
CRITICAL ISSUES FOR MODERN MAJOR CENTRAL BANKERS

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This conference is entitled “Monetary Policy-Making under Uncertainty.” But that title seems redundant to me – was there ever such a thing as monetary policymaking under certainty? So I will adopt a different topic for this talk. With due apologies to Gilbert and Sullivan, my focus is on what it takes to be “the very model of a modern major central bank.” I will raise a host of questions, 15 in all, that would have to be answered by a central bank starting *do novo* in the year 1999 – a situation that may perhaps sound less than hypothetical here in Frankfurt. My emphasis is on how both the questions and the answers differ from what people might have thought ten or twenty years ago – hence the adjective “modern.” The questions divide themselves into three categories:

1. issues of institutional design, or what might be called “setting up shop” (seven issues);
2. tactics for operating in the markets (four issues)
3. issues pertaining to the bank’s model of the transmission mechanism (four issues).

I. Institutional Design

Issue No. 1, both literally and, I think, figuratively, is the central bank’s ultimate goal or goals for monetary policy – the arguments of its loss function. Almost all recent academic research and thinking presumes that the objective function of the central bank is some weighted average of the expected squared deviations of output and inflation from their respective targets. But that raises several subsidiary questions:

(a) What are the weights? Just how much should the central bank care about

output (employment) deviations relative to inflation deviations? This choice is crucial, but underemphasized. It can exercise substantial influence over actual policy decisions. For example, it may be one of the key points of difference between the ECB and the Fed today.

(b) Around what targets? The choice of the targets is probably more important than the choice of the weights. The inflation target has been extensively examined both in academic literature and in central bank discussions. But what about the output target? Athanasios Orphanides’ paper for this conference suggests that specifying an output target in a sensible way can be quite difficult in real time.

In addition, a deep question arises if the economy displays hysteresis: Does it then even make sense to specify an output target *a priori*, when doing so might lead the central bank to settle for a local optimum even though there may be a superior global optimum available? As a concrete example, think about how much worse off the United States (and, indeed, the entire world) would be today if the Fed had decided in 1995 that the U.S. economy could not sustain an unemployment rate below 6% – and had acted on that belief.

(c) What about financial stability? Real central bankers care about more than just the variances of inflation and output. They also bear a responsibility for financial stability, which, while related to the other two goals, is not entirely subsumed in them. In my view, concern over financial stability is the best rationale there is for including something like the change in interest rates

directly in the loss function – wholly apart from any other reasons for doing so.

Issue No. 2 is whether the central bank should be an inflation targetter. This, of course, is a relatively new issue. A decade ago, it was not even on the radar screen; nowadays, no modern central banker can avoid it. I must admit that my initial reactions to inflation targeting, while Vice Chairman of the Fed, were quite negative. That was because I wrongly associated inflation targeting with placing zero weight on output stabilization – what Mervyn King has called “inflation nuttury” – at a time when I was arguing strongly for just the reverse (Blinder, 1994). But I have learned something since then. As Lars Svensson (1997) and others have shown, the weight the central bank places on output stabilization maps directly into the speed with which the inflation target should be approached. A central bank that places a high weight on output stabilization can be a gradualist inflation targetter. A second piece of research that has made me more sympathetic to inflation targeting is Orphanides’ finding, mentioned earlier, that large errors in estimating the output gap can lead (and have led) to egregious errors in monetary policy. If an inflation targeting central bank starts out underestimating (overestimating) the economy’s potential, it will see inflation falling (rising), and therefore be induced to ease (tighten) policy. That is an important virtue. A yet-newer literature, spawned by Japan’s problems with deflation and the zero bound on nominal interest rates, calls into question the previous professional con-

sensus that inflation targeting is superior to price-level targeting. In fact, this literature suggests that a price-level target might be preferred when deflation is a danger. The reason is simple: to get real interest rates negative when the zero bound on nominal rates is binding, the central bank needs to engender expectations of positive inflation even though prices are falling. A credible price level target accomplishes that by pledging the central bank to offset episodes of deflation with subsequent periods of inflation, to get the price level back on its predetermined path. (The trick, of course, is to make the pledge credible.)

More generally, central bankers must now pay attention to an issue that their older brethren (they were all men then!) could safely ignore: the costs of deflation, which most economists reckon to be greater than the costs of inflation. Just like modern major generals, modern central bankers must prepare to fight the next war rather than continue fighting the last one.

Issue No. 3 pertains to transparency: How open should a modern central bank be, and about what? Qualitatively, the answer is simple: A modern central bank must be a good deal more transparent than its ancestors. There seems now to be something approaching a consensus on this point – the consensus itself signifies a sea change in central banking attitudes. Among the logical candidates for greater transparency are the bank’s ultimate goals (Issue No. 1 above), its basic model of the economy (even if only informally), and its internal forecasts.

