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Monetary Policy Issues in the UK

United Kingdom

Agnese Carella, Ruo Chen, Katherine Dai, Gloria Li, Ruy Lama,
and Roland Meeks

SIP/2024/028

IMF Selected Issues Papers are prepared by IMF staff as background documentation for periodic consultations with member countries. It is based on the information available at the time it was completed on June 14, 2024. This paper is also published separately as IMF Country Report No 24/204.

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ABSTRACT: After hiking rates 14 consecutive times between December 2021 and August 2023 to arrest above-target inflation, the Bank of England (BoE) has held rates at 5.25 percent since then. As the BoE prepares for easing, this paper examines three concurrent monetary policy questions: (a) how have the macroeconomic and financial effects of BoE monetary tightening during the current cycle compared with experiences in other major advanced economies (AEs), and with previous UK tightening cycles; (b) what is the impact of US Fed decisions on UK monetary transmission, and the attendant implications thereof for BoE communications; and (c) how do model-based predictions of UK monetary policy paths (which seek to stabilize inflation and the output gap) compare with staff's recommended path in the 2024 Article IV consultation. We find that (a) monetary transmission has largely mirrored previous episodes (and experiences in other major AEs), with the most notable exception of the mortgage channel, which has been slower due to a higher share of fixed-rate mortgages; (b) an outsized impact of Fed announcements on UK financial markets places a premium on BoE communications in a context where the BoE may diverge from the Fed; and (c) optimal rate path predictions are close to staff's recommended path, although if the BoE attached a high weight to concerns about a prolonged period of above-target inflation leading to de-anchoring of inflation expectations, a slower pace of cuts would be warranted.

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SELECTED ISSUES PAPERS

Monetary Policy Issues in the UK

United Kingdom

Prepared By Agnese Carella, Ruo Chen, Katherine Dai, Gloria Li,
Ruy Lama, and Roland Meeks

MONETARY POLICY ISSUES IN THE UK¹

After hiking rates 14 consecutive times between December 2021 and August 2023 to arrest above-target inflation, the Bank of England (BoE) has held rates at 5.25 percent since then, as inflation fell sharply from double digits in 2023Q1 to near-target in 2024Q2. As the BoE prepares for easing, this paper examines three concurrent monetary policy questions: (a) how have the macroeconomic and financial effects of BoE monetary tightening during the current cycle compared with experiences in other major advanced economies (AEs), and with previous UK tightening cycles; (b) what is the impact of US Fed decisions on UK monetary transmission, and the attendant implications thereof for BoE communications; and (c) how do model-based predictions of UK monetary policy paths (which seek to stabilize inflation and the output gap) compare with staff's recommended path in the 2024 Article IV consultation. Section A finds that monetary transmission has largely mirrored previous episodes (and experiences in other major AEs), with the most notable exception of the mortgage channel, which has been slower due to a higher share of fixed-rate mortgages. Section B reveals an outsized impact of Fed announcements on UK financial markets and argues that this will place a premium on BoE communications in a context where the BoE may diverge from the Fed. Section C shows that optimal rate path predictions are close to staff's recommended path, although if the BoE attached a high weight to concerns about a prolonged period of above-target inflation leading to de-anchoring of inflation expectations, a slower pace of cuts would be warranted.

A. Monetary Policy Transmission: Is the Current UK Cycle Different?

1. In this section, we examine key macro and financial indicators and assess the effects of the tightening thus far. In particular, we explore whether the transmission of current monetary tightening differs from previous tightening cycles or other major AEs in the current contemporary cycle. We look at major macroeconomic and financial aggregates as well as UK household survey and firm-level data to isolate the impact on household consumption and business investment, the two main components of domestic demand.

Comparison with Previous UK Tightening Cycles

2. The current episode marks, by far, the BoE's most aggressive tightening cycle since its independence in 1997. The BoE raised interest rates 14 times at successive meetings of the Monetary Policy Committee (MPC), starting in December 2021 and reaching a peak of 5.25 percent in August 2023. While still ongoing, the current cycle is already longer than all previous cycles and has seen the largest rate increases and the highest number of hikes (Table 1).² The scale of tightening was commensurate with the unprecedented size of the inflation shock (Figure 1). From a peak of around 10–11 percent in late 2022/early 2023, headline inflation had fallen to 2.3 percent in April 2024 and is expected to durably return to the 2 percent target in early 2025. Although the

¹ by Agnese Carella, Ruo Chen, Katherine Dai, Gloria Li (all EUR), R. Lama, and R Meeks (both MCM).

² The length of a tightening cycle is measured as the number of months from the first rate hike to the last month before the first rate cut. The current cycle lasts 30 months as of May 2024 (starting from December 2021).

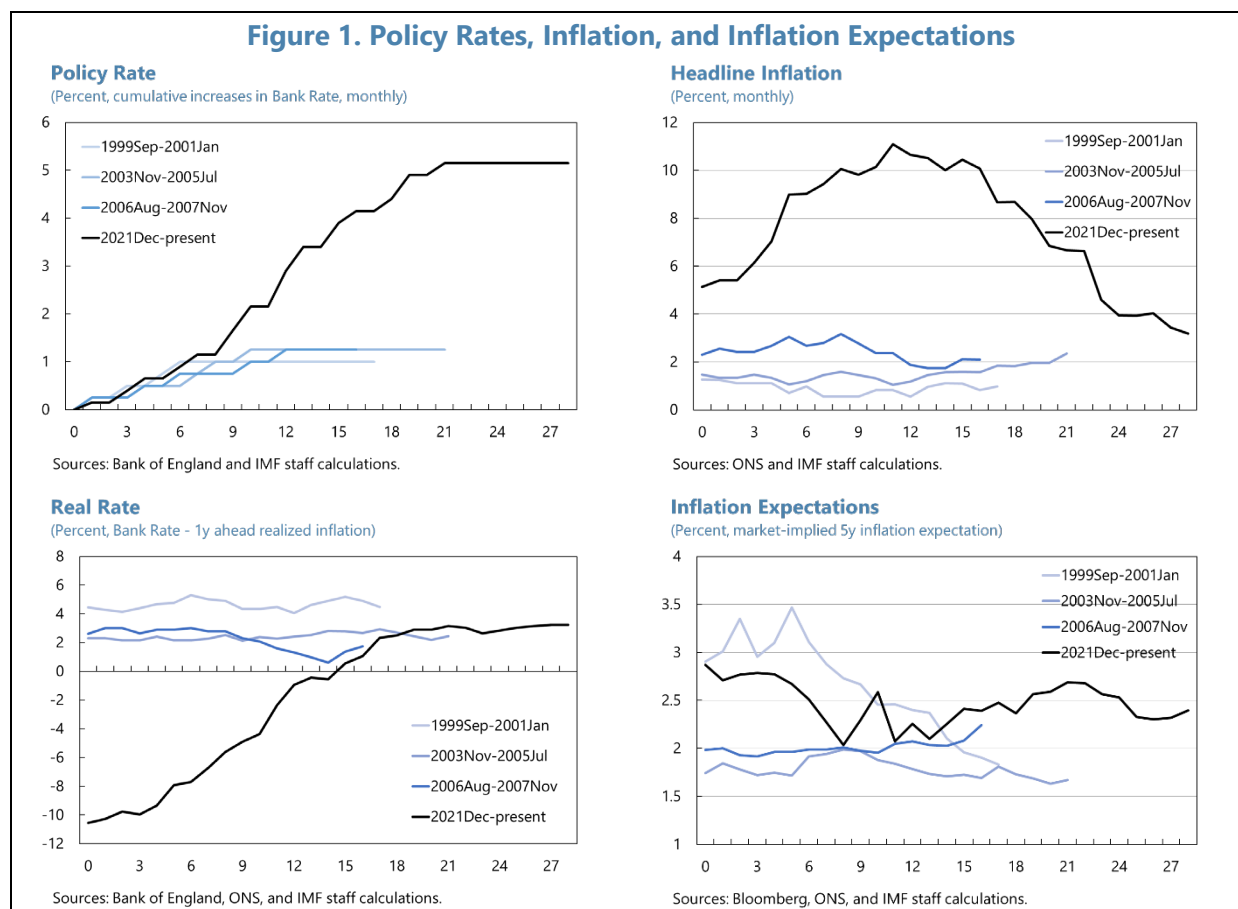
cumulative increase in Bank Rate has been large, record-high inflation meant that real rates only became comparable with previous cycles in Spring 2023. Nevertheless, market-implied 5-year ahead inflation expectations (adjusted for the wedge between the retail prices index (RPI) and CPI inflation) remain broadly anchored, although, at around 2.5 percent, they have settled at a slightly higher level than before. Long-run inflation expectations have been well-anchored throughout the current tightening cycle.

Table 1. United Kingdom: Monetary Tightening Cycles in the UK

Cycle*	Duration (# of months)	Total Rate increases	# of Rate Hikes	Inflation (highest)	Inflation (lowest)
1999-Sep to 2001-Jan	17	1 ppt	4	1.3%	0.6%
2003-Nov to 2005-Jul	21	1.25 ppt	5	2.4%	1.1%
2006-Aug to 2007-Nov	16	1.25 ppt	5	3.2%	1.7%
2017-Nov to 2020-Feb**	28	0.5 ppt	2	3.2%	1.3%
2021-Dec to present***	30	5.15 ppt	14	11.1%	2.3%

* A tightening cycle (except the current one) is defined from the first rate hike to the last month before the first rate cut.
 ** This cycle is excluded from later comparisons due to relatively small rate hikes but a long holding period.
 *** As of May 2024.

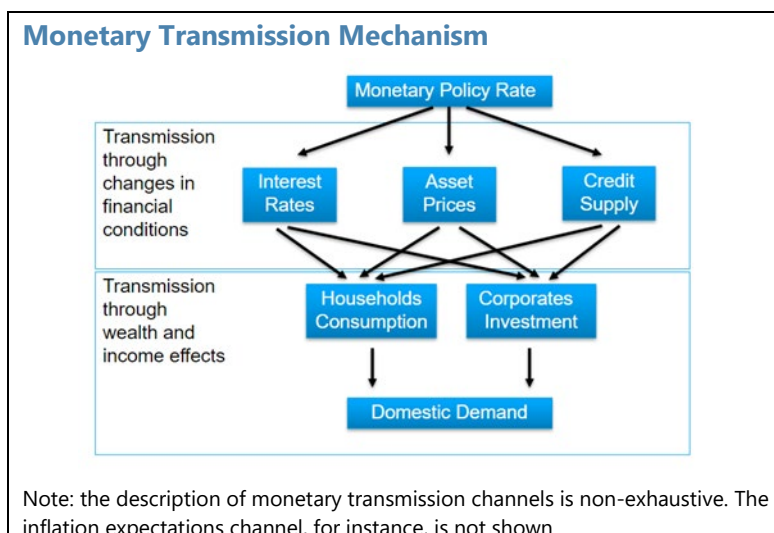
Figure 1. Policy Rates, Inflation, and Inflation Expectations



3. The behavior of key macroeconomic variables has been largely intuitive (Figure 2), recognizing that other factors have also been at play. Real GDP growth has been much weaker than in all previous cycles. This is partly due to supply constraints, such as pandemic-related global supply disruptions, the terms of trade shock due to the energy price surge witnessed in the context of Russia’s war in Ukraine, and labor shortages. Looking into domestic demand, weak growth mainly reflects even weaker household consumption (given its large weight in GDP) due to the high cost of living and weak consumer confidence. Investment seems to have held up better in recent years, including public investment, although these follow an extended period of weak investment (see Annex I on micro underpinnings of the weaker consumption and stronger investment responses). The labor market has been notably tighter than in previous cycles, partly due to the less flexible labor market since Brexit, although it has eased gradually since the early 2022 peak. Finally, unlike previous cycles, the real effective exchange rate depreciated initially and has appreciated in recent quarters, mainly driven by interest rate differentials with the US.

