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Nominal GDP futures targeting

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ABSTRACT

Central banks have recently done a poor job of stabilizing the path of nominal expenditures. The adverse demand shock of 2008–2009 led to a severe recession in the United States and Europe. Monetary policy could be greatly improved with a regime of "targeting the forecast," or setting policy so that the expected growth in nominal GDP is equal to the central bank's target growth rate. This goal could be accomplished by setting up a nominal GDP prediction market and then adjusting the monetary base to stabilize nominal GDP futures prices. The market, not central banks, would set the level of the monetary base and short-term interest rates under this sort of policy regime. Modest adjustments in such a regime could address many previous criticisms of futures targeting.

1. Introduction

In recent decades, there has been a worldwide shift toward market-driven economic policies, including privatization, deregulation of market access, bandwidth auctioning, congestion pricing, and tradable pollution permits. Yet monetary policy has been relatively unaffected by the "neoliberal revolution." Governments have retained a monopoly in the production of fiat money, the setting of policy targets, and the implementation of monetary policy. In this paper, I show how a market-driven monetary-policy regime can lead to greater macroeconomic stability.

Many market-driven policy innovations in other areas retain a substantial role for the government. Similarly, I will not advocate a completely privatized regime. Some advocates of laissez-faire in money favor defining the dollar in terms of a commodity such as gold and then allowing a system of free banking. But it is difficult to envision modern governments abdicating responsibility for determining the path of nominal spending. A gold standard might produce a satisfactory outcome, but one can envision an equally plausible scenario where soaring demand for gold in Asia raises the purchasing power of gold, producing deflation in all countries that use gold as a "medium of account," or the asset in terms of which all prices are quoted.

There are benefits to having a single medium of account, sometimes termed "network effects." People prefer to be paid in the same asset that they spend. Even if the government does define the medium of account, perhaps using bank reserves created by fiat, it is not obvious that it needs to play a dominant role in *managing* our monetary system. Before 2008, when the Fed began paying interest on reserves, currency was nearly 99 percent of the monetary base. Only a bit over 1 percent was bank deposits at the Fed. Banks could be allowed to issue fiat currency, perhaps redeemable into Fed-created bank reserves.

In this paper, I will set aside the issues of whether the government should define the medium of account and whether it should maintain a monopoly on producing currency. Instead, I will focus on what I believe is the most important problem in monetary economics: stabilizing the value of the medium of account. Who should implement monetary policy, the government or the private sector? Who should decide whether too much money has been injected into the economy, or too little? This paper will show that even where governments retain a monopoly in currency production, a market-driven system of open-market operations can greatly improve the effectiveness of monetary policy.

I will illustrate the advantages of the proposed monetary regime using a nominal gross domestic product (NGDP) prediction market, although the basic approach could be used to stabilize alternative nominal aggregates such as the price level. These proposals are often dubbed "index futures targeting." The basic idea is to have policymakers determine a goal of monetary policy, such as stable growth in nominal GDP, and then have markets implement the policy by adjusting the monetary base until it is at a level where the expected 12-month forward level of NGDP equals the policy goal.

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Because I envision a policy regime where government plays some role, the various proposals will be susceptible to the standard public choice critique. However, any reform proposal depends on at least some goodwill by policymakers. For instance, under a gold standard, a government could alter monetary conditions by implementing a gold-reserve requirement for banks or by adjusting the minimum gold-reserve ratio. Indeed, gold hoarding by governments in 1929–1933 was one cause of the Great Depression.

No previous monetary regime, no matter how "foolproof," has lasted forever. Voters and policymakers always have the last word. However, before beginning to address public choice concerns, it is necessary to think about what sort of monetary regime is capable of producing the best results, at least in principle. Only then will it be possible to work on the much more difficult question of how to make the proposal politically feasible.

Because the idea of monetary policy futures targeting is so unfamiliar, I will develop the proposal one step at a time. In the next section, I examine some conceptual problems with monetary policy—including the surprising fact that it is not clear what monetary policy actually is.

In Section 3, I show that creating a regime based on index futures targeting could introduce market forces into monetary policy. To illustrate the logic of the proposal, I move from the current monetary regime to index futures targeting, one step at a time. Then I examine three alternative approaches for using market expectations to guide monetary policy. In Section 4, I discuss common objections to index futures targeting. Some are based on misconceptions, and others can be addressed by tweaking the proposal from Section 3. Section 5 discusses how NGDP futures targeting can address the zero-interest-rate boundary problem, also known as the "liquidity trap." In the conclusion, I discuss how a system of index futures targeting can be seen as a natural evolution from the 19th-century gold standard system.

