

3. SPECIAL TOPICS

BOX 1. OPTIMAL MONETARY POLICY RESPONSE TO SUPPLY-SIDE SHOCKS

Recent global economic developments highlight that inflation dynamics in both advanced and emerging economies have been largely driven by supply-side shocks. These include disruptions in global supply chains and sharp increases in energy and food prices. Under an inflation-targeting framework, central banks typically do not respond directly to supply-side shocks, as such responses are considered to amplify economic volatility. However, the frequency and magnitude of consecutive supply shocks in recent years raise important questions regarding the appropriate monetary policy response in this context.

As noted, in inflation-targeting economies, the ability of monetary policy to respond effectively to supply-side shocks is often considered limited. This view is based on the assumption that supply shocks are generally temporary and short-lived, while the transmission of monetary policy to the real economy operates with a time lag. Consequently, by the time the impact of monetary policy reaches its peak, the initial shock to prices has already subsided, and policy intervention at that stage could generate additional economic volatility, reduce growth, and push inflation below its target level. Under such conditions, it is optimal for monetary policy to “look through” short-term supply shocks. However, when a supply shock is sufficiently prolonged and/or large in scale to generate so-called “second-round” effects through which the shock begins to influence inflation expectations, a policy response becomes necessary to safeguard price stability over the medium term.

During and after the pandemic, the relatively delayed monetary policy response (“Falling behind the curve”) to consecutive supply shocks, particularly in advanced economies, contributed to the materialization of these second-round effects. As a result, measures of sticky price inflation, which serve as reliable indicators of long-term inflation expectations, have remained above the 2% target to this day. In contrast, in emerging economies, including Georgia, monetary policy responded to inflationary pressures more promptly during the pandemic. This partly reflects the greater vulnerability of such economies to supply-side shocks. Nevertheless, despite the swift response, inflationary pressures in emerging markets remained strong: on the one hand, due to the large magnitude of external shocks, and on the other, because structural frictions such as high dollarization and faster transmission of external shocks limited the overall effectiveness of monetary policy.

In general, the extent to which supply shocks can influence long-term inflation expectations depends on several factors, including the existing inflation environment, labor market tightness, and the cyclical position of the economy. Specifically, in a tight labor market where demand for labor is high, employees have greater bargaining power to demand higher wages. At the same time, if aggregate demand exceeds its sustainable level, firms can maintain profit margins by passing higher production costs onto prices. When supply and demand shocks occur together, this amplifies inflationary pressures, increasing the need for monetary tightening to mitigate the risk of a wage-price spiral. It is also important to note that the likelihood of “second-round” effects is particularly high in a high-inflation environment, where price flexibility tends to increase, including in sectors traditionally characterized by sticky prices, since keeping prices unchanged for an extended period becomes more costly for firms. Moreover, price flexibility is typically asymmetric: it tends to increase more quickly than it declines. Under such circumstances, the risks to the stability of inflation expectations and to the credibility of monetary policy intensify.

The vulnerability of inflation expectations to adverse supply shocks is also strongly influenced by the composition of the consumer basket. When the share of flexible-price items (such as food and energy, for which demand is relatively inelastic) is high, any shock that affects their prices has a pronounced impact on both headline inflation and the formation of inflation expectations. In emerging economies, including Georgia, this picture is especially evident: the share of flexible prices in the consumer basket typically varies between 60% and 70%. Consequently, during such shocks, both headline and relative price dynamics exhibit greater volatility, heightening the risk of rising inflation expectations. This, in turn, calls for a more cautious monetary policy stance.

As noted, the transmission of supply shocks to inflation expectations depends on several factors, including the endogenous credibility of the central bank, which is largely shaped by its past inflation performance. When a central bank is characterized by high endogenous credibility, households and firms are more forward-looking and anchor their expectations of future inflation around the target level. In this context, the risk of adverse supply shocks feeding into inflation expectations is minimal, and it may be appropriate for

polymakers to “look through” short-term inflationary pressures without changing the monetary policy stance. However, in emerging economies, where the share of flexible prices is high and inflation is more volatile, expectations tend to be partly backward-looking, reflecting past inflation experiences. Under such conditions, adverse supply shocks increase the risk of inflation expectations becoming unanchored. Against this backdrop, moderate monetary tightening, or maintaining a restrictive stance, may be needed, even at the cost of slower economic activity. This is because if supply shocks become more frequent or persistent, a delayed policy response would later necessitate a much sharper tightening, ultimately leading to greater welfare losses manifested through larger deviations of inflation from the target, reduced economic activity, increased interest rate volatility, and a higher overall price level (see Figure 3.1.1).