4. The initial impact on financial conditions—as measured by staff’s preferred measure of the Financial Conditions Index (FCI)—was somewhat stronger than observed in previous cycles but has eased recently.

The impact on FCI, as well as other financial market indicators (see below), is adjusted for the size of total rate hikes (i.e., measured as the elasticity of FCI to the cumulative rate increases). As noted by Catherine L. Mann in her speech in February 2023, the first stage of monetary transmission is mainly through financial markets (see Text Figure). While the FCI summarizes overall transmission in this first stage, it has three components:



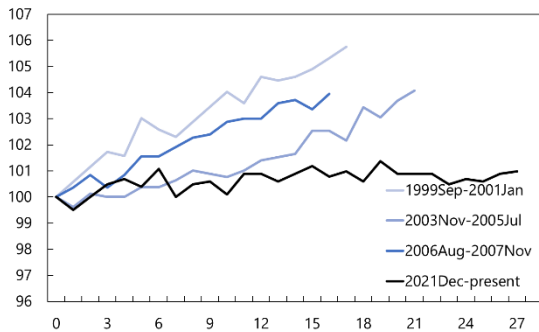
- **Interest rate channel**, where changes in market interest rates and banks' lending and deposit rates affect borrowing costs and saving returns. The response of “new” bank lending rates (including corporate and household loans) is similar to previous cycles (Figure 3). Similarly, the behavior of “effective” rates on corporate loans and household non-mortgage loans (such as consumer credit or personal loans) is consistent with that in previous cycles. However, the increase in “effective mortgage rates” (i.e., the average rate obtaining on the stock of outstanding mortgages) significantly undershot previous cycles due to a higher share of fixed-rate mortgages. With regard to “market rates”, corporate bond yields over-responded during the early phase of the current cycle but have settled at a passthrough rate below one (around 0.7). “Gilt yields” have been more responsive to policy rate increases than previous cycles, which could reflect somewhat greater

Figure 2. Evolution of Broad Macroeconomic Variables

GDP growth has been anemic, ...

GDP

(Index, start of the tightening cycle = 100, monthly)

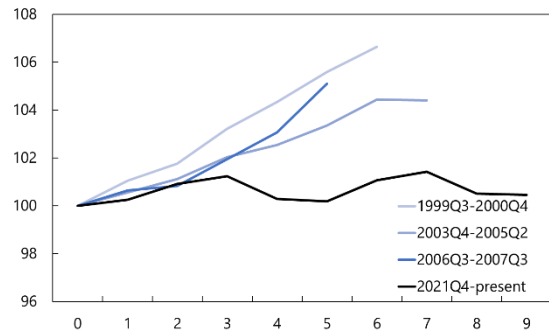


Sources: ONS and IMF staff calculations.

... with flattened private consumption, ...

Household Consumption

(Index, start of the tightening cycle = 100, quarterly)

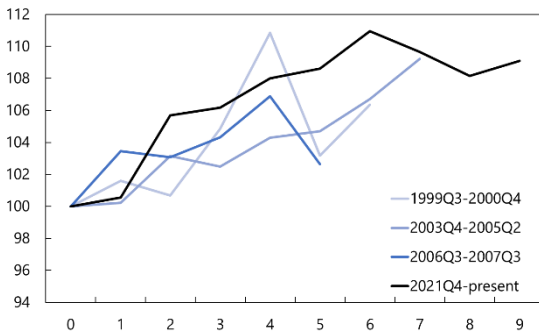


Sources: ONS and IMF staff calculations.

... while investment seems to be holding up better, albeit after a long stagnation

Investment

(Index, start of the tightening cycle = 100, quarterly)

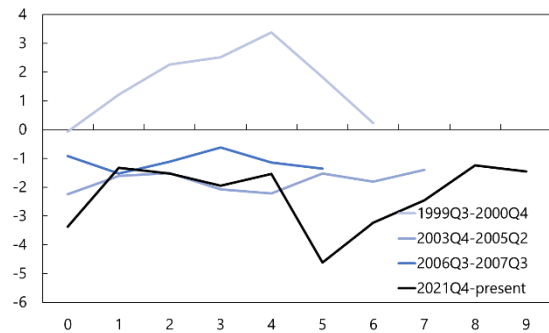


Sources: ONS and IMF staff calculations.

Fiscal deficits have been larger than in previous cycles, but a clear correction since 2022Q4.

Budget Balance

(Percent of GDP, quarterly)

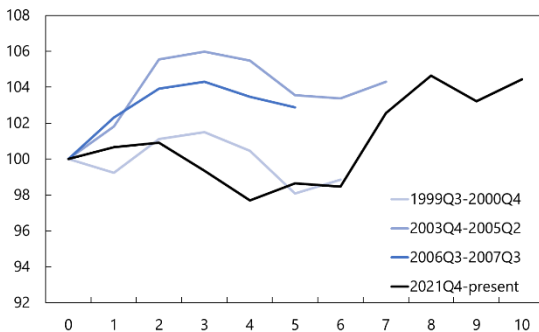


Sources: ONS and IMF staff calculations.

The real exchange rate was low, but has appreciated in recent quarters (reflecting rate differential with the US).

Real Effective Exchange Rate

(Index, start of the tightening cycle = 100, quarterly)

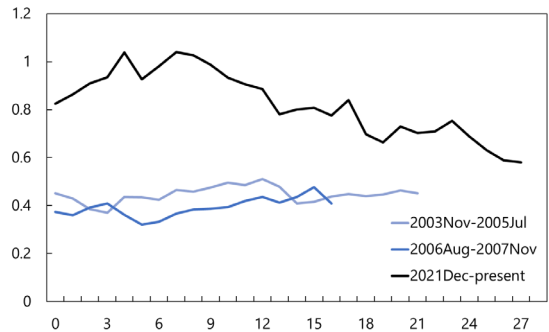


Sources: Haver Analytics, JPMorgan, and IMF staff calculations.

The labor market has been notably tighter than in previous cycles, although it has eased gradually since the early 2022 peak.

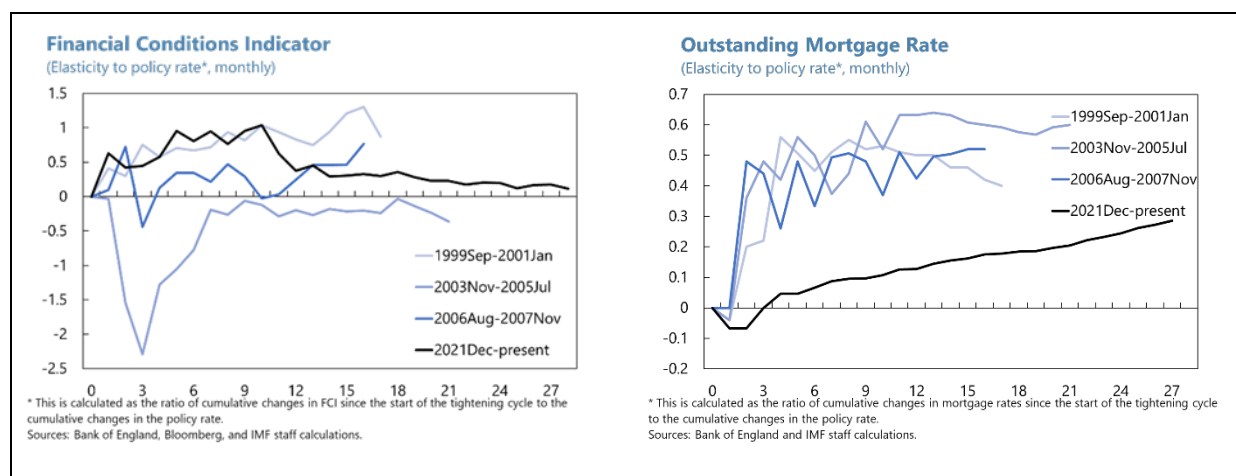
V/U Ratio

(Vacancy to unemployment ratio, monthly)



Sources: Bank of England, ONS, and IMF staff calculations.

concerns about public finances, given current elevated debt levels and in the aftermath of the “mini-budget” episode in September 2022.



- **Asset price channel**, where changes in asset prices (including stock market prices and house prices) affect saving and investment decisions via wealth effects. While equity prices (FTSE100) have held up relatively well, house prices have been more subdued this time, which may also help to explain the weaker response of household consumption.
- **Credit channel**, where changes in the supply of credit due to changes in lenders’ risk assessments of borrowers’ credit worthiness reduce financing sources for consumption and investment. It is quite striking that bank lending has almost remained flat in the current cycle, a clear break from the past. In addition to monetary tightening, the weakness of bank lending could also reflect, among other factors, the structural break post-GFC and increased borrowing during COVID under the various government-backed schemes. On the other hand, corporate capital issuance through markets has been volatile but does not show significant deviations from previous cycles.

Comparison with Other Major Advanced Economies in the Current Cycle³

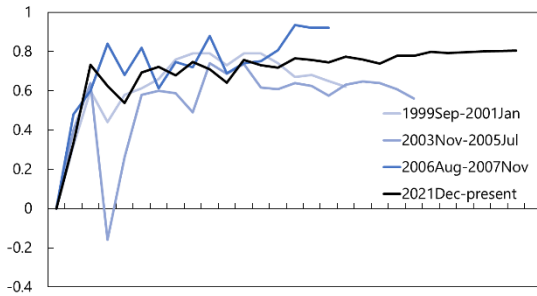
5. Other major central banks, notably the US Fed and the ECB, also raised rates significantly in response to the “shared” inflation shock. Although the BoE was the first to raise its policy rate, it raised rates at a more gradual pace than the US Fed in the early part of the cycle. Controlling for the size of the monetary tightening, the UK’s weak GDP and consumption response seem comparable to other countries, while investment was stronger, as explained before as well as in Annex I (Figure 4). Fiscal deficits have been relatively larger than in peer countries, reflecting somewhat stronger COVID support provided by the UK authorities. While wage growth has been similar to peers’, it seems more persistent, likely due to a tighter labor market, as discussed before.

³ While central banks in advanced economies started increasing policy rates at different times, to simplify comparison, we assume the current cycle started in 2021Q4. Therefore, most macro-financial indicators are measured as changes since 2021Q3.

Figure 3. Evolution of Financial Indicators

There is no discernible difference in transmission through outstanding loan rates for corporates ...

