

UK Financial Crisis of 2022: Retrospective Diagnosis and Policy Recommendations¹

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The UK government's "mini-budget" announcement on September 23, 2022 sent yields on UK government bonds soaring at a daily rate not seen since November 1988, brought the value of the pound to all-time lows, led some mortgage providers to suspend lending, and dropped the UK pension system to a liquidity crisis.

The worst pressures on the UK economy and financial system appear to have subsided. Nevertheless, risks still remain and some problems—particularly with mortgage affordability—are likely to persist at currently projected interest rates. This note begins with a diagnosis of the causes and nature of the crisis and continues with policy recommendations for current circumstances and groundwork that should be set pre-emptively, in case interest rates rise again beyond current expectations.

1. The UK was never facing an emerging market-style sovereign debt crisis, a "run on the pound," a "regime shift," or a substantial loss of confidence in UK policymaking. This means that a strategy of "calming the markets" alone did little to resolve this crisis and indeed a *policy* U-turn was the only thing that did and would have reverted the damage. Confidence in the Bank of England remains high, but this cannot be taken for granted. The Bank was in a tight corridor of avoiding a widespread financial crisis or a deep recession while retaining market confidence in the credibility of its inflation target and may be in similar circumstances again in the near future.
2. The value of the pound has more symbolic than practical economic consequence and should not guide the policy decisions of the Bank of England or the Treasury, except insofar as the weak pound passes through to higher inflation.
3. The budget announcement caused substantial damage to the UK economy. Reversal of most its measures in mid-October mitigated the damage, but there will be some fallout to households even at current interest rate expectations. Further, fiscal policy is constrained, limiting the regular playbook of large transfers to households in previous crises. The government should be cautious to use its fiscal space effectively and where it is most needed.
4. The rise in mortgage costs will substantially exacerbate an already skyrocketing cost of living. This is a predictable slow-moving crisis and there is no excuse to delay action. Our modelling predicts that more than a third of UK households may face mortgage payments exceeding half their income, under relatively conservative assumptions. House prices are predicted to decline by 10 percent or more. Rents will likely increase.
5. The financial system is at risk. The degree of risk and damage is unforeseeable, but it is a "known unknown" and rigorous stress tests of the entire system should proceed immediately. It is difficult to predict how exposed the UK financial

¹ I thank Tiago Paúl and Balazs Marko for excellent research assistance.

system is without detailed information about institutions balance sheets. Experience from past financial crisis suggests that when stress is uncovered in as large a component of the financial system such as pension funds, this tends to be the tip of the iceberg.

In light of this diagnosis and these risks, I outline recommendations for monetary, fiscal, housing, and macroprudential policies, with emphasis on what can be done immediately and pre-emptively

1. Monetary policy needs to balance two conflicting goals. First and foremost, it must preserve its credibility that it will meet its medium-term inflation target. This leaves little room for the Bank from stalling on interest rate increases. Even at the peak of the mini-budget crisis, financial markets were mostly rejecting the possibility of fiscally dominated monetary policy, but the Bank has little room for error. On the other side of the ledger is the real damage that interest rate increases will cause to millions of mortgagors and indirectly to homeowners, renters, and the rest of the economy. I propose below ways to mitigate these harms directly, freeing the Bank to focus on its primary mandate. I will argue that fiscal dominance was never a great threat given the UK institutional framework, but financial dominance does pose a great risk. Once the dominoes of financial contagion begin to fall, the Bank will find itself compelled to intervene to limit fire-sale externalities. Contained actions in recent week to shore up the balance sheets of pension funds were largely successful. However, more research is required on how to raise interest rates on the short end to combat inflation, on one hand, while intervening in a targeted manner to vulnerable segments of financial markets.
2. Fiscal policy must refrain from repeating the mistakes of the mini budget. Further borrowing should be undertaken with great caution as it raises interest rates, hurting mortgage borrowers and the economy at large, and steepening the tradeoff the Bank of England faces. Fortunately, most of the government's objectives can be met in a balanced-budget way. The previous government's pro-growth focus is laudable. However, many successful pro-growth tax reforms are close to revenue neutral and involve broadening the tax base alongside lower marginal tax rates. The government will be pressured to insure households against increased borrowing costs. This should be done in a targeted way and fully funded.
3. With limited fiscal and monetary space, the mortgage crisis can still be averted through debt restructuring. Banks will have to recognize that they are better off collectively absorbing small, temporary, and voluntary losses on mortgages than potentially larger, unpredictable, losses through mortgage arrears, defaults, and house price declines. Government action will be required to resolve the collective action problem arising because individual banks have no incentives to participate in such a scheme absent broad participation by other banks. Recent mortgage forbearance programmes in Ireland and Australia provide models to study.

4. Unlike the US, France, Italy, and many other countries, UK banks do not offer longer-term (over five year) fixed rate mortgages. With a steeply inverted yield curve, there is no better time to introduce these products. Government intervention may be required because long term fixed rate mortgages are often implicitly or explicitly guaranteed or supported by government agencies. These guarantees require little budgetary commitment.

Diagnosis of the UK Budget Crisis of 2022

This report accordingly begins by clarifying the UK economy's recent malady. I begin by ruling out conditions that don't fit the symptoms and remain with the main explanation that cannot be ruled out.

IT'S WASN'T A "STERLING CRISIS"

The media began most reporting on the crisis beginning since late-September with the value of the pound. The value of the pound has some relevance for imports and exports. Its longer decline since 2008 reflects the economy's relative medium-term economic performance, but it is this economic decline that should concern policy makers, not the value of the currency. Not much would be lost if the dollar value of the pound were ignored entirely in policy discussions. (This contrasts with some developing countries who may experience substantial disruptions due to the strong dollar.) Comparisons with the ERM crisis of 1992 or diagnosing current events as a "currency crisis" misunderstands the nature of recent events and of currency crises.

Figure 1: Value of the UK Pound, Euro, and Japanese Yen in US Dollars



Figure 1 shows the value of the pound to the US dollar, relative to its value at the beginning of the year. This is compared with two other major currencies: the euro and the Japanese yen. The pound has declined lock-step with other major currencies. It is not so much that the pound has declined this year, but rather that the dollar has strengthened. It is true that the pound declined substantially following the budget announcement, but the figure shows clearly that this was a flash in the pan. The pound dropped by 4.5% in the week following the September 23 and it recovered within an additional week, making the event insignificant compared to currency crises past. Compare this with the almost immediate and persistent 15% decline in the pound-Deutschemark exchange rate in the ERM crisis or the 30% decline in the value of the Argentine peso in January 2022 (55% by the end of February).

