 million in November as exports were US$2.7 billion and imports were US$3.3 billion. The trade figures suggest that the economy is moving on a growth path. However, Brazil's real has been one of the worst-performing emerging market currencies this year. The currency took a severe hit as foreign bidders did not show up for the "mega" oil auction, meaning inflows of foreign currency into Brazil will be billions of dollars lesser than what was estimated earlier as crude oil prices remain soft. The Real touched a record high of 4.28 reais to a USD. The central bank intervened by selling dollars on the spot market for the first time in a decade in the last few months.

Mr. Bolsonaro took an about turn with respect to the Chinese communist regimes, as he openly expresses interest in getting Chinese capital to finance a large pipeline of roads, railways, ports, power plants and other infrastructure which his administration considers vital to rebuild the economy.

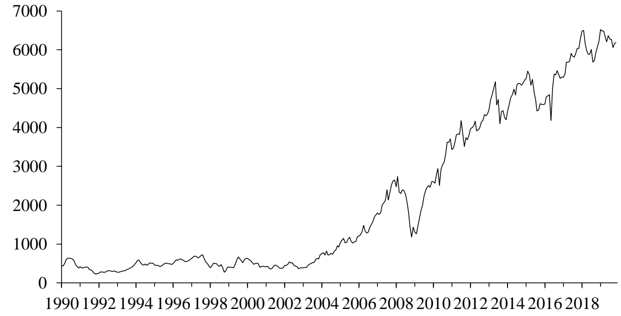
Brazil's ties to China, though, will be tested when Brazil upgrades to a fifth-generation cellular network in 2020. China's Huawei Technologies Co. will be the most likely technology supplier, creating a challenge for Brazil because Mr. Trump has been pressuring U.S. allies to ban Huawei 5G equipment. Huawei maintains that the company has been in Brazil for 21 years and is ready to be a supplier in 5G networks, as it is in other countries.

| | **18** | **19** | **20** | **21** | **22** |
|---|---|---|---|---|---|
| GDP (%p.a.) | 1.1 | 0.8 | 1.8 | 2.5 | 2.5 |
| Inflation (%p.a.) | 3.8 | 3.3 | 3.9 | 4.0 | 4.0 |
| Current A/c(US$ bill.) | -14.6 | -36.0 | -30.0 | -26.0 | -26.0 |
| Real/$(nom.) | 3.8 | 4.1 | 4.0 | 4.1 | 4.2 |