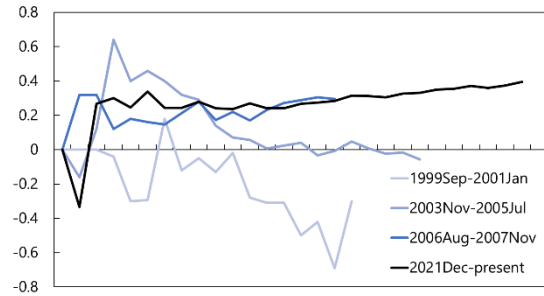
Outstanding Corporate Loan Rate
(Elasticity to policy rate*, monthly)



* This is calculated as the ratio of cumulative changes in corporate loan rates since the start of the tightening cycle to the cumulative changes in the policy rate.
Sources: Bank of England and IMF staff calculations.

... as well as other household loans.

Outstanding Other Household Loan Rate
(Elasticity to policy rate*, monthly)

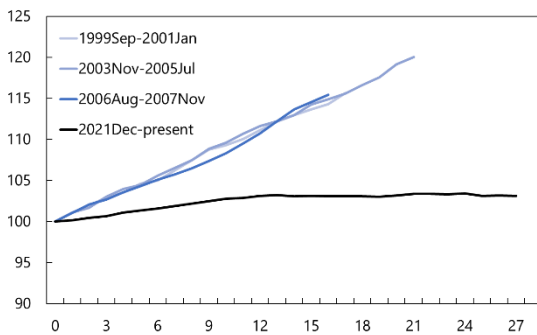


* This is calculated as the ratio of cumulative changes in other household loan rates since the start of the tightening cycle to the cumulative changes in the policy rate.
Sources: Bank of England and IMF staff calculations.

Bank lending has almost remained flat in the current cycle, ...

Bank Lending

(Index, start of the tightening cycle = 100, monthly)

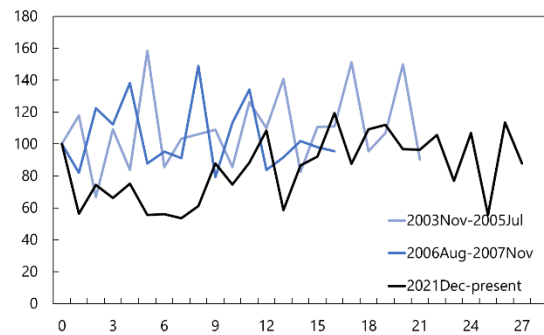


Sources: Bank of England and IMF staff calculations.

... while capital issuance has been volatile but not significantly different from other cycles.

Capital Issuance

(Index, start of the tightening cycle = 100, monthly)

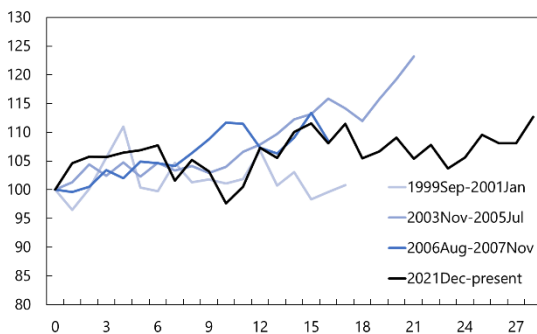


Sources: Bank of England and IMF staff calculations.

Equity prices have been holding up relatively well, ...

FTSE100

(Index, start of the tightening cycle = 100, monthly)

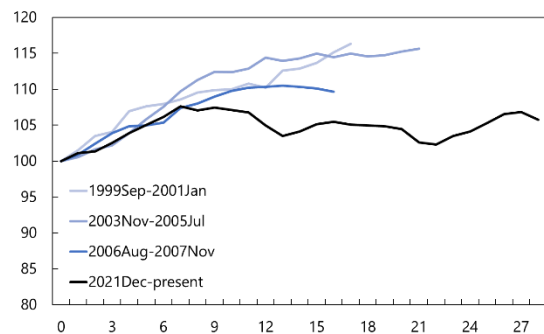


Sources: Haver Analytics, Financial Times, and IMF staff calculations.

... but – in a break from the past – house prices have been more subdued

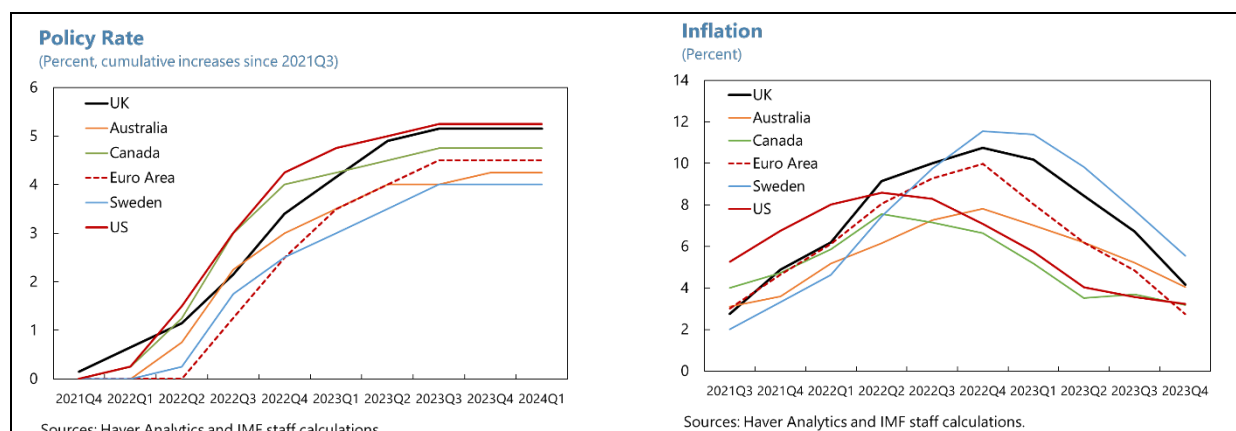
House Prices

(Index, start of the tightening cycle = 100, monthly)



Sources: Haver Analytics, Halifax HPI, and IMF staff calculations.

Financial conditions seem to have been more "accommodative" than in peers, but the index measure used matters.⁴ In addition, increases in new mortgage rates and bond yields have been among the highest, pointing to tighter financial conditions.



Key Takeaways

6. Monetary transmission in the UK during the current cycle has mostly worked as expected and has been similar to the experiences in other AEs. GDP growth has been notably weak compared with previous tightening cycles, largely reflecting weak consumption, while investment has shown some resilience (supply constraints have also clearly played an outsized role during this cycle). This pattern obtains also when comparing with other transmission in other AEs. Most financial condition channels have responded in a similar manner as in previous cycles. The only exception is the increase in effective mortgage rates, which have been shallower, reflecting slower repricing due to a higher share of fixed-rate mortgages in the economy. Despite this slower transmission through mortgages, household consumption has been very weak, even though wage growth has picked up in 2023, mainly due to the high cost of living and weak confidence. The government's tax incentives have supported the resilience of business investment. However, not all firms have utilized such incentives. For example, profitability seems to be the main driver for manufacturing firms to step up investment.

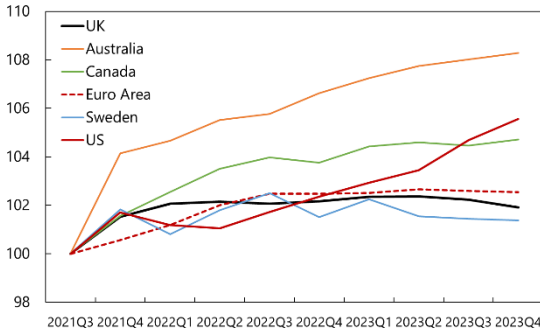
⁴ The UK FCI has tightened much less based on the unified methodology developed for the Global Financial Stability Report (GFSR) than the staff's preferred measure.

Figure 4. Evolution of Macroeconomic Indicators Among Major AEs

Given the size of the monetary tightening, the weak GDP ...

GDP

(Index, 2021Q3=100, quarterly)

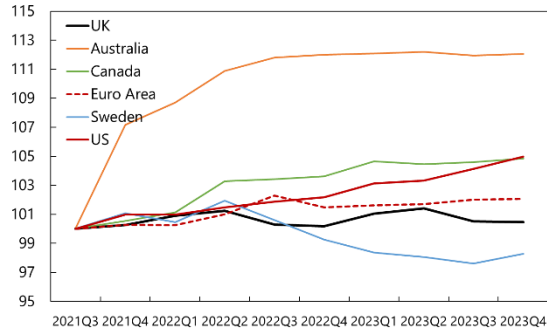


Sources: Haver Analytics and IMF staff calculations.

... and consumption seem comparable to other countries, ...

Private Consumption

(Index, 2021Q3=100, quarterly)

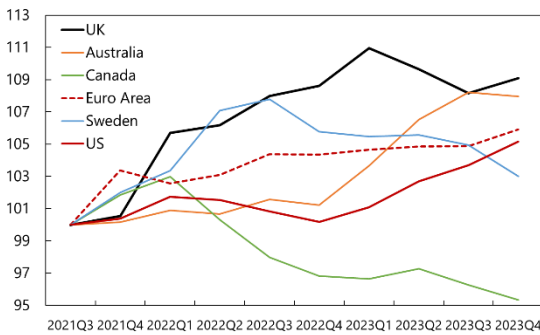


Sources: Haver Analytics and IMF staff calculations.

... while strong investment stands out.

Investment

(Index, 2021Q3=100, quarterly)

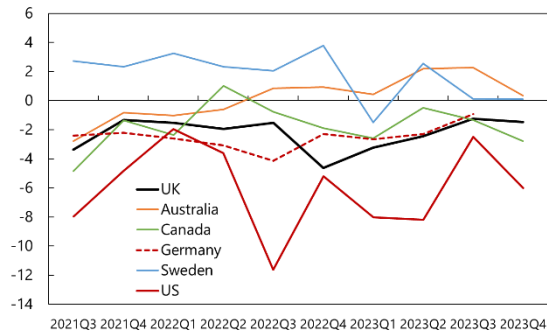


Sources: Haver Analytics and IMF staff calculations.

Fiscal deficits have been relatively larger.

Budget Balance

(Percent of GDP)

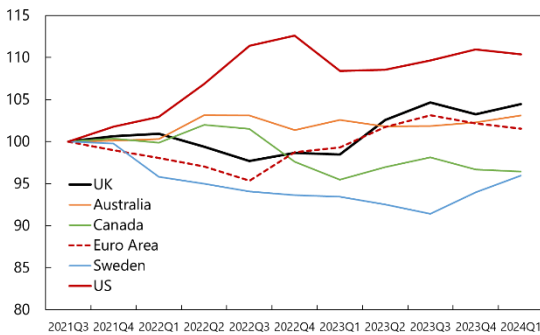


Sources: Haver Analytics and IMF staff calculations.

The real exchange rate has appreciated in recent quarters, broadly in line with the euro area.

