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Julian Hodge Institute of
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The UK outlook for long run growth is poor, and the government needs to cut marginal tax rates to help improve it. With long run growth absent, public deficits will become dangerously hard to control. But shorter term growth prospects are improving both in the UK and elsewhere as world commodity prices and inflation come down, paving the way for real interest rates to steady at more normal levels. This should improve the fiscal situation together with the large revenues from recent tax rises, making tax cuts easier to carry out.

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Much media comment on Brexit is focused on the short term disruption caused by new border relationships. However Brexit implies a long term programme of adjustment, which is now moving at pace. The Trade and Cooperation Agreement is restoring barrier-free trade with the EU and eliminating this disruption while trade agreements around the world are creating barrier-free trade with the non-EU world. The signing of the Trans Pacific trade deal is a major move in that direction; it promises to align UK prices with world prices, eliminating the effects of EU protection in raising prices in manufacturing and agriculture. Once UK prices are so aligned, EU trade barriers will become irrelevant to the UK economy. Meanwhile UK regulators are already in charge of UK regulation in all major areas, while EU law is being replaced by UK Parliamentary and common law.

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The Julian Hodge Institute of Applied Macroeconomics was launched in autumn 1999 in a new collaboration between the Cardiff Business School of Cardiff University and Julian Hodge Bank. The aim of the Institute is to carry out research into the behaviour of the UK economy, and to study in particular its relationship with the other economies of Europe. This research has been given added urgency by the ongoing discussions about the UK's adoption of the Euro in place of the Pound. The new Institute has aimed to develop research relevant to this important debate.

The Institute embraces the original Liverpool Research Group in Macroeconomics, which is now based at Cardiff Business School and is pursuing a research programme involving the estimation and use of macroeconomic models for forecasting and policy analysis. It is grateful for financial support to the Jane Hodge Foundation, the Economic and Social Research Council, Esme Fairbairn Charitable Trust, the Wincott Foundation and Cardiff Business School.

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WHERE DOES UK GOVERNMENT POLICY GO NOW?

Patrick Minford

The government has moved the economy forward in three major ways. First, it has improved relations with the EU by reaching an agreement on resolving the border problems in Northern Ireland in a pragmatic way; the sea border between NI and the rest of the UK had become a serious obstacle to goods for the NI internal UK market; the EU has now agreed to sensible border measures to remove this obstacle. We must hope that this breakthrough leads to less border friction under the TCA for the main UK-EU border; in principle under the TCA this should be a friction-less border as mandated under WTO rules.

The second breakthrough has come in the agreed UK accession to the Asian Free Trade Agreement. This finally moves forward the Brexit-planned free trade agenda. Given that both Mexico and Canada are part of this new free trade area, it would make sense for the other NAFTA member, the USA, to rejoin it. This would emphasise the US's commitment to an open world trade order governed by the progressive processes endorsed by the new organisation, which seems likely to replace the WTO as the central authority for free trade arrangements among the fastest growing trading economies.

The third breakthrough lies in the ending of the EU regulations still binding in the UK. The current Bill going through Parliament mandates the sunsetting of all remaining EU regulations. Existing regulations by now are all the responsibility of UK regulators, under the direct control of Parliament. This will ensure that UK regulation is done by new UK processes supervised by UK law and regulators in consultation with UK industrial interests. The end year sunset deadline forces these bodies to work urgently to find optimal UK replacements- even though now formally removed, it is likely they will be replaced over the next two years by UK laws. One of the major objectives of Brexit is to replace the EU's intrusive precautionary principle with the pragmatic common law principles under which experimentation is permitted to enable vigorous innovation. As long as EU regulations are left in place by default, their replacement is delayed by bureaucratic inertia. As nature abhors a vacuum, so the abolition of remaining EU regulations should stimulate the necessary consultations to produce new UK-based regulation.

The need for a new growth-based agenda in public policy

It is a great irony that the latest budget decisions, designed to underpin the UK's reputation for solvency, have in the event seriously undermined it by setting back growth prospects due to the raising of marginal tax rates. The raising of the Corporation tax rate to 25% and the ongoing erosion of real tax thresholds by inflation have both dragged more entrepreneurs into higher marginal tax rates, this reduces the

Table 1: Summary of Forecast

	2019	2020	2021	2022	2023	2024	2025
GDP Growth ¹	1.4	-11.0	7.5	4.2	-0.4	2.0	2.0
Inflation CPI	1.7	1.0	2.5	9.1	6.4	3.2	2.0
Wage Growth	3.5	1.6	5.8	6.0	6.4	3.4	3.0
Survey Unemployment	3.8	4.5	4.5	3.6	3.5	2.8	2.8
Exchange Rate ²	78.3	78.2	81.5	79.4	78.1	77.4	76.8
3 Month Interest Rate	0.8	0.2	0.1	1.8	4.4	4.0	3.0
5 Year Interest Rate	0.6	0.1	0.4	2.3	4.3	4.0	3.0
Current Balance (£bn)	-63.3	-67.5	-34.3	-93.9	-24.2	-14.7	1.5
PSBR (£bn)	64.3	312.7	122.3	150.5	125.9	59.4	2.8

¹Expenditure estimate at factor cost

²Sterling effective exchange rate, Bank of England Index (2005 = 100)

entrepreneurial incentive to innovate, the key source of productivity growth.

Growth is also supported by our main public services, infrastructure, education, policing and health. Yet these are also being cut back by strikes and poor recruitment as public sector real wages fall; it seems the government believes that slowness to negotiate realistic wage settlements contributes to anti-inflation policy, much as in old-time 'incomes policies'. This is wrong; inflation is controlled by monetary policy, with fiscal policy and such direct wage intervention having no significant effect. All that such policies do is damage the economy, respectively by worsening recession and damaging public sector efficiency. Public sector productivity has declined sharply in recent quarters as a result.

How the public finances depend on growth and hence have been damaged by raising corporation tax

In our previous Bulletins and Letters we rehearsed the arguments for abandoning the proposed rise in Corporation tax in the March budget. We explained that the stated reasons given for the rise were invalid. These were two. First, that it was required for public finance solvency. Second, that it was needed to reduce inflation and so mitigate the need for rising interest rates. On the first we pointed out that solvency is a long run condition, to be established in long run projections of the finances, not with arbitrary fiscal rules over shorter run debt/GDP ratios- such as the one currently operating that it should be falling in 2026/27. According to long run projections growth is important in achieving solvency, and the effect of raising Corporation Tax on growth actually damages solvency.

On the second we pointed to the growing evidence that inflation has peaked and will come down steadily due to interest rises already carried out or in hand. Furthermore fiscal policy support through lower taxes can help by raising employment and post-tax wage incomes, so reducing wage inflation.

In this Bulletin we add more information to the solvency argument by setting out our long term projections for the UK public finances after updating them with our latest forecasts. We have now set them out with the same categories used by

the OBR, so that we can compare and contrast them more easily.

Below we show our baseline projection with growth as lowered by the proposed rise in Corporation Tax- Table 2; and also beside it the same with the higher growth and lower short run tax take if the rise does not go ahead- Table 1. The key point that emerges is that under the baseline the UK government debt/GDP ratio rises steadily in the long term,

reaching over 100% by 2034/5. By contrast under the no tax rise scenario it falls steadily to just over 50% by that date. These projections demonstrate the importance for the public finances of tax policies that stimulate growth. It is counter-productive to raise tax rates in the attempt to boost revenues since they simply reduce growth and so worsen fiscal prospects.

Table 1: Public Finances Variant Forecast if No Tax Rises

	Nom PSBR ¹ (£bn)	Nom GDP (£bn)	REDL Spend ² (£bn)	Pension Spend ³ (£bn)	Welfare Spend ⁴ (£bn)	Other Non-debt ⁵ (£bn)	Total Non-debt ⁶ (£bn)	PSBR /GDP % ¹	Spend /GDP %	Nom Debt (£bn)	Debt Interest ⁷ (£bn)	Debt /GDP %	Gross Taxes ⁸ (£bn)	Tax Rate %
2019/20	64.3	2316.4	320.8	41.0	227.0	254.5	843.3	2.8	36.4	1835.2	49.6	79.2	828.6	35.8
2020/21	312.7	2068.0	434.5	41.9	245.4	342.9	1064.7	15.6	51.5	2147.9	41.0	103.9	793.0	38.3
2021/22	122.3	2412.6	413.8	42.8	244.3	266.6	967.5	5.2	40.1	2270.2	72.5	94.1	917.7	38.0
2022/23	152.0	2695.1	415.5	46.3	259.9	335.6	1057.3	5.6	39.2	2422.2	114.7	89.9	1020.0	37.8
2023/24	125.9	2831.6	424.7	49.1	291.3	351.9	1117.1	4.4	39.5	2548.1	114.2	90.0	1105.4	39.0
2024/25	123.8	2982.6	447.4	50.6	306.9	376.9	1181.9	4.1	39.6	2671.8	113.6	89.6	1171.7	39.3
2025/26	109.9	3133.2	470.0	51.7	322.4	396.0	1240.0	3.5	39.6	2781.7	111.9	88.8	1242.0	39.6
2026/27	82.5	3258.5	488.8	52.7	335.3	411.8	1288.5	2.5	39.5	2864.3	110.5	87.9	1316.5	40.4
2027/28	52.7	3388.9	508.3	53.7	348.7	428.3	1339.0	1.6	39.5	2917.0	109.2	86.1	1395.5	41.2
2028/29	20.5	3524.4	528.7	54.8	362.6	445.4	1391.5	0.6	39.5	2937.5	108.2	83.3	1479.2	42.0
2029/30	-14.7	3665.4	549.8	55.9	377.1	463.2	1446.1	-0.4	39.5	2922.8	107.2	79.7	1568.0	42.8
2030/31	-53	3812.0	571.8	57.0	392.2	481.8	1502.8	-1.4	39.4	2869.7	106.2	75.3	1662.0	43.6
2031/32	-94.8	3964.5	594.7	58.2	407.9	501.0	1561.8	-2.4	39.4	2774.9	105.2	70.0	1761.8	44.4
2032/33	-140.3	4123.1	618.5	59.3	424.2	521.1	1623.1	-3.4	39.4	2634.6	104.1	63.9	1867.5	45.3
2033/34	-189.9	4288.0	643.2	60.5	441.2	541.9	1686.8	-4.4	39.3	2444.8	102.8	57.0	1979.5	46.2
2034/35	-243.8	4459.5	668.9	61.7	458.8	563.6	1753.1	-5.5	39.3	2200.9	101.4	49.4	2098.3	47.1