Comparisons to the ERM crisis are also misleading because the UK was then committed to a fixed exchange rate, requiring the Bank of England to sell foreign currency reserves to defend the pound. Reserves would eventually be depleted, making the commitment uncredible and incentivizing speculators to wager on the day of reckoning. The Bank of England now has no exchange rate target, has spent no reserves to defend the pound. The analogy breaks down.

Nor should the Bank have such target: here too, the analogy to emerging markets is misplaced. Many low to middle income countries often have an exchange rate target (Ilzetzki, Reinhart, and Rogoff 2019) but this is typically due to “fear of floating” (Calvo and Reinhart 2002) in countries that are heavily dollarized (Reinhart, Rogoff, and Savastano 2004). Financial systems that borrow in dollars but have assets denominated in local currency face mismatches and a currency depreciation can rapidly lead to insolvencies. This was the case in Argentina, where the end of the currency board led to bank insolvencies not only in Argentina, but also in neighbouring Uruguay. This is far from the case in the UK, [whose net international investment position improves](#) when the pound declines, because most borrowing is in pounds, while many of its foreign assets are denominated in foreign currency. Virtually no UK households and few small businesses borrow in dollars.

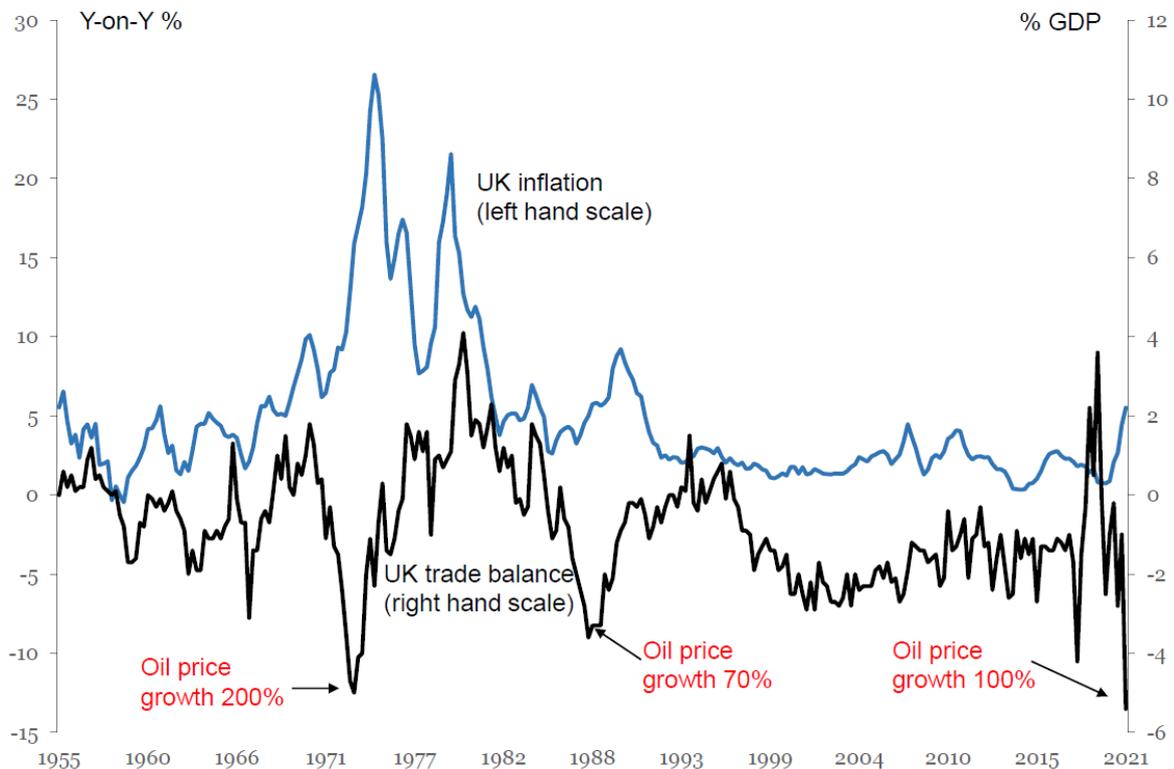
Instead, the exchange rate is doing exactly what a floating currency should do. The UK ran a current account deficit of 7.2% of GDP in the first quarter of 2022, one of the largest in its history. When a country imports far more than it exports, the exchange rate is the price that does and should adjust to rebalance trade.

Recent events have many precedents in history. Figure 2 shows that past oil price shocks led not only to inflation surges but also to large current account deficits in the UK. These have always put downward pressure on the pound. The difference this time is that the pound is allowed to adjust and isn't the end-all of monetary policy. This should be celebrated rather than bemoaned.

The pound's depreciation is somewhat pernicious when demand for the imported good is inelastic, as in the case of food and energy imports, because a larger depreciation is required to rebalance trade. Sheltering households and business from this price signal (energy is costly and less should be consumed) will make the required exchange rate adjustment even larger. The Centre for Macroeconomics' panel of experts [agreed that energy support should be more targeted](#), less costly, and allow the price mechanism to

operate. The Chancellor’s announcement on 17 October that energy price supports will be temporary and more targeted signals a move in that direction.

Figure 2: UK Inflation and Trade Balance



IT’S NOT A SOVEREIGN DEBT CRISIS

Another prevalent narrative is that the mini-budget launched, or risked launching, a sovereign debt crisis. This mis-diagnosis takes on several forms ranging from “the UK is facing a credibility crisis”, through “the market has lost faith in UK sovereign debt”, to a regime shift towards “fiscal dominance”. These narratives typically look at a single asset price (nominal gilt yields) at a single point in time (pre- and post- September 23). But these diagnoses are inconsistent with the full set of symptoms and their evolution over a slightly longer timeframe. The story is sometimes framed as a regime shift whereby the Bank of England has now become a passive financier of the Treasury’s fiscal excesses (“fiscal dominance”). None of these concerns should be dismissed and all reflect true potential risks to UK macroeconomic stability. But a closer look at asset prices shows that none of these concerns have materialized to date, even prior to the mini-budget U-turn.

Figure 3 shows implied inflation expectations at horizons ranging from half a year to twenty years derived from differences between nominal and inflation-protected gilt yields. These are shown for September 22 (the day before the fiscal announcement), September 27 (the day before the Bank of England’s intervention in the market for longer-term gilts) and October 19 (the most recent available at the time of writing).

