

Measuring Monetary Aggregates in Russia: A Divisia Approach

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Monetary aggregates play a key role in monetary policy, even if their role has changed over time depending on the circumstances. Many central banks in Western countries adopted monetary aggregates as targets of monetary policy in the 1970s when monetarist ideas became influential. However, this approach proved unsuccessful and by the early 1990s a shift towards inflation targeting was underway. Even then, some monetary authorities, such as the Bundesbank and later the European Central Bank, continue using monetary aggregates as a key information variable in their policy decisions.

A number of transition economies in Eastern Europe also adopted various degrees of monetary targeting in the 1990s due to weak monetary transmission mechanisms and institutional deficiencies. Russia was no exception and monetary aggregates were adopted as an intermediate target for most of the 1990s and 2000s. In fact, a number of studies show that the Central Bank of Russia (CBR) has followed a McCallum rule in its monetary policy before adopting inflation targeting. But if monetary aggregates are to guide monetary policy, be it as a nominal anchor, an intermediate target, or an information variable, they need to be measured properly.

This paper focuses on the measurement of monetary aggregates in Russia over the period 1998-2019, arguing that the current method used is too simplistic. Most central banks around the world, including CBR, compile monetary aggregates, such as broad money M2, as a simple sum of its components, ignoring the fact that components vary by the degree of liquidity they provide. By contrast, this paper adopts a Divisia approach, which has been gaining momentum in recent years, and generates a new series of monetary aggregates for Russia. In particular, we use different weights for each of the components of M2 to create a monetary aggregate that places a greater emphasis on more liquid components, because they are more closely linked to economic activity. Furthermore, we also create an alternative series for the M2X aggregate, given the importance of foreign currency deposits in Russia.

The resulting Divisia monetary aggregates are examined in detail, comparing them to the official measures reported by CBR. Our analysis shows that the growth of Divisia aggregates deviates markedly from the official measures over most of the years in the sample. In particular, the drops in the growth of the Divisia aggregates in the early 2000s are much deeper than for the standard measures. While over the past decade the deviations have decreased in magnitude, there is some indication that the two aggregates often move in different directions.

In the second part of the analysis, we apply the new Divisia monetary aggregates to three different settings. First, we estimate five money demand specifications, one open economy specification and four versions of the standard open economy model. The results indicate that Divisia consistently provides estimates that are much closer to the theoretically expected value of one and that Divisia money demand is more stable. This matches the findings in the previous literature for other countries.

Second, we apply Divisia in a nominal GDP nowcasting exercise for Russia in order to test the informational content of Divisia aggregates compared to their simple-sum counterparts. We find strong evidence that Divisia-based nowcasting performs better in times of financial turmoil, such as in the aftermath of the 2008 financial crisis.

Third, a number of papers found that using Divisia in a monetary VAR can remove or at least mitigate the infamous price puzzle i.e. that inflation initially increases after a contractionary policy shock, before eventually dropping. We assess this potential for Russia using a structural VAR with a recursive identification scheme. While we find a price puzzle in all specifications, Divisia clearly and consistently mitigates the extent of the price puzzle. Although prices do still initially increase after a contractionary shock before settling at a lower level, the initial increase is less pronounced when using Divisia.

In conclusion, we argue that Divisia monetary aggregates have a strong theoretical foundation and are superior to the currently used simple-sum measures of broad money in Russia. Our paper provides empirical evidence of the advantages of Divisia in three different settings. Accordingly, the policy recommendation for CBR is to adopt Divisia money, which would increase the informational value of monetary aggregates in monetary policy decision making.