As many of you know, I have long been a hawk on transparency – on both economic and political grounds. Economically, I believe greater transparency makes monetary policy easier by anchoring expectations better to the realities underlying policy. Financial markets that are better attuned to the central bank's thinking are better able to anticipate its actions. And, anticipatory movements in interest rates, if correct, shorten the lag in monetary policy – a lag that has long bedeviled attempts to stabilize the economy. Politically, democratic theory strongly suggests that, in return for its broad grant of authority, the central bank is obliged to keep the public and their elected representatives well informed. To do otherwise would be imperious. (Remember the etymology of that word!)

Issue No. 4 is rarely discussed, but must be considered at the design stage: Should monetary policy decisions be made by an individual or by a committee? I am currently engaged in some experimental laboratory research at Princeton to test two hypotheses: that, compared to individuals, H1: committees react more slowly to the same stimulus. H2: committees nonetheless make better decisions. It is a bit too early for definitive results, but the early returns dispute H1 while supporting H2. More generally, I want to take note of a small academic literature that is developing around the question of whether, and how, monetary policy decisions made by committee differ from monetary policy decisions made by individuals.

The Federal Reserve offers an interesting, and apparently highly successful, hybrid model. The Federal Open Market Committee (FOMC) in a formal sense makes decisions by majority rule with a recorded vote. But, in fact, it is dominated by its chairman. Much of the outside world is watching to see whether the ECB will develop into an FOMC-style faux committee, or into a genuine committee organized on the “one person, one vote” principle (like the Bank of England’s Monetary Policy Committee).

Issue No. 5 is whether a central bank operating in a floating exchange rate regime should forsake foreign currency intervention as a policy tool – even though the exchange rate is an important part of the monetary transmission mechanism. The conventional wisdom nowadays seems to be that central banks should forget about intervention, mainly on the grounds that sterilized intervention doesn't work. But I wonder if this is always right. Certainly, foreign exchange interventions that oppose major market trends stand little chance of success; the old market wisdom, “don't stand in front of a freight train,” applies to central banks as well. But there are times when markets have no particular conviction about which way the exchange rate will go next, or are thin, or have lots of nervous short-sellers. At such times, the markets are susceptible to being pushed around (within limits) by the central bank – if it is willing to commit substantial sums to the effort. It could be that the current consensus against sterilized intervention stems, in part, from



central banks' unwillingness to intervene with large amounts of money.

Issue No. 6 is whether the monetary authority should also regulate and supervise banks. This issue is very much up in the air right now. The U.K. has explicitly separated monetary policy from bank supervision, as you know, and the ECB is not a bank supervisor. (But several central banks within the ESCB are.) In the U.S., we have just concluded a multi-year turf war between the Federal Reserve and the Treasury Department over the Fed's role in bank supervision. Throughout, the Fed has steadfastly insisted that the information it routinely receives in its supervisory role, is vital to the performance of its monetary-policy duties. Is that true? My personal view is that the Fed has taken a grain of truth and greatly exaggerated its importance. Proprietary information that the central bank receives in bank examinations is of some, limited use in formulating monetary policy – and is on rare occasions very important. So, on balance, it is probably better to have it than not. On the other hand, a bank supervisor may sometimes have to be a protector of banks and sometimes a stern disciplinarian – and either

stance may conflict with monetary policy. In the United States, there is yet another conflict of interest, which is currently under study by the General Accounting Office: The Federal Reserve not only supervises banks, it also sells them priced services in competition with private vendors of the same services. Finally, two other questions are worth raising in this context. First, as the lines separating banks from other financial institutions blur and disappear in the modern world, must central banks that serve as bank supervisors be morphed into general-purpose financial supervisors – and do they have the expertise to do this broader job? Second, even if we decide that central banks should be bank supervisors, why should they also be bank regulators, that is, rule-makers (as the Federal Reserve is)? Shouldn't that function remain in the political domain?

Issue No. 7 is genuinely novel – central bankers of a generation ago certainly did not think about it. The question is this: Do various (actual and incipient) forms of electronic money pose a threat to central banks? Two distinct sorts of threats can be imagined; both arise from the possible erosion of

the bank's monopoly over the issuance of the medium of exchange. The first threat is to central bank independence: If seignorage revenue shrinks enough, the central bank will become beholden to the legislature for its annual budget, and that could make it more susceptible to political influence. Loss of seignorage revenue is probably not much of a threat to the big three (Fed, ECB, BOJ), but it could be a more serious matter for smaller central banks whose expenses more nearly exhaust their revenue. The second threat is to monetary policy itself: If Microsoft-money and the like come to be used for settlements on a grand scale, banks will no longer need reserves at the central bank for clearing purposes. Indeed, the banking system might be bypassed entirely if buyers and sellers settle accounts directly with e-cash. Similarly, electronic transfers of all sorts make it increasingly easy for banks to avoid the implicit tax on required reserves – as sweep accounts have been doing in the U.S. for years. In combination, these two developments will weaken – and may eventually even destroy – the main lever that central banks have traditionally used to manage their economies: control over base money. What's a central banker to do? For now, I think, the answer is: nothing. But sometime, in the near future, these hypothetical questions may become real ones which modern central bankers will be forced to confront.