Real Effective Exchange Rate

(Index, 2021Q3 = 100)

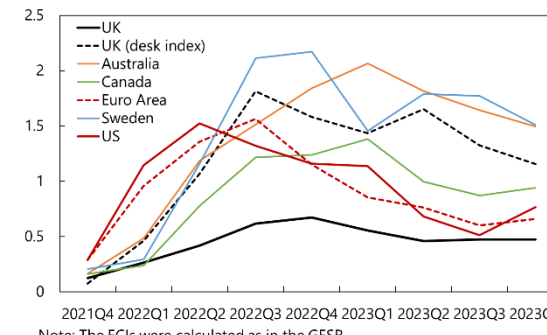


Sources: Haver Analytics and IMF staff calculations.

Financial conditions have been more "accommodative" compared with others, but the measure of index used matters.

Financial Conditions Indicator

(Index, cumulative changes since 2021Q3)

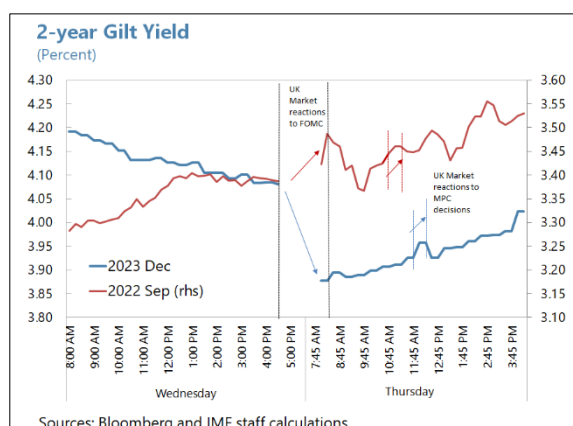


Note: The FCIs were calculated as in the GFSR. Sources: Bloomberg and IMF staff calculations.

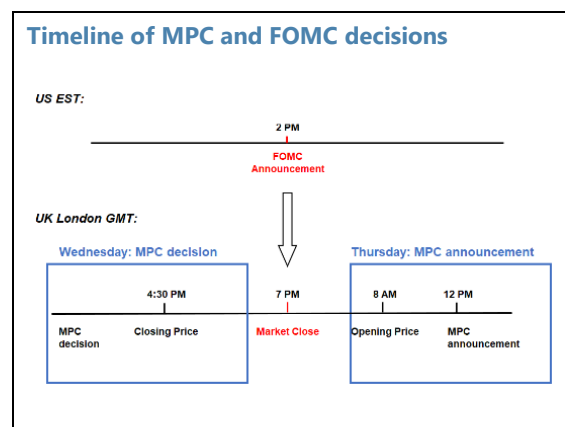
B. UK MPC Decisions and Announcements: The Role of Fed Policy Spillovers

7. This section examines (i) the impact of the Federal Open Market Committee's (FOMC's) monetary policy decisions on the UK MPC's monetary transmission; and (ii) the possible implications for MPC communications. As a global financial center, UK financial markets are sensitive to both domestic developments and international news. In particular, the FOMC's monetary policy decisions could affect UK domestic demand through their impact on the UK financial markets (the main channels of monetary transmission, see Section A). Thus, understanding the size and texture of these spillovers is important. Moreover, the sequencing (see below) of MPC and FOMC decisions/announcements can sometimes create the additional challenge of an MPC announcement being dominated by the just-preceding FOMC announcement. Therefore, we explore the scope of adjusting MPC decision and communication approach to avoid the market impact of its decisions being eroded by FOMC impacts.

8. The FOMC's monetary policy decisions often have a nontrivial impact on the UK financial markets. For example, on December 13, 2023, the FOMC's announcement, including potential 75bps rate cuts in 2024, sent a dovish signal to markets. This happened after UK markets closed for the day. The next day, December 14, the 2-year gilt yield (closely linked to the policy rate) dropped 20 bps within 15 mins after the market opened. Later that day, the BoE's MPC announced a hawkish hold, with three out of nine MPC members voting for a further rate hike but no press conference following the announcement. After the MPC's decision, markets scaled back rate-cutting expectations slightly but still expect more than 100bps rate cuts in 2024, jumping from 75 bps the day before. The 2-year gilt yield increased 3 bps within 30 minutes around the MPC's announcement.



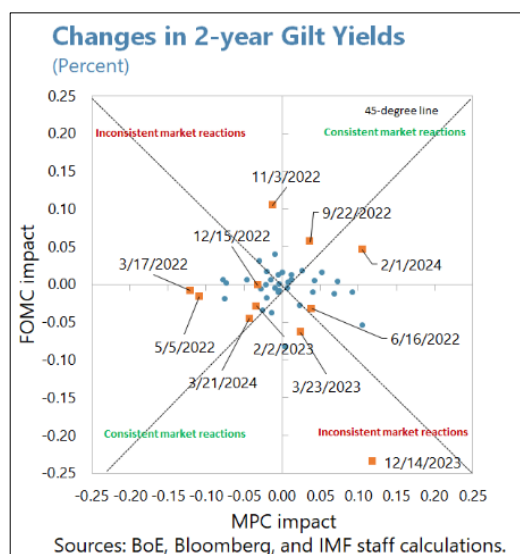
9. Although the MPC's announcement came after the market had absorbed the FOMC's decision, the MPC's decision was made before the FOMC's announcement. According to the description of each MPC's policy decision procedure, the MPC generally meets several times before each announcement. In the final meeting, held on Wednesday of the announcement week, the Governor recommends the policy that he believes will be supported by most MPC members, followed by a vote by the MPC members. Then, the next day



(Thursday) the MPC publishes its decision with the minutes of the meetings at noon. Every quarter, a monetary policy report (MPR) accompanies the announcement to provide more detailed reasons behind the monetary policy decision with an updated economic forecast. At present, the publication of the MPR is accompanied by a press conference led by the BoE Governor. In the example noted in the previous paragraph, the final meeting was on December 13, 2023. Due to the time difference, MPC members – at the time of their voting – did not have information regarding the FOMC’s decision or reactions from the UK financial markets. Moreover, in this case, the market’s reaction to the FOMC’s decisions was inconsistent with the direction in which the MPC’s policy decision would lead the market toward, but, as it was a non-MPR round, there was no press conference for the MPC to further articulate its views.

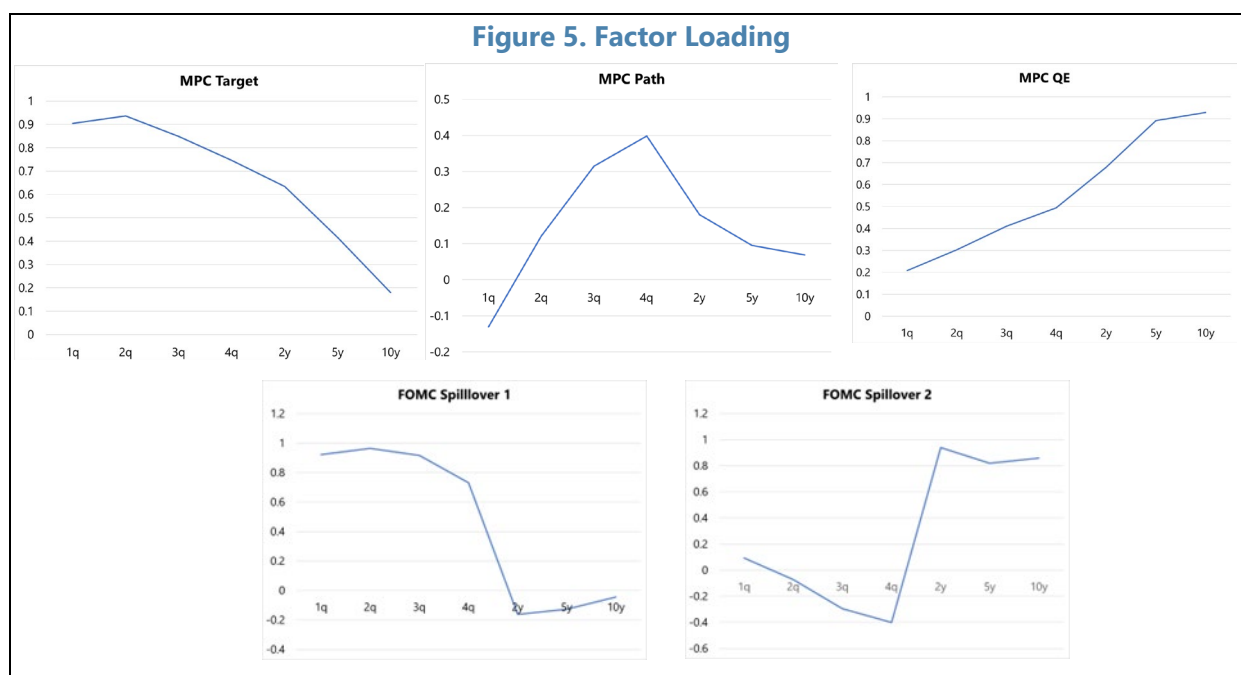
10. Given that such back-to-back meetings are quite common in the MPC meeting schedule, it is helpful to understand how FOMC decisions generally affect monetary transmission in the UK.

To this end, we have identified 41 FOMC’s announcements that occurred one day before the MPC announcements from 1999 to mid-2023. A large number of these back-to-back meetings were held after 2016, when the MPC switched to eight decisions a year. For example, in 2023 and 2024, there are five MPC meetings each year, with decisions announced one day after the FOMC’s decisions, and three of them did/do not have press conferences. In this context, we explore how UK financial markets reacted to FOMC decisions by utilizing high-frequency financial market data and then estimate how these reactions transmission into domestic demand. With a better understanding of such impact, it might be easier to see adjustments to MPC communications that increase the efficacy/transmission of MPC policy decisions.



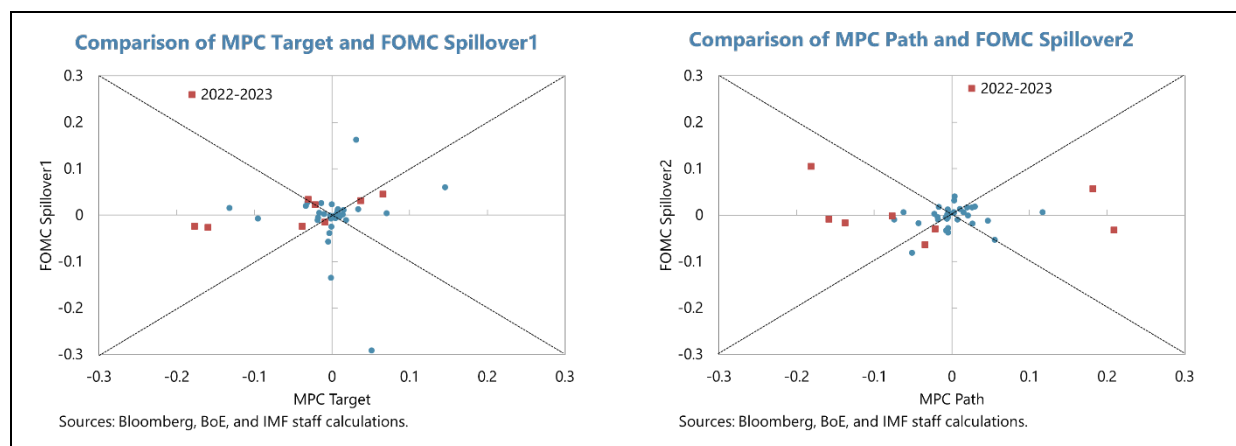
11. We identify monetary policy surprises through changes in high-frequency market indicators within a narrow window around monetary policy announcements (Gurkaynak et al. 2005, Swanson 2021, and Braun et al. 2023). Using market movements around the time of policy announcements, we are able to separate the impact of the policy changes from the impact of other events. This isolation is important to “identify” monetary policy shocks. For market movements around the MPC announcements, we use the BoE’s UK Monetary Policy Event-Study Database (UKMPD), a comprehensive dataset that provides intraday data on monetary policy surprises in the UK since 1997. The FOMC’s decisions are usually announced at 2PM US Eastern Time, when the UK markets have closed for the day. Therefore, we use the differences between the opening prices on the next day and the closing prices on the day of the FOMC announcements to proxy UK market reactions to the FOMC’s announcements.

