

A pitfall of cautiousness

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When unsure about the cooling effect of interest rate rises on inflation, central bankers are advised to moderate their response and wait and see. However, this cautious approach is only wise if economic agents do not anticipate a systematic under-reaction. Otherwise, it can become counter-productive, although other arguments for gradualism may apply.



Figure 1 "Tiptoe in a dark room"

Source: Shutterstock

How should central banks set monetary policy if they are unsure about the effectiveness of their instruments? The causal chain of events from raising the short-term policy interest rate to lowering inflation is long and complex and although central banks are very confident that the mechanism works, the precise timing and magnitude of the effect is uncertain.

Our immediate instinct is that the central bank should act cautiously in these circumstances. Jerome Powell, Chair of the Federal Reserve Board of the United States, captured this very nicely in the following metaphor: "[when unsure of the potency of a medicine, start with a somewhat smaller dose.](#)"

The Brainard Principle

This intuition was given a theoretical support by [William Brainard \(1967\)](#). He considered a very abstract situation in which a policy maker can take an action A to influence a variable of interest and try to hit a target. The policy maker is more satisfied the closer to the target the variable is – be it above or below – and finds large deviations to be much worse than small ones, in either direction. In the model, the policy maker is very unlikely to perfectly hit the target for two reasons that relate to two distinct forms of uncertainty she faces. First, uncertainty on the state of the economy: there are always some shocks that make the variable move after the policy maker has chosen A. And second, instrument uncertainty: the relationship between the action A and the behaviour of the variable of interest is uncertain. Specifically, the policy maker knows the average effect of its action on the outcome but there are random events that make A more or less effective at any point in time.

What should the policy maker do? One approach would be to calibrate the action based on its average effect on the outcome and to work out what would be needed to make the variable hit the target if there were no uncertainty (on the economy and on the effect of the action). But Brainard showed that the policy maker can minimise the cost of deviations from target by attenuating her response. Why is this? By attenuating the response, on average the variable of interest will not be on target – which is bad. But the more the policy maker uses A, the more volatile the outcome is – which is also bad. It's optimal to take a little bit of both risks and to accept small deviations on average to reduce the risk of occasional large over (or under) shooting. Note that Brainard's argument only relates to instrument uncertainty and has nothing to say about uncertainty about the state of the economy (e.g. in the case of a central bank, the source or duration of an inflationary shock). In other words, it abstracts from many other relevant policy considerations.

This reasoning was first applied to monetary policy by [Blinder \(1999\)](#). Its spirit is captured in the following quote from Mario Draghi, former President of the European Central Bank: "[You just do what you think is right and you temper \[with\] a consideration \[that\] there is uncertainty. In other words, in a dark room you move with tiny steps.](#)" Following the so-called Brainard Principle, a central bank should act cautiously in the face of an inflationary shock by attenuating the increase in interest rates, accepting slightly above-target inflation in order to avoid the risk of discovering ex post that it had over-tightened and significantly undershot its target.

Is cautiousness always the right thing to do?

In a recently published paper, [Dupraz et al. \(2023\)](#), we revisit the theory behind the Brainard Principle and argue that the case for attenuating monetary policy is significantly weakened to the extent that inflation expectations react to policy. In the limit it can be counterproductive.

The intuition in our basic model is simple. If economic agents understand that the central bank will attenuate its policy, then they can anticipate that in case of an inflationary shock, inflation will on average be above target. If agents anticipate this, they expect higher inflation. But because firms set higher prices when they expect higher inflation, this adds to the original inflationary shock. Because the central bank attenuates its reaction to this too, inflation expectations increase further, and so on. In the limit, in a one-off setting such as in the original Brainard model, then the central

bank will end up having to do just as much as it would have done with no attenuation bias, but with an inflation rate further away from its target.

In a more complex dynamic model in which agents take time to learn the underlying inflationary shock, we show that the central banker has room to act cautiously at the beginning but must eventually set the interest rate it would have set absent any concern over uncertainty.

Our paper is not the first to contest the Brainard Principle on theoretical grounds. [Söderström \(2002\)](#) shows that a central bank should be more aggressive if the persistence of inflation shocks are uncertain. [Giannoni \(2002\)](#) ranks strategies according to their worst-case outcome for inflation and unemployment and finds that acting aggressively delivers the “least worst” outcome. Our paper, though, is the first to highlight how the Brainard Principle is undermined if economic agents understand the central bank’s strategy. Unfortunately, as a stylised model it cannot give an estimate of the cost of following the Brainard Principle.

This situation is unenviable for central bankers. Instrument uncertainty cannot be ignored but nor does a central bank want a reputation for acting too cautiously, even though gradualism might be warranted for other reasons (such as mitigating the cost on output – see [Dupraz and Marx, 2023](#) – and the risks to financial stability). Central bankers are aware of this dilemma – see [Weidmann \(2022\)](#) – and argue that it is better to be orderly than gradual – e.g. [Villeroy de Galhau \(2022\)](#). In practice, central bankers pay close attention to inflation expectations and make clear commitments to return inflation promptly to target.