The figure 3.1.1 illustrates the impulse response functions describing the dynamics of four key macroeconomic variables - inflation, the output gap, the monetary policy rate, and the price level - in response to demand and supply shocks. In the case of a supply shock, two distinct scenarios are considered: in the first, monetary policy reacts promptly to a one-off, short-term supply shock; in the second, the policy rate remains unchanged for two quarters in the face of several consecutive supply shocks. As the IRFs suggest, when the monetary policy response is delayed by two quarters, headline inflation rises by 1.2 percentage points, requiring a cumulative tightening of 1 percentage point to bring it back toward target. Under this response decline in output (real GDP gap) is more pronounced. In contrast, if the policy reaction were immediate, inflation would increase by only 0.3 percentage points, and its impact on the economy would dissipate much faster. Importantly, even when responding to a one-time supply shock, the welfare loss⁴ is estimated to be about twice as large as that arising from demand shocks. This finding underscores the fact that monetary policy is most effective in addressing shocks that originate from the demand side of the economy.



Figure 3.1.1. Impulse Response Functions (IRFs) according to New-Keynesian Semi-Structural Georgian Economy Model (GEMO)

Source: NBG.

⁴ In this context, the welfare loss is assessed as the deviation and volatility of key macroeconomic variables (inflation, the output gap, the monetary policy rate, and the price level) from their optimal levels.

More broadly, the inflation-targeting framework is based on the principle that the current rate of inflation, not the price level, is the primary policy objective, in line with the principle that “bygones are bygones.” Nevertheless, when monetary policy reacts with delay, the resulting persistent increase in the price level complicates anchoring of inflation expectations. Therefore, a delayed response to supply shocks, especially when their transitory nature is uncertain, significantly heightens macroeconomic stability risks. At the same time, it is clear that monetary policy should react more decisively to demand shocks, since under an inflation-targeting regime, the policy rate serves as the key instrument for countering inflationary or deflationary pressures arising from fluctuations in aggregate demand.

Georgia, as a small and open economy, remains vulnerable to both supply and external demand shocks. Therefore, analyzing past experience is essential to better determine what constitutes an optimal monetary policy response (see Figure 3.1.2). Since the adoption of the inflation-targeting regime, supply-side shocks can broadly be classified into three categories: (i) negative supply shocks that caused only a one-off increase in inflation without generating “second-round” effects, in which case the NBG adopted a “look-through” approach and did not react; (ii) negative supply shocks that required a policy response due to their intensity and the associated risks of rising inflation expectations; and (iii) positive shocks.

An example of the first category is the increase in excise taxes on tobacco in 2017. Although this policy change temporarily raised inflation, the NBG maintained a neutral stance, confident in the transitory nature of the shock. Effective communication helped anchor inflation expectations, and inflation subsequently returned to its target level once the base effect dissipated.

The second category includes negative supply shocks whose magnitude gave rise to “second-round” effects, necessitating monetary policy action to neutralize inflationary pressures. Examples include: the surge in global commodity prices in 2011; the oil price shock and global appreciation of the US dollar during 2014-2015; the depreciation of the lari in 2019 following flight restrictions from Russia, which triggered an external demand shock; and the pandemic-induced supply chain disruptions during 2020-2021, which sharply increased global commodity and shipping costs. Negative supply shock was further exacerbated with the pent-up demand and tight labor market pressures. It should be noted that during the early phase of the pandemic, despite the presence of a negative demand shock, monetary policy was eased only modestly by 1 percentage point to 8% reflecting the already high-inflation environment of the preceding period. Later, as sequential supply and demand shocks intensified, monetary policy was significantly tightened. In 2022, the Russia-Ukraine war introduced additional supply shocks, pushing up flexible prices and transmitting inflationary pressures to relatively sticky-price sectors as well. To stabilize inflation expectations, the policy rate was cumulatively raised by 3 percentage points to 11%, and the tight stance was maintained for an extended period, which ultimately contributed to the reduction of inflation in sticky-price components.