## Other Emerging Markets

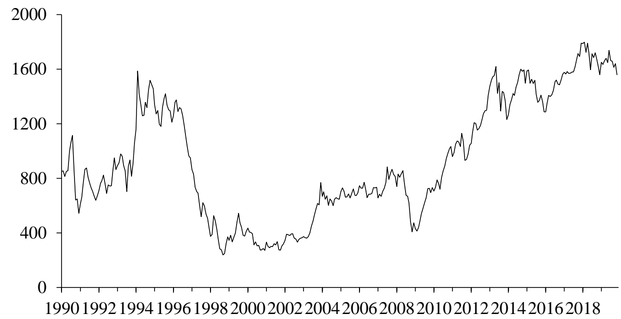
**Hong Kong: FT-Actuaries**

**Indonesia: Jakarta Composite**

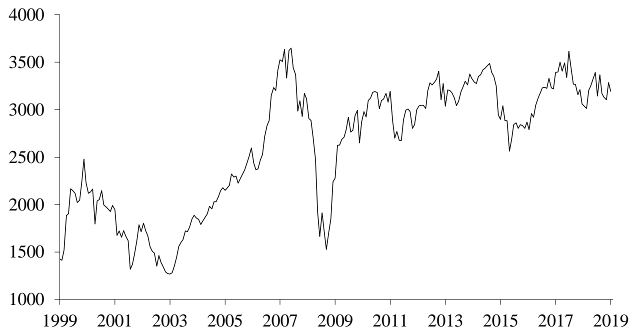



**Malaysia: FT-Actuaries (US$ Index)**

**Thailand: Composite Index**



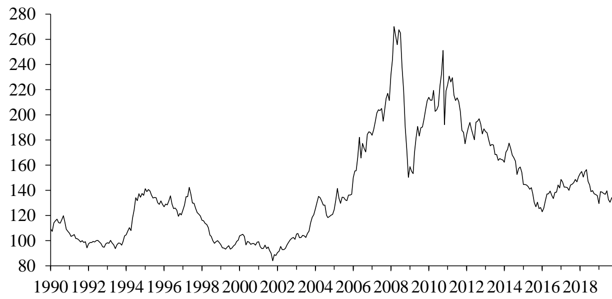

**Singapore: Straits Times Index**



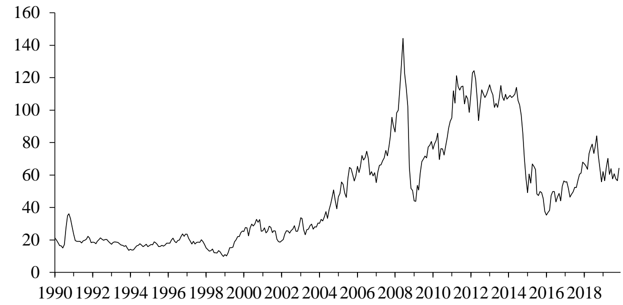

**Philippines: Manila Composite**

# COMMODITY MARKETS

**Commodity Price Index (Dollar)**
**(Economist, 2000=100)**

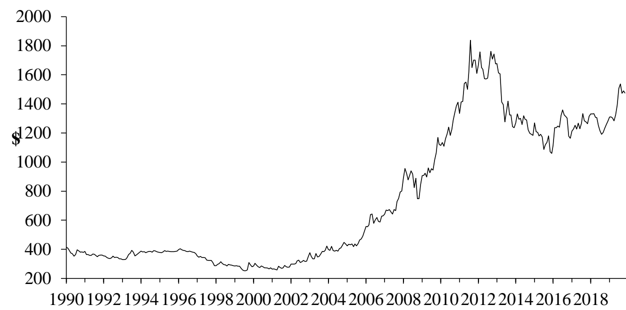



**Oil Price: North Sea Brent (in Dollars)**

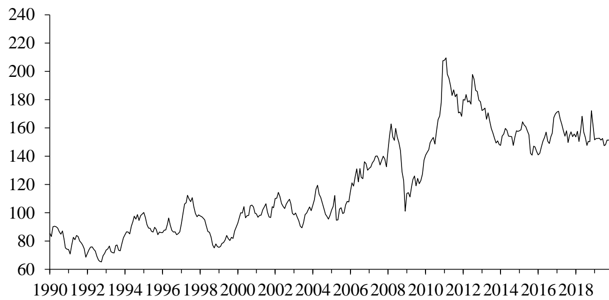



**Commodity Price Index (Sterling)**
**(Economist, 2000=100)**

**Gold Price (in Dollars)**




**Commodity Price Index (Euro)**
**(Economist)**



# UK FORECAST DETAIL

## Prices, Wages, Interest Rates and Exchange Rate Forecast (Seasonally Adjusted)

| | Inflation %[1] (CPI) | Short Dated (5 Year) Interest Rates | 3 Month Int. Rates | Nominal Exchange Rate (2005=100)[2] | Real Exchange Rate[3] | Real 3 Month Int. Rates %[4] | Inflation (RPIX) | Real Short Dated Rate of Interest[5] |
|---|---|---|---|---|---|---|---|---|
| 2017 | 2.6 | 0.6 | 0.4 | 77.4 | 75.7 | -1.7 | 3.8 | -1.5 |
| 2018 | 2.5 | 1.0 | 0.7 | 78.6 | 76.5 | -1.3 | 3.3 | -0.5 |
| 2019 | 1.9 | 1.0 | 0.9 | 80.1 | 74.7 | -1.0 | 2.6 | 0.5 |
| 2020 | 2.1 | 1.3 | 1.1 | 80.7 | 76.0 | -1.1 | 2.9 | 1.4 |
| 2021 | 2.0 | 2.4 | 1.9 | 80.6 | 76.3 | -1.0 | 2.7 | 0.9 |
| 2022 | 2.0 | 3.0 | 2.4 | 80.5 | 76.6 | 0.1 | 2.7 | 0.6 |
| 2018:1 | 2.5 | 1.0 | 0.5 | 79.2 | 78.1 | -1.6 | 3.7 | -1.1 |
| 2018:2 | 2.5 | 1.0 | 0.7 | 79.3 | 77.9 | -1.9 | 3.4 | -1.1 |
| 2018:3 | 2.5 | 1.0 | 0.8 | 78.0 | 75.9 | -1.3 | 3.2 | -1.1 |
| 2018:4 | 2.3 | 1.0 | 0.8 | 78.0 | 74.2 | -0.5 | 3.0 | -0.3 |
| 2019:1 | 1.9 | 0.9 | 0.8 | 79.0 | 72.8 | -0.6 | 2.4 | -1.1 |
