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"Front-loading" monetary tightening: pros and cons

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"Front-loading" monetary tightening: pros and cons

Key takeaways

- *In response to the surge in inflation globally, central banks have engaged in the most synchronised and rapid monetary tightening in 50 years.*
- *Parsing the evidence from 11 advanced economies since 1970 indicates that "front-loading" of interest rate hikes is successful in countering inflation, even in the face of large and persistent inflationary shocks.*
- *Still, front-loaded monetary policy tightening may carry risks to financial stability, especially in an environment of high private and public debt levels or potential fragility in market liquidity.*

Introduction

The combination of a strong policy-supported rebound in aggregate demand since the pandemic, the sequence of adverse supply shocks and the war in Ukraine have led to an inflation surge globally. Central banks have tightened monetary policy in response. Starting from very low short-term real interest rates, central banks have also engaged in *front-loading* the monetary tightening, ie they have engaged in large initial increases in policy rates.

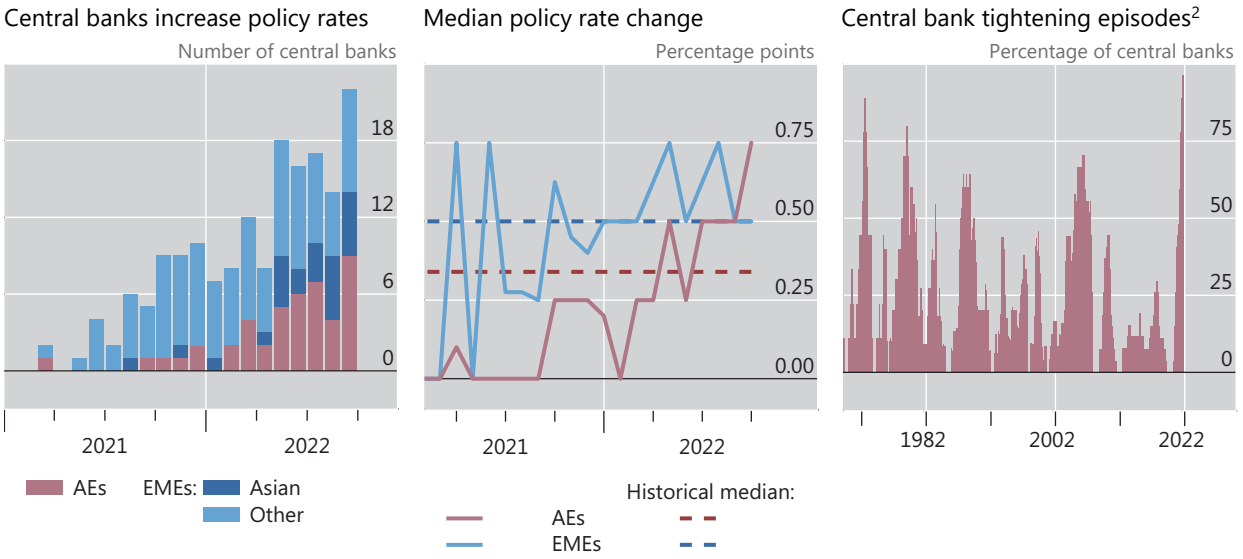
Along the tightening path, central banks need to decide the speed and size of interest rate hikes, as well as how long to keep the policy rate at the peak or so-called terminal rate. In other words, central banks must decide on "how fast, how far and how long". These choices and their combination involve difficult trade-offs. Tightening too quickly or too much can cause an unnecessary drag on real activity. Under current circumstances of historically high debt levels and the long phase of risk-taking in financial markets, an abrupt tightening of financial conditions could induce stress in financial markets, with repercussions for the real economy. However, tightening too slowly or too little could let inflation broaden and become entrenched, which would then require more forceful and costly action down the road.

In this Bulletin, we discuss the appropriate speed of interest rate adjustments, with specific reference to the concept of front-loading. We start by documenting the features of the current tightening episode, including its speed and synchronicity across countries. We then analyse the pros and cons of front-loading interest rate increases, paying special attention to the risk of shifting to a high-inflation regime and the implications for financial stability. We conclude by discussing the associated communication challenges.