12. Then, we use factor analysis to identify underlying factors capturing policy decision shocks. Similar to Braun et al. (2023), we choose three factors that capture monetary policy news across price movements of seven indicators (the first four quarterly short sterling futures and the 2-, 5-, and 10-year gilt yields). The first factor, Target, has the highest correlation (factor loading) with short-term rates, representing news on the policy rate (Figure 5). The second factor, Path, has the highest correlation with the 4-quarter ahead sterling future rate, representing the MPC's forward guidance. The third factor, QE, has the highest correlation with the 10-year gilt yield, representing news on unconventional monetary policy (QE/QT). We take a similar approach to identify two factors (Spillover 1 and 2), capturing news in the UK markets *from* FOMC decisions. Spillover 1 represents the impact on short-term interest rates, and Spillover 2 represents the impact on medium- to long-term interest rates.⁵



13. The correlations between the MPC factors (Target, Path, and QE) and FOMC spillovers reveal that these two policy announcements can occasionally produce opposing shocks on the same day. Moreover, FOMC announcements can have sizable impacts on short-term rates (Spillover 1), while impacts on medium- to long-term rates are relatively smaller. This could be interpreted as markets expecting that the MPC's rate decisions somewhat follow the FOMC's just-announced policy.

⁵ Factors using the seven UK asset price changes corresponding to all FOMC announcements since 1999 show mixed correlations across the yield curves. This indicates that while other FOMC decisions also affect UK financial markets, they are less likely to be interpreted as direct monetary policy spillovers.



14. Further examining the manifestation of FOMC spillovers in UK financial markets, we see some impact on foreign exchange (FX) markets but limited impact on stock markets. Specifically, we conduct the following regression analysis:

$$\Delta Y_t = \alpha + \beta Spillover1_t + \gamma Spillover2_t + \varepsilon_t$$

where ΔY_t denotes the change in the relevant asset price⁶, and $Spillover1_t$ and $Spillover2_t$ are the FOMC monetary spillover shocks previously estimated. Table 2 presents the regression results. A positive Spillover 2 is associated with a slight depreciation of sterling against the dollar. This is likely due to the FOMC announcements (forward guidance) pushing up the long end of the US and the UK yield curves, with a stronger impact on the US curve. This widens the interest rate differences and leads to sterling depreciation. It is not surprising that the spillovers from the FOMC announcements have little impact on the UK stock markets or bilateral exchange rates with the euro.

Table 2. United Kingdom: Impact of the FOMC Spillovers

	(1)	(2)	(3)	(4)	(5)
	FTSE100	FTSE250	FTSE_All	GBP/EUR	USD/GBP
Spillover 1	-0.493 (0.54)	-4.036 (4.15)	-0.105 (0.32)	0.002 (0.01)	0.009 (0.02)
Spillover 2	0.535 (0.99)	4.065 (7.53)	0.142 (0.58)	-0.012 (0.02)	-0.082*** (0.04)
Constant	0.0253 (0.03)	0.258 (0.24)	-0.0182 (0.02)	-0.001 (0.00)	0.003*** (0.00)
R ²	0.024	0.027	0.004	0.015	0.124
N	41	41	41	41	41

Notes: Standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01. GBP/EUR is the value of British pound per euro (an increase indicates sterling depreciation), and USD/GBP is the value of US dollar per British pound (an increase indicates sterling appreciation).

⁶ As FX markets operate 24 hours a day, the exchange rate delta for each FOMC announcement is computed as the difference between the closing price of the current day (9:59 p.m., after the FOMC decision was made) and the opening price of the current day (10:00 p.m. of the previous day, before the decision).

15. With the identified MPC monetary shocks and FOMC spillovers, we can estimate their effect on UK macroeconomic and financial aggregates. First, we establish the baseline results with only MPC monetary shocks. Second, we add FOMC spillovers to the estimation model and examine the marginal impacts. To evaluate the effect of monetary policy on GDP, we use Stock and Watson's (2018) local projection using the external instruments (LP-IV) method. In particular, MPC monetary shocks and FOMC spillovers are used as instrumental variables. The impulse response functions from the LP-IV are as follows:

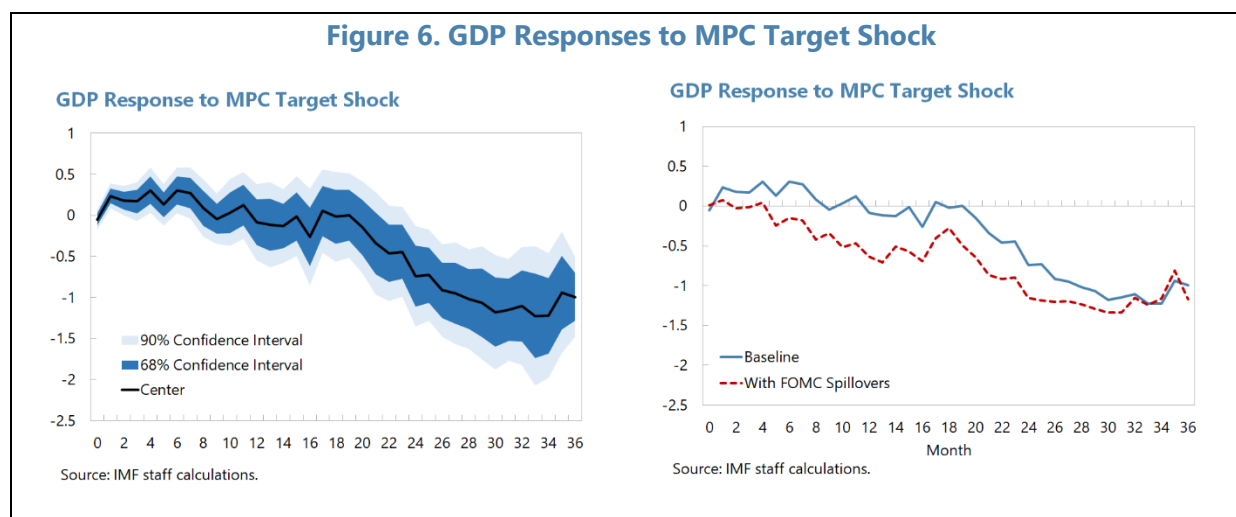
$$y_{t+h} - y_t = \alpha + \beta_{j,h} MP_{j,t} + \sum_{k=1}^{12} W_{t-k} + \epsilon_t$$

where y_t is the variable of interest (for example, real GDP), $MP_{j,t}$ is a monetary policy related indicator, and W_t is a set of control variables including 12 lags of all dependent variables and external instruments. The regressions include monthly data of Bank Rate, the 1-year and 10-year gilt yields, investment-grade corporate bond yield, the FTSE All Share index, the GDP volume index, and the consumer price index over the period of 1997 June to 2019 December. The FTSE All Share index, GDP volume index, and consumer price index are in log levels, and all other variables are in percentage points. Instrument variables include three MPC shocks (Target, Path, and QE) and two FOMC shocks (Spillover 1 and 2). In the baseline estimates, we adopt a methodology similar to the one used by Braun et al. (2023). We use the Target factor as an instrument for changes in Bank Rate and the Path factor for changes in 1-year gilt yield. The FOMC shocks are not included in these baseline estimates. In the subsequent estimates that incorporate the FOMC shocks, we introduce the Spillover 1 as an additional instrument variable for Bank Rate and the Spillover 2 for the 1-year yield. Additionally, both FOMC shocks are included in the control variables.

16. Our results indicate that FOMC spillovers do have a sizable effect on monetary transmission in the UK. The left panel in Figure 6 present the evolution of (log) real GDP following a 100-bps increase in Bank Rate, representing the Target monetary policy shock. The horizontal axis denotes the months following the shock; the solid line displays the estimated mean response, and the shaded areas represent the 68 percent and 90 percent confidence intervals. The results suggest that a 100-bps monetary policy tightening shock through Bank Rate leads to about 1.2 percentage points decline in real GDP within 30 months, with the effect being persistent and remaining at about 1-1.2 percentage points 36 months after the shock.⁷ The right panel show the results, including FOMC shocks. Compared with the baseline, we find that the FOMC spillovers strengthen the monetary transmission of Bank Rate by pushing forward the GDP impact, with the peak impact reaching about six months earlier. These results may not surprise us, as we already show that pre-2021 market reactions to FOMC and MPC announcements had been largely consistent. Very few observations since 2021 prevent us from limiting our analysis to the current cycle. In addition, the high volatility of macroeconomic and financial indicators during the COVID-19 percent added additional noise to the analysis. Still, within the limited observations, the current cycle presents some

⁷ The long lags of monetary transmission in Figure 6 are likely due to the 12 lags in the control variables to incorporate all possible impacts from the FOMC spillovers. Given the focus of this work on FOMC spillovers, we do not see major differences from Figure 7 in Section C.

abnormality, like what happened on December 14, 2023. When market reactions to FOMC and MPC decisions are inconsistent, the transmission through FOMC Spillover shocks could work against the MPC's objectives.



