Int Adv Econ Res
https://doi.org/10.1007/s11294-024-09895-0

RESEARCH NOTE

A New Measure of Monetary Accommodation

Robert S. Goldberg[1] · **Mariano Torras**[1]

Accepted: 20 March 2024

JEL E50 · E51 · E52 · E58

This note develops a quantitative measure of central bank monetary accommodation. As noted by Boyarchenko et al. (Federal Reserve System, 2022, https://doi.org/10.17016/FEDS.2022.006) and Kashyap and Siegert (*International Journal of Central Banking*, 2020), among many others, it is evident that monetary and financial considerations are increasingly interdependent. Therefore, monetary accommodation is seen as a reflection of growing concern with financial stability. Most notable is the case of the Federal Reserve which has pursued unprecedented monetary accommodation over the past two decades. Therefore, a quantitative measure of monetary accommodation could be useful in studying the relationship between central bank policy and financial market activity.

The Misery Index was introduced in the 1970's as a crude measure of economic adversity, adding together the otherwise incommensurable inflation and unemployment rates. In a similar spirit, this note introduces a rudimentary measure of monetary accommodation. Our Central Bank Accommodation Index is the simple sum of two components. The first is the difference between the growth rates of the money supply (as represented by M2) and the gross domestic product (GDP), where a greater difference signifies looser money. The other component is the difference between inflation, as represented by the annual change in the

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s11294-024-09895-0.

✉ Robert S. Goldberg
Goldberg3@adelphi.edu

[1] Department of Finance and Economics, Adelphi University, 1 South Avenue, Garden City, NY 11530, USA

Published online: 03 April 2024

Consumer Price Index (CPI), and the Fed Funds rate. Inflation greater than the interest rate similarly represents loose money. A positive index value implies that the Fed is being accommodative, while a negative value implies the opposite.

Online Supplemental Appendix Fig. 1 shows rolling changes in the four-quarter average value of the new index and its components over more than six decades. The index averages negative 0.7 over this period, with the growth component averaging 0.4 and the inflation-interest rate component averaging negative 1.1. Note the disparity between the components, which indicates not only that it is not redundant to include both in the index, but that they are even at times negatively correlated. From 1959 to the late 1970s, the absolute value of the index mostly remains relatively low. Following this, however, the index is negative for more than 20 years, flirting with and even falling below negative 10 on one occasion in 1981. During this period the Fed had its foot on the brake, the enduring effect of its emphatic response to the double-digit inflation of the 1970s.

After 2000, however, a starkly different picture emerges. The index moves into positive territory and, after some fluctuation during the mid-2000s, mostly remains there in the decade or so following the financial crisis. Moreover, it exceeds five on five occasions, something it does not do even once before 2000. What is most remarkable is that the index remains relatively high despite historically low inflation over the period. The pedal was, in other words, "pressing down hard on the metal," as monetary policy was increasingly relied upon to stimulate an economy no longer responding to fiscal deficit spending. The macroeconomic data seem to bear this out. After growing at an annualized rate of over 3.5% from 1947 to 2000, inflation-adjusted United States (U.S.) GDP grew only 2% per annum from 2000 to 2020.

The new index also reflects the unprecedented volatility of the early coronavirus pandemic years and its sensitivity to the emergency measures undertaken. Sharply negative GDP growth in the second quarter of 2020 raised the index to an unusually high level. In response to the recent return of inflation, our index (presently south of negative 10) shows the U.S. entering a phase of monetary tightening the likes of which have not been seen in more than 40 years.

Of course, what the graph cannot reveal is what to expect in the medium to long term. Is the sharp drop in our index over the past 18 months a mere blip, to be reversed upon re-entry into the accommodative regime of persistently low rates, if that is even possible? Alternatively, does it signify entry into a new policy regime of high rates? The short-run answer is highly unpredictable. However, in the longer term, the path followed by the index will in large part depend on a mix of factors with low uncertainty (e.g., demographics), medium uncertainty (government policy), and high uncertainty (the rate and impact of scientific discovery). It is almost assured that such factors will weigh heavily on future growth, inflation trends, and monetary responses.

Might there be a basis for weighing the two index components differently, i.e., according one more importance than the other, and would doing so appreciably alter the index's magnitude? We recognize that there is no obvious reason other than consistency for choosing to weight the components equally. Also, can our accommodation index be expected to hold any predictive power over other key

economic and financial measures such as employment, stock market valuation, exchange rates, and the like? If so, is there any consistency in the predictive lag? Finally, would the growth component of our index be sensitive to alternate measures of M2, such as the well-established Divisia aggregates? Future research will explore all three questions.