Figure 3: Implied Annual Inflation Expectations at Various Horizons Based on Gilt Prices

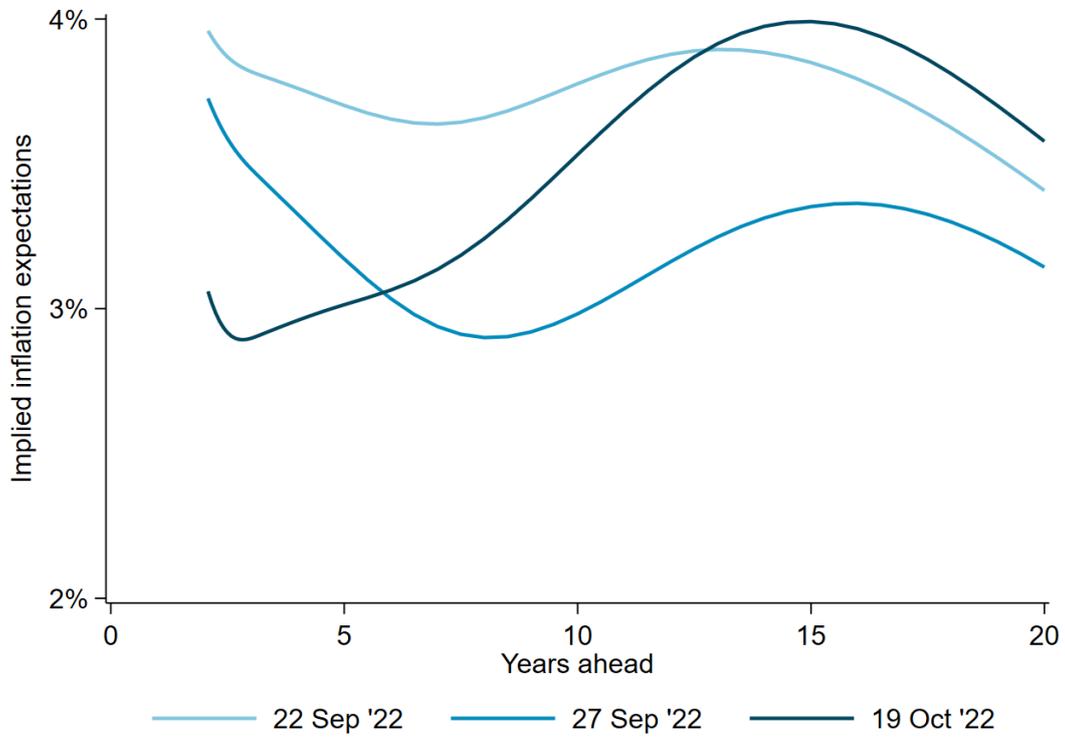
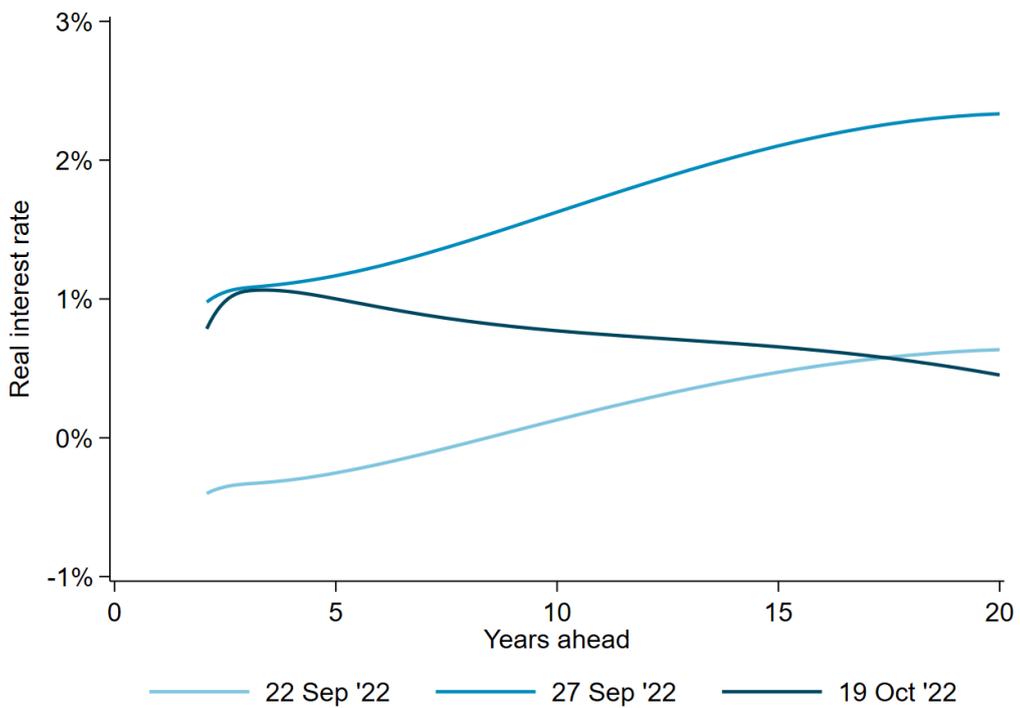


Figure 4: (Ex-Ante) Annual Real Interest Rate at Various Horizons Based on Gilt Prices



Comparing inflation expectations on September 27 with those on September 22 shows a dramatic *decline* in inflation expectations at every forecast horizon. This is the exact opposite of what one would expect if the market were concerned that the Bank of England would “inflate away” its public debt or of “fiscal dominance”. The curve has since reverted to its September 22nd level for long-run expectations, but inflation expectations remain depressed by as much as a full percentage point a year for the upcoming 5 to 10 years.²

Why, then, have interest rates shot up? Figure 4 shows the implied real interest rate from inflation-protected gilts. Comparing expected real interest rates on September 27 with those on September 22, we see that the rise in nominal gilt yields is fully accounted for (in fact *more* that accounted for) by rises in *real* interest rates. This is certainly inconsistent with expectations of fiscal dominance. If there was any change in perception in the UK’s macroeconomic framework on September 23, it was towards one where the Bank of England would keep interest rates higher for longer and is *more* committed to meeting its 2% inflation target.

Could the higher expected real interest rates reflect a risk-premium on the repayment of UK debt? By all likelihood this isn’t what market prices are signalling. First, it is highly unlikely that the UK government would outright default on its debt. Governments that borrow in their own currency rarely conduct soft defaults through higher inflation and financial repression, but rarely default outright on their debt. If this were the market’s concern, we would see a growing risk premium in *nominal* yields, combined with *higher* inflation expectations and *lower* expected real interest rates. Instead, we are observing the exact opposite.

Second, risk of outright default should increase real interest rates more for long horizons than short horizons. This is because there must be a higher risk that the government will default within the next 10 years than the risk it will default next year. Instead, the real yield curve shifted up by more on the short end than on the long end.