| 2019:2 | 2.0 | 1.0 | 0.8 | 80.4 | 75.3 | -1.2 | 2.7 | -1.0 |
| 2019:3 | 1.9 | 1.1 | 1.0 | 80.4 | 75.3 | -1.2 | 2.6 | -0.9 |
| 2019:4 | 1.9 | 1.1 | 1.0 | 80.6 | 75.5 | -1.0 | 2.6 | -0.9 |
| 2020:1 | 2.1 | 1.1 | 1.0 | 80.7 | 75.5 | -1.0 | 2.9 | -0.9 |
| 2020:2 | 2.0 | 1.2 | 1.1 | 80.9 | 76.3 | -1.0 | 2.8 | -0.8 |
| 2020:3 | 2.0 | 1.3 | 1.1 | 80.7 | 76.2 | -1.0 | 2.7 | -0.7 |
| 2020:4 | 2.1 | 1.7 | 1.2 | 80.6 | 76.1 | -1.4 | 3.0 | -0.3 |

[1] Consumer's Expenditure Deflator
[2] Sterling Effective Exchange Rate Bank of England
[3] Ratio of UK to other OECD consumer prices adjusted for nominal exchange rate
[4] Treasury Bill Rate less one year forecast of inflation
[5] Short Dated 5 Year Interest Rate less average of predicted 5 year ahead inflation rate

## Labour Market and Supply Factors (Seasonally Adjusted)

| | Average Earnings (1990=100)[1] | Wage Growth[2] | Unemployment (New Basis) Percent[3] | Millions | Real Wage Rate[4] (1990=100) |
|---|---|---|---|---|---|
| 2017 | 259.1 | 2.8 | 2.2 | 0.8 | 141.9 |
| 2018 | 266.6 | 3.1 | 2.5 | 0.9 | 142.8 |
| 2019 | 275.7 | 3.6 | 2.4 | 0.9 | 145.2 |
| 2020 | 284.4 | 3.1 | 2.2 | 0.8 | 146.7 |
| 2021 | 293.2 | 3.1 | 1.9 | 0.7 | 148.4 |
| 2022 | 302.3 | 3.1 | 1.8 | 0.7 | 150.0 |
| 2018:1 | 264.6 | 3.0 | 2.3 | 0.8 | 142.6 |
| 2018:2 | 263.4 | 2.8 | 2.5 | 0.9 | 141.5 |
| 2018:3 | 268.0 | 3.0 | 2.5 | 0.9 | 143.2 |
| 2018:4 | 270.2 | 3.8 | 2.7 | 1.0 | 144.0 |
| 2019:1 | 273.4 | 3.9 | 2.9 | 1.0 | 145.4 |
| 2019:2 | 273.4 | 3.8 | 2.2 | 0.8 | 144.1 |
| 2019:3 | 276.9 | 3.3 | 2.2 | 0.8 | 145.2 |
| 2019:4 | 279.3 | 3.4 | 2.2 | 0.8 | 146.1 |
| 2020:1 | 282.1 | 3.2 | 2.3 | 0.9 | 147.0 |
| 2020:2 | 281.8 | 3.1 | 2.2 | 0.8 | 145.6 |
| 2020:3 | 285.4 | 3.1 | 2.2 | 0.8 | 146.7 |
| 2020:4 | 288.2 | 3.2 | 2.2 | 0.8 | 147.6 |