II. Tactics for Operating in the Money Market

My next four questions relate to how the central bank operates in the financial markets.

Issue No. 8 is a broad question of strategy rather than a narrow tactical one. If I may be forgiven for indulging in stereotypes for a moment, some years ago, central bankers saw their proper role as surprising and bullying the markets. Central bankers were (they thought) in control; markets were meant to be pushed around. No longer. Nowadays, a thoroughly modern central banker is more likely to respect markets and keep them well informed. That is a healthy development, but it can be taken too far.

As I emphasized in my Robbins Lectures (Blinder, 1998), central bankers are often tempted to “follow the markets” – that is, to deliver the monetary policy the markets are expecting or, indeed, demanding. At times, that might be precisely the right thing to do – especially if the bank has conditioned market expectations properly. But not always. Many of us believe that markets tend to go to extremes, to overreact to stimuli, and to be stunningly shortsighted. A good monetary policymaker must succumb to none of these temptations.

Issue No. 9 concerns the implications of high-tech finance for the conduct of monetary policy. A host of questions for modern central bankers arise here. How should monetary policy adapt to the explosion of derivatives and financial exotica of all kinds – instruments that central bankers never dreamed of a decade or two ago? Some of these markets are extremely deep and liquid; some contain a great deal of information; many of them create extremely high leverage – sometimes in non-trans-

parent ways. Should monetary policy just proceed as if none of this had ever happened? I think not. At a minimum, a modern central bank must make use of the information found in these new markets. For example, the Fed has for years used the Federal funds futures market in Chicago as its primary window into what the markets are thinking about future monetary policy. In addition, high-tech financial instruments almost certainly affect the monetary transmission mechanism – especially the linkages from short rates to long rates and other financial market prices. And, central bankers ignore this at their peril. My own hunch – but it's just a hunch – is that derivatives have shortened the lag in monetary policy.

There are still more questions. Should a modern central bank operate in some of these more exotic markets, rather than restrict itself to conventional open-market operations in government securities? A conservative central banker's reflexive answer is no, and I must admit this is my own reaction to date. But perhaps the idea should not be dismissed out of hand. After all, derivatives can enhance the power of the central bank to push interest rates (or even exchange rates) around, just as they do for private market participants. A modern central banker needs to give this issue serious thought.

Issue No. 10 pertains to what I call the Brainard (1967) conservatism principle: the idea that multiplier uncertainty should make the central bank more conservative, in the sense of using its policy instrument less vigorously. In Blinder (1998), I opined that, while the conservatism principle is not

very robust mathematically, “My intuition tells me that [it]... is more general – or at least more wise – in the real world than the mathematics will support.” (p. 12)

This remark seems to have touched off a fair amount of quite interesting academic work, and I have been surprised at how little support Brainard's principle has received. There are, by now, a number of examples in which multiplier uncertainty, in conjunction with something else, leads an optimizing central bank to vary its instrument more than it would under certainty. The Brainard result is indeed fragile. Still, I find these new anti-Brainard results both puzzling and troubling. Though my confidence in the conclusion has been shaken by recent research, my gut still tells me that Brainard was right in practice. In any case, it's certainly an intellectual question that should engage modern central bankers.

Issue No. 11 is related: When a central bank decides to change monetary policy, should it move its interest rate by large or small amounts? Under Alan Greenspan's stewardship, the Federal Reserve has shown a clear preference for frequent, small moves – usually 25 basis points. And who would argue that the Greenspan Fed has not been successful? Yet, I suspect that this style of policy is not what dynamic optimization calls for. Why not? The argument for larger moves is predicated, in part, on the unit root in the inflation process: If inflation can random-walk away from you, the central bank will want to make sure to step on the brakes hard enough. But what if the unit root in the inflation time series is a bypro-

duct of a particular policy regime that let inflation ratchet up from the 1950s to the 1960s to the 1970s? As more recent data are added to the sample, the evidence for a unit root weakens. In other words, an appropriate monetary policy – one that approximates a Taylor rule, say – can remove the unit root from the inflation process. In that case, a more gradualist approach to monetary policy might make sense. It's something for a modern central banker to think about.