A MARKET RESPONSE TO BAD FISCAL POLICY WITHIN A HEALTHY MACROECONOMIC FRAMEWORK

The combination of all financial data emerging over the past weeks reflects instead the exact reaction one might expect if the market responded sourly to the policies announced in the mini budget on September 23 but has a strong faith in the UK’s macroeconomic framework and institutions. From an analytical perspective, the response is exactly what standard (new-Keynesian) macroeconomic models would predict, even their simplest “back of the envelope” renditions as in Galí (2015).

The mini budget announced an increase in transfers to households and a decrease in taxes to the sum of 5.5% of UK GDP. The sheer magnitude of tax cuts would have a stimulative effect, even with conservative estimates of their macroeconomic effects. These measures come as we are operating within a supply-constrained economy—on the steep end of the Philips Curve. Hence most of the short-term effect of these policies would reflect in higher inflation rather than higher real economic activity.

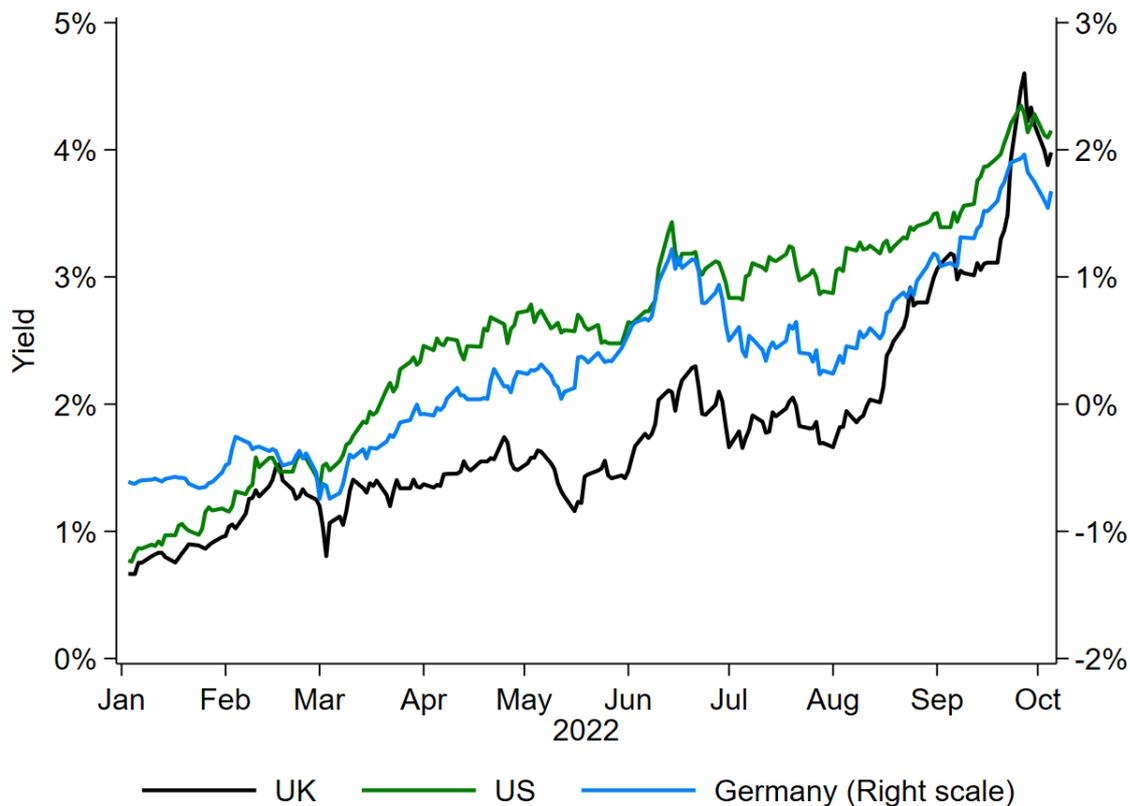
Why then, are we not seeing higher inflation expectations in the market data? The standard macroeconomic framework provides an answer. The central bank follows a Taylor rule requiring it to raise the policy interest rate by more than the rise in inflation to the point that it extinguishes the inflationary embers ignited by the Treasury. The

² These are also maturities unaffected by the Bank of England’s September 28 intervention.

higher real interest rates and lower inflation implied in market prices reflects a bet placed on the Bank following such a rule and sticking to its inflation target.

This, of course, leaves the puzzle of why inflation expectations would *decline*, even slightly, following the budget announcement. One needs to go beyond the standard model to explain this and an international comparison is useful. Figure 5 shows yields on the 2-year bonds of the UK, US, and Germany since the beginning of the year. (US and UK bonds are on the same scale but the German yield is on the right-hand scale, which is shifted 2 percentage points down to reflect a persistent 2 percent premium on German bonds.)

Figure 5: Yields on 2-year (nominal) Government Bonds in Three Countries



UK and US yields are similar both in their levels and trends at the beginning of the year, but they diverge exactly with the Russian invasion of Ukraine. From this moment, US yields continue to rise, by 1.5 percentage points through June, exactly the amount the Federal Reserve increased the Federal Funds Rate in this timeframe. UK yields, instead, flatten out, reflecting expectations (subsequently confirmed) that UK rate hikes would be more subdued. These expectations (and Bank of England policy, perhaps,) could be justified in several ways. First, the Bank of England began tightening policy earlier, so to some extent the Fed's interest rate increases were "catching up" with UK policy (policy rates were higher in the UK than in the US through May 2022). Second, the Bank may have chosen to look through its higher inflation rates due to greater exposure to imported energy prices. Finally, passthrough from interest rates to economic activity is larger in the UK than elsewhere, because of the prevalence of variable rate mortgages, a point we will return to below. The Bank therefore requires smaller increases in interest rates to achieve the same inflationary objectives.

This narrative is affirmed by inflation expectations in the US and the UK. Five-year expected inflation (breakeven rates) in the US were elevated (at 3.5%) in March but came down to 2.5% by the summer. In contrast, five-year expected inflation was close to 4% as late as the eve of the mini budget, as seen in Figure 3.

Two inflection points are then visible. The first is the Bank's 50 basis point increase on August 9. The second is the mini-budget. The large increase in real interest rates and the decline in inflation expectations following the mini-budget announcement is consistent with financial markets expecting an even more hawkish Bank following the budget announcement. Expectations of a regime shift, indeed, but not towards a more passive Bank, but one that is more resolute.