2. What is monetary policy? And does it matter?

Monetary policy disputes tend to become highly contentious during periods of macroeconomic distress. For instance, during the Great Depression, many economists advocated abandoning the gold standard. During the 1970s and early 1980s, economists developed a number of proposals for removing the government from the monetary policy arena, including Hayek's proposal for "competition in [fiat] currency" (Hayek, 1976). The perceived failures of government-run fiat-money regimes, particularly the high and variable inflation rates experienced from the mid-1960s to the early 1980s, explicitly motivated many early proposals.

During the so-called Great Moderation (1985–2007),[1] however, monetary-reform ideas lost momentum. Most major central banks seemed to be doing a respectable job of delivering stable growth with low inflation, but this period of relative stability covered up some deep fissures in macroeconomic theory. Economists can disagree over monetary policy on three levels: whether money should be easier or tighter, which type of monetary regime should be in place, and the nature of monetary policy itself.

The financial crisis of 2008 and the subsequent Great Recession shattered the illusion that central banks had "solved" the problem of monetary policy. The most disturbing aspect of this crisis is not that a policy failure occurred, but rather that economists cannot agree on the nature of the failure, even in retrospect. An important and underappreciated aspect of this loss of consensus is that it has exposed radically different visions about what monetary policy is all about. Alan Greenspan's policies worked (or perhaps seemed to work), but economists could never agree on why. What, precisely, was the Fed doing during the period from 1985 to 2007, and how did that policy lead to stable inflation and nominal GDP growth?

A good way to see these divisions is by considering the policy views of these five distinguished monetary economists:

1. Michael Woodford—Favors policy rules with interest-rate instruments aimed at stabilizing the price level. His recent work is perhaps closest to a consensus model (Eggertsson and Woodford, 2003).
2. Bennett McCallum—Advocated policy rules with a monetary base instrument aimed at stabilizing nominal GDP growth (McCallum, 2000).
3. Milton Friedman—Favored steady growth in broader monetary aggregates such as M2 (Milton, 1987).
4. Robert Mundell—Favors fixed-exchange-rate regimes (Mundell, 2000).
5. Robert Hall—Advocated a price-level targeting scheme involving interest-bearing bank reserves. Higher rates on reserves would raise demand for reserves and thus lower the price level. Hall also proposed monetary policies aimed at targeting the price of a specified basket of commodities (Hall, 1982).

The problem here is not just that each of these economists has his own preferred approach to monetary policy, but rather that these policy recommendations are based on *fundamentally distinct ways of thinking* about monetary economics in general. Indeed, it is not clear that the preceding five economists would even agree on what is meant by the term "monetary policy." Friedman and McCallum might argue that monetary policy is all about control of the *quantity* of money, however defined. Mundell and Hall might argue that monetary policy determines the *price* of money (in terms of foreign exchange, or gold, or a basket of commodities). Woodford might see monetary policy in terms of changes in the *rental cost* of money (i.e., short-term interest rates). The quantity, price, and rental-cost approaches to policy have all been around for hundreds of years. And both the short-run sticky-price and long-run classical frameworks go back at least to David Hume (Hume, 1970). These differences of opinion will not be resolved anytime soon.

The same is true of the structural macroeconomic models that guide policymakers at central banks. Economists do not agree which models are best, and because the macroeconomy is so complex, it is difficult to do a definitive test. Thus, during the recent recession, some proponents of Taylor rules argued that policy was too "tight" or contractionary, whereas John Taylor himself used a different version of the same rule and reached the conclusion that policy was not too tight (Taylor, 2008).

Economists also differ in their views of the relative importance of money illusion, wage stickiness, and price stickiness in the aggregate-supply function. They do not agree on the causes of short-run price stickiness.[2] In fact, there is not even any general agreement as to what one means by "the" price level. Should the basket of goods used for price indices include only newly produced consumer goods, or should it include other assets, such as the stock of existing capital goods? It is unlikely that macroeconomists will ever agree on how best to model the macroeconomy.

The monetary regime proposed in Section 3 is ideally suited to a world where economists have relatively similar views about

[1] "The Great Moderation" refers to a period of unusually stable inflation and nominal GDP growth. At the time, economists such as Ben Bernanke and Gregory Mankiw attributed this stability to improvements in monetary policy, particularly the "Taylor rules."

[2] McCallum lists 10 different models of short-run price stickiness in McCallum (2002).