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Julian Hodge Institute of Applied Macroeconomics

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The Julian Hodge Institute of Applied Macroeconomics

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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, Esmee Fairbairn Charitable Trust, the Wincott Foundation and Cardiff Business School.

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WHERE DOES UK GOVERNMENT POLICY GO NOW?

Patrick Minford

The economic reasoning behind current monetary policy is poorly thought out- joining a similar hiatus in fiscal policy. Once inflation had been precipitated by major monetary expansion as occurred during Covid with massive money printing, it was always going to take time to get it down again. But come down it will, as now we have had a sharp tightening of monetary policy, with money supply growth reduced to below zero year-on-year, with monthly falls. A further element bringing it down is the reversal of commodity prices after their big spikes a year ago, with the latest inflation rate in August falling to 6.7% (the fullest index including housing, rose by 6.3%), and wholesale price inflation down to -0.4%, and input price inflation at -2.3%.

Instead of pausing rate rises, the Bank of England continued until recently to raise interest rates in what has seemed like a blind panic at inflation being above its long run 2% target. To worsen matters, the Treasury is also reacting irrationally, by promising more fiscal tightening, on top of the tax rises already in hand that have contributed to low growth expectations. Yet the Bank has already over-tightened, and inflation is set to come down steadily.

These policymakers have focused on wages as a source of ongoing inflation. Yet wages have simply been catching up with unexpected inflation, so restoring real wage equilibrium. That process has a bit further to go, so wages will keep rising until catch-up is complete. This will also happen in the public sector and must be permitted, in order to preserve public services. But this catch-up is not causing fresh inflation. As inflation comes down, wages will grow at the newly expected inflation rate, slowing in line with falling inflation. In effect it is the inflation that has driven wage increases, rather than wage rises driving inflation.

The public finances have been over-tightened by rising taxes. Solvency requires that in the long run real debt rises more slowly than the real rate of interest; this in turn implies that the government should eventually run a primary surplus (revenue less non-interest spending). This would be well in hand without the tax rises we have seen. Ironically, by hitting growth via rising taxes, the prospect has been damaged, as growth is the engine of rising revenue. In a section below we go into more detail about the true fiscal position.

Sadly, the Bank and the government ignore these basic economic principles and stumble on with worsening mistakes. We must hope that as inflation gradually falls, panic subsides and policies improve.

The danger from the Bank's endless mistakes is that we will have a severe recession which besides knocking short run output will damage business confidence and depress longer term growth prospects. With tax revenues also hit by the growth collapse, the gloomy Treasury consensus will demand more cuts and higher taxes, worsening the outlook further.

Table 1: Summary of Forecast

	2019	2020	2021	2022	2023	2024	2025
GDP Growth[1]	1.6	-10.4	8.7	4.2	0.4	1.9	2.0
Inflation CPI	1.7	0.9	2.5	9.1	7.5	3.5	2.0
Wage Growth	3.5	1.6	5.9	6.0	6.1	3.7	2.0
Survey Unemployment	3.8	4.5	4.5	3.6	3.5	2.8	2.8
Exchange Rate[2]	78.3	78.2	81.4	79.1	79.4	79.1	79.0
3 Month Interest Rate	0.8	0.2	0.1	2.0	5.0	4.3	3.0
5 Year Interest Rate	0.6	0.1	0.8	2.5	4.3	4.2	3.0
Current Balance (£bn)	-63.3	-67.5	-34.3	-93.9	-25.4	-14.7	1.5
PSBR (£bn)	64.3	312.9	121.1	130.5	95.6	38.3	23.5

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

There are those who attack such criticisms as dangerous Keynesian expansionism. These critics ironically are led by the Bank and the Treasury- the same duo that back in the 1970s enthusiastically espoused the 'Heath/Barber boom', whose fiscal and monetary expansionism fomented persistent double-digit inflation. They were badly misled back then; but this does not imply that their current flip to its polar opposite is correct.

We have learnt much from the era before and after the financial crisis of 2008 (see chapter 3 of this bulletin). Monetary policy was too expansionary before it, helping to create the crisis conditions. After it and the bank bailout, fiscal policy moved to 'austerity', forcing a huge printing of money driving interest rates close to zero while banks were hampered by new regulatory zeal and failed to respond with strong credit growth. Instead fiscal policy should have been supportive, so preventing the damage from near-zero interest rates- reduced competition and proliferating zombie firms.

The Covid pandemic produced another bout of money printing, this time with the banks pushed into credit growth by government subsidies. Interest rates fell to zero, as money supply growth took off. Inflation also took off in response. It would have been wiser to leave the Covid support to fiscal policy alone.

Today we need to get back to monetary stability. It makes no sense for the Bank, having started the inflation by excess money printing, to go to the opposite extreme and destroy the economy to fix its inflation mistake. As inflation comes down, which it will, the Treasury too needs to revert to a stable fiscal policy from its current obsession with the short run deficit.

Monetary policy not Liz Truss was to blame for her government's implosion

Liz Truss recently made a good and brave speech, pointing out that there is really no alternative to her growth agenda if we want to create an economy with good fundamentals and viable public finances. In response Mark Carney's cheap

remark that her policies imploded because she created 'Argentina on the Channel' has been flung in her face.

Yet this implosion was largely the result of bungled monetary policy and the worldwide withdrawal from the massive and misguided printing of money conducted both after the 2008 crisis and then again under Covid; this episode gave us the era of zero interest rates which undermined capitalism by making capital a free good. Carney himself was heavily involved in the first, before leaving the Bank to become a spokesman for central banks to focus on climate change- when their true role is to contain inflation.

Liz Truss was embarking on her programme as this monetary overreach was being corrected around the developed world, with interest rates being forced up to push down the inflation that had resulted. Here the Bank made serious errors which compounded her problems. First, it was slow in raising rates, well behind the Fed, and this depressed sterling, contributing to talk of 'crisis'. Secondly, fears that the bank was not doing enough to curb inflation set off fears that it would need to raise rates later to much higher levels; this destabilised the gilt-edged market. Incredibly, the Bank announced it would sell bonds ('Quantitative tightening') into this market, so badly worsening the panic. It should have been sending out the opposite signal that this panic was wrong and that it was raising rates sufficiently to get inflation down. It should have bought bonds to calm the markets. Briefly it did this when the pension crisis over Liability-Driven Investment (LDI) broke; but incredibly it quickly stopped once that had been calmed down. So the gilts market and the associated swaps market rates that price mortgages stayed high and precipitated the collapse of the Truss government.

This collapse was of course extremely welcome to the wide opposition to the Truss programme inside the Treasury and the Bank, which now regained control. Liz Truss was told by these people she would face a market meltdown if she persisted in her plans. To this the riposte should have been to get the Bank out in the markets to calm them down- as had been done during the LDI crisis. This would have given time to set out the government's long-term plans for fiscal policy in terms of balancing the books.

In short, the Carney gibe is misdirected. It should have singled out the key role of the Bank that Carney himself led for years in a programme of monetary debasement, sold as a wonderful cure for the crises of capitalism. In retrospect it can be seen as a programme to ruin capitalism by making capital artificially costless. It is not just in the UK that productivity growth has stalled since the 2008 crisis ushered in these policies; it is an OECD-wide phenomenon. Reversing it is a work in progress everywhere. In the UK we need to focus again on what is killing growth, just as we did during the Thatcher reform era. In her speech Liz Truss pointed to all the ways that the Thatcher inheritance of lower taxes and regulation has been gradually reversed, leaving us today mired in the highest tax rates in our history and a huge web of over-regulation that is stifling our entrepreneurial culture.

The consensus of the governing classes running our institutions today is that this web must be accepted and that tax must be raised as far as needed to finance the ever-growing burden of public service provision to deal with our ageing demographics and the demands of redistribution. This is a dismal vision, and is increasingly being questioned by those who welcomed the revival of the growth debate by Liz Truss. Plainly it is not acceptable to the public at large, who are naturally unhappy at the indefinite prospect of no improvement in living standards. Even Sir Keir Starmer has felt compelled to say he will put growth at the centre of his policies. But does he really think that continuing with the current consensus which he accepts is consistent with this? If we look around the world or even our own history at examples of stronger growth, they occur where tax is low, regulations are light and incentives to raise profits by innovation are high. That was what Liz Truss was saying-correctly. She was frustrated in carrying out her plans by the very people shouting about Argentine implosion.

Understanding Fiscal accounting

The usual way the UK's public finances are reported is in money terms. This includes debt interest which also contains the inflation element on index-linked debt.

However, the true cost of public debt is the resource cost to taxpayers. This is the money cost of taxes divided by the consumer price index. The latter measures the money cost of one unit of consumption; this in turn is what the consumer sacrifices in utility by giving up this unit. So when we measure public spending and taxes, we should convert them into resource costs to taxpaying households by dividing their money costs by the consumer price index, the CPIH (CPI including housing costs) published by the ONS.

This resource cost of the public finances tells us what these finances imply for the amount of resources that need to be taken from households by the government now or in the future by paying off future debt. Expressed in this way the public accounts budget constraint can be written:

$$\Delta b_t = g_t - \tau_t + (R_t - \pi_t)b_{t-1} + \Delta ValB_t$$

where b_t is the real stock of debt, deflated by p_t, the CPIH, and π_t is the proportionate change in the CPIH over the period. R_t is the nominal interest rate charge on the debt, including any inflation compensation on index-linked debt. g_t and τ_t are real spending and taxes as deflated by CPIH. The final term, $\Delta ValB_t$, measures the change in market value due to the change in market yields.

By contrast the traditional money accounts are written:

$$\Delta B_t = G_t - T_t + R_t B_{t-1}$$

where the upper-case values are all nominal. i.e in money terms.

The latter accounts are then usually expressed as a percent of money GDP, whereas the former real resource quantities are expressed as a percent of real GDP, the real resources available, i.e. money GDP deflated by the GDP expenditure deflator, which is the cost of spending UK income, roughly equal to the CPIH. Money GDP is real GDP times the GDP deflator which is the home cost of production, a totally different deflator.

In the Table below we show the traditional accounts in money terms and then in resource terms in 2022 prices. We begin by repeating our Table showing the cash accounting of the public finances in our current baseline forecast, where taxes are projected to stay high and growth consequently drops to nil over the long term. This type of long term projection can be done as here in nominal terms, then expressed as a percent of nominal GDP, because over the long term all the price deflators move roughly in line.

However we then show how these cash accounts need to be adjusted to give an accurate short run picture, using real resource accounting and to take account of market movements in the value of debt, as well as the differing movements in the price indices.

What these figures show is that real debt interest at recent inflation rates has been negative. This reflects the fact that inflation has exceeded nominal interest on non-indexed debt and on indexed debt has roughly equalled the 'inflation interest' (not exactly because indexing is to the Retail Price Index, RPI, which differs from CPIH). From 2024/25 real debt interest rises somewhat as inflation falls, while nominal interest rates remain quite high; nevertheless the real interest rate remains subdued at around 2%.

Furthermore, the market value of government debt has fallen by nearly 40% since 2020, due to rising gilt yields — see chart below. This has lowered the debt/GDP ratio in current market value. Essentially, this arises because the DMO/Treasury managed to sell most of existing gilts at low interest rates prevailing during Covid; hence the market currently values these about 10% lower than face value.

Consequently, measured correctly debt/GDP will have fallen sharply in 2023/24 even though real GDP will barely change. In 2024/25 it falls further, with GDP set to grow 2% in real terms with recovery from the tight-money spell.

If we project the public finances over the long term under current high tax policies that imply zero growth, we find that the implied absence of revenue growth produces a rising debt ratio that undermines solvency. The chart below shows this outlook side by side with an assumed reversal of tax rises and its better growth outlook.

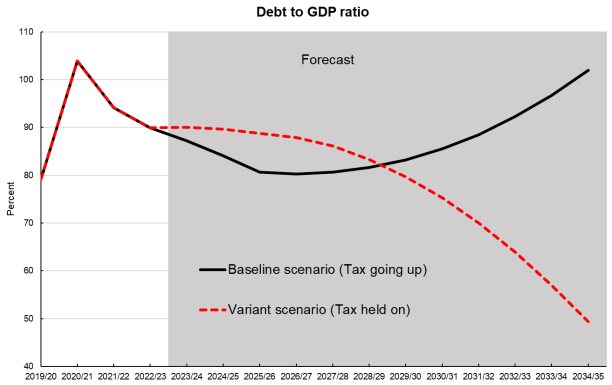


Table 2: Public Finances Baseline Forecast with Actual Tax Rises

	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 %[7]	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

Money- £ billion	2022/23	2023/24	2024/25
G- government spending	1057.3	1117.1	1181.9
T- revenue	1020.0	1185.4	1256.5
Debt interest	114.7	114.2	114.2
ΔD- change in debt	152.0	45.9	38.8
Debt (incl. BOE)	2580	2626	2664
D/NOMGDP (%)- debt/GDP ratio	95.7	92.7	89.3
Real £ billion at 22/23 prices (Assumes CPIH inflation 9.1% 22/23; 6.4% 23/24; 3.2% 24/25)			
G	1057.3	1049.9	1145.3
T	1020.0	1114.1	1217.0
Real Debt interest	-105.7	-109.1	35.2
Δ Real D- change in real debt	-68.4	-173.0	-36.5
Real Debt	2580	2407	2370
Adjustment Mkt Value/Par*	0.93	0.93	0.93
Adjusted Real Debt	2399	2226	2189
Real Debt/Real GDP	84.7	87.6	75.8

*market value/Par value — source ONS: series RYXY/BKPM on gilt values (respectively market value and nominal, Par, value). BoE bank reserve debt (about 800) stays at Par.

What all these figures show is that in resource terms debt is falling relative to GDP, but that with the zero growth resulting from the current high tax rates this will reverse and get steadily higher, which should be avoided. The way to avoid it is to spur growth with lower taxes, as well as other pro-growth policies; and to ignore any short term rise in debt as ultimately reversible by rising tax revenues.

Inflation is falling now if more slowly than expected

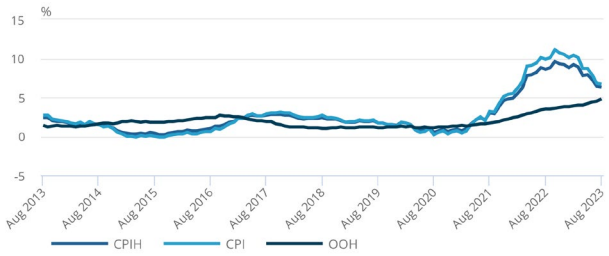
Inflation's downward progress in the UK will take its own path; the lags in every economy are a bit different because the economy's structure and the paths of other shocks differ across economies. It made no sense, as argued above, for the Bank and government to panic in the face of the longer lag in inflation's fall.