SUMMARY OF DIAGNOSIS

The market reaction to the mini-budget reflects the response of healthy macroeconomic institutions to a very poorly timed fiscal expansion. Higher interest rates reflect a belief that the Bank of England would have to raise interest rates by more due to the mini-budget than it otherwise would have done. Markets didn't lose faith in the full faith and credit of the UK Treasury nor in the Bank of England's independence. If markets changed their expectations at all, it was toward a more resolute Bank of England. The mini-budget called on the Bank to assert its independence and markets expected it would do so in spades.

The Fallout and Risks

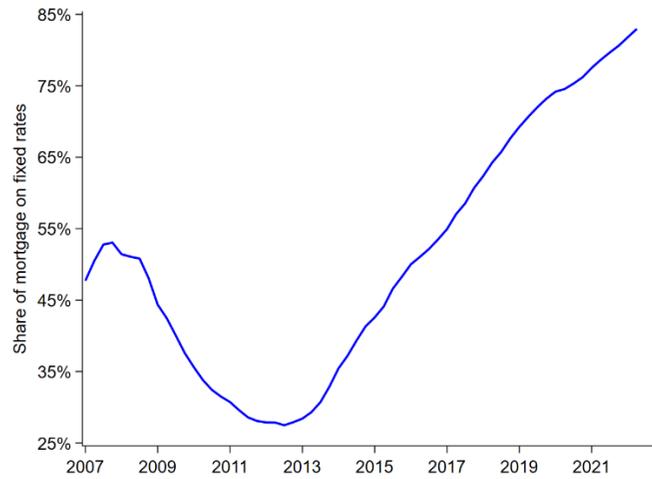
THE IMPENDING MORTGAGE AFFORDABILITY CRISIS

I have noted that the pass-through from market interest rates to mortgage rates is larger in the UK than in other high-income countries. This results because long-term fixed rate mortgages are unavailable in the UK. The typical UK mortgage is a 2 or 5 year fixed rate, which resets to a penalizing variable rate at the end of the fixed term. This means that roughly a quarter to a third of mortgagors need to refinance their mortgage every year, in addition to those on a variable rate of interest, who are immediately exposed to changing interest rates.

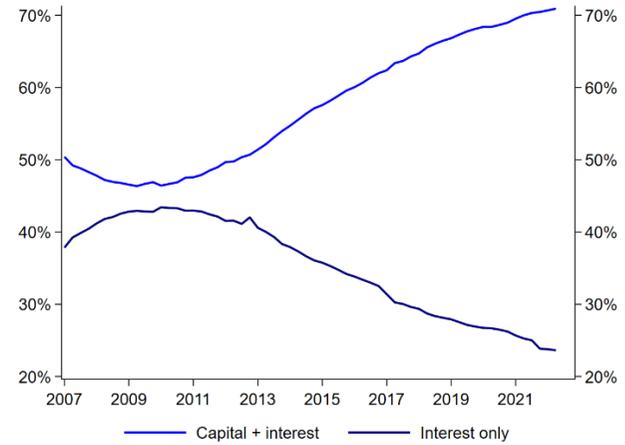
How will the rise in interest rates affect homeowners in the upcoming year? There is good and bad news, both illustrated in Figure 6. The good news is that mortgages are far less risky today than they were at the onset of the financial crisis of 2008. The share of fixed rate mortgages outstanding has risen dramatically in the past decade and stands now at nearly 85%. This compares with 55% of all mortgages in 2007. This leaves far fewer households, only 15%, exposed to immediate increases in interest rates. As noted earlier, this silver lining is attached to a cloud: even the fixed rate mortgages are very short term, with an average duration of under 4 years.

Figure 6: The UK Mortgage Market in 2022

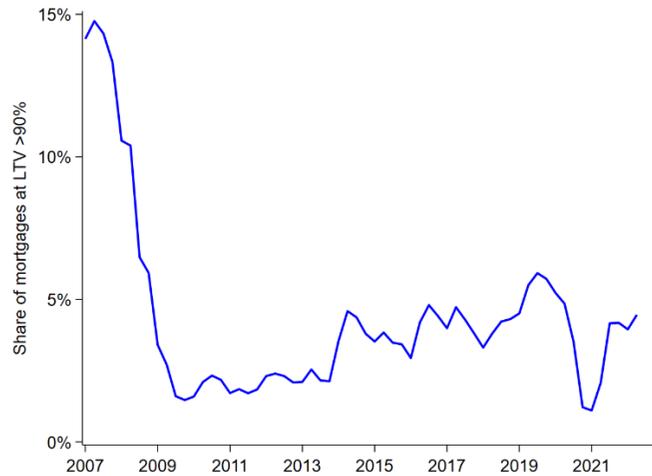
Panel A: Share of Mortgages with a Fixed Rate



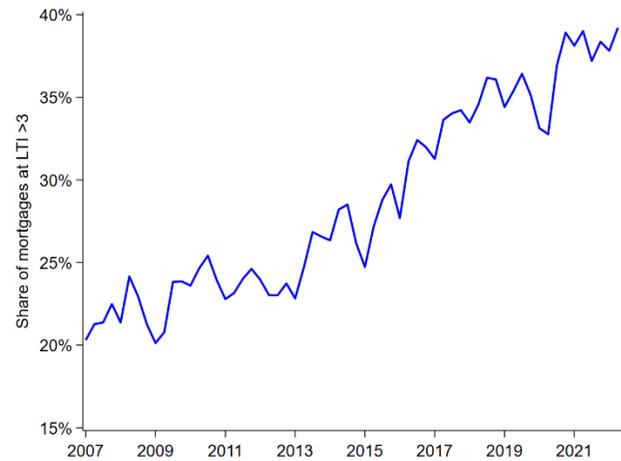
Panel B: Share of Interest Only vs. Repayment Mortgages



Panel C: Share of Mortgages with Loan to Value Greater than 90%



Panel D: Share of Mortgages with Loan to Income Greater than 3



In addition, most households are on repayment mortgages and less than 25% of households are on interest-only mortgages (panel B). Close to half of all mortgagors had interest-only mortgages in 2010. Interest-only mortgages face greater risk in the current economic climate because their monthly payments are far more sensitive to interest rate increases. Further, those who are currently on repayment mortgages can contain increases in their monthly payments by transferring to interest-only mortgages when refinancing.

Another piece of good news is that household leverage is far lower than in the past. This is true across the loan-to-value spectrum, but panel C shows a category of very high leverage mortgages, with a loan-to-values exceeding 90%. Mortgages at this leverage become “under-water” if house prices decline by 10 percent or more. These mortgages were briefly removed entirely from the market in 2009 and they are currently being removed again. But while these high-leverage high-risk mortgages constituted 15% of all mortgages in 2007, they are less than 5% of outstanding mortgages today.