The ECB, according to current market lore, prefers larger, less frequent moves – say, 50 basis points. But I caution you that such a deduction is based on a rather thin data base – precisely two observations!

III. Questions about the Monetary Transmission Mechanism

My final four questions pertain to the central bank's model of the economy.

Issue No. 12 should be an easy one, although the ECB seems not to agree. In this case, I will state an answer rather than pose a question: A modern central bank should think of its overnight interest rate, not any monetary aggregate, as its principal policy instrument. My reason is simple and well known. As Gerry Bouey, a former Governor of the Bank of Canada, aptly put it, “We didn't abandon the monetary aggregates, they abandoned us.” With financial innovation virtually certain to continue, and with the lines between banks and other types of financial institutions blurry and getting blurrier, I see no reason to suspect that this abandonment will end soon. A cen-

tral bank that relies on a monetary aggregate may trap itself in vestigial thinking – and may therefore put its economy in harm's way. Indeed, modern financial arrangements are rapidly eroding the primacy of banks, which are the source of the money supply as conventionally defined. Such developments scream out to central banks to stop focussing on the textbook link from bank reserves to bank lending to aggregate demand. Instead, a modern central bank should think of the main linkages in the transmission mechanism as running from its policy rate to other interest rates and financial prices (such as longer-term interest rates, exchange rates, and stock market values), and then on to aggregate demand. The Ms are byproducts of this process, but of no great intrinsic interest.

The next two issues follow directly from this point of view, and are vexing ones. But since they are also familiar, I will deal with them briefly.

Issue No. 13 observes that the standard model linking short- and long-term interest rates – the so-called expectations theory of the term structure – is dead wrong, in the sense that long rates are terrible predictors of future short rates. This fact seems to be well-known in academia, in the markets, and in central banking circles. But, its resolution remains a mystery. Given the importance of long-term interest rates to the monetary transmission mechanism, this may be the single most important intellectual issue with which modern central bankers must grapple. I wish I could tell you the answer, but I can't.

Issue No. 14 is a closely-related paradox in the international arena. Uncovered interest parity is supposed to tie current and expected future exchange rates to the interest-rate differential between any two countries. Yet it fails miserably as a forecaster of future exchange rates. Once again, everybody knows this, but no one (myself included) seems to know what to do about it. Since interest parity is an essential link in the monetary transmission mechanism for open economies, and since all economies are open, this is not only an intellectual embarrassment but a major impediment to successful monetary policy. It must rank high on the work list for modern central bankers.

Last, but certainly not least, I come to Issue No. 15: How does a central bank conduct monetary policy in the absence of a Phillips curve it can trust? For years, I used to gloat that the Federal Reserve had an important advantage over the other G7 central banks: We had a reliable statistical Phillips curve to use, they did not. But nowadays we all seem to be in the same boat. As is well-known, the traditional U.S. Phillips curve, which worked so well for decades, has been malfunctioning of late. Today the Fed finds itself up the creek without a Phillips-curve paddle, just like other central banks. This is a serious handicap. Given the long lags in monetary policy, it is generally agreed that the authorities need to conduct a “preemptive” monetary policy. That means moving on the basis of inflation forecasts. But, the collapse of the Phillips curve leaves us without a reliable way to anticipate the impacts of economic activity

on inflation. And that, in turn, raises a serious intellectual question: When is it better to wait for an actual upturn in inflation rather to act preemptively, on the basis of a forecast? Both Orphanides' paper and the Brainard uncertainty principle suggest that the current preference for preemption may need reexamination.

IV. in Conclusion

So, that is my highly-selective list of 15 critical issues. Rather than try to sum up, I will again beg the indulgence of Gilbert and Sullivan, and conclude in verse:

I am the very model of a modern central bank for all.

I've information national, financial, international.

I know the Bank of England, and I quote the minutes of the Fed.

I mimic every syllable that Alan Greenspan ever said.

I'm very well acquainted, too, with matters mathematical.

I understand equations, both the simple and quadratical.

Of standard deviations, I am teeming with a lot o'news,

With many useful facts about the square of the hypotenuse.

I'm very good at integral and differential calculus.

My staff provides me models that are really quite miraculous

In short, in matters national, financial, international,

I am the very model of a modern central bank for all.

I know central banking history from Lombard Street to ECB.

I speak in cryptic phrases whose intent is rather hard to see.

With repos, I can push the rates from floor to ceiling flawlessly.

And seignorage enables me to prosper rather nice-a-ly

My monetary knowledge is extensive and adventury.

It's based on all the wisdom handed down across the centuries.

And so, in matters national, financial, international,

I am the very model of a modern central bank for all.

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