At the same time, the government has understood from the Uxbridge by-election that net zero policies are far too costly to ordinary people and are being resisted. Some rethinking is at last going on. As inflation completes its fall towards 2%, we must hope this rethinking will extend to the other aspects of fiscal policy, namely taxes, whose brutal raising is not merely unpopular but also damaging to growth and so also to debt solvency, as explained in the last section. Sense on these fiscal aspects too is long overdue; self-flagellation via tax increases is not merely painful but highly damaging to economic and fiscal prospects- a bit like leeching in ancient times. We really do know better.

Our forecast cannot yet take this change of heart by the Sunak government as its central baseline, so our forecast shows short term resilience as interest rates level off but still no longer term growth.

Figure 1: Annual CPIH and CPI inflation rates eased slightly in August 2023

CPIH, OOH component and CPI annual inflation rates for the last 10 years, UK, August 2013 to August 2023

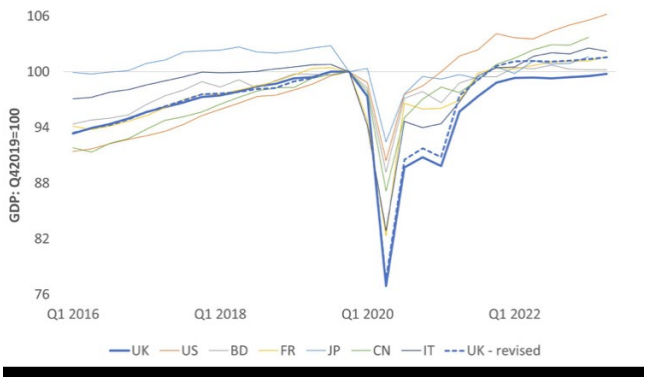


Source: ONS.

ONS GDP data revisions have changed the Covid narrative

The ONS have revised the back data for GDP in the course of their reconciliation of all sources now available for the 2022 Blue Book for the national accounts. The changes to full year GDP were +0.6% 2020; +1.1% 2021.

In 2020 it was mainly services that were revised up; wholesale and retail both were higher. There was also more output in Health and Social Care, due to vaccine rollout and the recovery in non-Covid health treatment. On the demand side to match higher output they revised up the rise in inventories (£14 bn. Higher) in 2020 and consumption in 2021. Compared to pre-Covid (Q4 2019), GDP Q4 2021 up by 0.6% whereas on previous data it was down by 1.2%, a swing of 1.8%. This puts the UK in the 'Middle of the OECD pack', not 'bottom', as shown in Figure 2 below.



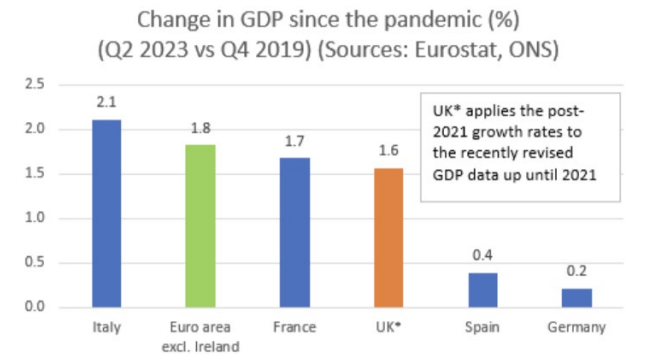


Figure 2: GDP: UK versus various OECD countries over Covid. Top: line chart Bottom: bar chart of total growth since pre-Covid. Source: ONS and OECD>

The UK's 'independent' institutions- the Bank and OBR- how are they performing?

In 1997 the New Labour government made the Bank independent in the setting of interest rates, though not in general, as it remains fully owned by the government. During Covid, it seems likely that the decision on how much QE was to be done was closely agreed with HM Treasury, when interest rates had been forced down to zero; nevertheless it was presented as being the decision of the Bank. The extent of QE was large enough, when combined with a de facto loosening of bank regulation, to push money supply growth up to around 15%, a massive rise which implied the large future rise in inflation we subsequently saw. Together with the Bank's slowness in reversing this huge monetary loosening, and its bungling of the sharp rise in gilt rates that destabilised the pensions industry and then destroyed Liz Truss' government, the Bank has made some serious mistakes. There is a review going on, with Ben Bernanke, the last chair of the US Fed, invited to conduct it. But Bernanke as a fellow central banker is unlikely to be very critical and will certainly not comment on the Truss government's demise or any Bank involvement in it. Hence there is a strong case for the Bank's behaviour to be reviewed by a UK body capable of giving the public authoritative answers about any adjustments to the Bank's role and powers. The idea of independence remains attractive, as it removes the temptation for government to inflate for electoral reasons; but the Bank should be mandated to support the government of the day in keeping an orderly gilts market and preventing the sort of mayhem that enveloped the democratically appointed Truss government.

Another institution that has independence to cost and comment on fiscal policy is the Office of Budget Responsibility (OBR), created by the Cameron government after the 2008 financial crisis as a private sector organisation, but publicly funded, to discuss whether the government was satisfying appropriate fiscal rules on debt and deficits. Fiscal policy is a key decision by governments under democracy; taxation and government spending decisions are central parts of government political programmes on which they are elected. Yet the OBR can publish forecasts which portray these programmes as inconsistent with fiscal rules that are not much discussed in election campaigns, being technical constructs obscure to most voters. Being outside the government in the private sector, the OBR is an agency free to follow its own objectives, with no possible control from the elected government. In public choice theory the focus is on the way civil servants can use their powers to advance their own interest and objectives. But the elected government does in principle have the power to override these. With the OBR, it has no such power, by the Cameron government's own design.

How well does this serve the democratic public interest? A case in point is the OBR's behaviour towards the Truss government. It disapproved of the mini-budget programme; and it became known that it assessed the effect on the government's borrowing as being substantially excessive. As a private organisation the becoming known of this view is not a 'leak'. But it proved highly destabilising to the Truss government, spreading the idea that its budget policies were not properly costed, and helping to fuel doubts in the markets that the government could not be trusted on long run solvency matters.

The question arises about the relation of the OBR as an institution to the UK government. Is this an appropriate set-up for fiscal monitoring? Unlike an independent central bank which is widely adopted around the world, Britain is unique in this OBR-type set-up. Other governments have in-house assessments of their policies, made by departments with the relevant economic expertise, including modern modelling methods. Hence their Finance Ministers can do their own projections of what their democratically-mandated programmes will cost and how they will be financed. Of course private agencies of all types are then free to comment and do their alternative projections- this would supply the necessary questioning of the official plans. But here the Treasury has no internal capacity to do such projections, having farmed out both fiscal and monetary assessment to the OBR and Bank respectively. Meanwhile the 'official' projections are done by the OBR, over which there is no political control and whose modelling expertise does not extend to policy effects on productivity growth . The Truss episode shows the power of such an agency to obstruct the democratic will of the government. Nor is there any parallel with Bank independence in preventing electoral inflation by

controlling money; the OBR has no power to control fiscal policy directly, only the power to publish projections of it as a private outside agency. But so do all other reputable private agencies. The only difference is that the government have made its projections officially approved; but in so doing it has created a problem for democratic control.

It would be better for the OBR's staff to be absorbed into the Treasury which pays for it anyway. This would restore necessary expertise to the Treasury and allow the government to control its own fiscal processes optimally in line with the democratic will. As part of this restoration, we would hope to see good modelling of growth, trade and other issues of importance to the long term future of the economy; this has been sadly lacking in Whitehall over recent years. Nor has the OBR had this capacity either.

Brexit and its effects[1]

There has been a lot of recent comment in the UK media to the effect that Brexit has damaged the UK economy and its trade, for example, from LSE's Dr. Swati Dhingra in oral evidence to the Commons Treasury Committee[2],and also recent comments in the FT[3]. Yet these claims are puzzling, given the numerous shocks that have hit both the world generally and the UK in particular, including Covid and the Ukraine war; it has been vigorously disputed by Gudgin, Jessop and Western (2022). How can it be possible to discern a Brexit effect in all this volatility?

The issue when so many shocks are impacting on the economy, is to sort out the wheat from the chaff and identify the Brexit element in them all. In principle, the way to do this is to set out a 'normal relationship' determining the economic variables of interest and then to identify the point of time at which the Brexit element intervened; this key date of Brexit arrival then allows us to identify the Brexit effect mathematically as a shift in the relationship definitely due to Brexit owing to its coinciding with that date.

This 'event study' analysis depends critically on the ability to tie the effects of Brexit to a particular date or dates. Because there are so many other shocks occurring before and after this event, two questions arise. One is that of identification: could these other shocks have had effects at these times? We can attempt to answer this by either excluding or somehow controlling for these other shocks. Another question is whether any estimated effect is sufficiently large for us to be confident it could not have occurred by chance, due to general shock volatility, rather than due to the event- here Brexit. We judge this in a standard way, as what could occur with up to 95% probability; if the estimated effect exceeds this, it would only have a 5% chance of occurring and so we consider that the event most probably had an effect.

Accordingly, we have looked carefully for such effects on the relevant UK data; they should show up as statistically significant effects of the date of Brexit in appropriate regression relationships of UK variables on their determinants. Of course, the data has notoriously been highly volatile due to the major shocks just noted. This militates against finding significant Brexit effects, as common sense indicates. To anticipate our findings, we find some significant effects of disruption from Brexit but they are temporary and quite small, with slightly negative effects on GDP, exports and imports, and slightly positive effects on inflation and interest rates.

To identify the short run effects of Brexit we have to use the dates when Brexit occurred – i.e. the 2016 referendum result and the end-2020 exit from the EU Single Market – as our variables of identification, on the assumption that what happened to economic events then reflected the effects of Brexit and only these. Even simply on UK data this is quite a demanding assumption as other shocks coincided with these events- notably Covid but also government policy actions on various fronts. However, it is the best identifying strategy we have.

Some studies, notably by Springford (2022), have used the differential between UK behaviour and the behaviour of a 'doppelganger' weighted set of 30-odd other countries as their dataset and assumed that changes in the differential from the date of Brexit in 2016 identify the effects of Brexit. However, this procedure fails to identify the effects of Brexit. It operates by finding a weighted average of 30-odd countries that gets as close as possible to the UK pre-Brexit. In a group of 30 countries it will always be possible to find a few that for the variable in question – GDP, investment, exports etc – happened to come out close to the UK; then one simply raises the weights on those countries until the group gets closest to matching the UK. The next stage is to argue that it would continue to mimic the UK into the future had there been no Brexit. But this forgets all the shocks to these other countries coming from their own economies after Brexit. These shocks will create differential effects for this group; under this procedure these shocks and not just Brexit will cause a difference from the UK to emerge. There is simply no way of saying it is just Brexit. The shocks it identifies include those of the 30-odd countries that occur after Brexit.

Thus to give Brexit effects the best chance of being identified we need to estimate UK data behaviour alone and apply the Brexit dates to that, to find the short run effects on the macro economy. Then we can argue that shifts in the UK relationships over those dates are due to Brexit. We know the form that these UK relationships will take, by dint of estimating them over the past and checking that they correspond to what we expect from our models of the UK economy. Basically, these relationships are between current and past values of the main variables in the economy: GDP,

[1] References for this section are listed below.
[2] https://committees.parliament.uk/oralevidence/11551/html
[3] https://www.ft.com/content/e39d0315-fd5b-47c8-8560-04bb786f2c13

inflation, interest rates, the exchange rate, exports and imports. We can then check if they shift after the Brexit dates.

First, it helps to look at charts of all the data – Figure 3- because it is obvious from cursory inspection that all the series are dominated by the huge shocks coming from Covid. Nevertheless we can find statistically valid evidence of Brexit effects, as we would expect. We then trace out their joint effects as time goes by according to these relationships – Figure 4. It can be seen that there are effects on all the variables but that they all steadily die out.

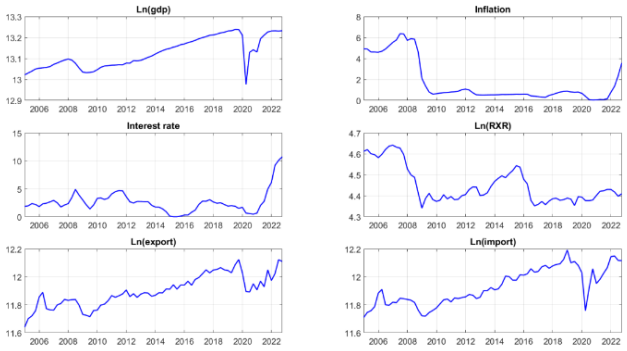


Figure 3: charts of the UK data series

Variable definitions:

- Export EU – Exports trade goods & services EU, SA – ONS
- Export non-EU – Exports trade goods & services Non-EU, SA – ONS
- Import EU – Imports trade goods & services EU, SA – ONS
- Import non-EU – Imports trade goods & services Non EU, SA – ONS
- RXR Exchange rate v Rest of Wld, price-adjusted – BoE
- UK GDP GDP, Chained Volume measure (CVM), SA – ONS

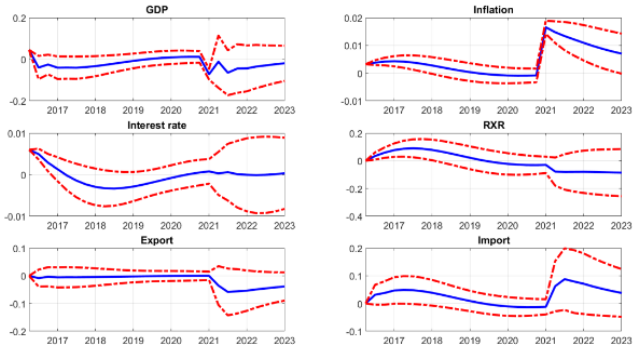


Figure 4 Effects of Brexit when inserted into the structural VAR (blue=estimated effect; red=95% confidence bands)

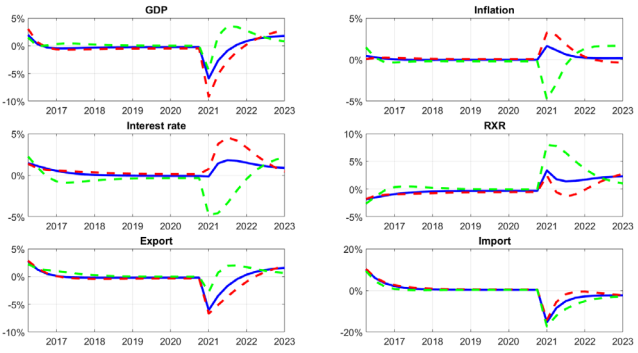


Figure 5: Effects of Brexit when inserted into underlying Cardiff macro model of UK economy (model details in Zhu, 2017)

The long run effects of Brexit

So far, we have just considered the short run effects of Brexit disruption due to the insertion of a new border between the UK and the EU; for this we have brought to bear proper statistical methods on a confused public debate. However, the long run effects of Brexit are of much greater importance because both larger and permanent. Also, in our view they are to be seen as gains, not losses. In the following sections we survey previous estimates of these long run effects, including our own. We will argue that the widely repeated 'Remainer' view that there are losses is quite wrong, and that instead there are substantial gains.