Key Takeaways

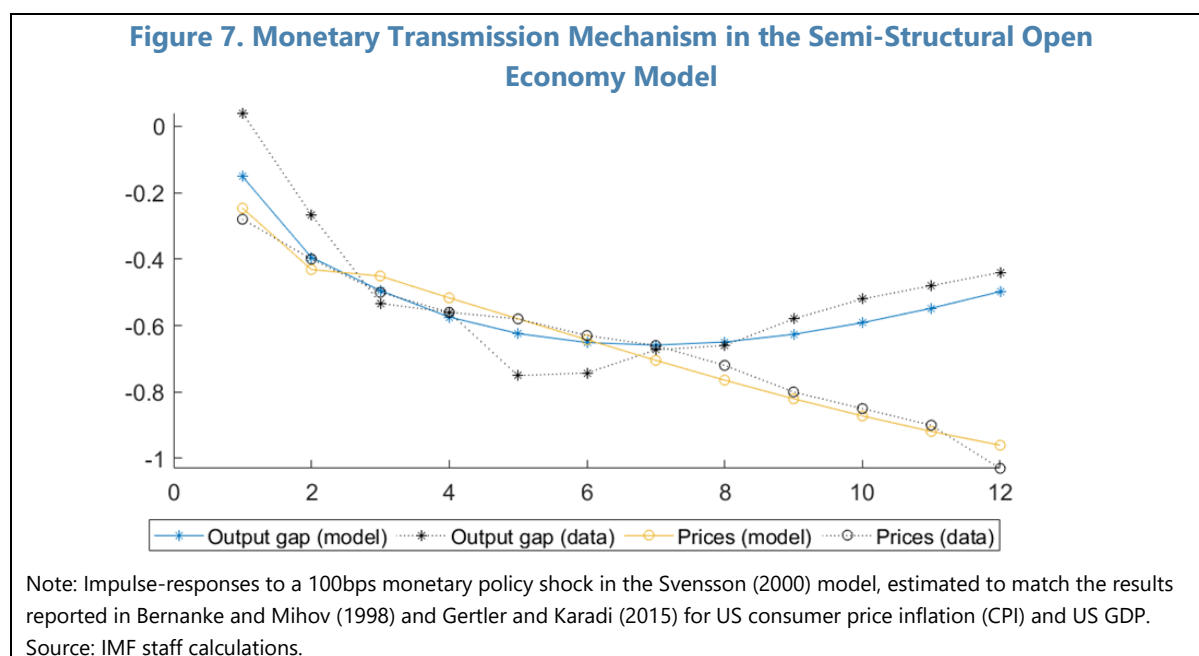
17. The FOMC decisions do impact the UK financial markets and, therefore, affect the transmissions of the immediately following MPC decisions. Our empirical work, based on pre-COVID data, shows that FOMC announcements have been supportive of MPC's monetary transmission, given that market reactions were largely reinforcing. However, when market reactions to FOMC and MPC decisions go in opposite directions (as in December 2023), transmission through FOMC spillovers can work against MPC objectives. Therefore, the current approach—whereby the MPC makes its decision before the FOMC decision is announced but announces its decision after the market has absorbed the Fed decision—may be suboptimal in that the MPC decision and communication both do not consider the impact of the Fed's decision on domestic financial conditions. Moreover, not all MPC decisions are accompanied by a press conference. In this case, the MPC has no opportunity to elaborate or caveat its views when the market's reaction to Fed decisions is inconsistent with the direction the MPC's policy decision would lead the market toward.

18. Given possible divergence from the FOMC rate path going forward, there is a scope to improve the effective MPC communications. The current communication modalities – under which the MPC minutes and, when applicable, the MPR are published alongside the MPC decision – were instituted following the 2015 Warsh review. However, this is quite onerous to deliver even allowing for an extra day after the decision, and would be virtually impossible to deliver on the day of the decision. In this context, consideration could be given to streamlining the amount of information published alongside the MPC decision, which could pave the way for the MPC decision to be announced on the same day. The publication of MPC minutes and the MPR could be delayed by a week or so (as in the case of the FOMC). At the same time, the MPC should consider holding a press conference after each of its decisions (as is done by other major central banks). This will

facilitate further explanation of the decision in a context of evolving market spillovers from FOMC deliberations, as well as avoid perceptions that the BoE decision has been overshadowed by the Fed.

C. Model-Based Alternative Monetary Policy Paths

19. This section assesses the staff’s baseline projection of the BoE policy path using the Constrained Optimal Policy Projection (COPP) toolkit. COPP is a toolkit developed by staff from the European Central Bank (ECB) and academics designed for generating optimal policy projections.⁸ The tool allows users to assess whether a projected path is close to an optimal one and the role of credibility in shaping the future trajectory of policy instruments. Based on the baseline projection from the 2024 UK’s Article IV staff report, we compare the current policy rate projection to a benchmark optimal control policy that seeks to stabilize inflation and the output gap within the policy forecast horizon. For generating the optimal policy projections, we employ the model proposed by Svensson (2000), which features a Philips curve, an IS curve, and an Uncovered Interest Rate Parity (UIP) condition. The model is calibrated to be consistent with estimates of the monetary transmission mechanism obtained using standard vector autoregressions (VAR) for advanced economies (Figure 7).



20. Optimality is gauged by squared deviations of objective variables from their target values. As is conventional, the optimal policy exercise employs a quadratic loss function. Losses depend on deviations of inflation from its target, the output gap, and the first difference of the interest rate:

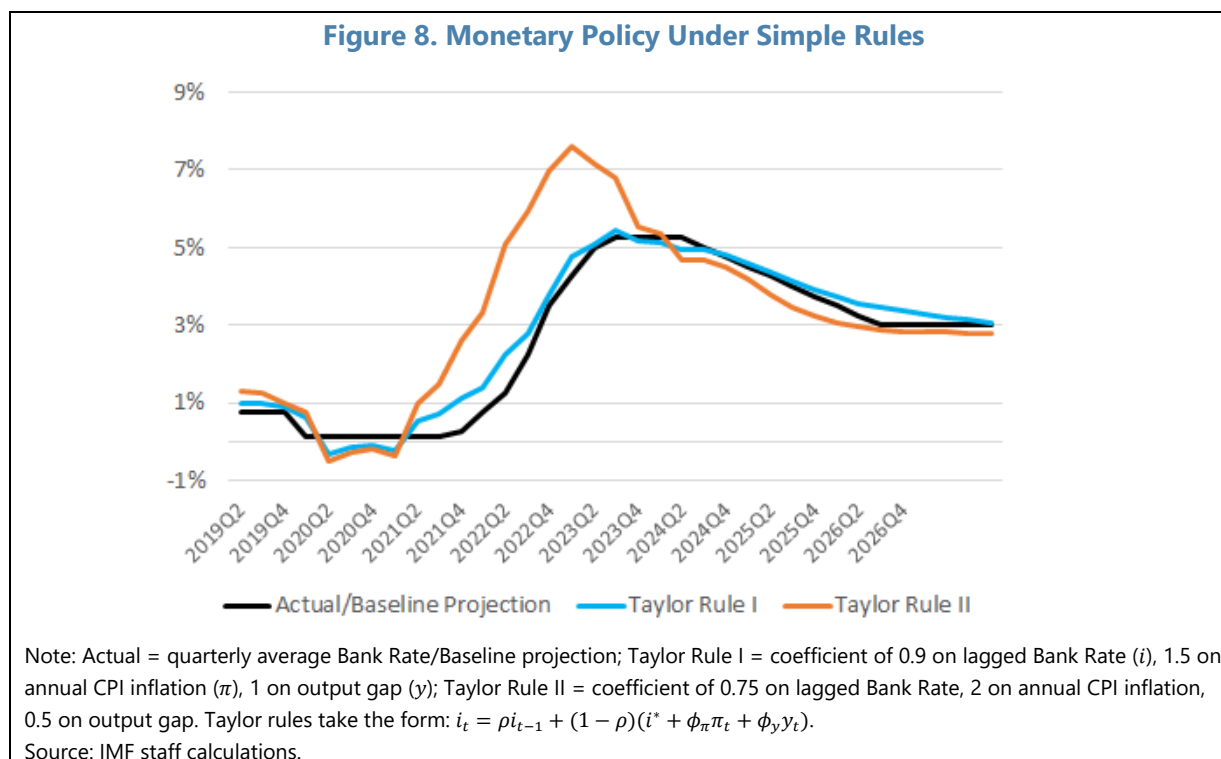
$$L = E_t \sum_{t=0}^{\infty} \beta^t \{ \lambda_{\pi} (\pi_t - \pi^*)^2 + \lambda_y (y_t - y^*)^2 + \lambda_i (i_t - i_{t-1})^2 \}$$

⁸ See De Groot et al. (2021).

Each argument of the loss function represents objectives of the central bank such as price, output, and financial stabilization. The weights in the loss function $(\lambda_\pi, \lambda_y, \lambda_i)$, determine how the trade-offs for achieving those targets are managed by the central bank. Table 3 summarizes the coefficients used in the loss function. As a point of comparison for the optimal policy exercise, we also computed interest rate paths under two simple policy rules: one that embodies a high degree of interest rate smoothing, and balanced responses to inflation and the output gap; and another that features less smoothing and a stronger response to inflation (Figure 8).

Table 3. United Kingdom: The Coefficients in the Loss Function

Weights	Baseline Loss Function	High Inflation Weight	High Output Weight	High Interest Rate Weight
λ_π	1	5	1	1
λ_y	1	1	5	1
λ_i	1	1	1	5
Loss Function (relative to staff projection)	0.53	0.66	0.54	0.56



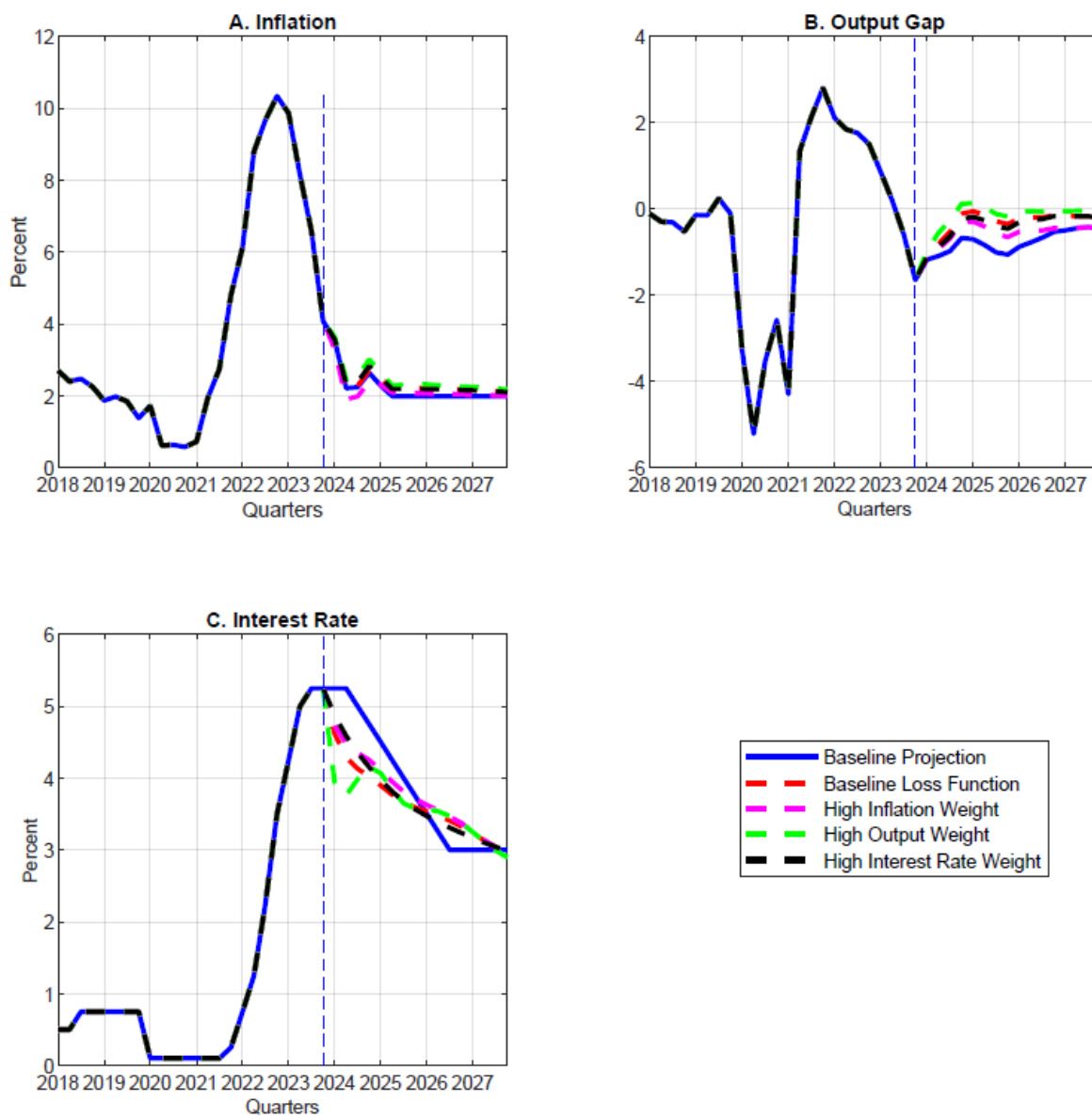
21. We find that the staff’s baseline policy projection is close to optimal, but with differences in the timing of rate cuts. Figure 9 shows that while the overall optimal interest path for different assumptions on the loss function is close to the baseline interest rate projection, there are some differences. The optimal interest rate policy suggests a much earlier reduction in the policy rate, followed by a period of rates at around 4 percent in 2025-6. The main reason for this faster normalization of the policy rate is to bring forward the date at which the projected output gap is closed, taking transmission lags into account. The broad pattern of policy moves is not particularly