[1] Whole Economy
[2] Average Earnings\
[3] Wholly unemployed excluding school leavers as a percentage of employed and unemployed, self employed and HM Forces
[4] Wage rate deflated by CPI

## Estimates and Projections of the Gross Domestic Product[1] (£ Million 1990 Prices)

| | Expenditure Index | £ Million '90 prices | Non-Durable Consumption[2] | Private Sector Gross Investment Expenditure[3] | Public Authority Expenditure[4] | Net Exports[5] | AFC |
|---|---|---|---|---|---|---|---|
| 2017 | 163.3 | 781822.0 | 441518.3 | 300818.9 | 200522.0 | -60310.0 | 100727.2 |
| 2018 | 165.5 | 792730.9 | 445869.9 | 310567.1 | 201139.6 | -41308.9 | 99536.9 |
| 2019 | 168.3 | 806031.5 | 451574.0 | 294378.8 | 204415.1 | -52538.3 | 91648.8 |
| 2020 | 171.7 | 822255.3 | 457805.0 | 284319.5 | 205642.7 | -30703.6 | 95003.4 |
| 2021 | 175.3 | 839667.4 | 464216.3 | 291654.9 | 206876.2 | -25839.5 | 97212.8 |
| 2022 | 179.0 | 857300.8 | 470251.9 | 301062.7 | 208117.1 | -22728.5 | 99398.9 |
| | | | | | | | |
| 2017/16 | 1.8 | | 0.6 | 0.1 | 0.1 | | -6.3 |
| 2018/17 | 1.4 | | 1.0 | 3.2 | 0.3 | | -1.0 |
| 2019/18 | 1.7 | | 1.3 | -4.8 | 1.6 | | -7.7 |
| 2020/19 | 2.0 | | 1.4 | -2.9 | 0.6 | | 3.8 |
| 2021/20 | 2.1 | | 1.4 | 2.6 | 0.6 | | 2.3 |
| 2022/21 | 2.1 | | 1.3 | 3.2 | 0.6 | | 2.2 |
| | | | | | | | |
| 2018:1 | 164.4 | 196809.2 | 110809.6 | 73337.2 | 51591.3 | -10814.1 | 24114.9 |
| 2018:2 | 165.1 | 197627.5 | 111248.1 | 78845.0 | 49253.6 | -10094.0 | 25625.2 |
| 2018:3 | 166.1 | 198830.2 | 112094.9 | 76125.8 | 49822.6 | -10001.3 | 23211.8 |
| 2018:4 | 166.6 | 199464.1 | 111717.3 | 82259.2 | 50472.1 | -10399.5 | 26585.0 |
| | | | | | | | |
| 2019:1 | 167.6 | 200618.5 | 111589.5 | 85538.7 | 52691.8 | -27678.5 | 21523.0 |
| 2019:2 | 167.5 | 200578.9 | 113662.7 | 72545.2 | 50827.1 | -14023.4 | 22612.6 |
| 2019:3 | 168.8 | 202069.7 | 113170.0 | 67688.8 | 50122.1 | -5107.9 | 23706.5 |
| 2019:4 | 169.4 | 202764.4 | 113151.8 | 68606.1 | 50774.1 | -5728.5 | 23806.7 |
| | | | | | | | |
| 2020:1 | 170.7 | 204375.3 | 113061.1 | 76539.8 | 53007.9 | -14821.8 | 23507.7 |
| 2020:2 | 170.6 | 204193.9 | 115140.9 | 68388.8 | 51132.9 | -7013.6 | 23517.5 |
| 2020:3 | 172.3 | 206305.9 | 114754.0 | 69302.3 | 50422.3 | -4284.8 | 23922.3 |
| 2020:4 | 173.2 | 207380.1 | 114849.0 | 70088.6 | 51079.6 | -4583.4 | 24055.8 |