The economic gains for Brexit is envisaged to come from three directions and to accrue over the long term. First, there would be free trade with the rest of the world in place of high EU protection of agriculture and manufacturing. Second, there would be replacement of tightly prescriptive EU regulation in the tradition of Napoleonic law by pragmatic UK regulation in the tradition of the common law. Third, there would be control of immigration to ensure that those coming- from anywhere in the world – had the skills necessary to bring a net economic contribution to the UK, in place of an automatic right of entry to any EU citizen.

The key dispute over these gains has been over trade. They would come as set out above in the 'classical' long run model of trade. Those opposed to Brexit have put forward an alternative 'gravity' model which assumes that the greater the distance in trade the less the effect of cost differences in shifting trade; we will see below that this model is close to the short run relationships we have used to calculate the short run effects. When these are combined with the assumption that the border barrier between the UK and the EU is large and permanent, then they predict a loss from Brexit due to large UK-EU trade displacement. However, we have already pointed out that this assumption is false and will show also that the gravity model is rejected by the data as a model of long run trade.

Free trade: there has been a large-scale rollout of free 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 anti-Brexit opinion as negligible compared with the supposed loss of GDP due to lower EU trade, set at 4% of GDP by the UK's Office for Budget Responsibility.

These official estimates are based, as noted, on 'gravity' models which assume that trade effects of trade liberalisation fall off the higher the distance of a trade partner; and on the assumption 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, as noted above, 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 Northern Ireland 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, as is consistent with our estimates of the short run effects above gradually disappearing over time.

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 – as shown in detail by Minford and Xu (2018), Minford Dong and Xu (2023), and Chen et al (2021); for an account of the wide variety of these gravity models used to analyse Brexit, see chapter 2 of Minford and Meenagh, 2020.

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 ur 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 opponents of Brexit. 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 the UK 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, and which we used above to calculate the short run effects of Brexit disruption. Hence they are inappropriate for calculating long run gains.

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 the UK's 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 UK 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 UK 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.

Two implications of the trade model used here are that the share of non-EU trade will trend downwards due to the falling trade barriers against the rest of the world, and the share of services exports will trend upwards due to the reduction in the relative prices of goods as their protection is dismantled. It can be seen from Figures 6 and 7 that both trends are visible in the current data.

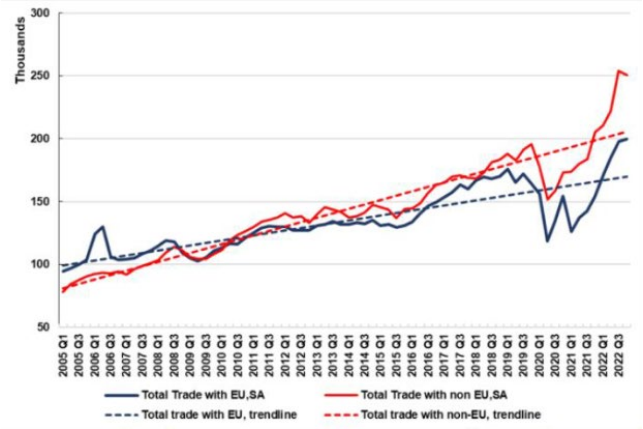


Figure 6: Trade (exports+imports) with EU and rest of world, current prices, seasonally adjusted

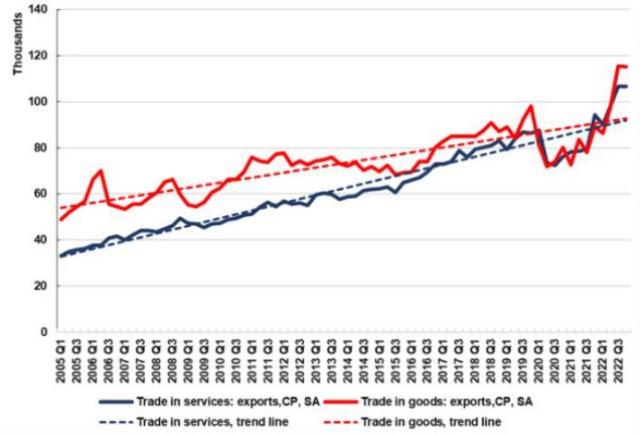


Figure 7: Export of services and exports of goods, current prices, seasonally adjusted

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 current Bill going through Parliament mandates the sunsetting 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 sunsetting process will be completed in the next year or so. Particular areas have already seen major change, such as for the City of London in the 'Edinburgh reforms'.

Existing regulations by now are also 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 sunsetting intention forces these bodies to work urgently to find optimal UK replacements. 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 gains from this change in regulation were estimated at 6% of GDP using the supply-side of the UK model –see chapter 3 of Minford and Meenagh (2020).

Immigration

Opponents of Brexit feared that it would lead to a sharp reduction in immigration, causing shortages of labour across an economy facing an ageing and eventually declining population. However, this was never the intention and net immigration has increased since Brexit, and opened up entry to the UK to countries all over the world. While the labour market has tightened, this has been caused by the loss of home labour supply due to Covid.

The gains from this liberalisation were estimated in a recent paper (Ashton et al, 2016)– at 0.4% of average household disposable income. These consisted in stopping the inflow of unskilled labour with effects on the welfare of poorer households.

Conclusions on Brexit effects

We have examined the evidence on the effects of Brexit on the UK, both short term and long term. For the short term we have estimated the Brexit effects found in the appropriate UK relationships. We find that there are temporary effects on GDP, exports and imports (slightly negative), and on inflation and interest rates (slightly positive). What we see is

a set of fairly minor temporary effects, consistent with modest disruption from introducing a border with the EU- a border due to be made barrier-free and seamless by the UK-EU Trade and Cooperation Agreement. There has been enormous turbulence in the past few years in all economies due to Covid and the Ukraine war, besides accompanying large fiscal and monetary policy fluctuations. Brexit is one policy shift among many shocks, and estimating its effect is fraught with uncertainty. Economic theory suggests it will have had a disruptive effect on EU trade in the short run as businesses adapt to a new border and the resulting new paperwork and related processes. But the TCA is designed to create a barrier-free and seamless border; so we should expect this effect to be dissipated steadily- including in the future as the TCA is streamlined by new talks- and not to be permanent. This is consistent with these findings from the data.

The long term effects of Brexit based on 'classical' models of trade are much disputed by proponents of 'gravity' models of trade. We have surveyed the evidence for both types of model, implying the widespread rejection of gravity models on long term trade data, even if these models are useful as short term relationships like the ones just referred to. Our supply-side models predict similarly large gains from the introduction of common law-based regulation replacing EU Napoleonic-law-based regulation, as also from the liberalisation of UK immigration law focused on worldwide access for skilled immigrants.

Thus the overall conclusion from this exploration of Brexit effects on the UK is that while there has been some short term disruption due to the new UK-EU border; this should be temporary as the TCA eliminates trade barriers between the UK and the EU and free trade pushes UK trade towards world prices. Meanwhile the models that fit the data imply there should be substantial long term gains to the UK from free trade, regulatory reform and liberalised immigration.

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THE UK ECONOMY

Vo Phuong Mai Le

Economic activity continued to expand, but at a slower rate. Real GDP rose 0.2% in Q2, after increasing 0.3% in Q1. The growth was driven by a stronger growth in the production sector (rising 1.2% in Q2, up from 0.1% in Q1) and a continuous growth in the construction sector (0.3% in Q2, down from 0.6% in Q1). On the other hand, the services sector growth stalled, after rising 0.3% in the previous quarter.

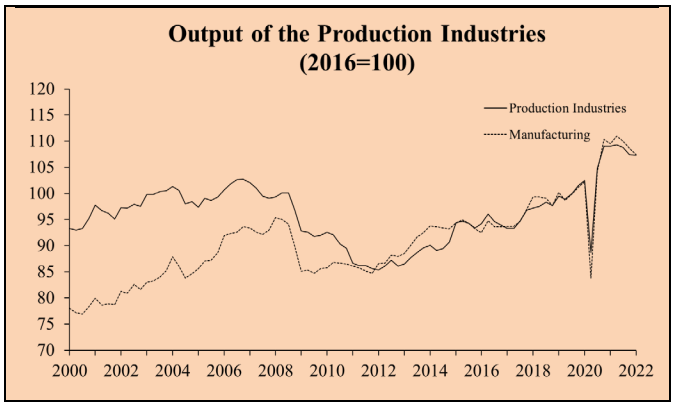
On the expenditure side, the deceleration was driven by a lower growth in private consumption (0.5%, compared to 0.7% in Q1) and gross fixed capital formation (0.8%, compared to 2.5% in Q1). Net trade continued to negatively contribute to quarterly GDP growth (-0.99 percentage points to Q2's growth, after -1.57 percentage points in Q1), as imports demand grew (2.2% in Q2, after-1.8% in Q1) while exports continued to diminish (-0.9% in Q1, compared to -6.4% in Q1).

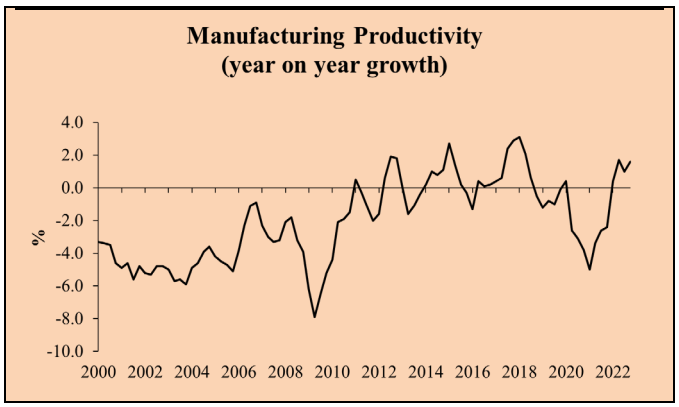
Recent data and surveys indicate that Q3 will show a general downturn in economic activity. According to the CIPS Flash UK PMI, in September private sector output contracted at the fastest rate since January 2021. The PMI Composite Output Index was 46.8 in September, down from 48.6 in August. Within this, the contraction happened across all sectors. Services sector activity declined for the second consecutive month, with the Services PMI business activity index at 47.2 in September, down from 49.5 in August. Manufacturing output prospects are similar. The September manufacturing PMI was at 44.2, after 43.0 in August.

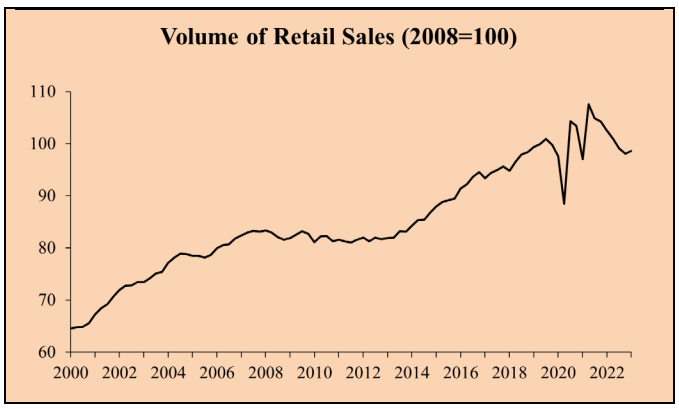
Labour market, costs and prices

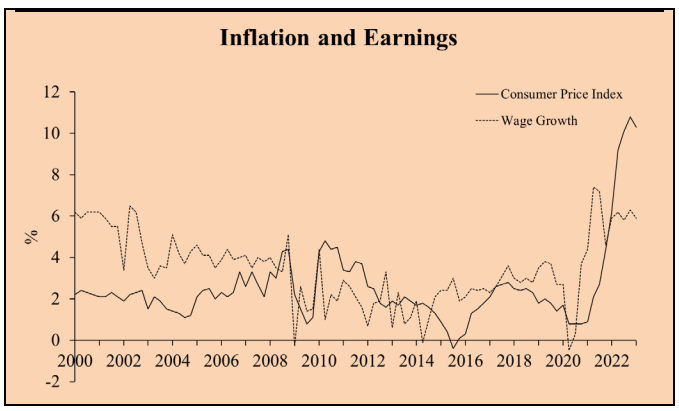
Although there are signs of further loosening in the labour market conditions, it remained relatively robust. According to the Office for National Statistics (ONS), during the period between May and July the employment rate was 75.5%, down from 76% in the February-April period. The unemployment rate increased to 4.3% from 3.8% in the period of February to April. The number of vacancies continued to decline (989000, from 1053000 in Q1). Annual growth in regular pay (without bonuses) of 7.8% was the highest annual growth rate since 2001.

Annual CPI inflation continued to decline, although it remained persistently high compared to the official target rate of 2%. It was 6.7% in August, down from 6.8% in July. The deceleration happened across all categories, but the largest downward contribution came from a deceleration in food inflation (13.6% in August, compared to 14.8% in July). Annual core CPI inflation (excluding food, energy, alcohol, and tobacco) was 6.2%, down from 6.9% in July. CPI inflation is expected to fall further in the near term due to declines in food prices as well as in annual energy inflation. In addition, according to the ONS, annual producer