Table 2: Public Finances Baseline Forecast with Actual Tax Rises

	Nom PSBR ¹ (£bn)	Nom GDP (£bn)	REDL Spend ² (£bn)	Pension Spend ³ (£bn)	Welfare Spend ⁴ (£bn)	Other Non-debt ⁵ (£bn)	Total Non-debt ⁶ (£bn)	PSBR /GDP % ¹	Spend /GDP %	Nom Debt (£bn)	Debt Interest ⁷ (£bn)	Debt /GDP %	Gross Taxes ⁸ (£bn)	Tax Rate %
2019/20	64.3	2316.4	320.8	41.0	227.0	254.5	843.3	2.8	36.4	1835.2	49.6	79.2	828.6	35.8
2020/21	312.7	2068.0	434.5	41.9	245.4	342.9	1064.7	15.6	51.5	2147.9	41.0	103.9	793.0	38.3
2021/22	122.3	2412.6	413.8	42.8	244.3	266.6	967.5	5.2	40.1	2270.2	72.5	94.1	917.7	38.0
2022/23	152.0	2695.1	415.5	46.3	259.9	335.6	1057.3	5.6	39.2	2422.2	114.7	89.9	1020.0	37.8
2023/24	45.9	2831.6	424.7	49.1	291.3	351.9	1117.1	1.6	39.5	2468.1	114.2	87.2	1185.4	41.9
2024/25	38.8	2982.6	447.4	50.6	306.9	376.9	1181.9	1.3	39.6	2506.9	113.4	84.1	1256.5	42.1
2025/26	19.6	3133.2	470.0	51.7	322.4	396.0	1240.0	0.6	39.6	2526.5	111.5	80.6	1331.9	42.5
2026/27	39.8	3195.9	488.8	52.7	335.3	411.8	1288.5	1.2	40.3	2566.2	109.7	80.3	1358.5	42.5
2027/28	61.4	3259.8	508.3	53.7	348.7	428.3	1339.0	1.9	41.1	2627.7	108.1	80.6	1385.7	42.5
2028/29	84.7	3325.0	528.7	54.8	362.6	445.4	1391.5	2.5	41.9	2712.4	106.6	81.6	1413.4	42.5
2029/30	109.8	3391.5	549.8	55.9	377.1	463.2	1446.1	3.2	42.6	2822.2	105.3	83.2	1441.7	42.5
2030/31	136.6	3459.3	571.8	57.0	392.2	481.8	1502.8	3.9	43.4	2958.8	104.3	85.5	1470.5	42.5
2031/32	165.4	3528.5	594.7	58.2	407.9	501.0	1561.8	4.7	44.3	3124.3	103.5	88.5	1499.9	42.5
2032/33	196.2	3599.1	618.5	59.3	424.2	521.1	1623.1	5.5	45.1	3320.5	103.0	92.3	1529.9	42.5
2033/34	229.2	3671.0	643.2	60.5	441.2	541.9	1686.8	6.2	45.9	3549.7	102.9	96.7	1560.5	42.5
2034/35	264.4	3744.5	668.9	61.7	458.8	563.6	1753.1	7.1	46.8	3814.2	103.1	101.9	1591.7	42.5

Our latest public finance projections show the public debt/GDP ratio falling near term with rising taxes but then rising back to over 100% by the mid-2030s due to the lack of growth precipitated by the current levels of tax rates on entrepreneurs.

The economy is flatlining and growth prospects are dim

The Sunak/Hunt regime is determined to stick with a restrictive fiscal policy, on the grounds that this is necessary to head off inflation and to remain solvent. The result is the economy running flat if not into overt recession in the short term, and with corporation tax due to rise in the Budget to 25%, weak growth in the longer term.

The grounds given are easily refuted. First, inflation. This is under the control of the Bank, which has raised interest rates sharply to bring inflation down to its 2% target. Its success in this is now widely expected, with monetary tightening having brought broad year-on-year (YOY) money supply growth down close to zero- see chart following. Furthermore, the commodity price spikes that caused the sharp rise in costs are being reversed by worldwide monetary tightness, as well as the end of Covid and energy demand adjustment to the continuing Ukraine war- see later chart below. All commodity prices- including food and industrials- are some 20% down on a year ago at the present time. This will feed through to general inflation in the next six to eight months, putting a strong negative element into the YOY rate, besides the general fall due to UK monetary tightening. The implication of all this is that interest rates have been raised as high as is needed for a sharp fall in inflation. Further rises risk severe overkill, much worsening the current slowdown.

UK: M4 Growth



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



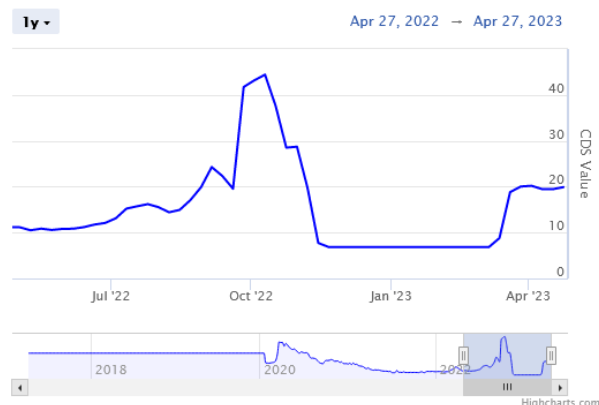
As for the contribution of fiscal policy restriction to inflation, this if anything will push it up through its direct effect on wage settlements. But in any case its effect is second order.

As for solvency, the UK's market reputation remains strong and hardly altered during the Truss government- see chart following. The market is assuming in effect that the current fiscal madness which is destroying growth, will be reversed in time so that growth will resume- so avoiding the dire debt/GDP ratio profile in our baseline forecast, as set out above in Table 2.

Data Source: from 16 Apr 2017 to 27 Apr 2023

The United Kingdom 5 Years Sovereign CDS reached a maximum value of 49.25 (29 September 2022) and a minimum yield of 6.82 (16 November 2022).

United Kingdom – 5 Years CDS



To put this in context, the following table shows the latest UK rate was in April around 20 basis points while Italy's was over 100. During the Truss period the UK rate peaked at 40, compared with an Italian peak last July of nearly 200. The reason that UK long term interest rates rose sharply during the Truss period was not solvency worries but concern that inflation would rise sharply and trigger much higher interest rates. That concern has turned out to be groundless, as we argued at the time; the Bank too expected to put rates up much less.

Country	S&P Rating	5 Years Credit Default Swaps				Date
		5Y CDS	Var 1m	Var 6m	PD (*)	
Denmark	AAA	14.02	-1.61 %	-14.46 %	0.23 %	27 Apr
Germany	AAA	15.20	-3.98 %	-43.26 %	0.25 %	27 Apr
Sweden	AAA	16.03	-6.48 %	-19.97 %	0.27 %	27 Apr
Netherlands	AAA	16.80	-3.45 %	-9.97 %	0.28 %	27 Apr
Austria	AA+	17.63	-6.22 %	-10.46 %	0.29 %	27 Apr
United Kingdom	AA	20.28	+5.02 %	-27.70 %	0.34 %	27 Apr
Japan	A+	23.50	-12.90 %	-24.34 %	0.39 %	27 Apr
Belgium	AA	24.88	+2.13 %	-12.64 %	0.41 %	27 Apr
Finland	AA+	25.20	+2.52 %	-13.37 %	0.42 %	27 Apr
Australia	AAA	26.67	-7.46 %	-17.46 %	0.44 %	27 Apr
France	AA	26.99	+7.96 %	-16.23 %	0.45 %	27 Apr
Ireland	AA-	27.81	+4.04 %	-2.86 %	0.46 %	27 Apr
Canada	AAA	39.46	+0.08 %	-46.40 %	0.66 %	27 Apr
Spain	A	49.81	-5.88 %	-18.98 %	0.83 %	27 Apr
Portugal	BBB+	51.71	-3.06 %	-15.66 %	0.86 %	27 Apr
United States	AA+	54.23	+108.34 %	+80.89 %	0.90 %	27 Apr
China	A+	75.21	-11.37 %	-35.77 %	1.25 %	27 Apr
Greece	BB+	92.63	0.00 %	-49.06 %	1.54 %	27 Apr
Indonesia	BBB	99.20	0.00 %	-30.54 %	1.65 %	27 Apr
Italy	BBB	107.41	-4.38 %	-29.43 %	1.79 %	27 Apr
Mexico	BBB	119.62	-14.72 %	-28.73 %	1.99 %	27 Apr
Brazil	BB-	226.93	-8.27 %	-21.16 %	3.78 %	27 Apr
Turkey	B	556.18	+5.05 %	-18.50 %	9.27 %	27 Apr
Egypt	B	1845.80	+28.14 %	+72.19 %	30.76 %	27 Apr
Russia	NR	13775.17	0.00 %	0.00 %	100.00 %	27 Apr

(*) Implied probability of default, calculated on the hypothesis of a 40% recovery rate.

Source: www.worldgovernmentbonds.com

In any case, the situation today is one where solvency would not be an issue, if growth was holding up and where inflation is expected to be low. So where would be the risk in pursuing a fiscal policy that supports the economy and avoids the damage to growth of pushing tax rates up to such high rates?

Treasury mistakes and misleading fiscal rules

The Treasury and Chancellor have maintained that the fiscal rules offer no scope for fiscal easing. Yet these rules are supposed to ensure solvency, which we have seen in not a problem. In effect the rules have been set artificially tight by choosing a poor criterion, that the debt/GDP ratio should be falling in 2027/28 fiscal year. This date is arbitrary. To check solvency according to economic theory one should look at the long term, i.e. at least a decade ahead, to check that the debt/GDP ratio is on a downward trend by then. It turns out that the key requirement for this is that growth should be adequate; at say 2% growth there is no problem because this produces solid growth in net tax revenues, which then outpace likely growth in public service needs.

The Treasury argues that inflation on index-linked bonds and Bank interest rate increases have raised debt interest and that the Bank sell-off of long term gilts has created a capital loss that costs the Treasury money in refunds. All of this is smoke and mirrors. Index-linked bond values fall in real terms with inflation, exactly offsetting the inflation compensation they pay. Because government debts are mostly long term, interest on them only rises when they mature which is long into the future. But the Treasury permits the Bank to pay

interest on bank reserves held with it, which is quite unnecessary as these reserves are only convertible into cash; it is for this reason that the Bank is paying out a huge amount in interest to banks, to the tune of some £30 billion a year, so unnecessarily lumbering the taxpayer with an immediate extra interest rate bill. As for the 'capital losses' the Bank makes on its debt sales, these are not a cost to the public sector as the Treasury makes an equal capital gain; government debts the Bank holds cancel out in the public sector balance sheet, as do any payments between Bank and Treasury.

We are faced here with deliberate obscurantism by the Treasury and the Bank, essentially due to officials pursuing their own agenda, maintaining their bureaucratic power. For the Treasury this comes from 'tight finances'. For the Bank it comes from independence in defending its own City turf. Neither of these are in the public interest.

Where should policy go now?

It can be seen from the figures in this Bulletin that mistakes are being made in both fiscal and monetary policy. Both have been over-tightened, causing an unnecessary slowdown, as well as poor growth prospects. Inflation is now bound to fall sharply as a result of this and similar monetary over-tightening worldwide, led by the dollar.

Monetary policy must now look for a return to stability, after the roller-coaster ride from the pandemic on. We need to see real interest rates return to a normal range of 2-4%, and money and credit growth return to a steady 4-6%.

As for fiscal policy, the UK is out of line with most OECD countries in having a highly restrictive stance with excessively high marginal tax rates that are damaging growth. The UK Treasury needs to move away from this as fast as possible. The damage it is doing is, as we have seen, not justified either on solvency grounds or by the needs of inflation reduction.