sensitive to the weight placed on different objectives in the loss function. Furthermore, under all the different assumptions of the loss function, the inflation converges to the 2 percent target by 2025.

22. With concerns about a prolonged period of above-target inflation leading to the de-anchoring of inflation expectations, the optimal path moves closer to the staff projected path, indicating a more gradual normalization of the policy rate. The previous simulation assumes both perfect foresight and always-anchored inflation expectations. This is a helpful benchmark, as it allows us to determine the best achievable outcomes. However, the possibility of a prolonged period of above-target inflation outcomes leading to a de-anchoring of inflation expectations cannot be ruled out (although, to be clear—long-run inflation expectations have remained well-anchored throughout this tightening cycle). In this case, we assume that only a fraction $\alpha=0.5$ of agents have perfect foresight with inflation expectations staying at the target, and that fraction decays at the exponential rate for each quarter of the projection horizon then. Figure 10 shows that the de-anchoring risk generates an optimal policy path that is closer to the staff's baseline projection. Given the fact that there is still a negative output gap, there remains an incentive to normalize the interest rate paths quicker than in the baseline projection in order to stimulate output.

23. The optimal path of policy rate normalization is similar if the BoE targets core inflation. One last sensitivity analysis we considered is the case where the BoE sets the policy rate path to stabilize core inflation, which may be closer to the rate of domestically-generated inflation of concern to policymakers. As shown in Figure 11, core inflation displays a higher degree of inertia relative to the headline inflation, leading to a more pronounced trade-off between inflation and output stabilization. However, the constrained optimal policy path remains similar to the baseline case of targeting headline inflation. We conclude that the “cut, hold, cut” prescription described above is robust to assuming a higher degree of inflation inertia.

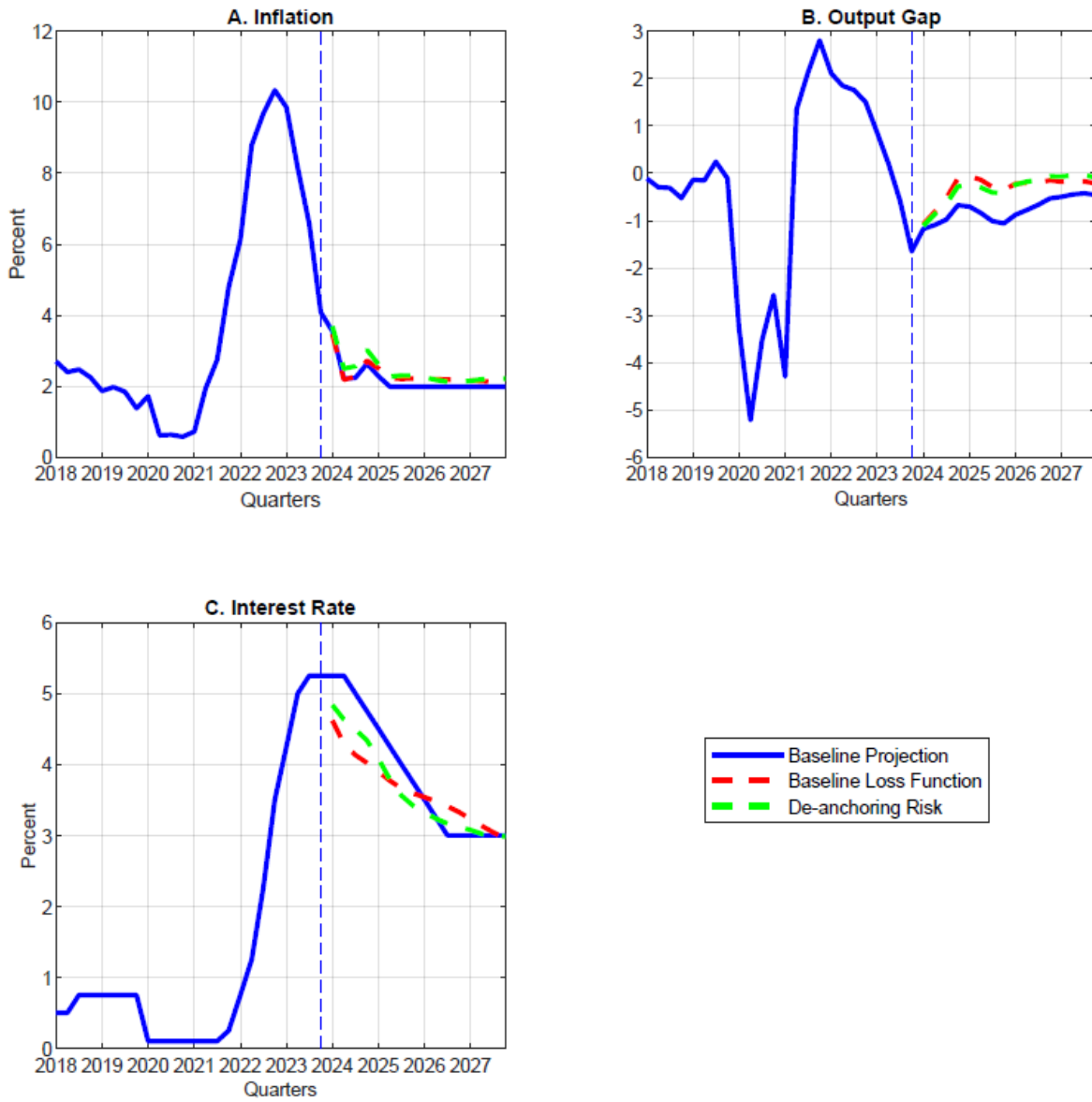
Figure 9. Optimal Policy Projections Under Various Objectives



Note: The baseline projection (blue solid line) is from the 2024 Article IV staff report.

Source: IMF staff calculations.

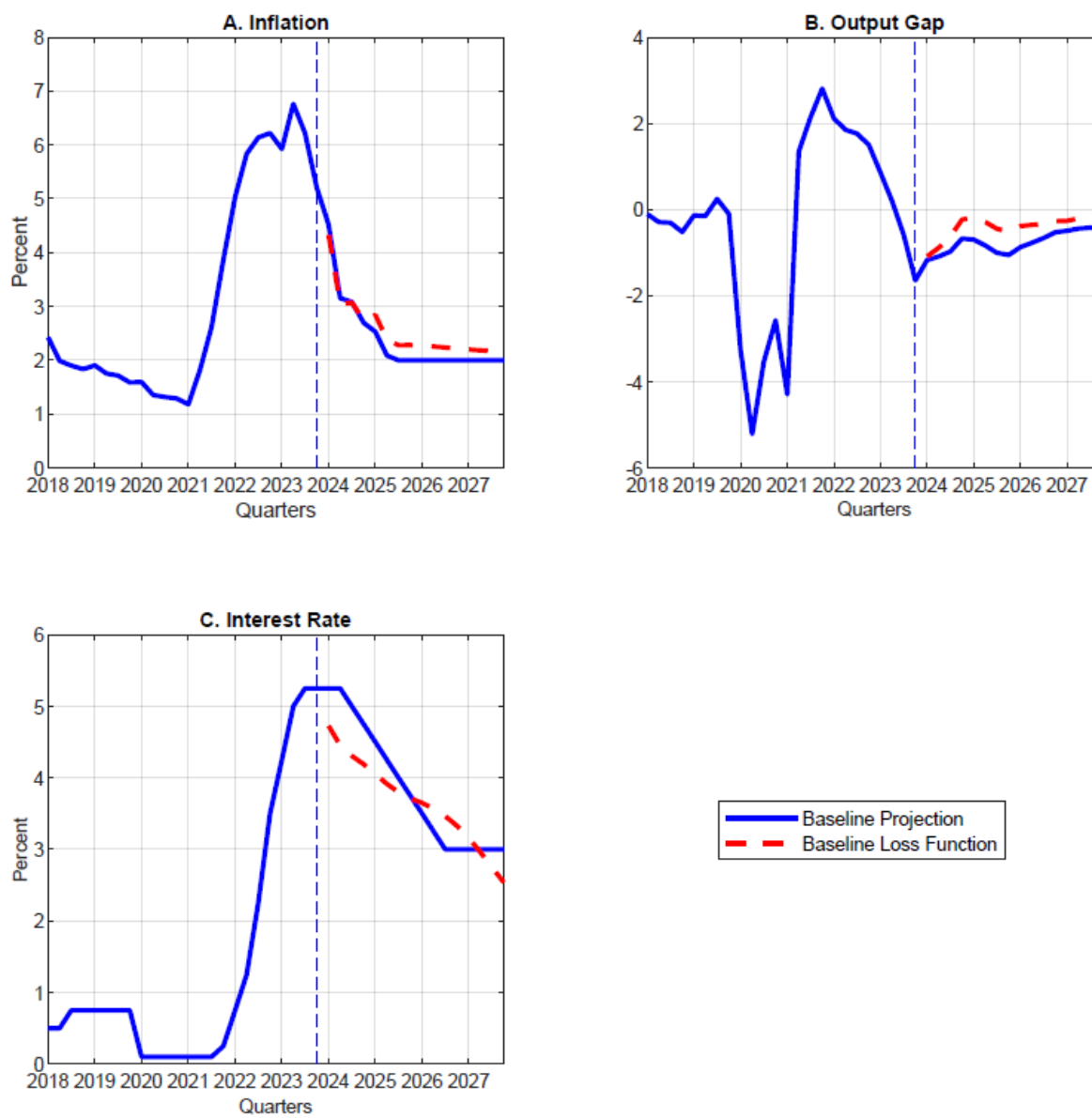
Figure 10. Constrained Optimal Policy Projections Under De-Anchoring Risk



Note: The baseline projection (blue solid line) is from the 2024 Article IV staff report.