Current monetary tightening

Buoyed by highly expansionary monetary and fiscal policies, inflation began to rise quickly in early 2021, after pandemic-related restrictions on commercial activity started to lift. By the end of 2021, inflation was well above central bank targets in most countries. In several emerging market economies (EMEs), especially in Latin America and central Europe, central banks started to raise policy rates in the first half of 2021 (Graph 1, left-hand panel). By the end of the year, those in advanced economies (AEs) began to follow suit. The surge in energy and other commodity prices in the wake of the Russian invasion of Ukraine heightened the urgency of a firm policy response to the inflation flare-up. By mid-2022, the tightening phase among major AEs was well under way and was quickly followed by central banks in Asia, apart from those of Japan and China.

Monetary tightening episodes[1] Graph 1



[1] Based on data for AU, BR, CA, CH, CL, CO, CZ, DK, EA, GB, HU, ID, IN, JP, KR, MX, MY, NO, NZ, PE, PH, PL, SA, SE, TH, US and ZA. [2] Based on data from Jan 1970 to Sep 2022 (subject to country availability). For each country, tightening episodes are identified as months between the trough and peak in the policy rate around periods when the seven-month centred moving average of the policy rate is increasing. Tightening episodes in which the policy rate increases by less than 1 percentage point or more than 20 percentage points, or episodes that last less than six months or more than 48 months, are excluded from the analysis. Overall, we identify 154 tightening episodes.

Sources: National data; BIS.

With few exceptions, most central banks started their current tightening phase with a conventional 25 basis point increase in their policy rate. But when inflation proved to be more persistent and broad-based than expected, they progressively increased the size of their hikes. The median interest rate hike quickly rose to 50 basis points and then to 75 basis points, first in EMEs and then in AEs (Graph 1, centre panel).

From a historical perspective, two features of the current tightening episode stand out. First, it is the most synchronised tightening episode of the past 50 years. By August 2022, more than 95% of central banks in the sample had started to increase their policy rates (Graph 1, right-hand panel), with many of them also having begun to shrink their balance sheets. By way of comparison, the percentage of central banks hiking rates has rarely been above 50%, and it reached 90% only during the global inflation surge of the 1970s. Second, central banks are generally raising policy rates at about twice their historical pace (Graph 2, top panels). In fact, for many countries the current cumulative increase in policy rates significantly exceeds that during the early stages of all previous tightening episodes. That said, while nominal rates are increasing faster than usual, ex post real rates are rising significantly more slowly (bottom panels).