THE UK ECONOMY

Vo Phuong Mai Le

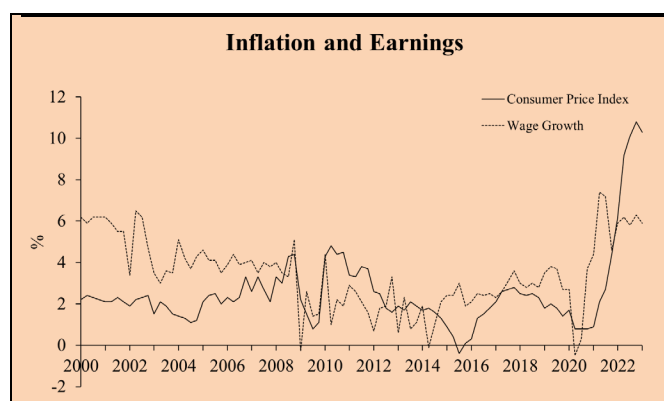
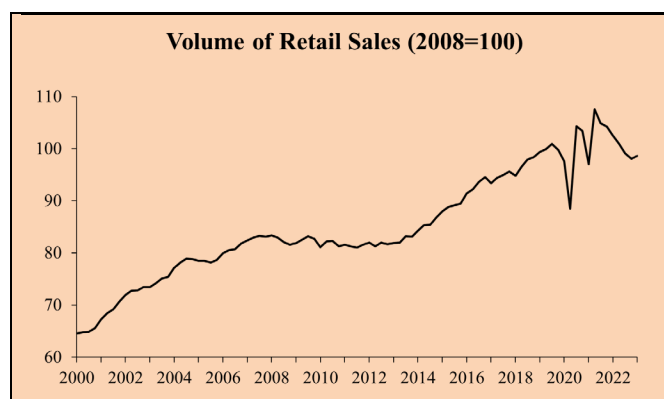
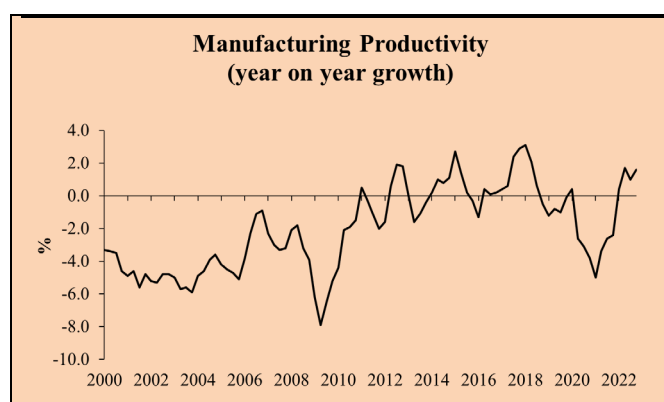
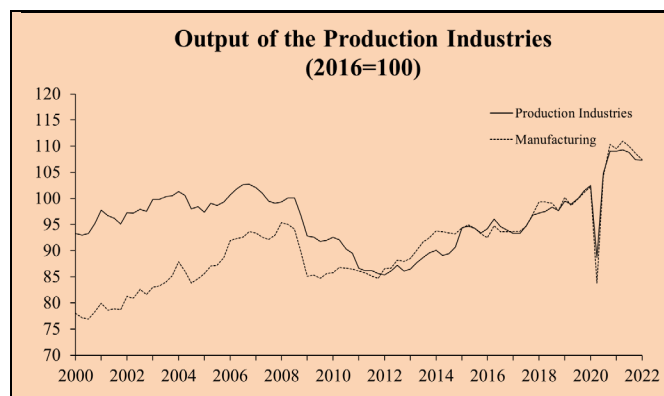
The economic recovery returned, if marginally, in the last quarter of 2022. Real GDP increased by 0.1% in Q4, after falling 0.2% in Q3. The positive contribution came from output growth in the services sector (0.1% in Q4, after 0.2% in Q3) and the construction sector (1.3%, compared to 0.3% in Q3), while the production section's growth was flat (after a 0.2% fall in Q3). On the demand side, the growth was driven by a rebound in domestic demand. Private consumption rose 0.2% (after falling 0.3% in Q3). Gross fixed capital formation increased 0.3%, following 0.8% in Q3. This was offset partially by net trade (subtracting 0.38 percentage points from growth, after adding 4.11 percentage points to Q3's growth), as exports decreased (-1.4%, after +10.5% in Q3) by more than imports (-0.2%, following -3.1% in Q3).

According to the recent survey data, the economy growth continued but remained weak in Q1 2023. The Flash UK PMI Composite Output Index was 53.9 in April (after 52.2 in March) indicating an expansion in the private sector for a third consecutive month. The survey showed an acceleration in service sector output (with PMI index at 54.9, after 52.9 in March). On the other hand, manufacturing production fell for a second consecutive month with the output index of 48.5 (after 49.0), below the threshold of 50. Consumer confidence was -30 in April (up from March's -36); it was the best result since February 2022, but remained below the zero-point threshold showing that consumers were still pessimistic about economic conditions and personal finance, though less so than before.

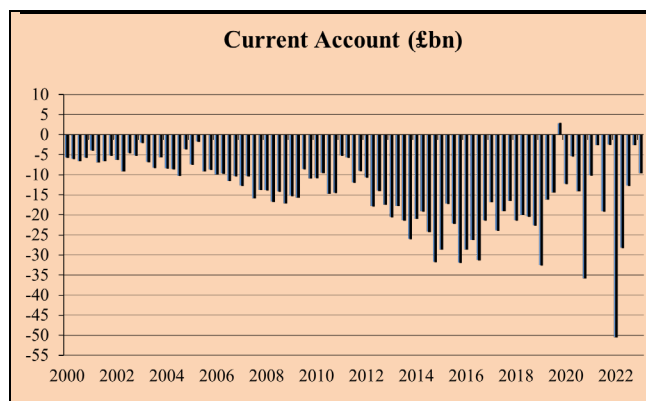
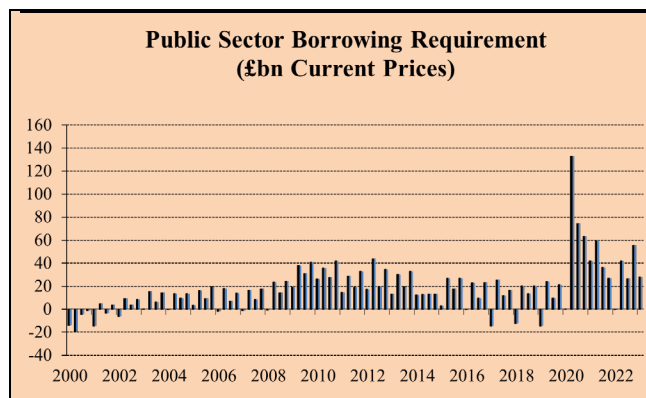
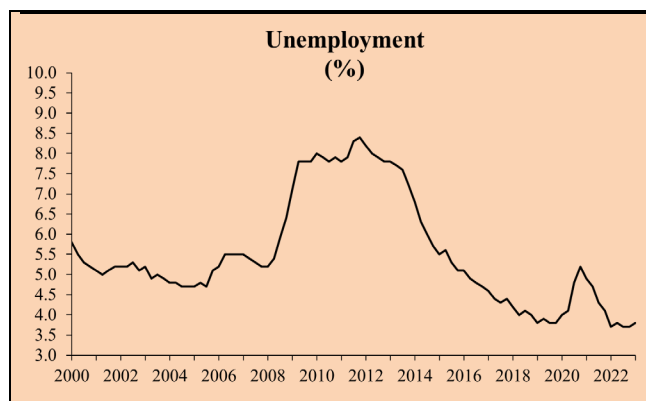
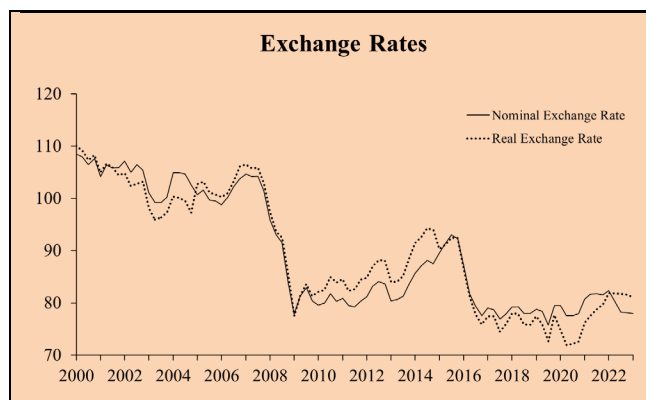
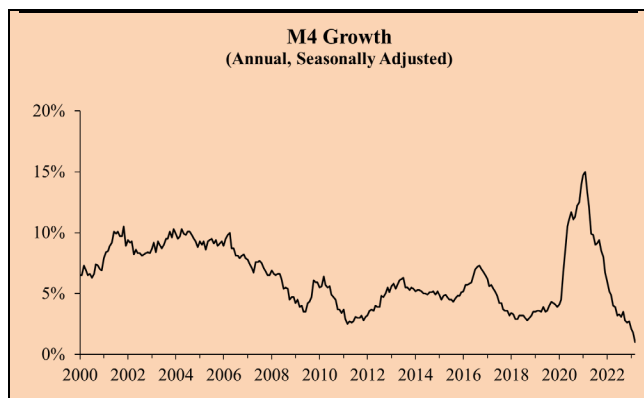
Labour market, costs and prices

The labour market remained tight. According to the Office for National Statistics, during the period between December 2022 and February 2023, the employment rate was 75.8%, up from 75.6% in the previous three months. There are, however, signs that the market is cooling down. The unemployment rate increased to 3.8% in December-February period, up from 3.7% in the previous three month and the vacancy numbers had steadily decreased for the ninth consecutive period (1,105,000 in January-March, down by 47,000 from October-December 2022). Average weekly earnings, including bonuses, rose 5.9%, unchanged from the previous three months.

Annual CPI inflation remained persistently high. It rose 10.1% in March, following 10.4% in February. The slight decrease was driven by a deceleration in price growth of a range of items - transportation (0.8%, down from February's 2.9%), housing (26.1%, after 26.6% in February), and restaurants and hotels (11.3%, after 12.1%). However, this moderation was offset by an acceleration in food price growth (19.1%, after 18.0% in February). The annual core CPI inflation (excluding food, energy, alcohol, and tobacco) was at 6.2%, unchanged from February. Given the economic



growth and inflation outlook, the Bank of England decided to tighten monetary policy further in the March meeting. It raised the bank rate to 4.25%, up from 4%; in its May meeting it raised it further to 4.5%.



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
2020	1.0	0.1	0.2	78.2	72.9	-1.3	1.5	-1.4
2021	2.5	0.4	0.1	81.4	78.0	-6.4	4.1	-5.7
2022	9.1	2.3	1.8	79.7	81.8	-6.7	11.4	-6.2
2023	6.4	4.3	4.4	78.1	82.7	0.6	9.3	0.5
2024	3.2	4.0	4.0	77.4	84.2	1.6	4.6	1.6
2025	2.0	3.0	3.0	76.8	84.9	1.0	2.8	1.0
2020:1	1.7	0.4	0.6	79.5	74.9	-0.2	2.6	-0.4
2020:2	0.8	0.0	0.1	77.6	71.9	-1.0	1.2	-1.1
2020:3	0.8	-0.1	0.1	77.6	72.2	-1.5	1.1	-1.7
2020:4	0.8	0.0	0.1	78.0	72.6	-2.5	1.1	-2.5
2021:1	0.9	0.6	0.1	80.7	76.2	-3.8	1.4	-3.3
2021:2	2.1	0.9	0.1	81.7	77.6	-5.5	3.4	-4.7
2021:3	2.7	0.7	0.1	81.8	78.7	-7.4	4.5	-6.8
2021:4	4.4	0.9	0.2	81.5	79.7	-8.9	6.9	-8.2
2022:1	6.2	1.4	0.8	82.3	81.9	-9.3	8.4	-8.7
2022:2	9.2	2.1	1.4	80.2	81.8	-8.0	11.5	-7.3
2022:3	10.1	2.8	2.0	78.2	81.7	-6.1	12.4	-5.3
2022:4	10.8	3.0	3.0	78.1	81.6	-3.4	13.9	-3.4
2023:1	10.3	4.0	4.2	78.0	81.1	-0.7	13.5	-0.7
2023:2	6.3	4.1	4.5	77.5	82.6	0.6	9.0	0.1
2023:3	5.0	4.5	4.5	77.9	83.7	1.1	8.4	1.1
2023:4	4.1	4.5	4.5	77.5	83.6	1.3	6.3	1.3
2024:1	3.5	4.0	4.0	77.9	83.5	1.2	5.5	1.2
2024:2	3.2	4.0	4.0	77.3	84.3	1.5	5.0	1.5
2024:3	3.0	4.0	4.0	77.3	84.5	1.8	4.0	1.8
2024:4	3.0	4.0	4.0	77.1	84.3	2.0	4.0	2.0
2025:1	2.0	3.0	3.0	77.7	84.3	1.0	3.5	1.0
2025:2	2.0	3.0	3.0	77.1	85.1	1.0	3.0	1.0
2025:3	2.0	3.0	3.0	76.9	85.3	1.0	2.5	1.0
2025:4	2.0	3.0	3.0	75.5	85.1	1.0	2.0	1.0