[1] GDP at factor cost. Expenditure measure; seasonally adjusted
[2] Consumers expenditure less expenditure on durables and housing
[3] Private gross domestic capital formation plus household expenditure on durables and clothing plus private sector stock building
[4] General government current and capital expenditure including stock building
[5] Exports of goods and services less imports of goods and services

## Financial Forecast

| | PSBR/GDP %[1] | GDP[1] (£bn) | PSBR (£bn) Financial Year | Debt Interest (£bn) | Current Account (£ bn) |
|---|---|---|---|---|---|
| 2017 | 2.6 | 2048.0 | 53.7 | 18.3 | -68.3 |
| 2018 | 1.9 | 2111.8 | 40.8 | 23.4 | -81.3 |
| 2019 | 1.7 | 2177.2 | 37.2 | 26.5 | -86.4 |
| 2020 | 0.9 | 2269.2 | 20.7 | 28.9 | -41.1 |
| 2021 | 0.3 | 2364.0 | 7.0 | 32.9 | -31.2 |
| 2022 | 0.1 | 2462.6 | 3.1 | 36.7 | -23.1 |
| | | | | | |
| 2018:1 | -2.9 | 517.6 | -14.9 | 4.9 | -17.7 |
| 2018:2 | 4.7 | 524.6 | 24.6 | 5.7 | -19.9 |
| 2018:3 | 1.8 | 524.6 | 9.5 | 5.7 | -20.5 |
| 2018:4 | 4.8 | 535.5 | 25.6 | 5.7 | -23.1 |
| | | | | | |
| 2019:1 | -3.6 | 527.1 | -18.8 | 6.3 | -37.8 |
| 2019:2 | 2.9 | 535.6 | 15.6 | 6.4 | -25.4 |
| 2019:3 | 2.6 | 543.3 | 14.3 | 6.7 | -10.0 |
| 2019:4 | 2.9 | 546.2 | 15.7 | 6.7 | -13.2 |
| | -2.9 | 517.6 | -14.9 | 4.9 | -17.7 |
| 2020:1 | 4.7 | 524.6 | 24.6 | 5.7 | -19.9 |
| 2020:2 | 1.8 | 524.6 | 9.5 | 5.7 | -20.5 |
| 2020:3 | 4.8 | 535.5 | 25.6 | 5.7 | -23.1 |
| 2020:4 | | | | | |

[1] GDP at market prices (Financial Year)

# WORLD FORECAST DETAIL

**Growth Of Real GNP**

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| U.S.A. | 2.9 | 1.6 | 2.2 | 2.9 | 2.3 | 1.9 |
| U.K. | 2.3 | 1.9 | 1.8 | 1.4 | 1.7 | 2.0 |
| Japan | 1.3 | 0.6 | 1.9 | 0.8 | 1.0 | 0.3 |
| Germany | 1.7 | 2.2 | 2.5 | 1.5 | 0.5 | 1.0 |
| France | 1.0 | 1.0 | 2.4 | 1.7 | 1.3 | 1.2 |
| Italy | 0.8 | 1.3 | 1.7 | 0.8 | 0.1 | 0.4 |

**Growth Of Consumer Prices**

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| U.S.A. | 0.1 | 1.3 | 2.1 | 2.4 | 2.1 | 2.2 |
| U.K. | 0.2 | 1.1 | 2.6 | 2.5 | 1.9 | 2.1 |
| Japan | 0.8 | –0.1 | 0.5 | 1.0 | 0.6 | 0.7 |
| Germany | 0.3 | 0.5 | 1.5 | 1.8 | 1.4 | 1.5 |
| France | 0.1 | 0.2 | 1.0 | 1.9 | 1.2 | 1.3 |
| Italy | 0.1 | –0.1 | 1.2 | 1.2 | 0.7 | 1.0 |