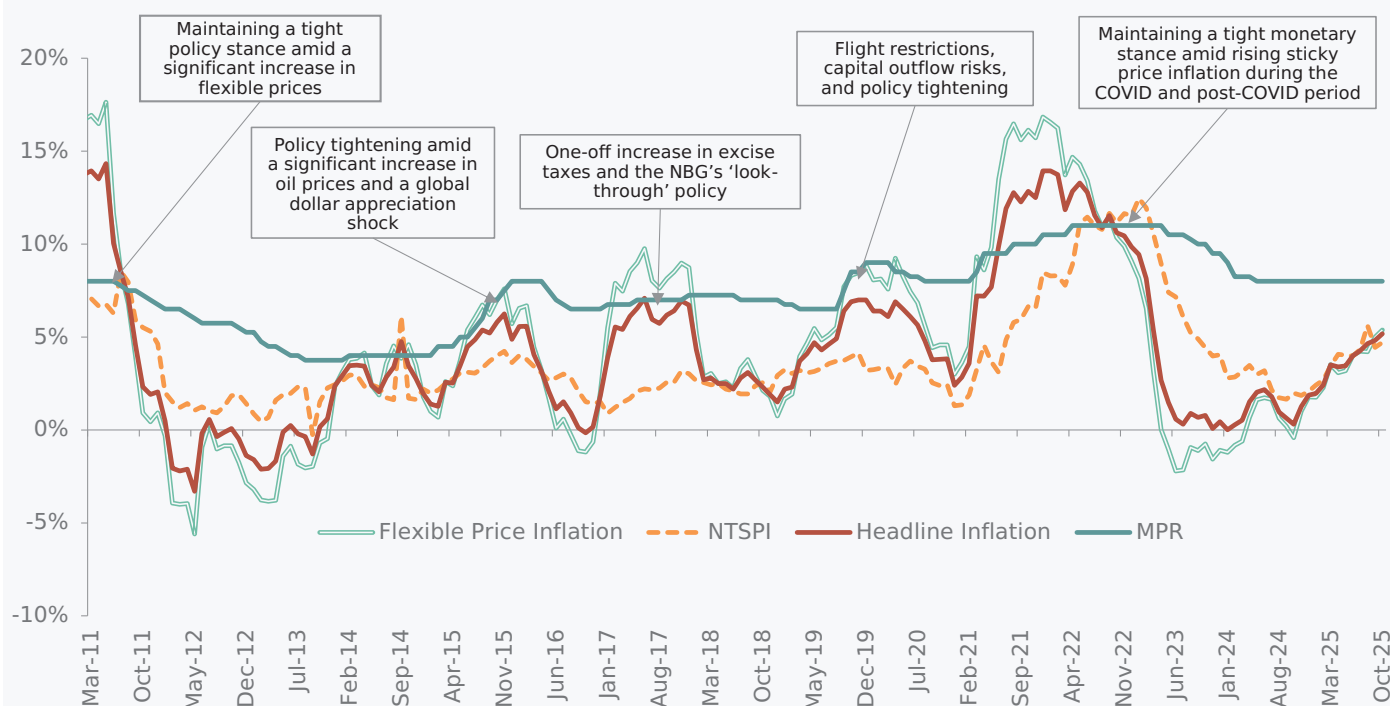


Figure 3.1.2. Sticky and flexible price dynamics in Georgia and the response of the monetary policy on external shocks

Source: NBG, Geostat.

It is noteworthy that, starting from 2023, a positive supply shock induced structural changes in the economy, enhancing productive capacity and generating a disinflationary effect not only through the demand channel but also via the exchange rate channel. During this period, the gradual normalization of monetary policy began; however, given prevailing domestic and external risks, the policy stance remained moderately tight. This, in turn, contributed to the sustained maintenance of a low-inflation environment. In 2025, due to low base effects from previous years and supply-side factors independent of monetary policy⁵, inflation has again increased slightly. Nevertheless, conditions in the labor market, the cyclical position of the economy, and the relatively low-inflation environment of recent years have significantly mitigated the risk of a sharp rise in inflation expectations. Moreover, **the maintenance of a prolonged tight monetary policy stance has reduced the likelihood of the current shock being transmitted to inflation expectations.**

To summarize, the monetary policy response to supply shocks differs fundamentally from that to demand shocks. Reacting to supply shocks tends to amplify economic volatility; however, delayed responses may lead to larger welfare losses and require sharper tightening in the future. In the case of a negative supply shock, characterized by rising prices and declining output, a more cautious and moderate policy reaction is important compared to that for a demand-driven shock. **Nonetheless, in order to minimize risks, in a highly uncertain environment where shocks are inevitable and their nature is unclear, it remains important to maintain a tight policy stance over the medium term.** Such an approach enables policy-makers to mitigate the adverse effects of uncertainty and to avoid the need for abrupt policy tightening later on. This, in turn, reinforces confidence in monetary policy and supports the stability of inflation expectations over the medium term.

⁵ Among these factors is the increase in prices in regulated and food markets compared to the previous year.