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	Survey Unemployment Percent	Millions	Real Wage Rate ³ (1990=100)
2020	279.1	1.6	4.5	1.3	149.7
2021	295.0	5.9	4.5	1.3	154.8
2022	314.5	6.0	3.6	1.0	150.2
2023	327.5	5.4	3.5	0.9	150.7
2024	338.9	3.4	2.8	0.7	151.0
2025	338.9	3.0	2.8	0.7	152.6
2020:1	279.7	2.7	4.0	1.1	150.0
2020:2	270.1	-0.2	4.1	1.2	145.9
2020:3	278.6	0.2	4.8	1.4	149.0
2020:4	288.2	3.7	5.2	1.6	154.1
2021:1	292.1	4.4	4.9	1.5	155.3
2021:2	289.6	7.4	4.7	1.4	153.6
2021:3	298.3	7.2	4.3	1.3	155.7
2021:4	299.8	4.6	4.1	1.2	154.4
2022:1	308.5	5.9	3.7	1.0	154.8
2022:2	307.5	6.2	3.8	1.1	149.0
2022:3	315.5	5.8	3.7	0.9	149.0
2022:4	317.2	6.3	3.7	0.9	147.8
2023:1	323.9	5.9	3.8	1.0	153.8
2023:2	321.0	5.6	3.6	1.0	149.2
2023:3	329.3	5.0	3.4	0.9	150.4
2023:4	329.9	5.1	3.2	0.9	149.4
2024:1	335.9	3.9	2.9	0.8	154.4
2024:2	331.3	3.7	2.8	0.7	150.0
2024:3	339.2	2.9	2.8	0.7	150.3
2024:4	339.8	3.1	2.8	0.7	149.5
2025:1	335.9	2.7	2.8	0.7	155.5
2025:2	331.3	3.0	2.8	0.7	151.9
2025:3	339.2	2.8	2.8	0.7	151.6
2025:4	339.8	3.2	2.8	0.7	151.4

¹ Whole Economy

² Average Earnings

³ Wage rate deflated by CPI

Estimates and Projections of the Gross Domestic Product¹ (£ 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
2020	149.0	713432.6	427576.4	244157.8	199232.3	-33095.4	124438.5
2021	160.2	767344.3	453969.6	258155.2	224537.2	-36883.0	132434.5
2022	166.8	798577.4	473683.2	257528.5	228362.6	-23838.4	137158.1
2023	166.1	795317.2	475719.5	248799.5	225311.5	-18632.0	135881.3
2024	169.5	811597.0	489778.6	243503.8	232154.4	-15890.1	137949.7
2025	172.9	827988.2	505714.4	242189.8	239194.3	-18456.2	140654.2
2020/19	-11.0		-10.1	-16.2	-4.8		5.0
2021/20	7.5		6.2	-1.0	4.8		6.4
2022/21	4.2		4.3	-5.6	3.1		3.6
2023/22	-0.4		0.4	-1.5	3.0		-0.9
2024/23	2.0		3.0	9.9	3.0		1.5
2025/24	2.0		3.3	-16.2	-4.8		2.0
2020:1	164.1	196432.5	118032.8	72147.1	51656.8	-11632.2	33772.0
2020:2	129.3	154802.4	91565.8	47009.3	43743.5	429.6	27945.8
2020:3	151.0	180771.5	109964.7	58939.1	50846.1	-8204.0	30774.4
2020:4	151.5	181426.2	108013.0	66062.4	52985.9	-13688.8	31946.3
2021:1	151.1	180944.2	103125.9	65151.5	51781.2	-7820.5	31293.9
2021:2	161.2	192983.7	114088.0	55075.2	57578.0	-668.1	33089.4
2021:3	162.1	194064.0	118284.2	66885.8	57099.5	-14394.2	33811.3
2021:4	166.5	199352.5	118471.5	71042.7	58078.6	-14000.2	34240.1
2022:1	167.2	200167.8	118589.6	68746.5	56345.5	-9205.1	34308.7
2022:2	167.4	200403.4	118225.6	62024.6	57458.7	-2866.9	34438.6
2022:3	165.2	197801.6	118034.3	62937.1	56975.0	-6092.0	34052.8
2022:4	167.2	200204.7	118833.7	63820.2	57583.3	-5674.5	34358.0
2023:1	165.8	198481.4	118824.7	69129.5	55701.1	-11222.9	33951.0
2023:2	166.4	199201.0	118812.9	60935.7	56116.4	-2756.3	33907.7
2023:3	166.3	199048.6	118801.0	59953.0	56538.3	-2249.7	33994.0
2023:4	165.9	198586.2	119280.9	58781.4	56955.7	-2403.2	34028.6
2024:1	167.7	200740.0	120213.3	67069.4	57389.5	-9638.5	34293.7
2024:2	169.4	202819.3	122254.5	59537.5	57819.9	-2462.3	34330.3
2024:3	170.2	203787.8	123116.9	58859.8	58254.1	-1824.2	34618.8
2024:4	170.6	204249.9	124193.9	58037.1	58690.9	-1965.1	34706.9
2025:1	171.4	205255.6	125017.7	68407.5	59131.2	-12471.4	34829.4
2025:2	172.7	206718.4	125954.6	58423.6	59574.4	-2215.7	35018.5
2025:3	173.6	207878.7	126899.9	58117.6	60021.5	-1821.7	35338.6
2025:4	173.8	208135.5	127842.2	57241.2	60467.2	-1947.4	35467.7

¹ GDP at factor cost. Expenditure measure; seasonally adjusted

² Consumers expenditure less expenditure on durables and housing

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

⁴ General government current and capital expenditure including stock building

⁵ Exports of goods and services less imports of goods and services

Financial Forecast

	PSBR/GDP % ¹	GDP ¹ (£bn)	PSBR (£bn) Financial Year	Current Account (£ bn)
2020	15.6	2068.0	312.7	-67.5
2021	5.2	2412.6	122.3	-34.3
2022	5.6	2695.1	152.0	-93.9
2023	1.6	2831.6	45.9	-24.2
2024	1.3	2982.6	38.8	-14.7
2025	0.6	3133.2	19.6	1.5
2020:1	0.0	579.4	0.4	-12.3
2020:2	28.8	461.6	132.8	-5.4
2020:3	13.9	534.3	74.3	-14.0
2020:4	11.9	534.4	63.4	-35.8
2021:1	7.9	537.8	42.1	-10.1
2021:2	10.2	578.5	59.1	-2.5
2021:3	6.2	586.8	36.4	-19.1
2021:4	4.4	613.6	26.9	-2.4
2022:1	0.0	633.6	-0.1	-50.5
2022:2	6.4	656.3	41.9	-28.2
2022:3	4.0	660.4	26.5	-12.7
2022:4	8.1	685.2	55.5	-2.5
2023:1	4.1	693.1	28.1	-9.6
2023:2	1.9	696.3	13.2	-9.8
2023:3	1.8	700.8	12.3	-3.3
2023:4	1.5	709.8	10.3	-1.5
2024:1	1.4	724.8	10.1	-7.3
2024:2	1.4	732.3	10.0	-8.6
2024:3	1.3	739.4	9.8	0.1
2024:4	1.3	753.1	9.5	1.1

¹GDP at market prices (Financial Year)

THE WORLD ECONOMY

US

The economic recovery continued but at a more moderate pace. Real GDP rose 0.7% in Q4, after rising 0.8% in Q3. The growth was driven by a rebound in the change in private inventories (contributing 0.37% to the GDP, after -0.3% in Q3). Other domestic demands are slowing down. Private consumption decelerated (0.2%, after 0.4% in Q3) and fixed investment decreased further (-0.17%, after -0.16% in Q3). Net trade contributed negatively to the quarterly growth (0.1%, after 0.7% in Q3) as exports collapsed (-0.1%, following 0.4% in Q3) while imports still expanded (0.2%, following 0.3% in Q3).

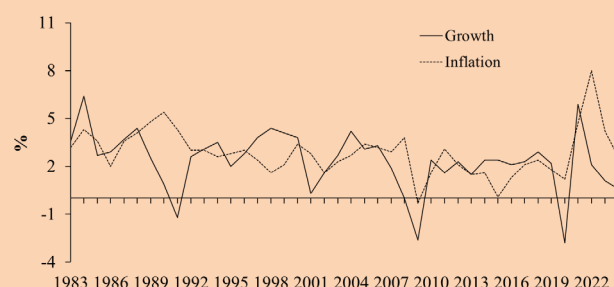
Despite the slower growth, the labour market remained tight. There are, however, signs of easing. On the one hand, the unemployment rate was 3.5%, down from 3.6% in February. On the other hand, the rise in total nonfarm payroll employment is on a downward trend. It rose by 236,000 in March, following 326,000 in February and 472,000 in January. In addition, although the annual nominal wage growth was still high, it fell a bit, to 4.2% in March from 4.6% in February.

Annual Consumer Price Inflation (CPI) slowed for a ninth consecutive month to 5% in March (down from 6% in February) but remained well above the target of 2%. This was driven by a slower rate of growth in food prices (8.5%, after 9.5% in February) and a fall in energy prices (-6.4%, after 5.2%). The core annual CPI, excluding food and energy, rose 5.6%, up from 5.5% in February.

According to the latest survey data, economic activity continued to expand at a modest pace in Q1 2023. The PMI Composite Output index rose to 53.5 in April from March's 52.3. It indicated the quickest rise in business activity in 11 months. Strong output growth was observed in the services sector (a PMI of 53.7, after 52.6 in March) and a first expansion in the manufacturing sector was registered in six months (a PMI of 50.4, compared to 49.2 in March). Under the pressure of persistently high inflation, high interest rates and financial markets' problems caused by bank failures, consumer confidence however became less optimistic about business conditions and economic development (the index fell to 101.03 in April, down from 104.0 in March) which signals lower private spending.

In assessing the economic outlook and inflation, at the March meeting the Federal Reserve raised the target range for the federal funds rate to 4.75-5% and anticipated that some additional tightening may be appropriate in order to return inflation to its 2% objective. They also decided to continue reducing the Federal Reserve's holding of Treasury securities, agency debt and agency mortgage-backed securities.