**Real Short-Term Interest Rates**

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| U.S.A. | –1.1 | –1.6 | –1.0 | 0.3 | 0.4 | 0.8 |
| U.K. | –0.5 | –2.1 | –1.7 | –1.3 | –1.0 | –1.1 |
| Japan | 0.3 | –0.4 | –0.9 | –0.5 | –0.7 | –1.0 |
| Germany | –0.6 | –1.8 | –2.1 | –1.7 | –2.0 | –2.1 |
| France | –0.3 | –1.3 | –2.2 | –1.5 | –1.8 | –1.9 |
| Italy | 0.0 | –1.5 | –1.5 | –1.0 | –1.5 | –1.6 |

**Nominal Short-Term Interest Rates**

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| U.S.A. | 0.2 | 0.5 | 1.4 | 2.4 | 2.6 | 3.0 |
| U.K. | 0.6 | 0.5 | 0.4 | 0.7 | 0.9 | 1.1 |
| Japan | 0.2 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 |
| Germany | –0.1 | –0.3 | –0.3 | –0.3 | –0.5 | –0.4 |
| France | –0.1 | –0.3 | –0.3 | –0.3 | –0.5 | –0.4 |
| Italy | –0.1 | –0.3 | –0.3 | –0.3 | –0.5 | –0.4 |

**Real Long-Term Interest Rates**

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| U.S.A. | 0.2 | 0.3 | 0.6 | 0.9 | 1.4 | 1.8 |
| U.K. | –0.8 | –1.5 | –1.5 | –0.5 | 1.4 | 0.9 |
| Japan | –0.2 | –0.8 | –0.8 | –1.0 | –1.3 | –1.6 |
| Germany | –0.7 | –1.5 | –1.3 | –1.5 | –2.0 | –2.3 |
| France | –0.1 | –0.7 | –0.7 | –0.8 | –1.6 | –1.9 |
| Italy | 0.8 | 0.6 | 0.8 | 1.6 | 0.0 | –0.5 |

**Nominal Long-Term Interest Rates**

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| U.S.A. | 2.2 | 2.5 | 2.8 | 3.0 | 3.5 | 3.8 |
| U.K. | 1.3 | 0.7 | 0.6 | 1.0 | 1.0 | 1.3 |
| Japan | 0.3 | 0.0 | 0.1 | 0.0 | –0.1 | –0.1 |
| Germany | 0.6 | 0.1 | 0.4 | 0.2 | –0.2 | –0.4 |
| France | 1.0 | 0.7 | 0.8 | 0.7 | 0.1 | –0.1 |
| Italy | 1.6 | 1.7 | 1.9 | 2.8 | 1.5 | 1.2 |

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

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| U.S.A. | 93.0 | 94.0 | 94.5 | 94.8 | 95.0 | 95.2 |
| U.K. | 92.2 | 81.4 | 75.5 | 76.7 | 74.6 | 74.3 |
| Japan | 56.0 | 58.4 | 58.3 | 58.1 | 58.4 | 58.3 |
| Germany | 94.7 | 95.0 | 94.3 | 94.9 | 95.1 | 95.0 |
| France | 96.2 | 96.0 | 95.3 | 95.1 | 95.5 | 95.4 |
| Italy | 102.1 | 102.0 | 101.2 | 101.1 | 101.1 | 101.0 |

[1] The real exchange rate is the domestic price level relative to the foreign price level converted into domestic currency. A rise in the index implies an appreciation in the real exchange rate.

**Nominal Exchange Rate (Number of Units of Local Currency To $1)**

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| U.S.A.[1] | 103.08 | 101.91 | 102.20 | 102.40 | 102.50 | 102.50 |
| U.K. | 1.53 | 1.35 | 1.30 | 1.29 | 1.30 | 1.32 |
| Japan | 121.11 | 108.61 | 112.18 | 114.10 | 112.00 | 112.50 |
| Eurozone | 0.90 | 0.90 | 0.88 | 0.85 | 0.86 | 0.85 |

[1] 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