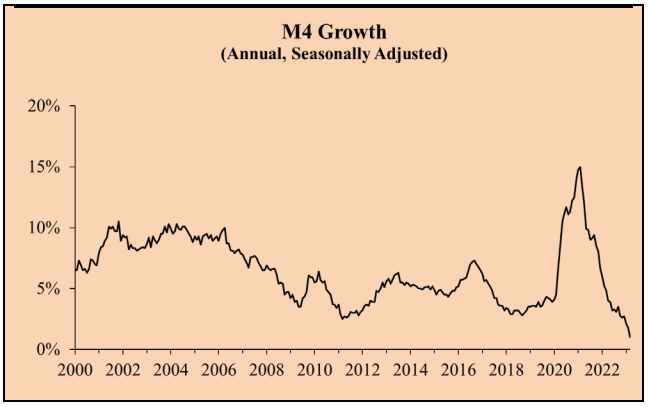


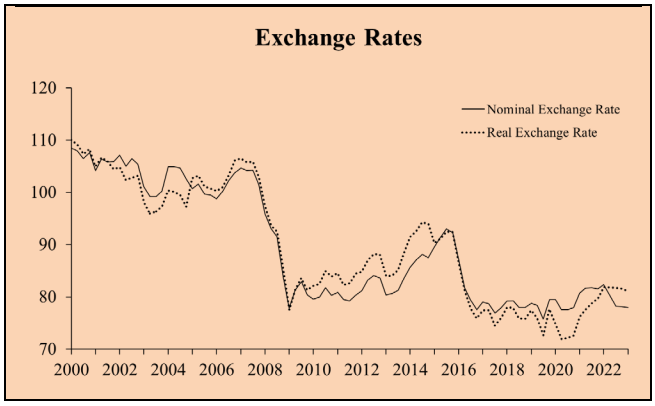


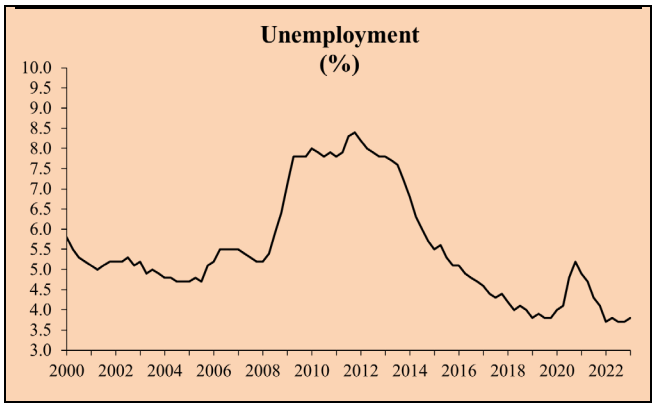


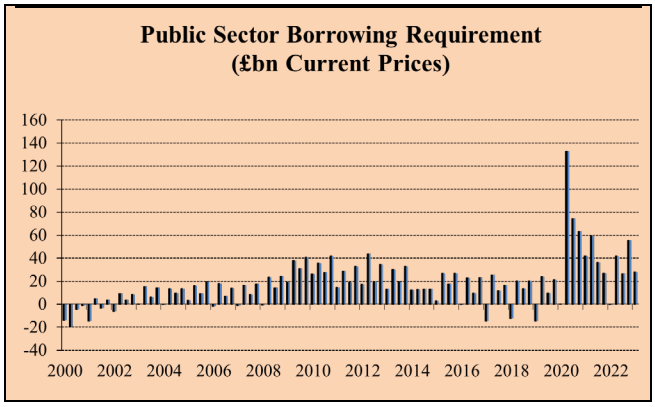


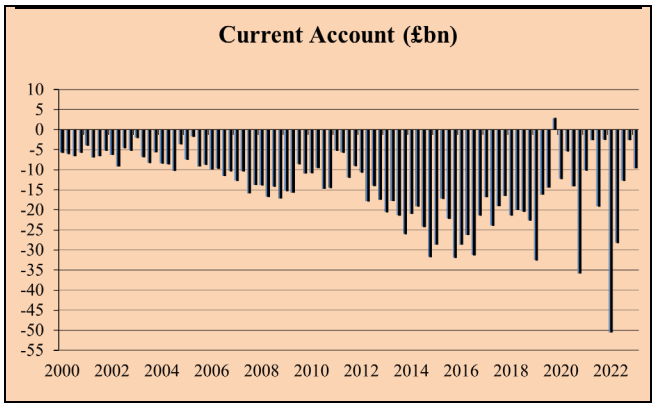
input price inflation was negative for the 3 consecutive months (falling 2.3% in August, after -3.2% in July) and annual producer output price inflation fell for the second consecutive month (-0.4%, after -0.7% in July). As these fall in input and wholesale prices work down the pipeline, they should continue to lower the CPI inflation rate. Given this background, the Bank of England decided to maintain Bank rate at 5.25%.











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	0.9	0.1	0.2	78.2	72.9	-1.3	1.5	-1.4
2021	2.5	0.8	0.1	81.4	78.0	-6.4	4.1	-5.8
2022	9.1	2.5	2.0	79.1	82.4	-7.1	11.6	-6.7
2023	7.5	4.3	5.0	79.4	88.2	0.4	10.8	-0.3
2024	3.5	4.2	4.3	79.1	89.6	1.8	5.5	1.7
2025	2.0	3.0	3.0	79.0	89.9	1.0	2.8	1.0
2020:1	1.4	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	0.7	-0.1	0.1	77.6	72.2	-1.5	1.1	-1.7
2020:4	0.6	0.0	0.0	78.1	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	81.7	81.9	-9.4	8.4	-8.8
2022:2	9.2	2.1	1.4	79.2	81.8	-8.6	11.5	-7.9
2022:3	10.2	2.8	2.3	77.6	81.7	-6.7	12.4	-6.2
2022:4	10.9	3.6	3.6	77.9	84.1	-3.9	13.9	-3.9
2023:1	10.3	4.0	4.2	78.1	85.4	-1.8	13.6	-2.0
2023:2	8.5	4.1	5.2	80.2	89.4	0.4	11.2	-0.7
2023:3	6.1	4.5	5.2	80.3	89.1	1.2	10.1	0.5
2023:4	5.0	4.5	5.2	79.3	89.0	1.7	8.2	1.0
2024:1	4.5	4.3	5.0	79.0	89.5	2.1	7.3	1.4
2024:2	3.5	4.2	4.0	79.2	90.0	1.5	5.4	1.7
2024:3	3.0	4.1	4.0	79.2	89.1	1.8	4.6	1.9
2024:4	3.0	4.0	4.0	78.9	89.9	2.0	4.6	2.0
2025:1	2.0	3.0	3.0	79.1	89.9	1.0	2.8	1.0
2025:2	2.0	3.0	3.0	78.8	89.9	1.0	2.8	1.0
2025:3	2.0	3.0	3.0	79.5	89.9	1.0	2.8	1.0
2025:4	2.0	3.0	3.0	78.6	89.9	1.0	2.8	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	295.6	5.9	4.5	1.3	154.5
2022	313.3	6.0	3.7	1.0	151.0
2023	332.5	6.1	3.8	1.1	149.6
2024	344.7	3.7	2.9	0.7	150.0
2025	351.7	2.0	2.8	0.7	158.1
2020:1	279.7	2.7	4.0	1.1	150.0
2020:2	270.1	-0.5	4.1	1.2	145.9
2020:3	278.6	0.2	4.8	1.4	149.0
2020:4	288.1	3.7	5.2	1.6	154.1
2021:1	292.1	4.4	4.9	1.5	155.3
2021:2	290.0	7.4	4.7	1.4	153.6
2021:3	298.7	7.2	4.3	1.3	155.7
2021:4	301.4	4.6	4.1	1.2	154.4
2022:1	308.8	5.7	3.7	1.0	154.6
2022:2	307.5	6.0	3.8	1.1	148.7
2022:3	316.3	5.9	3.6	1.0	149.0
2022:4	320.4	6.3	3.7	1.0	147.3
2023:1	327.0	5.9	3.8	1.0	147.8
2023:2	330.7	7.5	4.2	1.2	147.3
2023:3	334.3	5.7	3.8	1.1	148.4
2023:4	337.9	5.5	3.5	0.9	147.9
2024:1	342.5	4.7	3.0	0.8	148.2
2024:2	343.3	3.8	3.0	0.7	147.8
2024:3	345.0	3.2	2.8	0.7	148.7
2024:4	348.0	3.0	2.8	0.7	147.9
2025:1	349.3	2.0	2.8	0.7	148.2
2025:2	350.4	2.1	2.8	0.7	147.9
2025:3	351.5	1.9	2.8	0.7	148.6
2025:4	355.5	2.1	2.8	0.7	148.1

[1] Whole Economy
[2] Average Earnings
[3] Wage rate deflated by CPI

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

	Expenditure Index	£ Million '90 prices	Non-Durable Consumption[2]	Private Sector Gross Investment Expenditure[3]	Public Authority Expenditure[4]	Net Exports[5]	AFC
2020	150.6	721243.1	427576.4	250934.6	199232.3	-33095.4	123404.8
2021	163.7	783781.6	453975.6	276335.2	224535.7	-36903.3	134161.6
2022	170.6	816950.6	473683.3	277328.7	228365.7	-23824.9	138602.2
2023	171.3	820238.8	475727.6	275870.9	225318.2	-18636.0	138041.9
2024	174.6	836028.5	489782.5	270125.3	232155.7	-15892.2	140142.8
2025	178.0	852456.7	505723.0	269227.9	239198.4	-18462.8	143229.8
2020/19	-10.4		-10.1	-18.8	-4.8		4.1%
2021/20	8.7		7.3	11.9	13.4		8.7%
2022/21	4.2		4.7	1.1	1.9		3.3%
2023/22	0.4		0.4	-0.6	-1.3		-0.4%
2024/23	1.9		3.0	-2.1	3.0		1.5%
2025/24	2.0		3.3	-0.4	3.0		2.2%
2020:1	164.1	196432.5	118032.8	72147.1	51656.8	-11632.2	33772.0
2020:2	130.8	156582.4	91565.8	47009.3	43743.5	429.6	26165.8
2020:3	152.8	182914.4	109964.7	61243.2	50846.1	-8204.0	30935.6
2020:4	154.8	185313.7	108013.0	70535.1	52985.9	-13688.8	32531.5
2021:1	153.4	183684.7	103125.9	68124.0	51781.2	-7820.5	31525.9
2021:2	164.5	196973.2	114088.0	59475.9	57578.0	-668.1	33500.6
2021:3	167.0	199975.7	118290.4	73457.7	57098.8	-14414.1	34457.1
2021:4	169.7	203148.0	118471.4	75277.5	58077.8	-14000.5	34678.2
2022:1	170.9	204558.1	118589.6	73715.5	56345.4	-9205.0	34887.4
2022:2	170.8	204429.6	118224.7	66135.7	57461.4	-2851.4	34540.8
2022:3	170.3	203859.4	118034.1	69576.5	56974.6	-6094.7	34631.1
2022:4	170.5	204103.5	118834.9	67900.9	57584.2	-5673.8	34542.7
2023:1	170.9	204663.7	118824.7	75780.7	55700.4	-11224.9	34417.2
2023:2	171.3	205143.0	118812.9	67471.5	56116.4	-2756.3	34501.5
2023:3	171.4	205180.1	118801.0	66568.6	56538.7	-2249.1	34479.1
2023:4	171.4	205252.1	119289.0	66050.1	56962.7	-2405.7	34644.0
2024:1	173.5	207731.3	120214.6	74503.9	57390.1	-9648.0	34729.3
2024:2	174.3	208671.2	122256.6	66012.3	57820.4	-2454.9	34963.2
2024:3	175.2	209768.4	123117.0	65434.6	58254.1	-1824.1	35213.2
2024:4	175.3	209857.6	124194.4	64174.6	58691.1	-1965.2	35237.3
2025:1	176.8	211687.7	125017.7	75578.4	59131.2	-12471.4	35568.2
2025:2	177.6	212682.3	125954.1	65048.3	59574.2	-2221.0	35673.3
2025:3	178.6	213823.1	126899.8	64680.6	60021.5	-1821.7	35957.1
2025:4	179.0	214263.6	127851.3	63920.7	60471.5	-1948.6	36031.3

[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	15.5	2090.9	312.9	-67.5
2021	5.0	2464.4	121.1	-34.3
2022	4.7	2767.3	130.5	-93.9
2023	3.3	2960.9	95.6	-25.4
2024	1.2	3108.5	38.3	-14.7
2025	0.7	3235.8	23.5	1.5
2020:1	0.0	579.4	0.4	-12.3
2020:2	29.0	461.6	133.8	-5.4
2020:3	13.5	539.6	73.0	-14.0
2020:4	11.7	544.5	63.9	-35.8
2021:1	7.7	545.3	42.2	-10.1
2021:2	10.1	589.4	59.6	-2.5
2021:3	5.9	603.5	35.4	-19.1
2021:4	4.2	625.1	26.3	-2.4
2022:1	0.0	646.4	-0.2	-50.5
2022:2	6.3	668.4	42.1	-28.2
2022:3	3.6	682.4	24.9	-12.7
2022:4	6.0	701.1	42.3	-2.5
2023:1	3.0	715.4	21.2	-10.8
2023:2	7.2	729.2	52.3	-9.8
2023:3	2.4	730.0	17.3	-3.3
2023:4	2.1	741.9	15.5	-1.5
2024:1	1.4	759.8	10.5	-7.3
2024:2	1.3	768.3	9.9	-8.6
2024:3	1.2	769.1	9.6	0.1
2024:4	1.3	781.8	9.9	1.1

1GDP at market prices (Financial Year)

THE WORLD ECONOMY

US

The economy continued to expand in Q2. Real GDP rose 0.525%, marginally up from 0.5% in Q1. The growth was mainly driven by strong domestic demand. Private investment recovered and increased 0.83% from a sharp fall of 3% in Q1. Both private consumption and government spending and investment increased but at a slower rate, 0.425% (after 1.05% in Q1) and 0.825% (after 1.25% in Q1). On the other hand, net trade subtracted 0.055 percentage points from the Q2 growth (after adding 0.15 percentage points in Q1) as exports' fall dominated (-2.65%, after rising 1.95% in Q1) that of imports (-1.75%, after 0.05% in Q1).

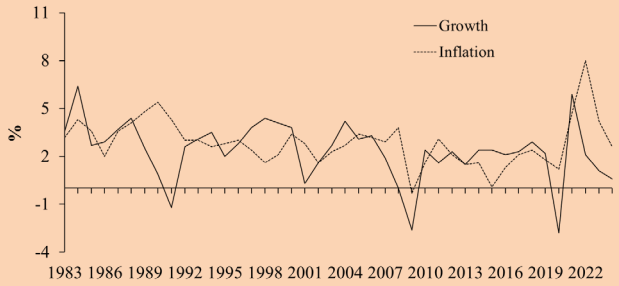
Labour market conditions remained tight, but there are some signs of cooling. The unemployment rate was 3.8% in the months of September and August, up from 3.5% in July. Wage inflation eased, with annual nominal wage growth of 4.2% in September (down from 4.3% in August). On the other hand, job gains remained strong as the total nonfarm payroll employment have recovered. It rose by 336000 in September, above the average monthly gain of 267000 over the prior 12 months.

The annual rate of consumer price inflation was 3.7% in August, up from 3.2% in July. This rise was driven by a smaller negative in energy price inflation (-3.6% in August compared with -12.5% in July). The food price inflation rate eased down to 4.3%, from 4.9% in July. Overall, annual core inflation (excluding food and energy) rose 4.3%, down from 4.7% in the previous month.

According to the latest surveys, the economy is expected to continue growing at a modest pace in Q3. The S&P Global Flash US PMI Composite Output Index was 50.1 in September, down marginally from 50.2 in August. This was a fourth consecutive monthly fall, and this slowdown reflected a stagnation in activity across the private sector. Manufacturing output continued to decline, although at a slower pace (with the Flash Output PMI of 49.7 after 48.5 in August) and the services sector barely expanded (with the Flash Services Business activity Index at 50.2, down from 50.5 in August). Under the pressure of persistent high inflation and high interest rates, lower consumer confidence (down 1.3 in September, from 108.7 in August and 114 in July) weighed on demand for output.

The Federal Reserve kept the Federal funds rate in the range of 5.25% to 5.5%. It has announced it will continue to assess economic conditions and cumulative effects of the tightening in monetary policy to determine any further policy actions needed to bring inflation to its 2% target.