Front-loaded interest rate increases

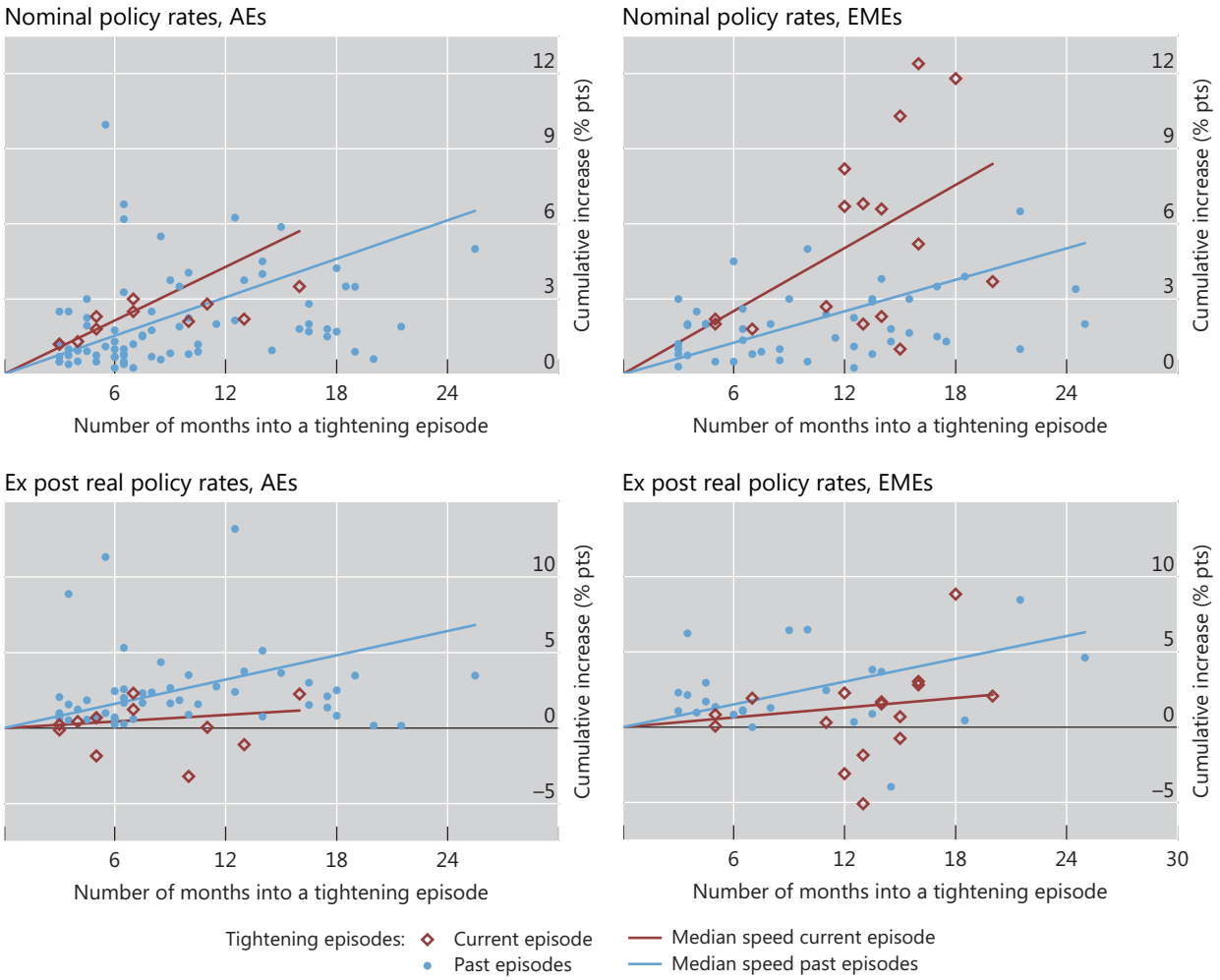
The quicker than usual pace of tightening has sparked a debate on the merits of front-loading interest rate increases. One sense of front-loading is that by tightening more expeditiously now, central banks will not have to do as much later. In other words, a front-loaded tightening is associated with an expected path with relatively larger interest rate increases at the outset, followed by smaller ones.

From an ex post perspective, with the benefit of seeing the whole path of policy rates, such a front-loaded pattern of interest rate increases is easily recognisable. However, from an ex ante perspective, the notion is less easy to pin down because the central bank may be unsure how high rates need to rise. To determine whether a path of interest rate hikes should involve front-loading or not, a central bank must be fairly certain about the terminal rate of the tightening phase. Even then, the assessment of the size and

duration of the policy change that will ultimately be required may change along the way. In this sense, front-loading may mean little more than the idea that, when faced with a choice, the central bank opts for the action that implies larger initial interest rate hikes, and to move less gradually, given its assessment of the balance of risks.

Tightening speeds, current versus past

Graph 2



Based on data for AU, BR, CA, CH, CL, CO, CZ, DK, EA, GB, HU, ID, IN, JP, KR, MX, MY, NO, NZ, PE, PH, PL, SA, SE, TH, US and ZA since 1970 (subject to country availability). Each solid dot corresponds to a pre-2021 country-specific tightening episode, while each diamond corresponds to the current country-specific tightening episode. For each pre-2021 episode, the x-axis shows the number of months elapsed halfway through the episode, while the y-axis shows the cumulative interest rate change from one month before to halfway through the episode. The blue and red solid lines show the median pace of tightening for the pre-2021 and current tightening episodes, respectively.