Now for the bad news. While mortgages are less risky and face a lower risk of a leverage crisis (Mian and Sufi 2014), they are high relative to household income, introducing a new affordability crisis. Panel D of Figure 6 shows the share of households with a loan-to-income ratio exceeding 3. The share of households with large loans to income has risen steadily over the past decade, doubling from only 20% in 2007 to 40% today. Unfortunately, Ganong and Noel (2020) show that monthly payments (liquidity) are a better predictor of default than is leverage.

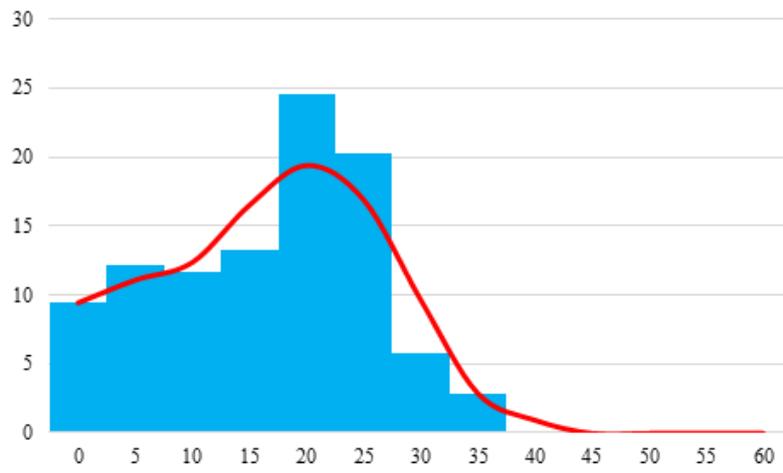
Households can afford to service such large debts only because interest rates are low. A simple example illustrates how exposed high loan-to-income mortgagors are to interest hikes, consider a household with a loan-to-income ratio of 3 and currently facing a 3% interest rate. This means that the household is paying 9% of its income a year in mortgage payments and an additional another 15% of its income in repayments (if the mortgage is a repayment mortgage and has a remaining 20-year duration). This means the household is expending 24% of its income on mortgage service payments. Now imagine that interest rates double to 6 percent. Mortgage payments will now increase to 33% of gross income, typically more than 40% of after-tax income. In addition, inflation has eaten up 10% of many households’ real income this year and the above example gives a typical household, rather than ones under extreme duress.

We have modelled the likely change in households’ mortgages under various interest rate scenarios. (Details of the model are available in the appendix.) The top panel of Figure 7 shows mortgages offered at the beginning of the 2022. We categorize a household expending more than 40% of its joint gross income (typically more than 50% of after-tax income) as under “extreme mortgage strain”. At the beginning of 2022, extreme mortgage strain was exceedingly rare. In contrast, the middle panel estimates the share of income expended on mortgage payments if the Bank rate peaks at 6% (the current market projection) and the two-year gilt rate peaks at 4%, the rate at which it hovered during the mini-budget crisis. In this scenario, 24% of remortgaging households would be under extreme strain. If interest rates were to peak even one percentage point higher, the share of remortgaging households under extreme strain rises to 30%.

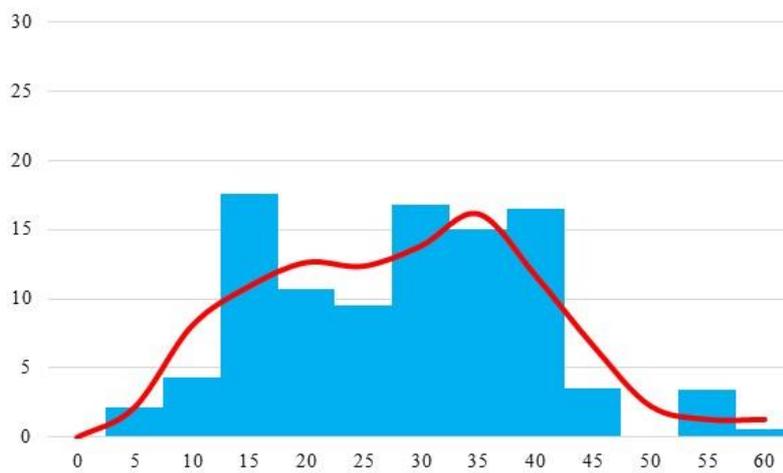
Of course, not all households will remortgage immediately, but the share of households with higher mortgage payments will increase as long as interest rates remain high. Further, roughly all new home buyers will face these higher interest rates. With house prices determined on the margin, this is certainly a headwind for house prices.

Figure 7: Predicted Monthly Mortgage Payments to Income

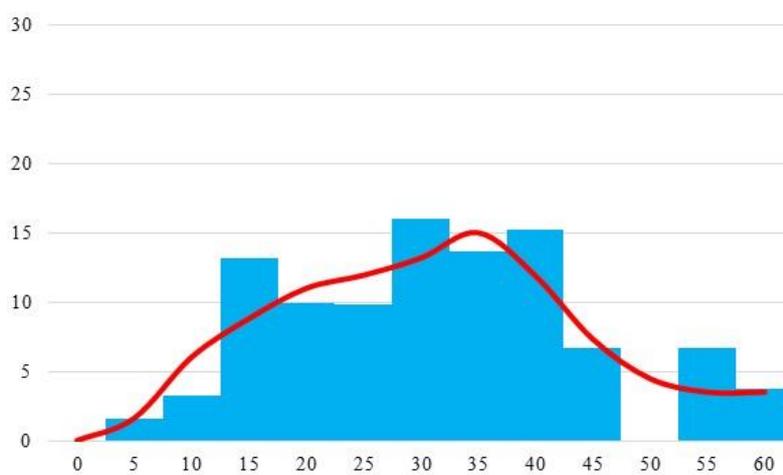
Panel A: January 2022



Panel B: January 2023



Panel C: 2023 with 10% House Price Decline



Panel C of Figure 7 shows mortgage affordability at currently projected interest rates if house prices decline by 10% from their current levels (in pound terms). Declining prices affect mortgage affordability because they throw households to higher loan to value ratios. With many households (bunching) exactly at critical loan to value thresholds (Best et al, 2021), a large proportion of households can be expected to face higher interest rates associated with higher loan to value ratios. Under this scenario, a third of households will expend upward of 40% of their income on mortgage payments with a full ten percent with mortgage payments eating up half of their income or more. With interest rates peaking one percentage point higher, more than 40% of households will find themselves in extreme mortgage strain.