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

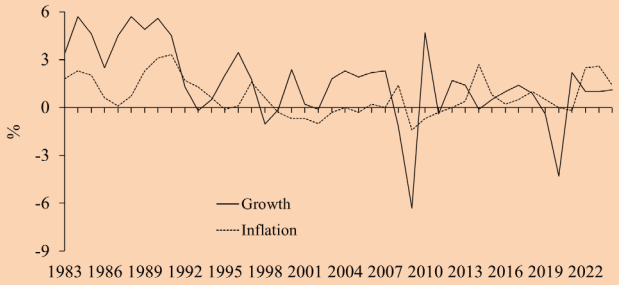


US

	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

[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 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

[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 of the real exchange rate.

Japan

The economy grew strongly in Q2. Real GDP rose 1.2%, after 0.7% in Q1. The growth was driven mainly by a strong recovery in foreign demand. Net trade contributed 1.8% percentage points to the quarterly growth (after -0.3 percentage points in Q1) as exports surged to 3.1%

(compared to -0.9% in Q1), while imports declined 4.4% (after +0.6% in Q1). On the other hand, domestic demand subtracted 0.6 percentage points from Q2 growth, after adding 1 percentage point to Q1 growth. This reflected a decline in private demand (-0.6%, after +1.2% in Q1) and a slower growth in public demand (+0.1%, down from 0.3% in Q1).

According to recent survey data, the economy's growth is expected to slow. The private sector showed the slowest expansion in September since February 2023. The au Jibun Flash Composite Output index was 51.8 in September, down from 52.6 in August. The services sector rose at a more moderate pace (its Business Activity Index fell from 54.3 in August to 53.3 in September) and the manufacturing sector showed a further deterioration (its PMI was 48.6, down from 49.6 in August). After being a highlight in Q2, export demand declined in Q3, falling at a quicker rate in August, -0.8% compared to the same quarter in the previous year (after -0.3% in July. A further decline in private demand was expected as the consumer confidence index fell for the third month in a row to 35.2 in September, from 36.2 in August.

Annual consumer CPI inflation was 3.2% in August, down from 3.3% in July. This was the weakest inflation rate since September 2022. Core inflation (excluding food and energy) was down to 3% in August, down from 3.1% in July. The core inflation remained over its official target of 2% for the 17th consecutive month. Although this persistent inflation seems to put pressure on its accommodative stance, the Bank of Japan decided in September to maintain its short-term interest rate at -0.1% and its 10-year bond yield at 0%.

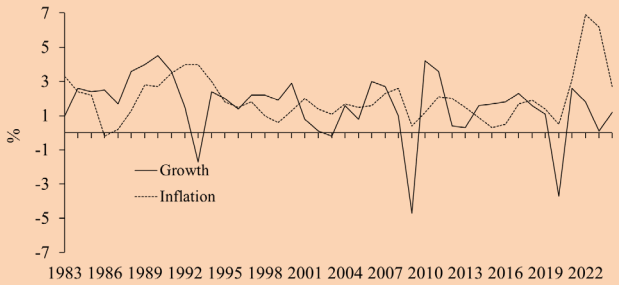
Germany

The economy stagnated in Q2 after two previous consecutive quarters of negative growth. Real GDP was unchanged, after contracting 0.1% in Q1 and 0.4% in Q4 2022. Household consumption stabilised after declining -0.3% in Q1 and -1.0% in Q4 2022. Government spending recovered and rose 0.1% after -1.9% in Q1. Gross fixed capital formation decelerated, rising 0.4% in Q2, after +1.7% in Q1. The negative contribution came from a collapse in foreign demand, as exports declined sharply by -1.1% (after rising 0.4% in Q1), while imports stabilised after contracting in Q1 (-1.5%) and Q4 2022 (-1.7%).

Recent survey data signals here was an economic contraction in Q3. The private sector was firmly in the contractionary territory in September. The HCOB Global Composite PMI was 46.2, after August's 39-month low of 44.6. Both the manufacturing and the services saw a deterioration in output. However, while the manufacturing sector output contracted sharply(with a PMI output Index of 39.2 in September, after 39.4 in August), services sector output fell at a slower pace (with a PMI Business activity Index of 49.8, after 47.3 in August). In September businesses became yet more pessimistic about business conditions, with the Ifo Business Climate indicator at 85.7, after 85.8 in August.

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

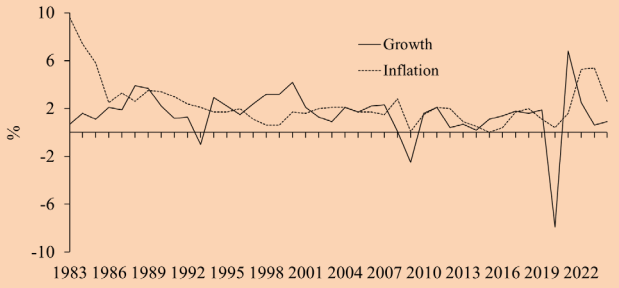


German

	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

[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 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

[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 of the real exchange rate.

France

Economic growth improved in Q2. Real GDP grew 0.5% after stagnating in Q1. The growth was driven by rebounds in net exports, contributing 0.7 percentage points to quarterly growth (compared to 0.5 percentage points in Q1). Exports recovered (2.6%, after -0.8% in Q1) more than imports (0.4%, after -2%). A negative contribution came from final domestic demand (subtracting 0.1 percentage points from growth, the same as in Q1) due to a decline of 0.4% in the private consumption (after 0% in Q1). Gross fixed capital formation increased 0.1% in Q2, after contracting 0.4% in Q1.

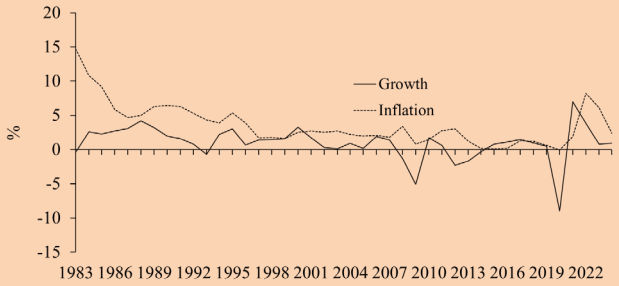
According to the available surveys, however, economic growth came to halt in Q3. The Flash Composite PMI output Index of 43.5 in September (after 46.0 in August) signalled contraction in the private sector. Activity declined rapidly in both manufacturing and services sectors. The contraction in manufacturing output was at the strongest rate since May 2020. Its Flash Manufacturing PMI Output Index was at 41.8, down from 45.9 in August. Services activity fell the most in 34 months, its Business activity Index was at 43.9, down from 46 in August. Consumer confidence has deteriorated and fell to 83.2 in September, down from 84.62 in August and 85.07 in July. This remains persistently below the 100-threshold, showing that consumers continued to be pessimistic about economic conditions and thus weigh down on the level of private spending.

Italy

After a rebound in Q1, the economy contracted again in Q2. Real GDP decreased 0.4%, after rising 0.6% in Q1. The contraction was driven by weak domestic demand. The deterioration was seen across all expenditure components. Final consumption stagnated, after rising 0.7% in Q1. Gross Fixed Capital formation collapsed 1.7%, after rising 0.8% in Q1. This was exacerbated by negative net trade which contributed negatively to the growth as exports continued to decline (-0.3%, after -1.4% in Q1) while import demand rebounded (1.1%, after -1% in Q1).

The economic prospects for Q3 continued to look weak. The Composite PMI Output Index was 49.2, up from 48.2, but still signalling another month of decline The manufacturing sector downturn continued, although at a slower pace. Its PMI was 46.8 in September (after 45.4 in August), indicating a further deterioration in output. The services sector activity contracted marginally for the second month in September, its PMI Business Activity Index was 49.9 compared to 49.8 in August.

Italy: Annual Growth Rates of Real GNP and Consumer Prices



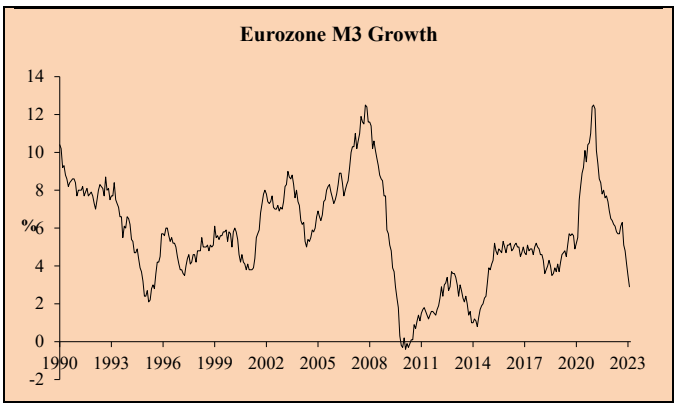
Italy

	2019	2020	2021	2022	2023	2024
Real GDP Growth (% p.a.)	0.5	–9.0	7.0	3.8	0.8	0.9
Inflation (% p.a.)	0.6	–0.1	1.9	8.2	6.1	2.4
Real Short Int. Rate	–0.3	–2.4	–8.8	–4.0	1.4	1.1
Nominal Short Int. Rate	–0.4	–0.5	–0.6	2.1	3.8	3.5
Real Long Int. Rate	1.5	–1.4	–7.0	–1.4	2.0	2.0
Nominal Long Int. Rate	1.4	0.5	1.2	4.7	4.4	4.4
Real Ex. Rate (2000=100)[1]	101.0	101.4	101.1	99.1	101.2	101.4
Nominal Ex. Rate[2]	0.89	0.82	0.88	0.94	0.91	0.90

[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 of the real exchange rate.

Euro-zone monetary policy

The annual Harmonized Index of Consumer Price Inflation (HICP) rate has been on a downward trend in recent months but has remained persistently high. It fell to 4.3% in September from 5.3% in August. The deceleration was driven by inflation slowdown across most categories. Services price inflation was 4.7% (after 5.5% in August), non-industrial goods price inflation decreased to 4.2% (from 4.7% in August) and food, alcohol and tobacco price inflation declined to 8.8% (from 9.7% the previous month). Energy cost inflation declined to 4.7%, after decreasing to 3.3% in August. Core inflation (excluding energy and food) also fell to 4.5% from 5.3% in August. Although declining, annual HICP inflation is expected to be on average 5.1% in 2023, 2.9% in 2024 and 2.2% in 2025. It would therefore remain modestly above the target of 2% for some time. At the September meeting, the European Central Bank decided to increase the three key interest rates by 25 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 4.50%, 4.75% and 4% respectively.


Eurozone M3 Growth
14
12
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WORLD FORECAST DETAIL

Growth Of Real GNP

	2019	2020	2021	2022	2023	2024
U.S.A.	2.3	–2.8	5.9	1.9	2.0	0.8
U.K.	1.6	–10.4	8.7	4.2	0.4	1.9
Japan	–0.4	–4.6	1.7	1.5	1.3	0.9
Germany	1.1	–3.7	2.6	1.7	-0.4	1.1
France	1.9	–7.9	6.8	2.5	1.0	1.2
Italy	0.5	–9.1	6.6	3.7	0.9	0.8

Growth Of Consumer Prices

	2019	2020	2021	2022	2023	2024
U.S.A.	1.8	1.3	4.7	8.0	4.1	2.5
U.K.	1.7	1.0	2.5	8.9	7.5	3.2
Japan	0.5	0.0	–0.2	2.5	3.1	2.0
Germany	1.4	0.5	3.1	7.9	6.0	2.7
France	1.1	0.4	1.7	5.2	5.0	2.7
Italy	0.6	–0.1	1.9	7.6	6.0	2.4

Real Short-Term Interest Rates

	2019	2020	2021	2022	2023	2024
U.S.A.	0.2	–4.6	–7.9	-1.9	2.9	1.8
U.K.	–0.2	–2.3	–8.8	–5.7	1.8	1.1
Japan	0.1	0.3	–2.4	–3.1	–1.9	–1.9
Germany	–0.9	–3.6	–8.5	–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	0.1	0.1	2.2	5.4	4.3
U.K.	0.8	0.2	0.1	1.8	5.0	4.3
Japan	0.1	0.1	0.1	0.0	0.1	0.1
Germany	–0.4	–0.5	–0.6	2.1	3.9	3.5
France	–0.4	–0.5	–0.6	2.1	3.9	3.2
Italy	–0.4	–0.5	–0.6	2.1	3.9	3.6

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	4.4	3.9
U.K.	0.6	0.1	0.4	2.3	4.3	4.0
Japan	0.0	0.0	0.1	0.2	0.8	0.9
Germany	–0.2	–0.6	–0.2	2.6	2.6	2.4
France	0.1	–0.3	0.2	3.1	3.3	3.0
Italy	1.4	0.5	1.2	4.7	4.5	4.4

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

	2019	2020	2021	2022	2023	2024
U.S.A.	97.8	100.3	98.6	106.4	104.7	105.0
U.K.	76.0	78.7	77.7	70.5	73.7	75.4
Japan	61.2	57.9	63.0	69.2	73.9	69.1
Germany	96.1	88.5	95.8	103.4	103.0	100.9
France	96.6	88.9	94.9	99.9	98.5	96.5
Italy	101.0	92.5	98.9	106.5	106.0	103.6

[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	120.11	120.50
U.K.	1.33	1.37	1.35	1.20	1.23	1.25
Japan	108.70	103.30	115.20	131.90	143.90	135.30
Eurozone	0.89	0.82	0.88	0.94	0.93	0.91

[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

The Indian economy continues its unwavering march forward, defying earlier scepticism as structural reforms encountered vehement opposition from political adversaries. Now, the fruits of these reforms are becoming increasingly evident, even against the backdrop of rising global crude oil prices and a slowdown in international trade. India is a beacon of resilience, weathering geopolitical and exchange rate fluctuations with poise fortified by a substantial foreign reserve buffer.

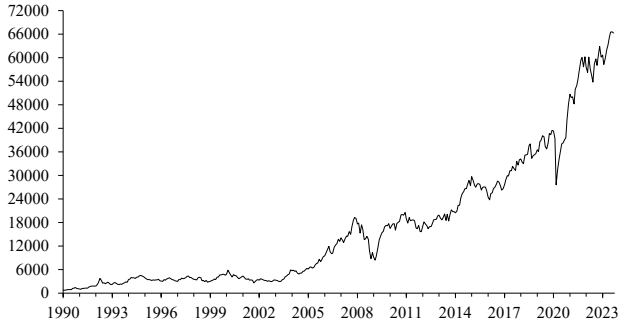
Projections for India's gross domestic product (GDP) forecast a robust 6.5% growth in the fiscal year concluding in March 2024, with expectations of further acceleration to 6.6% in FY25. The private sector is reaping substantial profits, and their production capacity utilization has surged significantly. Private consumption is on the rise, and the post-pandemic recovery remains palpable. Domestic demand remains robust, albeit at a somewhat tempered pace.