Sources: National data; BIS.

A common justification for a gradualist approach to monetary policymaking is that it is more conducive to maintaining financial stability (Stein and Sunderam (2018)). In current circumstances, abandoning the gradualist approach raises the possibility of an abrupt and excessive tightening of financial conditions, as larger than usual interest rate hikes that typically accompany a more front-loaded approach, especially if unexpected, can amplify the sell-off of risky assets. In turn, there could be episodes of market dysfunction and instability that disrupt the flow of credit to businesses and households.

Evidence based on historical patterns can shed some light on this issue, although it needs to be interpreted carefully. The evidence does suggest that the typical asset price movements after "large" rate hikes are bigger than those following "normal" ones (Table 1). This pattern is visible in the reaction of government bond yields, corporate credit spreads and equities (prices and volatilities), in both AEs and

EMEs. Still, the differences in asset price movements in response to large and normal hikes are, on average, quite modest.

Average differences in asset price moves between large and normal hikes Table 1

	Advanced economies	Emerging market economies
10y government bond yield (bp)	9*	27**
10y swaption volatility (bp)[1]	5	-
Corporate credit spread (bp)[2]	15**	12
Equity index (% pts)[3]	–1.25	–0.38
Equity index implied volatility (% pts)[4]	1.19	-
Memo:		
Average normal interest rate hike (bp)	25	29
Average large interest rate hike (bp)	68	148

Based on data for AU, BR, CA, CH, CL, CO, CZ, DK, EA, GB, HU, ID, IN, JP, KR, MX, MY, NO, NZ, PE, PH, PL, SA, SE, TH, US and ZA from Jan 1990 to Sep 2022 (subject to country availability). For each variable, the table reports the average difference across countries of changes in the specified series during months when the policy rate was increased by a "large" amount (larger than the median rate hike for each country), minus the corresponding change when the policy rate was increased by a "normal" amount (smaller than or equal to the median rate hike for each country). Around 30% of the hikes are classified as "large" using this classification. Asterisks indicate the statistical significance of the difference in asset price moves between "large" and "normal" hikes, denoted at the 10% and 5% levels by * and **, respectively.

[1] Based on swaptions with a three-month tenor. [2] Based on corporate spread indices in the JPMorgan Global Aggregate Bond Index (GABI). [3] Monthly returns. [4] Based on the at-the-money call implied volatility of the first listed expiry, which is at least 20 business days out.

Sources: Bloomberg; JPMorgan Chase; national data; BIS.