Is a 10% house decline in the cards? Historically, the ratio of house prices to GDP and long run interest rates are the most predictive factors of house price growth. The interest rate headwinds are self-explanatory, while Figure 8 shows that the UK is entering the crisis with very high prices relative to national income. (This is partly due to the Covid-era house price boom, partly fuelled by a stamp-duty-tax holiday.) Bringing prices back in line with pre-Covid price-to-GDP ratios would require a 20 percent nominal decline from their 2022 levels. Figure 9 shows historical house price growth in the UK. House prices declined by 20% in *real* terms from peak to trough in previous housing cycles (1970s, early 1990s and the global financial crisis). Interestingly, three of four of these cycles were associated with rising interest rates and with oil price shocks (see Figure 2). They were more prolonged than the 2008 cycle, where the house price recovery was supported by loose monetary policy.

The silver lining in these cases was that the high consumer price inflation meant that these *real* house price adjustments required far smaller adjustments in pound terms. (House prices increased in pound terms in the 1970s cycles.) This is important because outstanding mortgage balances are fixed in pound terms. In current circumstances, with inflation at 10%, we might nevertheless expect a 10% decline in house prices in pound terms, more in line with the cycle of the early 90s than those of the 70s, and similar to our evaluation based on house price to GDP ratios.

THE RISK OF FINANCIAL CRISIS AND FINANCIAL DOMINANCE

Having argued that fiscal dominance never reared its head during the current crisis, we turn to financial dominance, which poses a greater challenge, in my view. This was reflected in the Bank's response on September 28 to liquidity risks in UK pension funds. Without getting into the details of the pension funds' balance sheet troubles, I note here that this is likely merely the tip of the iceberg. When market prices move so sharply over short time spans, balance sheets of many financial institutions will be exposed. We learned from the global financial crisis of 2008-9 (and others) that even the best financial regulation leaves some "known unknown" risks in the system.

As far as one can discern from publicly available information, the UK pension system is healthy in terms of solvency and it was correct of the Bank to intervene to alleviate liquidity problems. But the Bank's intervention in gilt markets starting September 28 showed how financial risks can have spillovers to the UK's macroeconomic framework. The Bank found itself in the unenviable position of having to purchase long-term bonds (essentially quantitative easing) while also signalling that it would commit to raising interest rates to combat the inflationary pressures, which have only surmounted because of the mini-budget. Frameworks need to be developed for tightening monetary policy on

the short end of the yield curve, while possibly doing the exact opposite for other financial assets.

Figure 8: House Prices to GDP (index), mean=1.03

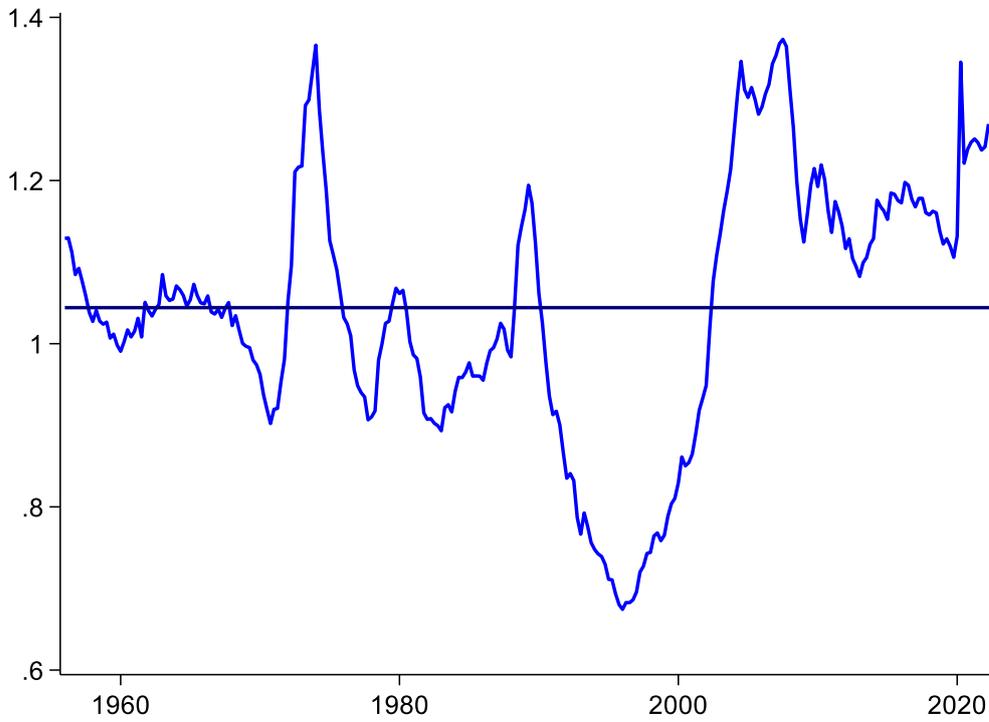
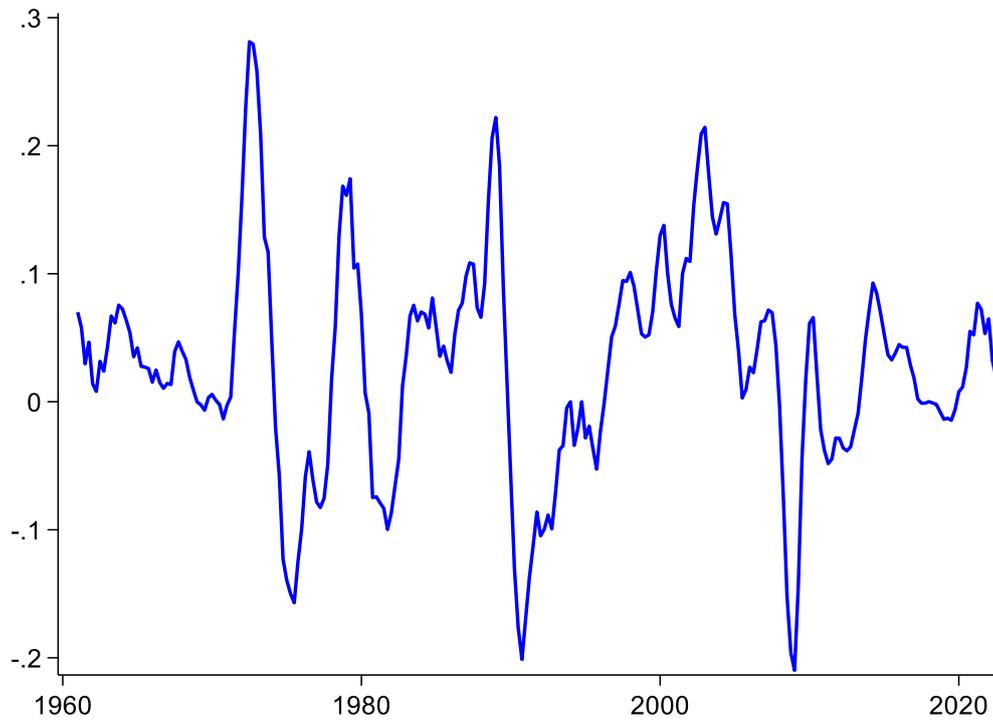


Figure 9: Real House Price Growth (% per year)



Policy Recommendations

FREE THE BANK TO FULFIL ITS MANDATE

Too much is expected from the Bank of England. It has one primary instrument in the Bank rate and has one primary objective, which is meeting its inflation target. Fiscal policy shouldn't add to existing inflationary pressure, which exacerbates the tradeoffs facing the Bank. In addition, plans should be made to alleviate the social fallout from higher interest rates to free the Bank to raise interest rates as needed to combat inflation.