India's resounding commitment to "Make in India, Make for the World", showcased at the recent World Economic Forum, signifies its eagerness to enhance its manufacturing sector to 25% by 2025. A series of transformative economic policies, including the Goods and Services Tax, Insolvency and Bankruptcy Code, asset monetization, labour law reforms, Production Linked Incentives, National Infrastructure Pipeline, and the Gati Shakti mission for multimodal connectivity, have effectively addressed structural shortcomings.

Inflation, as measured by the consumer price index, retreated to 6.83% in August from a 15-month high of 7.44% in July, primarily attributed to a decline in the rate of increase in vegetable prices. This suggests a target inflation of 5.3% YoY in FY24 is well within reach. Consequently, it is anticipated that the Reserve Bank of India (RBI) will maintain its current interest rates for the foreseeable future, as noted in its recent Monetary Policy Committee (MPC) decision to keep the policy repo rate at 6.5%. The rationale for this decision lies in the need to remain vigilant in the face of escalating global food and energy prices and monitor the full impact of previous rate adjustments on the economy.

In Q1 of FY24, India's current account deficit expanded to $9.2 billion, accounting for 1.1% of the GDP, compared to $1.4 billion or 0.2% in the prior quarter. A widening trade deficit primarily drove this uptick, as imports experienced a sharp decline and net services receipts moderated due to global demand weakness. On the flip side, the capital account surplus saw a substantial surge to $34.4 billion, thanks to renewed foreign portfolio investments, banking capital inflows, and external commercial borrowings.

India: BSE Sensex



Consequently, the Balance of Payments (BoP) surplus reached a seven-quarter high at $24.4 billion in Q1 of FY24.

The Indian stock market is ablaze with activity, witnessing a remarkable performance. The BSE Midcap and the BSE Smallcap indices have soared by over 35% in the past six months. Surprisingly, foreign investors' positions in India are not as "overweight" as one might assume, despite a growing consensus that India holds the mantle of Asia's long-term structural growth story, surpassing China. Healthy corporate earnings growth and an optimistic outlook for the upcoming years will continue to fuel market enthusiasm.

On the international stage, India's influence is rapidly expanding. The recent Group of 20 summit held in New Delhi underscored India's ascendancy as a key player in global affairs, a notion consistently championed by government-affiliated media outlets. Prime Minister Narendra Modi, eyeing an unprecedented third consecutive national election victory, is set to make this resurgence a central theme of his campaign. The official announcement of the India-Middle East-Europe Economic Corridor at the G20, linking India with the Gulf and Europe, stands as India's counterpart to China's Belt and Road Initiative. However, the recent Israel-Hamas conflict is likely to introduce delays in the realisation of this ambitious corridor.

	22–23	23-24	24-25	25-26	26-27
GDP (%p.a.)	7.0	6.5	6.6	6.7	6.8
WPI (%p.a.)	6.5	5.3	5.0	4.2	4.0
Current A/c(US$ bill.)	-67.0	-60.0	-40.0	0.0	0.0
Rs./$(nom.)	81.0	82.0	83.5	85.0	85.0

China

China finds itself contending with challenges mainly of its own making as it aspires to surpass the United States both in economic prowess and military might, which has triggered robust responses from its neighbouring nations, and the United States. China's leadership underestimated the intricate interplay between economic freedom, entrepreneurship, and political liberty. Its economic success, predominantly built on extensive infrastructure investment and long-term leasing of land to foreign direct investors, now

stands at a crossroads. Property development, which forms the core of China's economy, contributes approximately a quarter of its overall economic activity.

Presently, China is grappling with a property market crisis as prominent developers teeter on the brink, and housing sales, measured in floor space, have regressed to levels last witnessed in 2015. Nevertheless, the likelihood of a full-blown financial crisis remains remote. The peculiarities of China's housing market and Beijing's firm grip on the financial system will likely stretch this process over a protracted period. The collateral damage will significantly impact bank balance sheets, impairing their capacity to support economic growth for years to come. While widespread financial turmoil can be averted, especially if housing and land prices stabilize, Beijing is poised to extend support to cash-strapped local governments and permit smaller lenders to undergo bankruptcy proceedings. Both banks and China's "shadow banks," such as trust firms, have already reduced their exposure in terms of total loans to property developers and home buyers from 30% in 2019 to 23%.

Recognizing the pressing challenges posed by external factors and weakening domestic demand, China's central bank, the People's Bank of China, has announced an intent to strengthen policy support for the nation's economy. They are poised to employ precise and robust monetary policy measures to stimulate demand and bolster confidence.

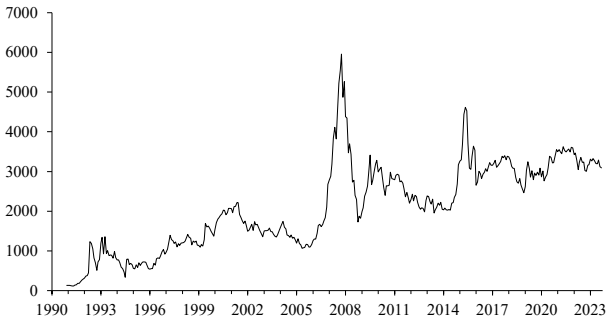
Anticipation suggests that China will achieve its economic growth target of approximately 5% for the current year and gradually decelerate to 4.8% in 2024. The nation's GDP growth rate is expected to hover around 3.5% in the long term.

September marked a notable rebound in China's manufacturing sector, with the official manufacturing purchasing managers' index rising to 50.2, marking the first expansion in six months, up from 49.7 in August. Non-manufacturing activity, encompassing services and construction sectors, also grew to 51.7 from 51 in August.

In economic terms, China saw a return to positive territory in consumer prices in August as deflationary pressures eased. The consumer price index (CPI) registered a 0.1% rise from the previous year, a stark shift from the 0.3% drop in July. Additionally, the producer price index (PPI) showed a milder decline of 3.0% YoY in August compared to a 4.4% fall in July. Although China's exports and imports continued to contract in August, the slides were less severe than expected, with exports falling by 8.8% YoY and imports contracting by 7.3%, compared to the 12.4% fall in July.

The yuan experienced a decline of about 5% against the US dollar within the current year, inching closer to the limit within which Chinese authorities allow it to fluctuate.

China: SSE Composite Index



China has been actively advancing its currency power on the global stage, presenting growing competition to the US dollar. While the yuan may not imminently challenge or overtake the US dollar's dominance, it has achieved notable successes in pivotal areas. For instance, China's Bank of China announced a significant "first direct investment in yuan in Argentina" on August 30, further promoting the yuan as an alternative currency for international trade, which has found traction in several countries for investment and lending activities, replacing the US dollar.

Chinese companies are increasingly assuming a pivotal role in bolstering Russia's beleaguered economy and enhancing its military capabilities. It has transpired through the trade of goods for military deployment, including in conflict zones like Ukraine. However, China's overt support for Russia is unlikely, given its profound implications on Beijing's multifaceted economic, political, and security relationships with Washington and the European Union.

In a surprising turn of events, China and the United States are taking concerted steps to foster better relations, paving the way for a potential visit by Chinese leader Xi Jinping to the United States. High-level official exchanges and other conciliatory measures are in progress to ease the strained state of their relationship.

	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	7.2	7.4	7.6	7.8

South Korea

South Korea is grappling with mounting economic challenges, primarily stemming from the slowdown in the Chinese economy and the deceleration of growth in developed nations. South Korean GDP is expected to remain subdued, hovering around 1% in 2023 and improving to 2.5% in 2024. The government's hopes for a second-half economic rebound this year are fading, with recent data confirming a slowdown in business activities. Notably, the nation's trade-dependent economy faces the arduous task of

boosting exports in a global environment characterized by sluggish growth.

Inflation in South Korea has been on an unexpected upward trajectory. The consumer-price index surged by 3.7% from the previous year in September, following a 3.4% increase in the last month. Although there might be temporary inflationary spikes in the short term, we anticipate inflation to stabilize towards the end of 2023, with an annual average of 3.5% in 2023 and 2.5% in 2024.

The Bank of Korea remains vigilant about inflation and maintains its benchmark interest rate at a relatively high 3.5% to combat rising price pressures. In its upcoming October meeting, the central bank will decide whether to persist with the current rate or contemplate further hikes. Given the economy's fragile state, which is weighed down by weakened external demand, the central bank is expected to maintain rates at the existing level for an extended period. The added risk of a significant correction in the property market complicates any potential tightening of monetary policy.

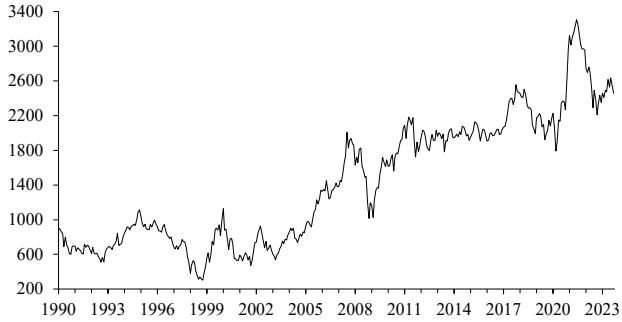
South Korea's household debt is another factor underpinning the central bank's intention to keep rates restrictive or raise them even higher. Governor Rhee Chang-yong recently cautioned against property investments, especially when mortgage rates are poised to remain elevated for an extended duration.

The decline in South Korean exports has started to wane, with September seeing a moderated decrease of 2.1% in adjusted shipments compared to the previous year. Although headline exports still fell by 4.4% in September, it represents an improvement from the 8.3% decline witnessed the month before. South Korean exports began to slide late last year, influenced by sliding semiconductor prices and diminished demand from China. Elevated energy costs and interest rates have further weighed on global demand, which South Korea relies on for its economic vitality. Notably, exports to the United States increased 9% in September, while those to China registered gains for the second consecutive month.

Furthermore, South Korea is embarking on a significant overhaul of its currency market by opening it up to foreign financial institutions. Starting on October 18, foreign financial institutions can apply for permits to participate in the onshore dollar-won interbank market. Currently, direct trading between the Korean won and the dollar is only possible through local banks for a limited time each day. The plan is to extend the onshore trading hours until 2 a.m., aligning with the close of London's business hours, in the latter half of the next year. To qualify for these permits, financial institutions must meet the capital and liquidity requirements of Basel III and hold licenses as banks or brokerages in their home countries.

This new regulation will enable non-Korean financial institutions to participate in the domestic forex market without necessitating the opening of a local branch in South Korea, a move aimed at encouraging greater foreign involvement in the country's currency market.

Korea: Composite Index



	22	23	24	25	26
GDP (%p.a.)	2.6	1.0	2.5	2.5	2.4
Inflation (%p.a.)	5.1	3.5	2.5	2.5	2.5
Current A/c(US$ bill.)	50.0	40.0	35.0	30.0	30.0
Won/$(nom.)	1450	1340	1300	1300	1400

Taiwan

Taiwan's economic landscape remains intertwined with the fortunes of the Chinese economy as the regional slowdown continues to cast a shadow. Our cautious GDP growth forecast for Taiwan, estimating 1% in 2023 and 1.5% in 2024, persists. The central bank has revised its GDP growth forecast for 2023 to 1.46%, a downward adjustment from its earlier prediction of 1.72%.

In terms of inflation, despite a weather-related spike in consumer prices last month, the government's proactive measures, including curbing fuel and electricity costs, have managed to keep inflation in check. Our previous inflation forecast of 2.2% remains unchanged, aligning with the central bank's consumer inflation projections.

Responding to the hawkish stance adopted by the US Federal Reserve, Taiwan's Central Bank opted to maintain its benchmark discount rate at 1.875%. This decision was primarily attributed to domestic inflation cooling and global economic uncertainties amidst tightening policies. The expectation is for inflation to dip below 2% in the following year, indicating that interest rates will likely remain stable for an extended period. This stability in interest rates is due to the spill-over effects from the US Federal Reserve's monetary policies, the performance of China's economy and the ongoing trade tensions between Washington and Beijing.

Taiwan's exports faced challenges in August, marking the 12th consecutive month of decline, albeit with a less severe drop than initially expected. There is optimism that exports may rebound in September, aligning with the year-end holiday shopping season. August imports, often regarded as a leading indicator for re-exports of finished products, experienced a 22.9% decrease to $28.77 billion. Notably,

exports to the United States displayed a promising upswing in August, rising by 8.8%, following a 3.3% annual decline in July.

The Taiwanese dollar has felt the pressure in concert with other Asian currencies, all of which have been impacted by the strengthening US dollar and the more hawkish stance taken by the US Federal Reserve.

Taiwan's upcoming presidential election is poised to be one of the most hotly contested in decades. Crucial campaign issues include slowing economic growth, low wages, and soaring property prices. These factors will be central in the race as four candidates vying to succeed President Tsai Ing-wen, who is constrained by term limits. Geopolitically, the ruling party is committed to preserving Taiwan's political independence, while the opposition favours closer ties with China.

Taiwan is closely monitoring the US response to military aid for Ukraine. Taiwan believes that reducing US military support for Ukraine would embolden Beijing and weaken deterrence in Asia. In a proactive move to safeguard the island's security many years ago, President Tsai allocated substantial funds to design and construct Taiwan's submarines. Establishing a submarine fleet within its navy is seen as a strategic deterrent against the growing military prowess of China. It is because surface ships are most vulnerable to attacks from beneath the water, making submarines a critical component of Taiwan's defence strategy.

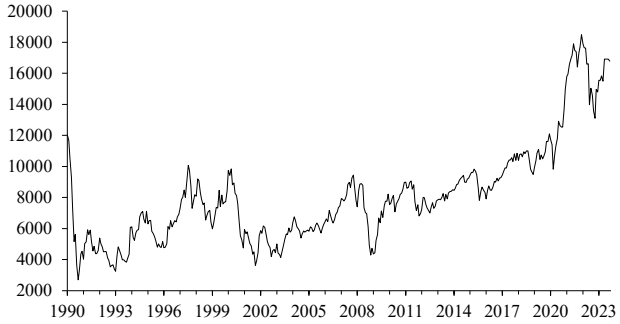
	22	23	24	25	26
GDP (%p.a.)	2.5	1.0	1.5	2.0	2.3
Inflation (%p.a.)	2.9	2.2	1.6	1.4	1.2
Current A/c(US$ bill.)	90.0	65.0	60.0	60.0	60.0
NT$/$(nom.)	32.0	32.2	32.0	31.5	31.0

Brazil

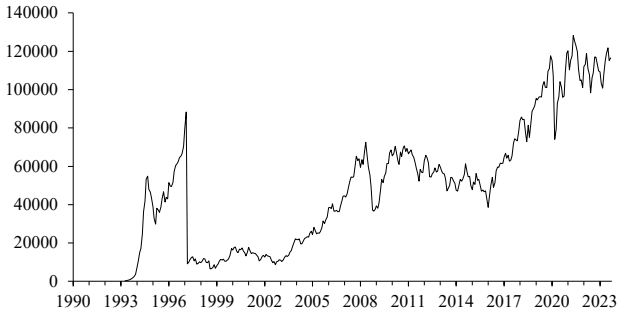
The Brazilian economy defies expectations, offering positive surprises as inflation comes under control and economic growth gathers momentum. The government's outlook reflects this optimism, as it predicts a growth rate of 3.2% for 2023, an upward revision from its previous estimate of 2.5% in July. Furthermore, it maintains its forecast of a 2.3% increase in GDP for 2024. However, our forecast, while still positive, is more cautious. We anticipate a growth rate of 3% in 2023, followed by a slightly more conservative 2% in 2024. This caution stems from the global economic slowdown impacting major economies, while the Brazilian economy, driven primarily by domestic demand, faces certain limitations.