U.S.: Annual Growth Rates of Real GNP and Consumer Prices



US

	2019	2020	2021	2022	2023	2024
Real GDP Growth (% p.a.)	2.2	-2.8	5.9	2.1	1.1	0.6
Inflation (% p.a.)	1.8	1.2	4.7	8.0	4.2	2.4
Real Short Int. Rate	0.3	-4.3	-7.9	0.1	2.5	1.5
Nominal Short Int. Rate	1.5	0.4	0.1	4.3	5.1	4.1
Real Long Int. Rate	0.7	-3.8	-6.4	-0.3	0.8	0.7
Nominal Long Int. Rate	1.9	0.9	1.6	3.9	3.4	3.3
Real Ex. Rate (2000=100) ¹	97.8	99.2	97.0	105.9	105.6	105.0
Nominal Ex. Rate ²	115.7	117.8	113.1	120.7	120.1	120.5

¹The 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 of the real exchange rate.

² The series for the USA is a nominal broad U.S dollar index (2006=100)

Japan: Annual Growth Rates of Real GNP and Consumer Prices



Japan

	2019	2020	2021	2022	2023	2024
Real GDP Growth (% p.a.)	-0.4	-4.3	2.2	1.0	1.0	1.1
Inflation (% p.a.)	0.5	0.0	-0.2	2.5	2.6	1.4
Real Short Int. Rate	0.1	0.3	-2.4	-2.6	-1.3	-1.3
Nominal Short Int. Rate	0.1	0.1	0.1	0.0	0.1	0.1
Real Long Int. Rate	0.0	0.2	-2.4	-2.4	-0.8	-0.7
Nominal Long Int. Rate	0.0	0.0	0.1	0.2	0.6	0.7
Real Ex. Rate (2000=100) ¹	61.2	61.8	56.4	48.6	47.6	47.5
Nominal Ex. Rate	108.70	103.30	115.20	131.90	130.40	116.20

¹The 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 of the real exchange rate.

Japan

The economic recovery halted in Q4, with Real GDP flat, after growing 0.2% in Q3. This was driven by weak domestic demand. Private consumption grew 0.3%, down from 0.5% in Q3. Private non-residential investment decreased 0.5% in Q4, after falling 0.5% in Q3. A positive contribution came

from net trade, adding 0.4 percentage points to Q4's growth (after 0.3 percentage points in Q3) as exports continued to rise (1.5% in Q4, after 1.4% in Q3) and imports contracted further (-0.4% in both Q4 and Q3).

Annual CPI inflation rose 3.1% in March, the same rate as in February which was a sharp slowdown from January's 4.2%. The deceleration was due to a slowdown in transport costs (1.6%, down from 1.7% in February) and a faster fall in prices of fuels, light and water (-2.8%, after -0.3% in February). The upward pressures on inflation came from further growth in prices for furniture and household utensils (9.4%, after 8.7% in February), medical care (1.3%, after 0.9% in February) and food (7.8%, after 7.5% in February). The core CPI inflation, excluding food and energy, rose 3.8% in March, up from 3.5% in February and accelerated for the 10th consecutive month.

Recent survey data indicated resumed growth in Q1. Investment and consumer spending were likely to rise compared to Q4. Consumer confidence rose to 33.9 in March (up from 31.1 in February). The government cost of living package of \$15 billion should also help to support consumer spending. The au Jibun Bank Flash Composite PMI reached 52.5 in April, (after 52.9 in March), showing that private sector output continued to expand solidly. This was driven by a robust growth in services (with a Service PMI Business Activity Index of 54.9, after 55 in March), which offset the continuous contraction in manufacturing output (with a Manufacturing PMI Output Index of 47.5, down from 48.4 in March).

Assessing the economic and inflation conditions, at the April meeting the Bank of Japan decided to continue with its monetary easing policy until the annual CPI exceeds and stays above the 2% target in a stable manner. It kept the policy rate at -0.1% and continue to purchase all necessary government bonds so that the 10-year government bonds yields would remain at 0%. It continued to suggest that it would take additional easing measures if necessary.

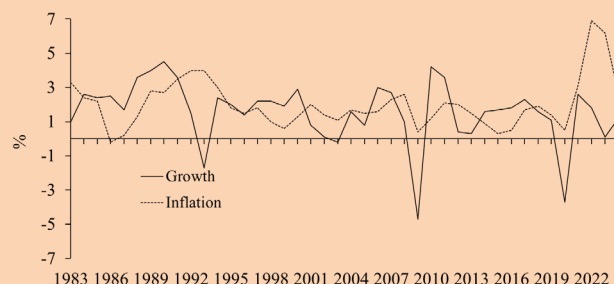
Germany

The economy shrank in Q4 2023. Real GDP decreased 0.5%, after rising 0.5% in Q3. The decline was led by a further fall in household consumption (-1%, after -0.7% in Q3) and a steep contraction in fixed investment (-2.5%, after rising 1.3% in Q3). On the other hand, a small positive contribution to quarterly growth came from net trade, as a contraction in imports (-1.3%, following 2.1% in Q3) exceeded a fall in exports (-1%, after 1.9% rise in Q3).

According to the latest data, the economic prospect for Q1 improved. Although the detailed breakdown is not yet available, the first estimate of GDP reported that its growth rate was flat in Q1 2024, after contracting 0.5% in Q4 2023. German business activity improved further in March. The

PMI Composite Output Index was 52.6, up from 50.7 in February. The rise was driven mainly by the service sector (with a Services PMI Activity Index of 53.9, up from 50.9 in February), which grew at the fastest pace in 10 months. However, manufacturing output expanded only marginally; its PMI Output Index was at 50.1, down from 50.2 in February.

Germany: Annual Growth Rates of Real GNP and Consumer Prices

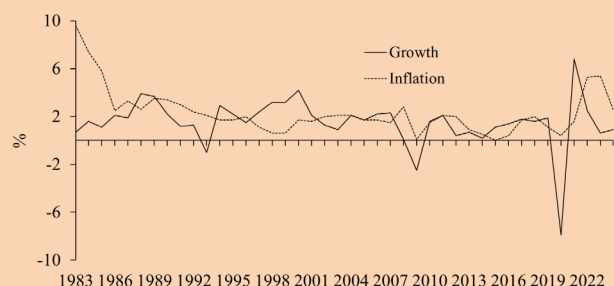


German

	2019	2020	2021	2022	2023	2024
Real GDP Growth (% p.a.)	1.1	-3.7	2.6	1.8	0.1	1.2
Inflation (% p.a.)	1.4	0.5	3.1	6.9	6.2	2.7
Real Short Int. Rate	-0.9	-3.6	-7.5	-4.1	1.0	0.8
Nominal Short Int. Rate	-0.4	-0.5	-0.6	2.1	3.7	3.5
Real Long Int. Rate	-3.1	-3.8	-4.8	-1.0	0.0	0.1
Nominal Long Int. Rate	-0.2	-0.6	-0.2	2.6	2.5	2.3
Real Ex. Rate (2000=100) ¹	96.1	97.1	97.9	95.4	96.2	96.5
Nominal Ex. Rate	0.89	0.82	0.88	0.94	0.91	0.90

¹The 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 of the real exchange rate.

France: Annual Growth Rates of Real GNP and Consumer Prices



France

	2019	2020	2021	2022	2023	2024
Real GDP Growth (% p.a.)	1.9	-7.9	6.8	2.5	0.6	0.9
Inflation (% p.a.)	1.1	0.4	1.6	5.3	5.4	2.6
Real Short Int. Rate	-0.8	-2.1	-5.9	-3.3	-0.2	-0.1
Nominal Short Int. Rate	-0.4	-0.5	-0.6	2.1	2.4	2.5
Real Long Int. Rate	-0.3	-1.9	-5.1	-2.3	0.1	0.0
Nominal Long Int. Rate	0.1	-0.3	0.2	3.1	2.7	2.6
Real Ex. Rate (2000=100) ¹	96.6	97.4	96.7	92.2	91.1	91.6
Nominal Ex. Rate ²	0.89	0.82	0.88	0.94	0.91	0.90

¹The 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 of the real exchange rate.

France

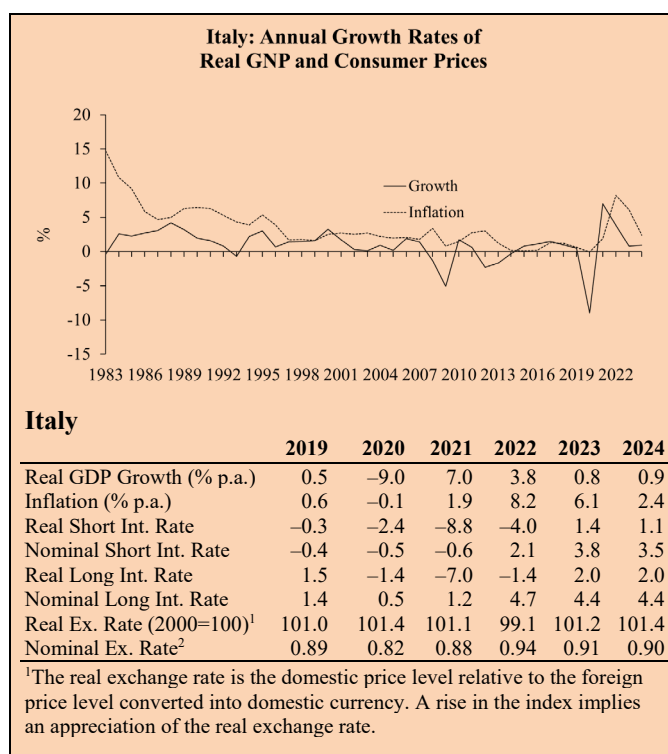
Economic growth softened for the second consecutive quarter in Q4 2022. Real GDP rose 0.1%, down from 0.2% in Q3. This was driven by a negative contribution from domestic demand excluding inventories, subtracting 0.4 percentage points from GDP growth (after adding 0.8 points in Q3). Within this, household consumption decreased 1.2% (after rising 0.4% in Q3) and fixed capital formation rose 0.3% (after 2.3% in Q3). This decrease was offset by the rebound in net trade (adding 0.3 percentage points to Q4's growth after -1.1 percentage points in Q3), as imports declined (-0.4%, after 0.4%) and exports decelerated (0.5%, down from 1.1% in Q3).

Recent survey data gave a mixed message about growth in Q1 2023. Consumer confidence was 81 in March, down from 82 in February. This remained persistently below the 100-threshold, showing that consumers continued to be pessimistic about economic conditions. On the other hand, private sector business activity expanded in three consecutive months. The HCOB Flash Composite PMI output index rose 53.8 in April, up from 52.7 in March and 51.7 in February. The growth was driven solely by a sharp increase in the service sector (the HCOB PMI Business activity Index stood at 56.3, after 53.9 in March) while manufacturing sector activity continued to contract (the Manufacturing PMI Output Index was 41.9, down from 46.8 in March).

Italy

Economic activity contracted in Q4. GDP decreased 0.1%, after rising 0.5% in Q3. The contraction was driven by a negative contribution from domestic demand. Final consumption decreased 1.1%, after a rise of 1.8% in Q3. Gross fixed capital formation rose 2%, after 0.8% in Q3. This was partially offset by net trade, as exports surged (2.6%, after 0.1% in Q3) and imports collapsed (-1.7%, after rising 4.2% in Q3).