CONTINGENCY PLANS FOR MORTGAGE RESTRUCTURING

If interest rates do rise to the levels currently projected—and perhaps even more will be required to bring inflation down to its target—we can expect a substantial mortgage affordability crisis, as outlined in this document. If house prices decline and more than a third of mortgagors are paying 40% of their gross income in mortgage payments, delinquencies and mortgage defaults on a large scale can be expected. These impose large costs on homeowners but also on the banking system.

In circumstances like this, mortgage restructuring can be mutually beneficial to homeowners and banks. It allows households to remain current on their payments and decreases uncertainty and balance sheet risk facing banks regarding delinquencies and defaults. It is premature to outline specific plans, but mortgage restructuring often takes the form of reducing mortgage payments by extending mortgage maturity and delaying amortization. Mortgage restructuring may be government sponsored or voluntary but requires widespread participation among banks to avoid hold-out problems.

Examples of recent mortgage restructuring that could be studied to devise a mortgage forbearance plan, if this became pertinent for the UK, include the Irish mortgage restructuring of 2011-12 and the Australian banks' deferred loans during Covid 19.

In the case of Ireland, one-sixth of all Irish mortgage loans were restructured. Loans were most likely to be restructured at higher payment to income ratios. The average restructured mortgage had a payment to income ratio of 25%: compare this with mortgage strains likely to face UK households this upcoming year, shown in Figure 7. Most restructurings involved a reorganization of the maturity structure of the loan, primarily through deferred amortization. McCann and O'Malley (2021) show that more generous mortgage restructuring lead to lower default rates, showing that banks, not only households, could benefit from restructuring loans under greater mortgage strain.

INTRODUCING LONG-TERM MORTGAGES

The absence of long-term fixed rate mortgages makes the UK unusual among high income countries. With few exceptions, mortgagors in high income countries have broad access to 10-year fixed rate mortgages, and in most cases 30-year fixed rate mortgages are available. Unable to insure against interest rate changes, UK households are extremely exposed to monetary policy changes, as the earlier discussion highlighted. The UK has one of the leading financial centres in the world and it is difficult to understand why UK banks are unable to offer financial products that are available the world over, including in emerging market economies.

David Miles (2011) discusses these issues in detail. He points out that funding of longer-term fixed rate mortgages often comes from financial institutions other than deposit-taking banks. Indeed, it is often pension funds that are the ultimate holders of long-run fixed rate mortgages in countries where they are available.

While this problem has long been discussed, there may be a golden opportunity to introduce longer term fixed rate mortgages. The UK yield curve is strongly inverted, which means that the annual base rate is now lower for a 30-year loan than a 5-year one. Even when including a risk premium, banks may be able to offer long-term fixed-rate mortgages at competitive rates. Further, low long-run interest rates indicates an excess demand for long-term, pound-denominated, assets.

QUANTITATIVE EASING AND MONETARY TIGHTENING: AVOIDING FINANCIAL DOMINANCE

The financial turmoil of the past month placed the Bank of England in a difficult position. The Bank was forced to intervene to lower yields on the long end of the Gilt curve to preserve financial stability, while signalling monetary policy tightening to rein in inflation.

The policy was justified given the potentially devastating consequences of UK pension funds unable to meet margin calls, alongside the fire-sale dynamics that were unfolding in the market for long-termed Gilts. The policy also appears to have been successful in the short run. Long term yields came down dramatically after the intervention giving the pension system time to unwind its positions. (It is too soon to evaluate the implications for the Bank's balance sheet.) At the same time, implied inflation expectations remained low on the short end of the yield curve, indicating that markets did not expect the Bank to abandon its inflation targeting mandate due to financial stability concerns.

The financial system generally seems in good health, but a rapid increase in interest rates may reveal other fragilities in the system. The conflicting objectives of monetary tightening and financial stability may therefore re-emerge. The use of the short term interest rate to meet the Bank's monetary policy goal and asset purchases in longer term assets (or other financial assets) therefore shows some promise as a policy response, but research on the joint use of these two policy tools—certainly pushing the two instruments in opposite directions—is still in its infancy.

Further research is needed. Recent research by Acharia et al (2022) and Brunnermeier, Abadi, and Koby (2022) investigates the optimal sequencing between interest rate policy and quantitative easing/tightening, but both studies were written under the presumption that the two policies would be pointing in the same direction.

TAX CUTS AND GROWTH

The outgoing government's focus on growth was laudable, even if the policies themselves failed. It is unlikely that tax policy alone will resolve the productivity crisis the country has faced since 2009 or the investment collapse following the Brexit referendum in 2016. Business investment is now below its pre-2016 levels (even not adjusted for inflation) due to the great uncertainty investments in the UK pose. The political uncertainty of the past month will only have exacerbated the investment climate. Resolving still remaining uncertainties about the UK's relations with its main trading partner in the EU is crucial for re-establishing a favourable environment for investment and growth.

The mini-budget tax plan was ill timed, but it was also bad tax policy. The budget was a unfunded smattering of tax cuts without a clear strategic vision. Fortunately, tax reforms need not be costly and many successful tax reforms are revenue neutral (at least by design, if not in practice). These typically involve broadening the tax base by eliminating tax loopholes, as documented in Ilzetki (2018). These base-broadening measures free up revenues that can be used to lower marginal tax rates—often politically crucial to shore up support for the reform.

These are policies that require careful and surgical preparation rather than a “quick fix”. The Nigel Lawson budget of 1984, the Regan tax reform act of 1986, and the German tax reform of 2010 provide examples of policies that were aimed at revenue neutrality (even if revenues were lost in the long run) and slashed marginal rates but also broadened the tax base.

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