Unemployment in Brazil has displayed encouraging trends, with the rate dropping to 7.8% in the August period, compared to 7.9% in the three months through July and a notable improvement from the 8.9% rate seen in the same

Taiwan: Weighted TAIEX Price Index



Brazil: Bovespa



period the previous year, as reported by the Brazilian Institute of Geography and Statistics.

Brazil's central bank has made notable progress in taming inflationary expectations. Consumer prices increased by 0.35% from August 16 through September 15, resulting in a 5% year-on-year rise. Our inflation forecast for 2023 and 2024 remains at 4%, indicating a favourable trajectory. The central bank's decision to reduce its benchmark Selic interest rate by half a percentage point to 12.75% aligns with expectations. It marks the second consecutive meeting that concluded with a half-point cut, bringing the lending rate to its lowest level since June 2022. The central bank has signalled its intent to implement further cuts of the same magnitude in forthcoming meetings. This rate reduction strategy is aligned with the central bank's focus on supporting economic growth after gaining control over inflationary expectations.

Brazil's central bank chief emphasizes the necessity of anchoring inflation to the official target during a congressional hearing, addressing queries related to his investments and ties to the previous government. He points out the significant decline in core inflation but underscores the ongoing requirement for tight monetary policy. During his first meeting with President Luiz Inacio Lula da Silva, he commended the government's decision to maintain the inflation target at 3%, considering it a pivotal step for continuing the monetary easing cycle. He also reiterated the importance of the government striving to meet its new fiscal rules, including eliminating Brazil's primary budget deficit by 2024.

Brazil's current account deficit saw a remarkable 89% reduction in August compared to the previous year's period, primarily driven by a robust trade surplus. The trade balance recorded a surplus of $7.6 billion, a substantial increase from the $2.6 billion surplus reported in August 2022. This surge was facilitated by a modest 0.8% increase in exports and a significant 16.8% decrease in imports. Brazil recorded a current account deficit of $778 million in August. Over 12 months, the current account deficit decreased to $45.3 billion in August, down from a revised $51.6 billion the previous month. This deficit is equivalent to 2.2% of the gross domestic product. Net foreign direct investment reached $4.3 billion in August, slightly higher than the $4.2 billion recorded in July. Over the 12 months through August, foreign direct investment amounted to $65.9 billion.

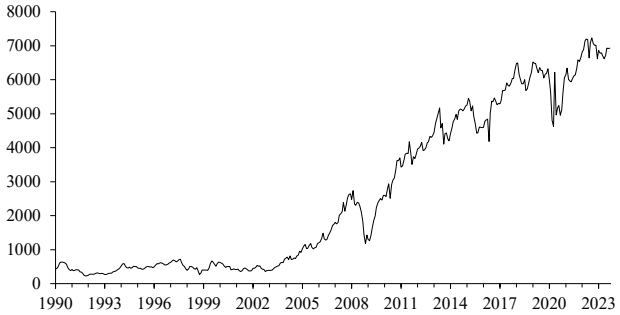
The Brazilian real has experienced a resurgence and now hovers around five reais to one USD.

	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

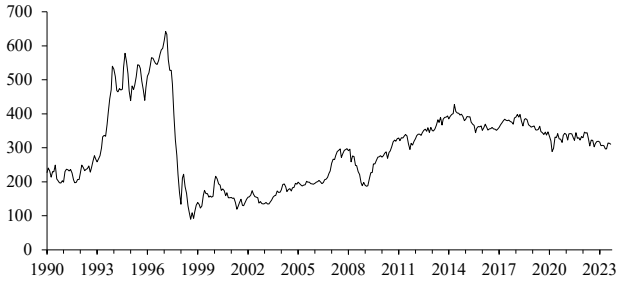
Other Emerging Markets

Hong Kong: FT-Actuaries

Indonesia: Jakarta Composite



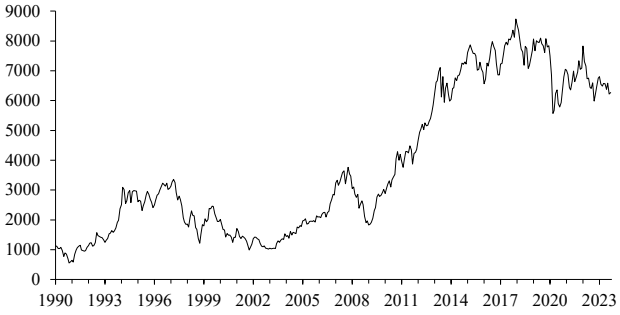
Malaysia: FT-Actuaries (US$ Index)



Thailand: Composite Index

Singapore: Straits Times Index

Philippines: Manila Composite



COMMODITY MARKETS

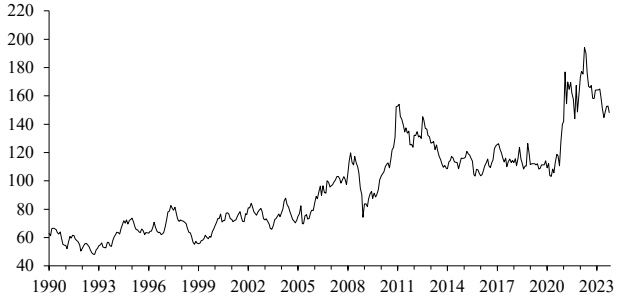
Commodity Price Index (Dollar)
(Economist, 2015 = 100)

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)



WHERE NEXT FOR MONETARY POLICY? LESSONS FROM THE FINANCIAL CRISIS AND THE PANDEMIC

Patrick Minford

Abstract

Monetary developments of recent decades began with much promise with inflation targeting by independent central banks; the financial crisis of 2007 ushered in a period of great monetary instability. There are lessons for a return to more stability. Central banks need to stabilize money supply growth. Fiscal policy should be coopted to a stabilization role to reduce interest rate instability, and particularly future risks of hitting the zero-interest rate bound. Budget discipline should be enforced by long run solvency rules, not by short run fiscal rules that in practice prevent the use of fiscal policy. Nor should the budget be burdened by monetary policy methods that transfer seigniorage to commercial banks.

Introduction: How the crisis and the pandemic destabilized today's monetary environment

The turbulent inflation of the 1970s and 1980s ushered in during the 1990s new regimes of interest rate rules that targeted inflation; these were pursued by developed country central banks that were mostly independent. This situation in turn gave rise to the 'great moderation' in the following decade when inflation was systematically moderate and growth steadily positive. With exchange rates floating among major economies outside the EU and being reset within it, it seemed as if the world had discovered the secret of monetary stability; allied to the increased adoption of market-liberal policies in trade, with financial and labour markets that under-pinned growth, macro policies appeared to be in a good state.

The financial crisis of 2008 cruelly punctured this optimism. US banks, with official encouragement via the government mort-gage agencies Fannie Mae and Freddie Mac, had expanded mortgage debt massively, including to poor households, and had resold them around the world in the form of mortgage-backed securities. As the world economy slowed in 2007 with tightening commodity capacity and sharply rising prices, mortgage defaults depressed these securities' market value and so bank balance sheets, precipitating the crisis and the Great Recession that followed.

Governments reacted with largescale bank bailouts, while central banks obeyed their interest rate rules by cutting rates progressively in the face of falling output and prices. Blaming commercial banks' excess risk-taking for the crisis, governments widely enacted new bank and other financial regulations. With bailouts forcing up public debt, these governments also tightened fiscal policy to hold down any further debt increases.

Central banks found themselves to be the only source of demand stimulus combatting the Great Recession, and had soon pushed official interest rates down to zero, hitting the 'zero lower bound', at which conventional monetary policy ceased to be effective. They then adopted unconventional monetary policy in the form of asset purchases financed by the creation of bank reserves which, with interest rates at zero, carried the same return as cash. Thus central banks were effectively 'printing money' to finance asset purchases from the private sector. According to credit and banking theory this should have caused an expansion of credit and broad money, but banks were slowed down in credit creation by the new regulations which mandated costly equity expansion to offset credit risk.

The result was that broad money growth was flat, the recovery from recession slow, and inflation stayed low, in spite of a massive campaign of such asset purchases. Interest rates on long bonds were driven to zero like those at the short end and this general fall in the cost of capital led to a frantic search for yield on real assets, from equities across real estate, commodities and gold-driving up their prices.

When the pandemic hit a decade later, governments were quick to issue financial support to households and firms hit by the losses of output and earnings. With debt costing nothing in money terms and negative in real terms, as inflation rose due to supply shortages, the solvency constraint on government finances did not bind. Governments issued substantial support, financed by borrowing, while central banks made further massive asset purchases to stimulate output hit by the pandemic. In effect the government support was largely paid for with the money printed by central banks. Furthermore, as part of the support program banks were exhorted to make credit readily available and guaranteed against default for some credit categories. Most banks had by now built up their equity and other reserves against regulative requirements, so were less affected by regulative restraints. As a result, credit and broad money grew rapidly in all major developed countries-in total contrast to the period after the financial crisis.

With commodity supplies reduced by the pandemic and demands being boosted through the support programs plus the surge in credit, inflation began to rise rapidly, first in the form of sharp commodity price rises. Central banks at first dismissed these as 'transitory'. But as inflation grew steadily, peaking at over 10% in most countries, they were forced to raise interest rates, finally moving fast away from the zero bound. At the time of writing, they stand in or close to the 4%e5% range in most major economies and have succeeded in reducing the growth rate of broad money to

around zero; the resulting tightening has triggered bank runs in the US against three regional banks and in Switzerland against Credit Suisse.

This brief account of events up to and since the financial crisis reveals that in contrast to the Great Moderation of the 1990s we have since endured a Great Destabilization at the hands of monetary policy, with output, inflation and interest rates all swinging around wildly-see Figs. 1e3. However, it has taught us some important lessons for how we can create greater stability in future. I now proceed to discuss these lessons.

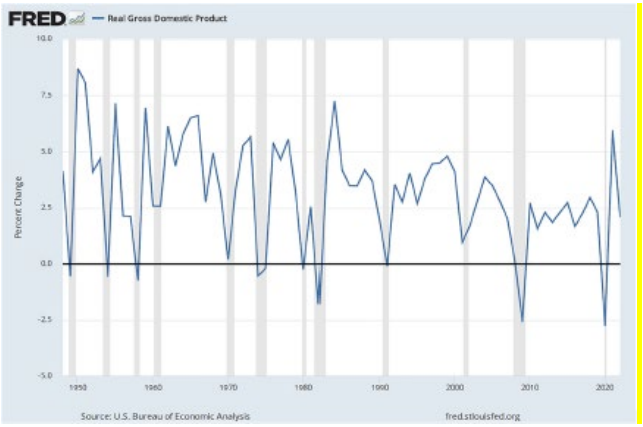


Fig. 1 US real GDP growth. Source Fed of St Louis.

Fig. 2 US inflation. Source: Fed of St Louis.

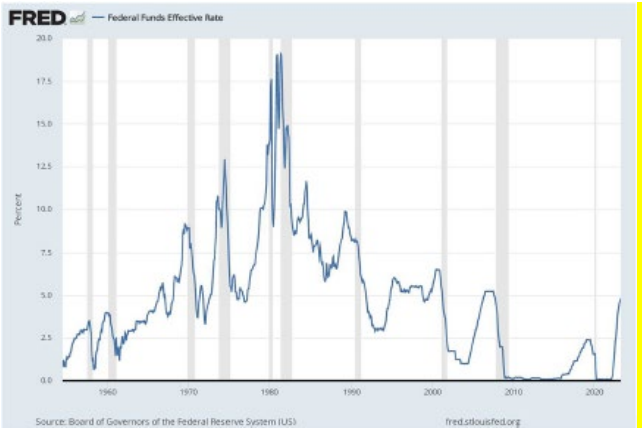


Fig. 3 US Interest rates- Fed Funds. Source Fed of St. Louis.

Lessons from the great destabilization

Avoid instability in money growth

With the 1990s adoption of interest rate rules targeting inflation, central banks began to ignore the behaviour of credit and money. Previously monetary policy had been at least partially guided by money and credit indicators, together with other indicators of future output and price behaviour. For example, the Bundesbank gave importance to money and credit; when the ECB began its role in charge of the euro in 1999, it promulgated two Pillars, or targets, underpinning its policies, one of which was inflation, the other money supply growth. However, from the mid-2000s the second, money supply, Pillar was increasingly ignored, with the money supply target range being regularly violated.

The move to interest rate rules had been based on the evidence of volatility in money supply growth, suggesting that interest rates should react directly to inflation and output, rather than targeting money growth and so indirectly affecting output and inflation via interactions between the LM, IS and Phillips (PC) curves. Instead, interest rates were set to target output and inflation with an Interest Rate (IR) rule directly via the IS and Phillips curves-usually with parameter values similar to those recommended by Taylor (1993), in the 'Taylor Rule' (TR). Thus instead of a policy model with the familiar LM, IS, PC relations, we had one with TR, IS, and PC each with their shock- Fig. 4 illustrates for a shock to demand. Calculations of the appropriate interest rate setting were largely performed inside central banks by solving for equilibrium interest rate paths given jointly by the TR rule and the IS and PC curves resulting from private sector optimizing behaviour within DSGE models.

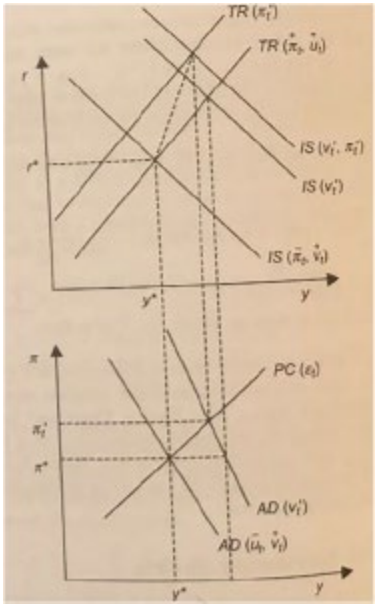


Fig. 4 Graphical representation of IS-TR-PC model with demand shock.