Source: IMF staff calculations.

Figure 11. Constrained Optimal Policy Projections of Core Inflation

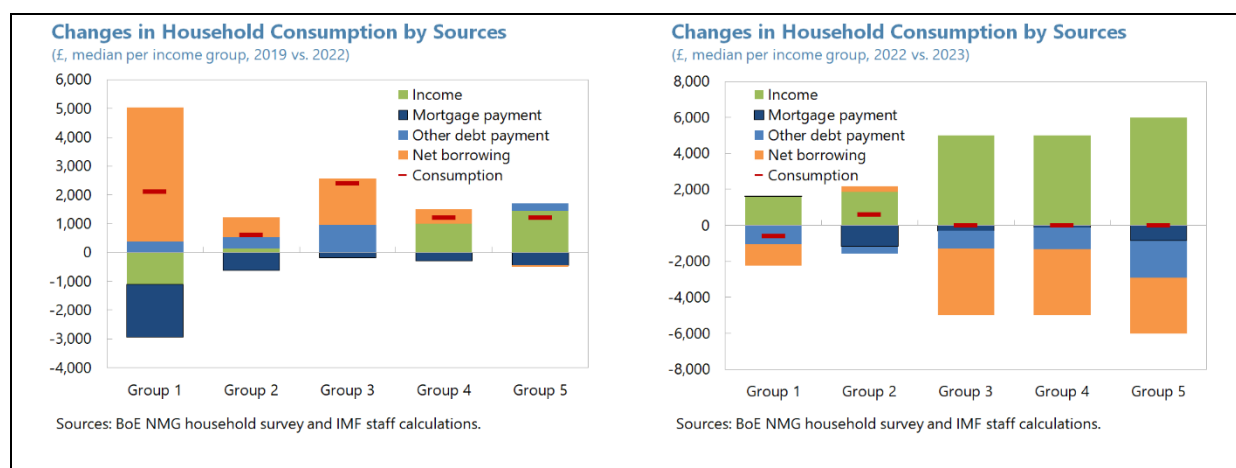


Note: The baseline projection (blue solid line) is from the 2024 Article IV staff report.

Source: IMF staff calculations.

Annex I. Micro Underpinnings of the Weaker Consumption and Stronger Investment Responses

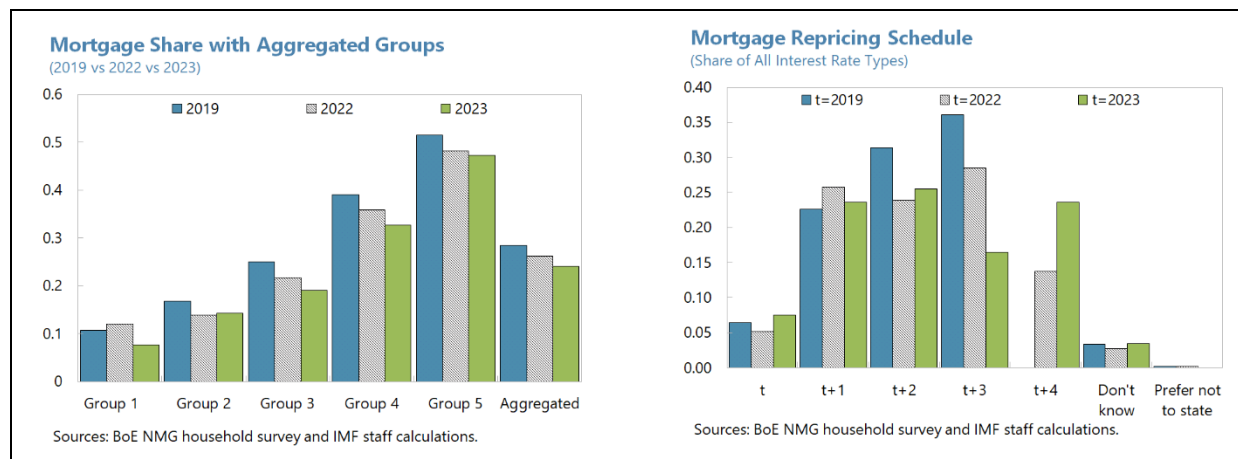
1. Weak household consumption seems driven by the high cost of living and weak consumer confidence. We calculate changes in household consumption from 2019 to 2022 and from 2022 to 2023 and see how these changes were financed: i.e., through changes in income or changes in saving/borrowing, after considering changes in debt service.¹ As expected, we see a general increase in median consumption across all income groups from 2019 to 2022, and, to a large part, this is due to higher costs of living. While there were some increases in mortgage payments, debt service on other household loans was actually smaller. Overall, we do not see strong income growth across all income groups (only in the top two income groups), so the higher consumption was largely financed by withdrawal of savings or by more borrowing (more likely for the lower income group). However, from 2022 to 2023, we see across-the-board increases in household income, but these were largely saved, likely due to weak consumer sentiment.



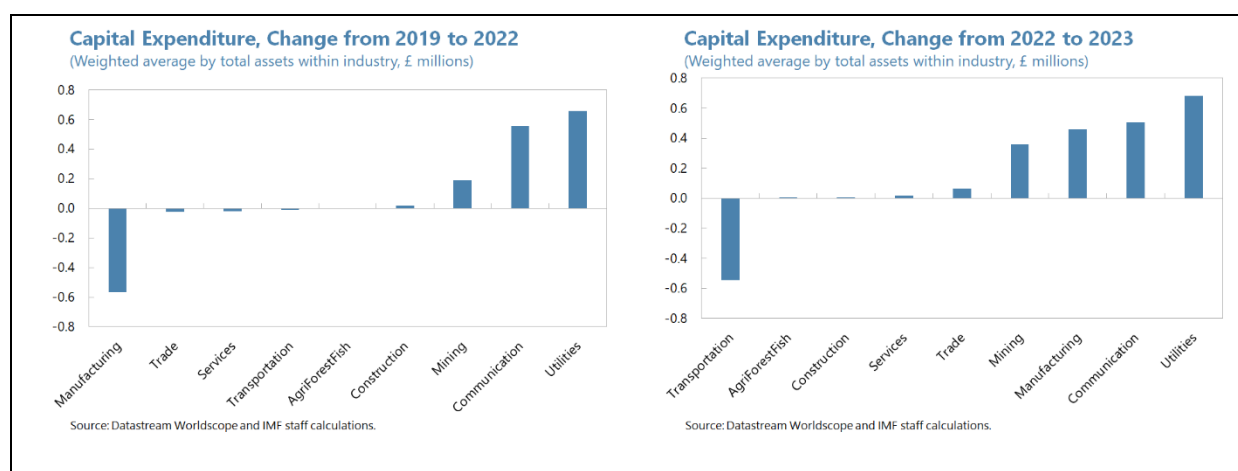
2. Consistent with the macro result on slower monetary transmission via the mortgage channel, we see no major increases in mortgage payments across the income spectrum. Households with mortgages are more concentrated in higher-income groups. Overall, less than 30 percent of households in the survey have mortgages, with about 50 percent in the highest income group and less than 10 percent in the lowest income group. Moreover, the distribution of mortgages (including both floating-rate and fixed-rate) that are subjected to repricing each year also follows a similar pattern. Therefore, we see that the seemingly larger increases in mortgage payments in the lower income groups in 2022 (Group 1) and 2023 (Group 2) were likely due to other factors (such as new mortgages) rather than the repricing of existing mortgages (the latter would have bigger impact on higher income groups). In the near term, despite continued flows of fixed-rate mortgages being subject to higher rates, we do not expect this to be a major drag on

¹ We use the Bank of England/NMG household survey data.

consumption. Instead, continued strong wage growth and improving consumer sentiment will likely support a consumption recovery going forward.

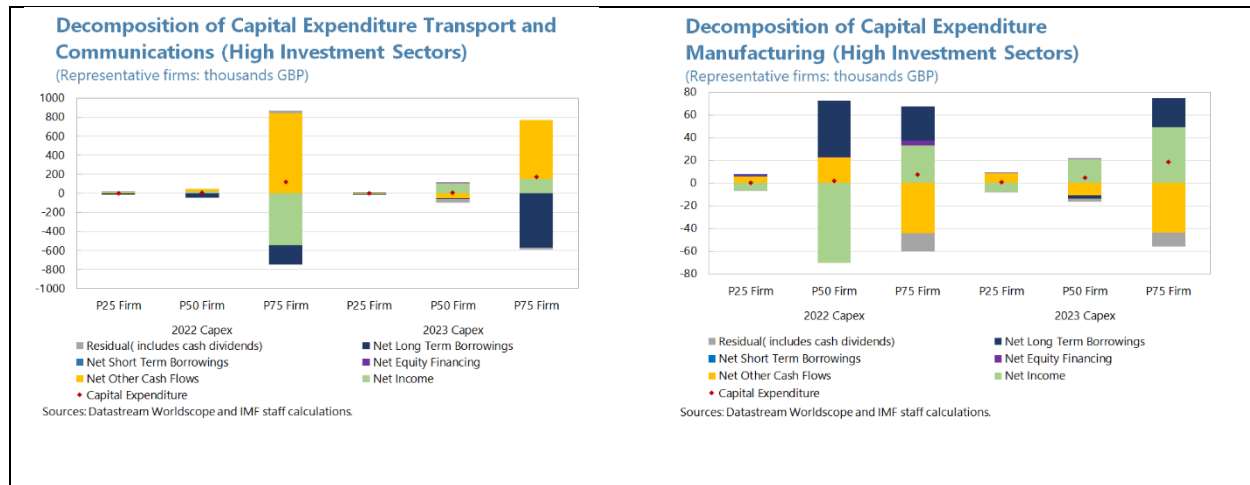


3. On the investment side, business investment is finally picking up after a long period of stagnation. Firm-level data from Worldscope shows that, on average (asset-weighted), the utilities and communications sectors had the highest increases in capital expenditures from 2019 to 2022, while capital expenditures in manufactures declined. From 2022 to 2023, strong investment in utilities and communications continued, and was accompanied by a rebound in the manufacturing sector. Several factors can explain this rebound: the Windsor Framework agreement (which has helped reduce Brexit-related uncertainty), pent-up investment demand that had built up during the early covid period; and, more importantly, the full tax-expensing of business investment in plant and machinery introduced in the 2023 Spring budget and made permanent in the 2023 Autumn statement.



4. However, not all sectors have utilized tax incentives and stepped-up investment. The transport and communications sector, which has maintained relatively high capital expenditures in both 2022 and 2023, seems to have utilized the tax incentives (shown as other operational cash flows) to finance capital expenditures. However, looking at representative firms in manufacturing,

the recovery of profits (net income from operation) seems to be the main driver of the recovery of capital expenditures in 2023. In addition, sources of long-term financing (including equity financing) help further boost capital expenditures. Looking forward, while permanent tax incentives will support business investment, positive outlook (profitability) and access to long-term financing will also be crucial for sustained growth in business investment.



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