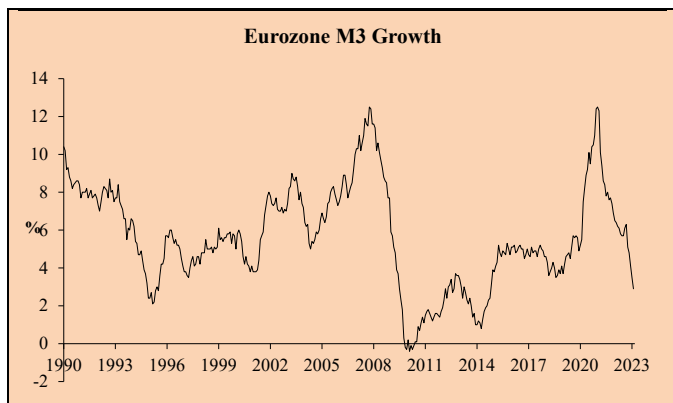
According to the latest data, Q1 growth improved. Istituto Nazionale di Statistic reported that real GDP rose 0.5% qoq in Q1. This growth is likely to continue as both manufacturing and services sectors output continued to expand – with the Services PMI Business Activity Index at 55.7 in March, (sharply up from 51.6 in February) and the manufacturing PMI at 51.1 (following 52.0 in February). Consumer confidence rose to 105.5 in April (up from March's 105.1), indicating rising consumption.



Euro-zone monetary policy

The annual Harmonized Index of Consumer Price Inflation (HICP) rate has been on a downward trend in recent months but remained persistently high. It rose 6.9% in March, following 8.5% in February. The deceleration was mainly driven by a sharp fall in energy prices in March (-0.9%, from 13.7% in February). The upward pressure on inflation came from an acceleration of prices in food, alcohol, and tobacco (15.5%, up from 15% in February), services (5.1%, after 4.8% in February) and a persistent high inflation in non-energy industrial goods (6.6%, following 6.8% in February). Core annual HICP rate, excluding energy and unprocessed food, rose 7.5%, up from 7.4% in March. Annual HICP inflation is expected to fall below 3% by the end of 2023, as the effects of past supply problems and cost pass-through to inflation components will take time to wind down.

As inflation is forecast to remain high for some time, at the March meeting, the European Central Bank decided to increase the three key interest rates by 50 basis points to ensure that inflation would return to the 2% target in the medium term. That is, the interest rate on the main refinancing operations, on the marginal lending facility, and the deposit facility will rise to 3.5%, 3.75% and 3% respectively.



WORLD FORECAST DETAIL

Growth Of Real GNP

	2019	2020	2021	2022	2023	2024
U.S.A.	2.2	-2.8	5.9	2.1	1.1	0.6
U.K.	1.4	-11.0	7.5	4.2	-0.4	2.0
Japan	-0.4	-4.3	2.2	1.0	1.0	1.1
Germany	1.1	-3.7	2.6	1.8	0.1	1.2
France	1.9	-7.9	6.8	2.5	0.6	0.9
Italy	0.5	-9.0	7.0	3.8	0.8	0.9

Growth Of Consumer Prices

	2019	2020	2021	2022	2023	2024
U.S.A.	1.8	1.2	4.7	8.0	4.2	2.6
U.K.	1.7	1.0	2.5	9.1	6.4	3.2
Japan	0.5	0.0	-0.2	2.5	2.6	1.4
Germany	1.4	0.5	3.1	6.9	6.2	2.7
France	1.1	0.4	1.6	5.3	5.4	2.6
Italy	0.6	-0.1	1.9	8.2	6.1	2.4

Real Short-Term Interest Rates

	2019	2020	2021	2022	2023	2024
U.S.A.	0.3	-4.3	-7.9	0.1	2.5	1.5
U.K.	-0.2	-2.3	-9.0	-4.6	1.2	0.8
Japan	0.1	0.3	-2.4	-2.6	-1.3	-1.3
Germany	-0.9	-3.6	-7.5	-4.1	1.0	0.8
France	-0.8	-2.1	-5.9	-3.3	-0.2	-0.1
Italy	-0.3	-2.4	-8.8	-4.0	1.4	1.1

Nominal Short-Term Interest Rates

	2019	2020	2021	2022	2023	2024
U.S.A.	1.5	0.4	0.1	4.3	5.1	4.1
U.K.	0.8	0.2	0.1	1.8	4.4	4.0
Japan	0.1	0.1	0.1	0.0	0.1	0.1
Germany	-0.4	-0.5	-0.6	2.1	3.7	3.5
France	-0.4	-0.5	-0.6	2.1	2.4	2.5
Italy	-0.4	-0.5	-0.6	2.1	3.8	3.5

Real Long-Term Interest Rates

	2019	2020	2021	2022	2023	2024
U.S.A.	0.7	-3.8	-6.4	-0.3	0.8	0.7
U.K.	-0.4	-2.4	-8.7	-4.1	1.1	0.8
Japan	0.0	0.2	-2.4	-2.4	-0.8	-0.7
Germany	-0.7	-3.7	-7.1	-3.6	-0.2	-0.4
France	-0.3	-1.9	-5.1	-2.3	0.1	0.0
Italy	1.5	-1.4	-7.0	-1.4	2.0	2.0

Nominal Long-Term Interest Rates

	2019	2020	2021	2022	2023	2024
U.S.A.	1.9	0.9	1.6	3.9	3.4	3.3
U.K.	0.6	0.1	0.4	2.3	4.3	4.0
Japan	0.0	0.0	0.1	0.2	0.6	0.7
Germany	-0.2	-0.6	-0.2	2.6	2.5	2.3
France	0.1	-0.3	0.2	3.1	2.7	2.6
Italy	1.4	0.5	1.2	4.7	4.4	4.4

Index Of Real Exchange Rate (2000=100)¹

	2019	2020	2021	2022	2023	2024
U.S.A.	97.8	99.2	97.0	105.9	105.6	105.0
U.K.	76.0	76.1	79.0	78.6	77.4	77.0
Japan	61.2	61.8	56.4	48.6	47.6	47.5
Germany	96.1	97.1	97.9	95.4	96.2	96.5
France	96.6	97.4	96.7	92.2	91.1	91.6
Italy	101.0	101.4	101.1	99.1	101.2	101.4

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)

	2019	2020	2021	2022	2023	2024
U.S.A. ¹	115.74	117.78	113.11	120.66	120.05	120.50
U.K.	1.33	1.37	1.35	1.20	1.24	1.26
Japan	108.70	103.30	115.20	131.90	130.40	116.20
Eurozone	0.89	0.82	0.88	0.94	0.91	0.90

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

* Forecasts based on the Liverpool World Model

EMERGING MARKETS

Anupam Rastogi

India

India's economic growth remains on sound footing. India's gross domestic product (GDP) may grow 7% for 2022–23. In the current financial year 2023–24 and the next financial year, we are maintaining our forecast of 6.5% even though there is some indication that rural consumption may be hit due to below-normal monsoon. However, India will continue to be a fast-growing large economy globally. With inflation slightly higher than the upper bound of the targeted level of 6% and relative stability on the external account and in the financial markets, India's recovery post-Covid appears complete and sustainable with no side effects of stimulus policies adopted during the Covid pandemic.

India's manufacturing sector expanded at its quickest pace in three months in March on improved output and new orders. The Manufacturing Purchasing Managers' Index compiled by S&P Global increased to 56.4 in March from February's 55.3. The manufacturing sector is being supported by the services sector as well. The India Services PMI rose to a 12-year high of 59.4 in February 2023 from 57.2 in the previous month. An increase in output is reflected in increased tax revenue. Indirect taxes revenue in March 2023 grew 13% on-year as the ongoing inflation, government initiatives on the technology front, and economic activity growth helped India keep the fiscal deficit under check.

Inflation is slowing down, but still, it is far above the 4% target set by the central bank.

RBI Governor Shaktikanta Das announced that the central bank has decided to pause after a rate hike seen in the previous six consecutive policies. The Repo Rate is maintained at 6.50%. The Reserve Bank held its benchmark interest rate at 6.5%. The central bank has weighed in more in favour of economic growth than controlling inflation. The central bank has increased the repo rate by 250 bps since May 2022. The Consumer Price Index (CPI)-based inflation was 6.52% in January and 6.44% in February.

India's current account deficit (CAD) in the December quarter shrank to 2.2% of gross domestic product from 3.7% in the September quarter, primarily due to a narrowing of the merchandise trade deficit, coupled with robust growth in services and private transfer receipts. We expect the CAD to post \$10–12 billion in the March quarter. The FY23 CAD is expected to be \$77–80 billion (2.3% of GDP). India's record high in services exports during Q4 2022 is expected to offset the risks of slowing down the country's merchandise exports. We expect CAD to be less than 2% of GDP in FY24.

India: BSE Sensex



India has unveiled a new Foreign Trade Policy (FTP), which seeks to boost the country's exports to USD 2 trillion by 2030 by shifting from incentives to remission and entitlement-based regimes. The government hopes to achieve equal contributions from the merchandise and services sectors.

The INR is expected to trade between 82 and 83 per dollar. The exchange rate is being supported by the hawkish stance taken by the central bank on retail inflation. The rupee weakened around 8% versus the US dollar in FY23. Still, it has fared better than many other currencies, such as the Chinese yuan, South Korean won, Malaysian ringgit, and Philippine peso. During FY24, the rupee will likely remain stable as CAD remains under control, and the procurement of discounted crude from Russia is a big positive.

	22–23	23–24	24–25	25–26	26–27
GDP (%p.a.)	7.0	6.5	6.5	6.0	6.2
WPI (%p.a.)	6.5	5.3	5.0	4.2	4.0
Current A/c(US\$ bill.)	-100.0	-80.0	-80.0	-60.0	-40.0
Rs./\$(nom.)	81.0	83.0	85.0	85.0	85.0

China

China's GDP growth is not rallying as expected. The China Caixin manufacturing purchasing managers index fell to 50.0 in March from 51.6 in February. It suggests a moderation of activity in the sector. New orders and output both declined. The government may increase fiscal stimulus after the weak GDP report for the first quarter. China's official purchasing managers index for nonmanufacturing sectors, which include services and construction, rose in March to 58.2 from 56.3 in February. The indicators suggest China's recovery continued through March as households and businesses adjusted to life after almost three years of

Covid-19 controls that relied on mass lockdowns and frequent testing to crush the smallest virus outbreaks.

This year, the government has set a growth target of around 5%, which we expect to be achieved as the government wants to see a positive recovery trend and will seek to sustain it. Emphasis on domestic consumption will be the theme in the coming quarters.

Premier Li Qiang pledged to restore business confidence in the world's second-largest economy amid recent domestic difficulties and diplomatic tensions with the US.

China's annual consumer inflation slowed to the lowest rate in a year in February as consumers remained cautious despite the abandonment of strong pandemic controls late in 2022. Combined with the persistence of producer deflation, it suggests that fiscal stimulus has no obstacle.

The consumer price index (CPI) in February was 1% higher than a year earlier, rising slowly since February 2022. It is well below the target of 3% set by the government for 2023 in response to weaker demand and lower inflation.

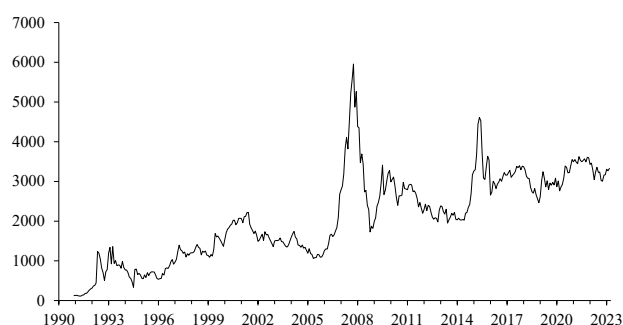
China's central bank has lowered the amount of deposits banks have to set aside, for the first time in 2023, to kick-start economic growth this year. It has cut banks' reserve-requirement ratio (RRR) by 0.25 percentage points, bringing the weighted average RRR level for the banking system to 7.6%.