In principle these computations were correct. However, in practice these DSGE models were not necessarily good at forecasting outcomes; they were developed to find good causal explanations of macro behaviour and to evaluate good rules for monetary and fiscal policy. Practical policy implementation of such rules needs to be assisted by up-to-date forecasts from available information-much as weather forecasting uses the latest data input into complex time-series models. Money supply and credit growth are important components of these data series that help to forecast inflation and output. Interest rate rules targeting nominal GDP are found to be welfare-improving compared with the Taylor Rule in both the US and the UK (Le et al., 2021, 2023b), money supply would also be stabilized.

By ignoring these key indicators, central banks made serious mistakes in setting interest rates, making asset purchases and calibrating regulative restrictions on banks. Thus, monetary policy in the 2000s was too stimulatory, largely creating the boom that led to the crisis. Post-crisis, the new regulations were responsible for stalling the recovery monetary policy was trying to engineer. During Covid, the regulative loosening together with the huge scale of money printing caused a greatly excessive stimulus leading to the Great Inflation Revival. As for the Great Interest Reversal now taking place in response, the sharp overkill is now threatening further bank crisis. All these excesses would have been avoided had policy taken account of money supply behaviour, as is clearly evidenced by this behaviour over these periods. Thus, the charts for broad money that follow for the US, the UK and the ECB- see Figs. 5 and 6, all reveal: strong growth in the 2000s, weak growth in the 2010s, massive growth during Covid and a collapse since.

Fig. 5 US money supply growth.

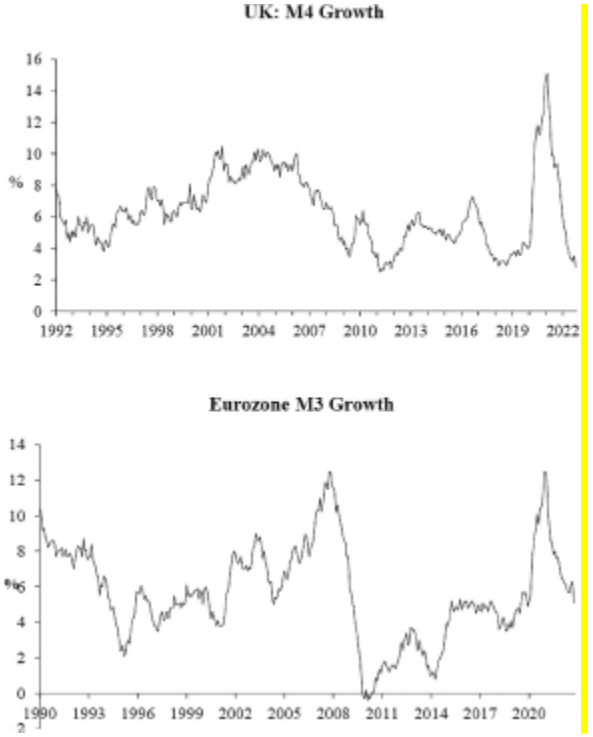


Fig. 6 UK and eurozone money supply growth

The role of fiscal policy

An active fiscal policy stabilizing output can reduce the stress on monetary policy, stabilizing interest rates (Spilimbergo et al., 2008; Blanchard et al., 2012; Alesina and Giavazzi, 2013, for contrary views). After the financial crisis and the resulting large bailouts of the banking system, which added greatly to public debt, governments stressed the need to run fiscal surpluses to pay off the debt. As a result, fiscal policy became contractionary just as the developed economies required a sharp recovery from the Great Recession. This fiscal behaviour reflected pre-crisis thinking in which monetary policy was considered the sole instrument suited to macro-stabilization; the role of the budget was to stabilize debt and fiscal policy was thought to be inappropriate to stabilize output because too slow and unwieldy, and likely to be neutralized ('crowded out') by monetary policy.

It was this thinking that overloaded monetary policy after the crisis, causing interest rates to fall rapidly to the Zero Lower Bound (ZLB). We have now learnt that counter-cyclical fiscal policy can complement monetary policy by sharing the burden. In the recession it prevents the collapse into the ZLB and in the boom it avoids punitive rises in interest rates. It therefore achieves more output, inflation and interest rate stability.

We have strong evidence of this from models of the US, the UK and the eurozone, shown in the following tables. Take the US first. Le et al. (2021) estimated a DSGE model of the US over the bulk of the postwar period in which the duration

of price-setting depended on the inflation environment: the more volatile inflation, the shorter the duration. The ZLB eliminates the interest rate rule's power to stabilize inflation, which triggers higher inflation variance, shortening price duration and so further destabilizing inflation in a feedback loop. They simulated a stronger interest rate rule (NOMGDPT) targeting the level of Nominal GDP, accompanied by a fiscal policy rule suppressing the ZLB- in effect a counter-cyclical response strong enough to prevent an output fall triggering the ZLB. As their Table 6 reproduced below shows, this monetary-fiscal combination (line 2) greatly reduces inflation variance by cutting into this feedback loop, and also dampens output variance (Table 1 shows the result using the model-generated trend under the flexprice model, FP; but the same occurs with the data-driven balanced growth path, the path 'mistaken' by the model.)

Table 1 Findings of Le et al. (2021) for the US (their Table 6)

Table 6. Welfare comparison for mistaken equilibrium output path.

	var(π)	var(y)[a]	Welfare[b]
Taylor rule	0.1127	20.8553	0.16453
NOMGDPT (noZLB)	0.0176	20.1508	0.06791

[a]Deviation from Optimum output under FP model.
[b]Weighted welfare = 0.9975*var(π)+0.0025*var(y).

Work on a similar model for the UK found that a similar model fitted UK data behavior before and after the financial crisis, from 1986 to 2016 (Le et al., 2023a). Like the US model, it implies that fiscal policy can contribute to stability by limiting zero bound episodes. Below we show how different fiscal policies contribute to the overall stability of the economy across a large sample of bootstrapped shocks (taken from the full sample period). It can be seen that the fiscal policy backstop, added to NOMGDPT monetary policies, helps to raise stability; we also see that a straightforward fiscal feedback rule produces a similar result- Table 2.

Table 2 Findings of Le et al. (2023b) for the UK (their Table 8)

Table 8: Variance of simulations

Variance	*Baseline NGDP targeting*	*ZLB-suppressing fiscal shock*	*Strong fiscal feedback*
	Non-crisis + crisis model	Non-crisis model + suppressing fiscal shock	Non-crisis + crisis model + strong fiscal feedback in both models
Var(output)	0.0108	0.0067	0.0034
Var(inflation)	0.0371	0.0282	0.0251
Welfare loss	0.0425	0.0350	0.0284
Var(interest rate)	0.0186	0.0306	0.0227
Utility	−52.38	−51.03	−51.97

For the eurozone, in a model that divided the zone into two separate regions, North and South, Minford et al. (2022) found that it matched eurozone data well over the first two decades of the euro's existence; they modelled the zero bound indirectly by assuming the central bank rule targets the commercial credit rate with its repertoire of instruments, including QE. As in the other models just reviewed fiscal policy can increase stability substantially. We show the key results in the next few Tables; the results of policy interest are for the Base case, Regime 5 where each region is free to use its fiscal policy to stabilize its own economy, and Regime 7 which additionally creates in place of the euro two regional euro currencies with independent regional central banks pursuing their own interest rate rules. Table 3 reveals the sharp falls in key variances due to introducing Regime 5 Regime 7 increases stability more but is not on the political agenda. Table 6 shows the equivalent implied rise (vs. the baseline) in permanent household consumption due to this rise in stability. Ignoring Regime 7, we can see that allowing independent fiscal policy greatly raises stability. The Eurozone Stability and Growth Pact (SGP) currently prevents this policy, essentially to protect the North from the threat of a Southern bailout. However, the paper shows that the average debt/GDP ratio in the South rises little due to the policy, suggesting that this threat could be contained simply by a solvency-monitoring process replacing the SGP.

Table 3 Findings of Minford et al. (2022) for the eurozone (their Table 4 and 6)

Table 4. Average variance of the output gap, inflation and the real interest rate.

	Var(y-yf)			Var(x)			Var(R-x)		
	North	*South*	*EU*	*North*	*South*	*EU*	*North*	*South*	*EU*
Base case	1.95	2.13	1.29	0.32	0.35	0.16	1.05	0.78	0.68
Regime 1	1.47	2.21	1.12	0.33	0.36	0.17	1.06	0.76	0.67
Regime 2	4.45	2.27	2.34	0.48	0.36	0.22	1.49	0.86	0.84
Regime 3	0.61	2.19	0.77	0.30	0.35	0.13	0.94	0.70	0.54
Regime 4	1.89	0.71	0.56	0.32	0.31	0.14	0.99	0.72	0.58
Regime 5	0.63	0.69	0.41	0.31	0.31	0.14	0.92	0.60	0.52
Regime 6	2.02	2.26	1.31	0.15	0.16	0.09	0.61	0.71	0.53
Regime 7	0.65	0.67	0.42	0.15	0.15	0.09	0.48	0.57	0.43

Table 6. Average change in equivalent consumption.

	North	*South*	*EU*
Base case	–	–	–
Regime 1	7.83%	9.33%	8.63%
Regime 2	−65.5%	−3.16%	−36.5%
Regime 3	26.3%	1.13%	14.2%
Regime 4	2.24%	40.6%	19.7%
Regime 5	21.4%	37.4%	28.7%
Regime 6	3.13%	6.16%	4.23%
Regime 7	32.2%	53.3%	39.2%

Similar results are found for Japan. Growth in Japan has been notoriously weak, even though monetary policy has been simulative for several decades. Fiscal policy has been intermittently simulative between contractionary episodes where consumption taxes were raised; the simulation results show that a fiscal rule consistently exerting countercyclical pressure would have stabilized output more around a rising trend. Table 4 shows how, in a standard ('No sunspot') model a strong countercyclical fiscal policy greatly stabilizes the economy.

These results for fiscal policy all assume that public spending is used as the fiscal instrument; lumpsum transfers would be ineffective due to Ricardian equivalence, while varying distortionary taxes over time creates welfare losses from increased distortions.

However, the efficacy of fiscal policy does not appear to vary with the level of debt; our various countries had widely differing debt/GDP ratios, all the way to about 250% in Japan; but the effects on stability are similarly beneficial across them all.

Table 4 Findings of Le et al. (2023a) for Japan (their Table 5)

Table 5. Effects on volatility of strong fiscal policy in No-sunspot model.

*No sunspot model — HP = y**	*var(Y)*	*var(π)*	*var(R)*	*Welfare cost*
No sunspot base line	2.6270	0.8532	0.1262	3.6064
Fiscal policy	0.1837	0.8160	0.1074	1.1071

Solvency and short-run fiscal rules

A further lesson from these episodes is that simple short run fiscal rules should not be used to regulate fiscal policy in order to safe-guard solvency for large developed countries.

These rules prevent the deployment of fiscal policy both as a counter-cyclical tool and as a tax-smoothing instrument, holding tax rates down to optimal long run settings.

The condition for solvency is that at some point in the future the government runs primary surpluses indefinitely; this in turn implies that the present value of future debt tends to zero in infinite time-i.e. debt grows more slowly than the real rate of interest. Plainly the markets must have confidence that this condition will be fulfilled which requires good communications and evidence of intent. But this does not require the sacrificing of fiscal policy as just set out. Rather, it implies continuous provision of information on government policies and their support in public opinion.

Regulation, supply-side issues and seigniorage

Other issues that have emerged concern regulation, the conduct of interest rate targeting and the supply-side effects of monetary policy. From the weak recovery from the financial crisis, we discovered that bank regulation could be a crude barrier to necessary bank lending. Instead, banks should be protected from bank runs by a system of liquidity provision, accessible to banks satisfying balance sheet adequacy-i.e., having sufficient capital buffers against bad debts. Also, any required new capital buffers should be imposed with due attention to the cyclical situation, and not rushed in as occurred after the financial crisis, where they exacerbated the downturn and derailed the recovery.

The experience with the ZLB has revealed that it creates dangerous distortions on the real side of the economy, with capital mis-priced and misallocated. Productivity growth has stalled in most developed countries, as zombie firms have been kept alive and markets increasingly dominated by large firms facing falling competition (Liu et al., 2022). With capital markets now returning toward normality, it is to be hoped that these distortions will fade.

On interest rate targeting, central banks need to intervene in short term bond markets sufficiently to influence the rate; but this does not mean intervening in all short-term markets, merely in the major one. During the pandemic central banks pushed short rates to zero and then by paying the same interest rate on bank reserves, forced all arbitrage activities by banks in available markets to this same rate. However, this policy in normal times implies transferring the seigniorage on money creation to commercial banks, at substantial cost to the taxpayer. There are other ways to prevent banks from undermining central banks' rate-setting operations in short term markets; notably, imposing reserve ratios and paying interest only on excess reserves.

Implications for current policies

These lessons can be applied as the world economy moves out of its current high-inflation near-recession state. Current policies need to support this transition. Monetary policy has tightened sharply in response to the high inflation but now needs to avoid over-tightening, having succeeded in bringing down money supply growth to non-inflationary rates. The lags with which monetary policy operates are long and unpredictable; we need to keep the risks of a deep recession and even another banking crisis well in mind. The recent collapse of several US regional banks and of Credit Suisse has just reminded us painfully of those risks.

Conclusions

The monetary developments of recent decades began with much promise after the turbulent inflation of the 1970s was ended by the tough monetary contractions of the 1980s and followed by widespread moves to inflation targeting by independent central banks. There ensued the period of the Great Moderation when inflation stayed low and growth was strong and steady, while trade liberalization promoted globalization and the rapid rise of many developing countries, especially China and its Asian manufacturing supply chain satellites. However excessive monetary loosening in the 2000s ended in the commodity price explosion and the financial crisis later in that decade. Since then, monetary policies that aimed to stimulate recovery have ushered in the zero lower bound and a massive experiment in sustained money creation. When the Covid pandemic struck there was a doubling down in money creation to accompany large fiscal transfers. Inflation returned to high rates last seen in the 1970s, with commodity prices spiking as Covid-disrupted supplies faced surging demand. After a slow start central banks responded with rapidly-rising interest rates, bringing the zero bound era to a shuddering end.

I have tried to distil from this unstable history some lessons for how we can shape future monetary developments so that we enjoy more stable macroeconomic outcomes in the coming years. In sum, I have argued that central banks need to stabilize money supply growth and that fiscal policy should be coopted to a stabilization role to reduce interest rate instability, and particularly future risks of hitting the zero bound. As part of this fiscal co-option budget discipline should be enforced by long run solvency rules, not by short run fiscal rules that in practice prevent the use of fiscal policy. Nor should the budget be burdened by monetary policy methods that transfer seigniorage to commercial banks.

In all this, I have not suggested any retreat from central bank independence, in spite of the manifest recent failures we have seen in monetary policy. The benefits of independence remain in the form of an institutional commitment to low inflation. Yet plainly, if central banks continue to fail in their stabilizing tasks, these benefits will be undermined. It is therefore important to prevent such failure by carrying out the reforms set out above, so that we can keep the gains.

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