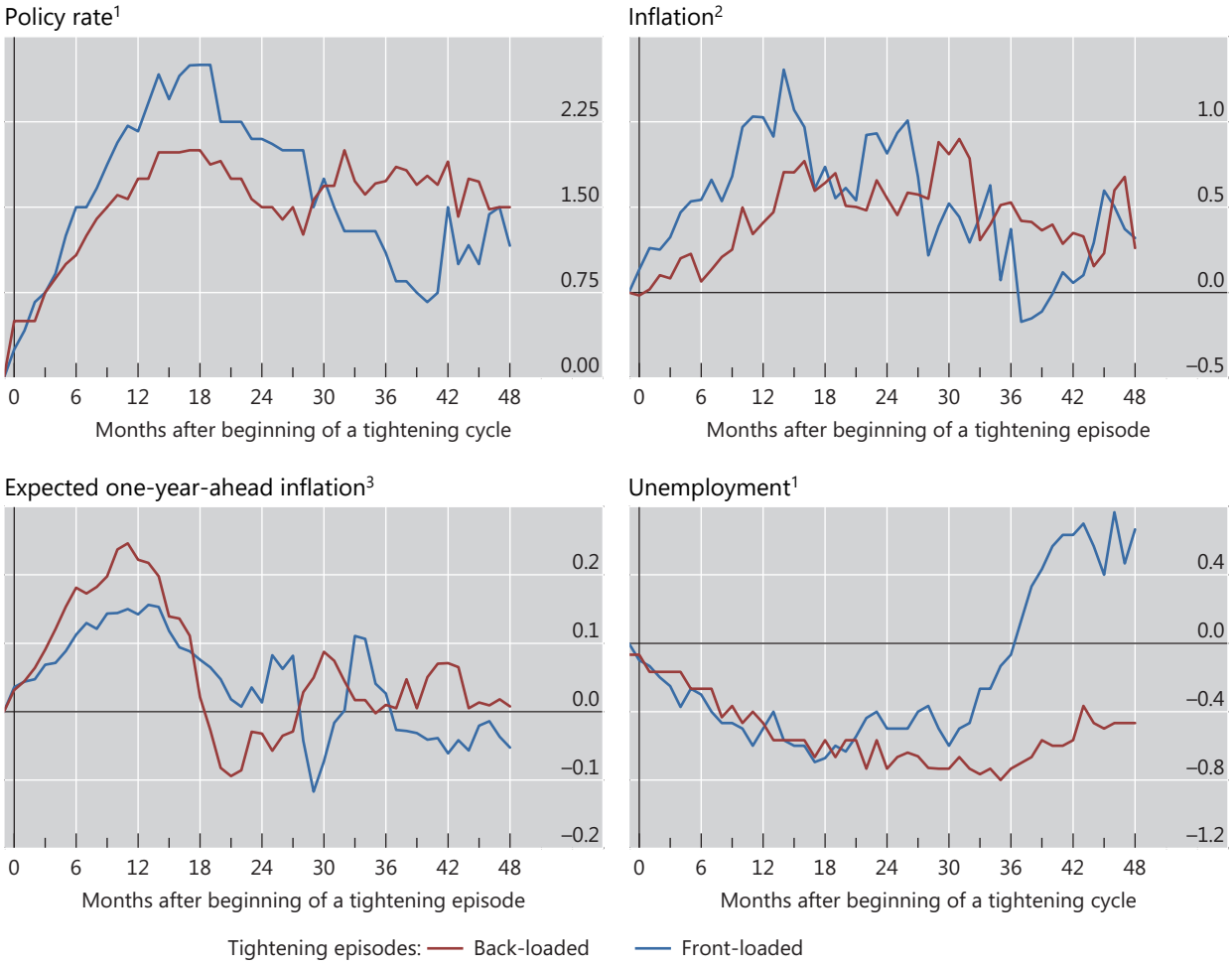
That said, the fact that monetary tightening is taking place when the global economy is emerging from a protracted period of low interest rates and risk-taking cautions against taking the historical evidence on financial stability as being comparable with current circumstances. This is the case especially given the potential structural vulnerabilities in the non-bank financial intermediaries (NBFI) sector (Carstens (2021)). The impact of a sharp policy tightening in current circumstances may be larger than the above estimates suggest. In addition, there are indications that liquidity in some core sovereign debt markets may be less resilient than in the past. In turn, an outsize reaction in core markets could have broader global repercussions through portfolio adjustments and capital flows, especially in EMEs. At the same time, when macroeconomic developments call for a firm and prompt policy response, delaying the necessary adjustment for too long might force the central bank to respond more aggressively down the line and in the process potentially destabilise financial markets.

More generally, the optimal pace of policy adjustment depends on the balance of risks between under- versus overshooting the inflation target. A high cost of undershooting the objective argues for a more aggressive, less gradual policy response. At the current juncture, the main reason to tighten policy less gradually and to front-load is to prevent inflation from becoming entrenched and then to incur larger costs to bring it under control later. The risk that transitions from low- to high-inflation regimes are self-reinforcing (BIS (2022)) further supports this course of action, as do the high reputational costs of missing the objective persistently and by a large margin.

A simple empirical exercise for 11 AEs – for which long time series are available – sheds further light on the reasons for front-loading and the mechanisms through which it might work. We identify tightening episodes since 1970 and classify them into front- and back-loaded. Specifically, for each tightening episode, we calculate a front-loading index, the proportion of the overall increase in the policy rate that occurs in the first half of the episode. An episode is then classified as front-loaded when its front-loading index is above its country-specific median, and back-loaded when it is below it.