Exports fell 6.8% during January and February compared with the same period a year ago. Wednesday's figures suggest the slowdown in property is moderating, with smaller declines in investment and new home starts in January and February than in 2022. The housing sector is unlikely to add to growth this year.

China has attempted to discourage Japan from imposing significant curbs on exports of semiconductor manufacturing equipment as part of a fast-evolving geopolitical battle over access to the world's most advanced chips.

The Chinese currency is expanding its reach and is now seen as an antidote to what many views as Washington's weaponization of the global financial system. For the first time in the history of the Moscow Exchange, the yuan overtook the US dollar as the most traded currency last month, with a market share close to 40% of the trading volume. Russia's dependency on the yuan is increasing across the board. The percentage of Russian exports settled in the yuan grew from 0.4% to 14% in the first nine months of 2022. Yuan deposits have become available in all major banks, so the Russian households' yuan holdings jumped from zero to \$6 billion: 11% of their foreign currency.

China: SSE Composite Index



China retained the central bank Governor, Yi Gang. A sign of policy continuity. He Lifeng, a close Xi ally, was promoted to the vice premier, putting him in line to possibly replace Liu He as the top economic policymaker in the country.

	22	23	24	25	26
GDP (%p.a.)	3.0	5.0	4.8	4.0	3.5
Inflation (%p.a.)	2.0	2.2	1.5	2.0	2.2
Trade Balance(US\$ bill.)	420.0	255.0	150.0	100.0	50.0
Rmb/\$ (nom.)	6.8	7.0	7.2	7.3	7.4

South Korea

The decline in world trade is impacting South Korean exports and GDP. South Korea GDP grew 1.3% in Q4 2022, and the GDP growth will remain weak in 2023. We expect GDP to grow by just 1% in 2023 compared to 2.6% in 2022.

South Korea's consumer inflation eased in March, led by weaker oil prices, but worries about global growth, monetary policy, and decisions by major oil producers have clouded the outlook. The central bank would hold rates as the economy is near the edge of a recession, and policymakers will be wary of overtightening in the face of a slowdown in global growth and overseas demand for its major exports, such as chips and consumer electronics.

The consumer price index was 4.2% higher in March than a year earlier, compared with gains of 4.8% in February. It was the slowest annual rise since March 2022. The mid-term target set by the bank is 2%. The BOK held interest rates steady after a year of uninterrupted hikes. Its commentary was dovish, and the monetary tightening may not resume if inflation followed an expected path toward moderation.

The Ministry of Trade, Industry and Energy and the Korea Customs Service announced on April 1 that South Korea's exports totalled US\$55.13 billion (down 13.6% year on year), and imports totalled US\$59.75 billion (down 6.4% year on year) in March, resulting in a trade deficit of US\$4.92 billion. Exports fell for the sixth consecutive month, which hasn't happened since March to August 2020. Also, the trade deficit has lasted for 13 months, the first time in 25 years and nine months. South Korea's trade deficit for

the first three months of this year is US\$22.4 billion, while its trade deficit was US\$47.8 billion in 2022.

The South Korean won, Asia's worst-performing currency this quarter, may come under pressure in April as overseas investors take dividends out of the country. The top 10 Korean companies will distribute approximately \$3.5 billion to global funds. The currency could retest support around its 1,329 level, the low against the dollar touched in March.

	22	23	24	25	26
GDP (%p.a.)	2.6	1.0	2.5	2.5	2.4
Inflation (%p.a.)	5.1	5.0	3.0	2.5	2.5
Current A/c(US\$ bill.)	50.0	40.0	35.0	30.0	30.0
Won/\$ (nom.)	1450	1300	1300	1350	1400

Taiwan

A slower world economy is impacting Taiwan's economy. A fall in exports is expected to pull down Taiwan's gross domestic product (GDP) growth in 2023 to below 2%. We expect GDP growth to be 1.8% in 2023 and 2% in 2024. There will be some support from domestic consumption to ensure it does not fall into recession.

An average 11% hike in electricity tariffs, effective from April, and an increase in dining out costs and rents are all set to impact CPI in 2023. We expect inflation to peak at 2.2% in 2023. It is marginally higher than the inflation target set by the central bank.

The Central Bank of the Republic of China (Taiwan) raised its benchmark rate for a fifth consecutive quarter amid global monetary tightening. With the economy slowing sharply, having contracted 0.41% in the fourth quarter, the central bank has maintained its hawkish stance. It raised its benchmark discount rate by 12.5 basis points to 1.875% from 1.750%. It also increased the secured loan rate to 2.250% from 2.125% and lifted the unsecured loan rate to 4.125% from 4.00%. Since March 2022, the Taiwan central bank has raised its rates by 75 basis points, while the US Federal Reserve has boosted its rates by 475 basis points, and the slower pace adopted by the local central has widened the interest rate gap between the two countries.

Taiwan President Tsai Ing-wen met American politicians in New York and House Speaker Kevin McCarthy in Los Angeles in the face of threats from Beijing. Those who engage with her could trigger unspecified retaliation. The visit is expected to spark an angry response from Beijing.

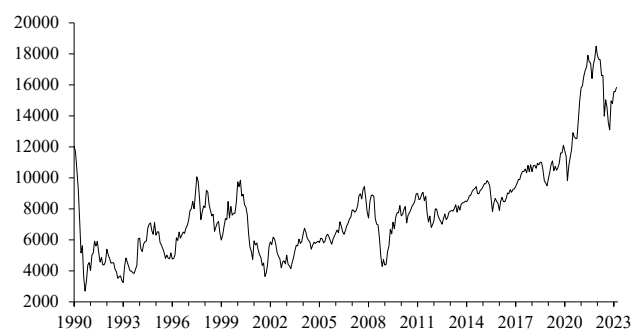
Interestingly, when the House Speaker meets Taiwanese President Tsai Ing-wen, French President Emmanuel Macron is set to land in China on a three-day tour and meetings with Chinese President Xi Jinping to discuss Ukraine. It is a subtle way to tell Beijing it remains an ally of Western democracies. President Xi is leaving no stone unturned to develop a fissure in the West's alliance against the rise of China.

Korea: Composite Index



	22	23	24	25	26
GDP (%p.a.)	2.5	1.8	2.0	2.3	2.3
Inflation (%p.a.)	2.9	2.2	1.6	1.4	1.2
Current A/c(US\$ bill.)	90.0	65.0	60.0	60.0	60.0
NT\$/ (nom.)	32.0	30.5	30.0	30.5	30.5

Taiwan: Weighted TAIEX Price Index



Brazil

The Brazilian economy is expanding even though credit remains at an elevated level. We expect GDP to grow by 1% in 2023 compared to last year's 2.9% growth. The central bank expects the economy to grow marginally more at 1.2%. The bank's optimism is based on the previous quarter's positive service sector surprises. The improved estimates for the extractive industry have been considered.

Brazil's annual consumer inflation slowed to 5.6% in February, despite a marginal increase in monthly CPI compared to January.

The central bank's monetary policy committee left the Selic rate at a six-year high of 13.75%. The bank began raising the rate in early 2021 from a record low of 2% to slow the pace of consumer price increases. Brazil's primary measure of inflation has since come down from an almost 19-year high of 12.13% in April 2022 to 5.6% in February 2023. A growing debate on a potential credit crunch due to high borrowing costs has not affected the central bank's resolve to control inflationary expectations.

Brazil's trade surplus for February fell a larger-than-expected 35% from last year as exports, especially of oil,

declined. The trade surplus of \$2.8 billion was lower than the \$3.1 billion estimated earlier.

China and Brazil have agreed to a new trade deal to allow them to trade in their currencies, dropping the US dollar as an intermediary for bilateral trade. It will enable the two countries to conduct their trade and financial transactions directly, exchanging Chinese Yuan for Brazilian Real and

vice versa. China is pushing hard to make the yuan acceptable in international trade. For Brazil, the deal represents a significant shift away from the traditional reliance on the dollar as the world's primary currency. The deal is expected to reduce costs and promote even greater bilateral trade. With a record USD 150.5 billion in bilateral trade last year, China is the country's biggest trading partner.

Brazil: Bovespa



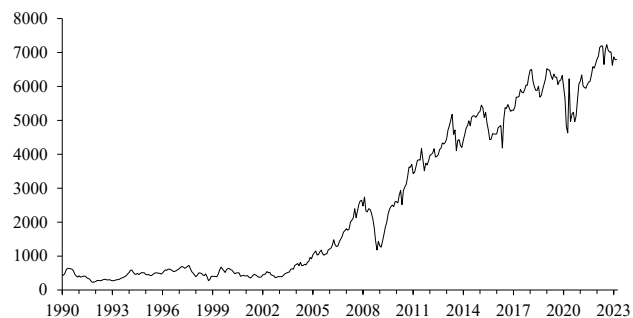
	22	23	24	25	26
GDP (%p.a.)	2.9	1.0	2.0	2.5	3.0
Inflation (%p.a.)	8.0	5.5	4.0	4.2	4.2
Current A/c(US\$ bill.)	-10.0	-12.0	-20.0	-10.0	-10.0
Real/\$(nom.)	5.2	5.3	5.4	5.5	5.5

Other Emerging Markets

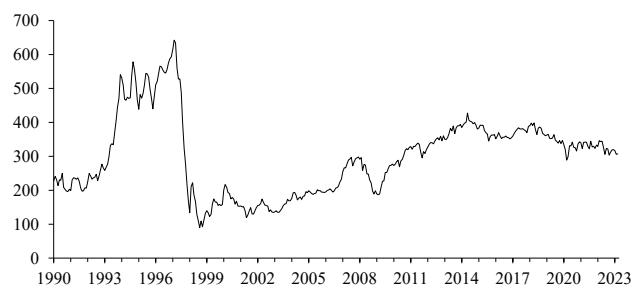
Hong Kong: FT-Actuaries



Indonesia: Jakarta Composite



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



Thailand: Composite Index



Singapore: Straits Times Index

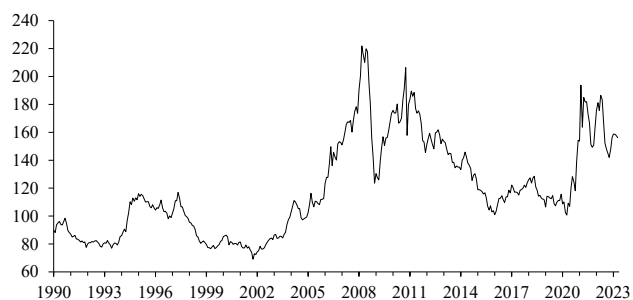


Philippines: Manila Composite

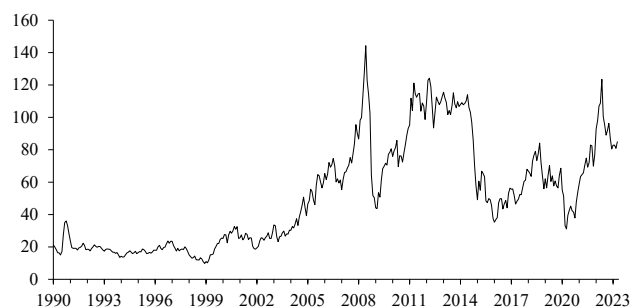


COMMODITY MARKETS

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



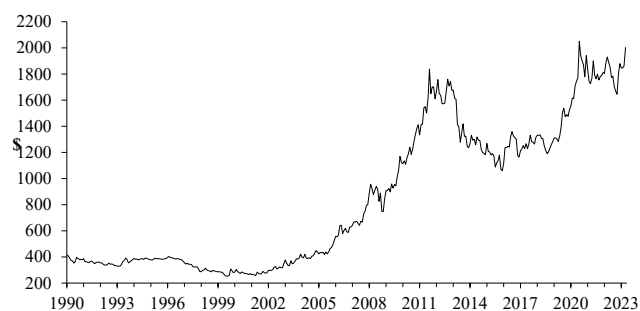
Oil Price: North Sea Brent (in Dollars)



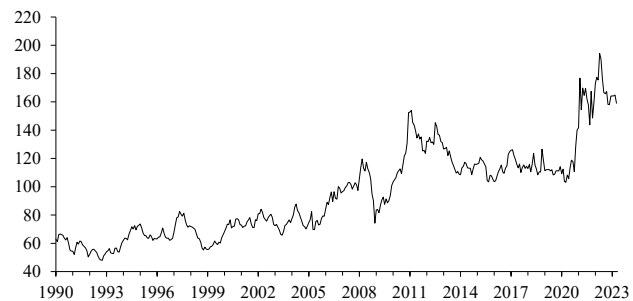
Commodity Price Index (Sterling)
(Economist, 2015 = 100)



Gold Price (in Dollars)



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



EVALUATING PROGRESS ON THE BREXIT AGENDA – TRADE, REGULATION AND THE EU BORDER

Patrick Minford

In this chapter we evaluate the progress being made in the Brexit agenda. This has always been one of long term reform, involving trade with the EU and the rest of the world, as well as the restoration of UK-based regulation.

Free trade: The official assessment misunderstands the gains from international trade agreements

Britain has just signed a highly significant trade agreement with nearly a dozen Asian countries- the Comprehensive and Progressive Agreement for Trade Partnership, the CPTPP; call it the Trans-Pacific Partnership, TPP, agreement for short. According to the Department of Trade's official assessment the TPP will add 0.08% to UK GDP in the long run, which has been derided by Remain opinion as negligible compared with the supposed loss of GDP due to lower EU trade, set at 4% of GDP by the OBR.

These official estimates are flawed by two key mistakes. First, they are based on so-called 'gravity' models which assume that trade effects of trade liberalisation fall off the higher the distance of a trade partner. Second, they assume that trade barriers with the EU must be raised by Brexit in spite of the Trade and Cooperation Agreement, TCA, with the EU whose aim is precisely to eliminate trade barriers between the UK and the EU.

Start with the second; it takes time first for negotiations on numerous details to be concluded, as the long discussions on implementing the NI protocol illustrate. It also takes time for people and businesses to adapt to the new border processes. But as the recent agreement on the protocol show, they eventually succeed. It is reasonable to assume that other details will similarly be sorted out over time; hence we should assume the TCA achieves its long run objective of removing trade barriers with the EU, in which case there will be no long run EU trade effects.

Now turn to the first issue of the gains from wider trade agreements, found to be minimal by the official model used. In our trade modelling work at Cardiff University we have repeatedly tested the 'gravity' model on different countries' data and found it to be widely rejected. The reason is that while of course 'gravity' (i.e. distance and size) does affect the extent of trade by itself, the effects of trade liberalisation and other changes over time have rather similar effects on all trade and they work by bringing down national prices into line with world competition; a model along these lines is generally consistent with the data. The 'gravity' model that says they have limited price effects and disproportionately affect nearer and larger trade partners is generally rejected by the data.

How the gravity model fails in tests of its ability to mirror long

Many followers of economic debate think that a good test of a theory is its ability to forecast future events. But it turns out that forecasting well is a bad test of a model; many poor models forecast well, and many good models forecast badly. Forecasts in other words have little to do with how well a model understands the underlying causal processes at work, which is what we care about. Models that are based on exploiting lagged indicators usually do better than good causal models, and all forecasts are upset by big shocks that are unforecastable, reducing forecasting ability all round and making forecast success largely a matter of luck. This criticism also applies to 'likelihood ratio' testing which is based on models' capacity to forecast past data accurately.

Instead a reliable way of testing models is to ask if they can mimic the behaviour of real world data. This behaviour is produced by the unknown true model, so the closer a model can get to producing similar behaviour, the greater its claim to be the true model. This test of a model is known as 'indirect inference' testing; in this method the data behaviour is described accurately by some past relationships found in the data, and the proposed causal model is simulated to see if it implies relationships close to this- and so is 'indirectly' similar rather than 'directly' forecasting data. In repeated 'Monte Carlo' experiments using mocked-up data from supposed true models we have found that these indirect inference tests are extremely powerful in rejecting false models, whether of the macro economy or of trade.

In recent work at Cardiff we have asked whether a model of world trade including all the major countries or country blocs of policy interest- the US, the EU, China, the UK, and the rest of the world- can mimic these countries' behaviour in trade and output. We have a 'classical' and a 'gravity' version of the model. The results are striking- as the Table below of the probabilities of each model for each country and the world as a whole show rather strikingly. What can be seen is that the gravity model probability falls in all cases below the 5% cut-off level (i.e. 0.05), while the Classical model generally has a probability well above this level. The only exception is the US whose individual facts are not well fitted by either model. Nevertheless the Classical model fits the world as a whole very well. It also fits UK trade facts particularly well.

Table 2: Test results of the full world global model

Country	P-values	
	Classical Model	Gravity Model
UK	0.2429	0.0412*
US	0.0337*	0.0078*
Euro Area	0.0936	0.0114*
CH	0.0829	0.0142*
World	0.3095	0.026*

Note: p-value with * indicates a rejection of the model at 5% significance level.

Source: Minford, P., Dong, X., Xu, Y. (2021)* Testing competing world trade models against the facts of world trade', Cardiff Economics working paper E 2021/20. http://carbsecon.com/wp/E2021_20.pdf

You might ask why so many economists adhere to gravity models in commenting on Brexit. The answer seems to be that these models do quite well in mimicking short term macro behaviour, in effect behaving like business cycle macro models, which frequently use the same gravity assumption that trade in different countries' goods compete imperfectly. But while this assumption works well for the short run, in the long run it breaks down as competition irons out differences between products. We know that in the short run Brexit is bound to cause disruption, but the whole point of Brexit, as we have seen, is to improve long run performance- in the process ironing out the EU trade disruption through the improving TCA.

This testing failure of the gravity model, as we have just seen, applies strongly to UK trade in particular (as found some time ago in earlier work of ours <https://link.springer.com/article/10.1007/s11079-017-9470-z>) The TPP countries currently account for about 6% of our trade in goods- largely food and manufactures. But the key point totally missed in the official assessment is that our importers will now have a barrier-free source of these goods for them to access if they need to, which via competition will reduce our import prices on them to world levels. This in turn impacts on our consumer choices and our production structure. Eliminating the barriers to these import categories that we inherited from the EU- which are estimated to average about 20% - would according to our detailed model of UK trade and the economy increase UK GDP in the long run by around 6%- a big gain, very many times the official estimate- and lower consumer prices by 12%. This is the 'static' benefit, assuming trade does not grow, as of course it will, given that Asia is a fast growing part of the world economy.

A natural reaction to this estimate will be that, just as the official one was far too small, this one is extravagantly large. It is certainly true that it is based on a long term assessment, not the short term gravity models used by Remainers. It also assumes that in the long term there is free trade within this Pacific bloc which is the aim of the TPP; the initial agreement is hedged about with quota restrictions on the amount that can be freely traded but these should be eventually phased out as markets develop and confidence expands that they are not disrupting them; UK businesses will be incentivised to accept easier import access by the

reciprocal access for their exports. Furthermore the TPP is due to expand as new members join; those interested include S Korea, Thailand, several Latin American economies and both Taiwan and China. The US could also return to being a member. As it expands the TPP will reinforce these competitive effects on our economy. The gravity models used to condemn Brexit are short term in focus, not much different from the 'macroeconomic' models we use for analysing the business cycle. Hence they put much emphasis on the short term EU trade disruption due to the mere fact of creating a new border, which in time with the TCA and WTO rules on 'seamless' borders should disappear; and they do not factor in the long term effects of lowering the large EU barriers against non-EU trade. It is these that loom large in the classical trade model that properly explains long term trade/economy movements. Unfortunately, commentators generally look for quick results from policy changes that can only work well in the long term. Brexit was always about the long term economic gains from self-government and not about quick wins. Our estimate is aimed at this long term situation; it is large relative to the short term and it will take a long time. But Rome was not built in a day, nor will post-Brexit Britain emerge blinking successfully from transitional problems in just a few years.

How this free trade agenda leads to a full Brexit with EU irrelevance

Because of the short term focus of the current Whitehall consensus gravity model, it is not well understood just what radical implications this free trade has for our future relations with the EU. As we have seen, in the long term free trade implies equalisation of our home prices with world prices, which in turn means that we would export to the EU at these very same prices and would only import from the EU goods that were priced at the same competitive level.

This means that any threats by the EU to levy tariff or other trade barriers on UK goods in the course of any future negotiations on the TCA and any proposed new UK regulations, would be entirely empty. The reason is simple enough; UK export prices to the EU would be unaffected, as for example should they fall, UK goods would be diverted to other world markets at the full world price. Hence any EU trade barriers would simply raise the prices paid for UK goods by EU consumers. Should EU sales suffer as a result, then more goods would be sold elsewhere at world prices.

Similarly, if the UK were to raise barriers against EU imports in retaliation against any such EU barriers, it would not affect UK prices of these imports as they would have to compete with world imports to be sold at all. As a result EU sellers' prices would be reduced. If as a result they supplied less imports, these would be replaced by imports from elsewhere.

It follows that the TCA itself would become irrelevant, dominated as our trade with the EU would now be by the prices prevailing in the world at large. Furthermore, the EU

would get most welfare from UK trade free of barriers as this would keep down the prices of UK goods to its consumers and keep up the prices of its UK exports to world prices. Hence we would expect that our relations with the EU would default to barrier-free trade. As for UK regulations, the UK would be entirely free to set them as it suited it best, free of EU trade threats.

Progress in restoring UK-based regulation

It can be seen from this trade analysis that the UK will be unrestricted in its ability to restore UK-based regulation once free trade around the world is created. Meanwhile there has been progress on this front on the ground.

The Retained EU Law Bill currently going through Parliament mandates the sunseting of all remaining EU regulations by the end of 2023; while this target date has now been abandoned as too ambitious, it is reasonable to assume the sunseting process will be completed in the next year or so for economically important regulations. Existing regulations by now are all the responsibility of UK regulators, under the direct control of Parliament. This will ensure that UK regulation is done by new UK processes supervised by UK law and regulators in consultation with UK industrial interests.

One of the major objectives of Brexit is to replace the EU's intrusive precautionary principle with the pragmatic common law principles under which experimentation is permitted to enable vigorous innovation. As long as EU regulations are left in place by default, their replacement is delayed by bureaucratic inertia. As nature abhors a vacuum, so the abolition of remaining EU regulations should stimulate the necessary consultations to produce new UK-based regulation.

Conclusions

What this all implies is that the Brexit agenda is indeed being rolled out, contrary to much Remainer vilification, and is set to bring material long term benefits to the UK economy as this continues, besides ensuring that Brexit is fully completed. Meanwhile EU trade will continue to bounce back in the short run as the government continues to negotiate the necessary details to achieve the TCA's aim of free trade with the EU. With Brexit now well on track, it is important that our Civil Service establishment gets behind it and does not minimise its significance. We should add that those wanting Brexit to succeed in the long run should not be afraid of an agenda for improving the TCA and relations with the EU, fearful of making concessions over short run issues. What our analysis here shows is that in the long run, once free trade truly prevails, the UK will be entirely free to set its own trade and regulative policies, regardless of EU pressures.