Front- vs back-loaded tightening episodes in AEs

Median change, in percentage points — Graph 3



Based on 74 tightening episodes identified for AU, CA, CH, DK, EA, GB, JP, NO, NZ, SE and US for the period 1970–2020 (subject to country availability). The lines show median changes from one month before the tightening episode to 48 months after the episode, calculated across countries and the two types of tightening episodes.

[1] The initial value at the beginning of the episode corresponds to the simple average over the three-month period between *t*–1 and *t*– 3. [2] Inflation is computed as the monthly year-on-year change in the price level, and the initial value at the beginning of the episode corresponds to its value in month *t*–1. [3] The initial value at the beginning of the episode corresponds to its value in month *t*–1.

Sources: Consensus Economics; OECD; national data; BIS.

Compared with back-loaded episodes, the policy rate in front-loaded tightening episodes, on balance, rises faster and peaks higher, but it also reverts to its pre-tightening level sooner (Graph 3, top left-hand panel). This pattern is consistent with the common understanding of front-loading discussed above – namely that by doing more now, less needs to be done later.

A more aggressive policy response appears to succeed in bringing inflation under control, even in the face of a larger and more persistent initial inflationary impulse (Graph 3, top right-hand panel). Indeed, front-loaded episodes in AEs are typically preceded by a faster rise in inflation, an accelerating depreciation of the domestic currency and an upward drift in inflation expectations (Graph 4). This could mean that central banks, following a comparatively strong and persistent increase in inflation, find themselves "behind the curve". The condition may also reflect a tendency to "wait and see" before changing course, owing to the concern that reversing direction could be interpreted as a mistake, thus harming the institution's reputation.

Front- vs back-loaded tightening episodes in AEs: initial conditions

Median change, in percentage points — Graph 4

Based on data for AU, CA, CH, DK, EA, GB, JP, NO, NZ, SE and US for the period 1970–2020 (subject to country availability). The bars show median changes across countries and the two types of tightening episodes. For inflation, the difference in the average (annualised) inflation rate between months *t*–1 and *t*–7 and the average (annualised) inflation rate between months *t*–7 and *t*–13, where month *t* identifies the beginning of a tightening episode. For expected inflation, change in the one-year-ahead consensus inflation expectations between months *t*–1 and *t*–7. For unemployment, change in the unemployment rate between months *t*–1 and *t*–7. For currency depreciation, the difference in the average (annualised) local currency depreciation rate vis-à-vis the US dollar between months *t*–1 and *t*–4 and the average (annualised) depreciation rate between months *t*-4 and *t*–7.

Sources: Consensus Economics; OECD; national data; BIS.

One possible mechanism through which front-loading is successful in slowing inflation is that the more aggressive response helps to constrain the rise in inflation expectations – here proxied by consensus forecasts (Graph 3, bottom left-hand panel). Indeed, inflation starts to decline a mere year following the first hike. By comparison, unemployment begins to rise notably later (bottom right-hand panel).[1] These dynamics suggest that front-loading monetary tightening helps to reinforce the central bank's commitment to price stability and anchor the behaviour of economic agents.

Despite its apparent merits, front-loading raises important communication challenges because the concept conveys the sense that more is done now, so that less *will* be done later. On the one hand, communicating in terms of front-loading can be helpful if the endpoint of the tightening phase is fairly certain. It can be regarded as a "soft" form of forward guidance, less constraining than providing, say, a figure or tight range for the terminal rate. On the other hand, it can be detrimental when the amount of tightening necessary to bring inflation under control is highly uncertain. If inflation pressures prove more persistent than anticipated, the central bank would need to do more. As with any form of forward guidance, its credibility could come into question and the risk of outsize financial market reactions could increase.

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[1] Even then, the increase in the unemployment rate is modest, on balance. In front-loaded episodes, the unemployment rate four years into the tightening episode is only about 0.5 percentage points above its low pre-tightening level. This pattern suggests that front-loaded tightenings are not systematically associated with "hard landings" (BIS (2022)).

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