A Critique of Lars Svensson's Arguments Against NGDP Targeting

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Lars Svensson argues that nominal GDP (NGDP) targeting may miss broader economic targets such as employment and price stability, and that it is an inferior strategy to average inflation targeting. But Svensson's conclusions are based on subtle fallacies and oversimplified assumptions, including the assumption that an inflation-targeting Federal Reserve can under some circumstances achieve "superior" combinations of inflation and output, when those supposedly superior combinations are in fact impossible in practice. In light of the shortcomings in Svensson's argument, the Fed should reconsider NGDP targeting.

In 2019, the Federal Reserve began its first-ever comprehensive review of its monetary policy framework, meaning the strategy, tools, and communication practices it uses to fulfill its dual mandate. Five years later, it is reviewing that framework again. The new review is, among other things, an opportunity for the Fed to reconsider some of the conclusions it reached last time.

Of the many components of that last review, a June 2019 conference held at the Federal Reserve Bank of Chicago promised to be the one most suited for serious consideration of alternatives to the inflexible, or hard, inflation targeting to which the Fed committed itself in January 2012. But the results, to this participant and others, were disappointing. In particular, as I remarked shortly afterwards,[1] the event gave short shrift to NGDP targeting—an alternative with many champions, including several then working within the Federal Reserve System. In the only conference paper specifically devoted to evaluating alternatives to strict inflation-rate targeting, Lars Svensson consigned his assessment of NGDP targeting to an appendix, hardly mentioning it in his remarks.

Svensson's dismissive treatment of NGDP targeting met with some sharp replies from audience members sympathetic to the idea.[2] In response, Svensson revised his paper, which he eventually published, enlarging upon its original, terse discussion of NGDP targeting and moving that discussion from an appendix to his paper's main body.[3] Svensson didn't change his original conclusion

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that NGDP targeting is inferior to several other possible monetary policy strategies, and particularly to average inflation targeting.[4] However, by elaborating on his argument, he made it easier for others to detect several subtle fallacies upon which that conclusion rests. Here I point out those fallacies and conclude that, if Svensson's reasons are the only ones the Fed has for rejecting NGDP targeting, it has no good reasons at all for doing so.

NGDP Targeting as a Recipe for Central Bank Inaction

Svensson's critique starts with his understanding that under NGDP targeting there is really "only *one* target variable, nominal GDP, and thus a single mandate, stabilizing NGDP."[5] This is a correct statement, but it does not follow, despite what Svensson suggests, that proponents of NGDP targeting view it as an end in itself, rather than as a means for achieving other objectives. I will have more to say about this later.

The single-mandate interpretation of NGDP targeting implies a very simple central bank loss function:

$$L_t = (Y_t - Y_t^*)^2.$$

Svensson shows that, since Y_t, the instantaneous growth rate of nominal income, is equal to the sum of the rate of change of the price level, p_t, and the rate of change of real output, y_t, the function can be rewritten thus:

$$L_t = (Y_t - Y_t^*)^2 = [(p_t + y_t) - (p_t^* + y_t^*)]^2 = [(p_t - p_t^*) - (y_t + y_t^*)]^2.$$

According to Svensson, the expanded loss function implies that, under NGDP targeting, "the price level and the GDP level are perfect substitutes."[6] Any given NGDP target is, in other words, consistent with a continuum of inflation- and output-gap combinations, only one of which consists of zero gaps for both output and inflation.

In a 3D figure taken from Svensson's revised paper (figure 1), the straight gray line shows the continuum in question, with the point at which both inflation and output are at their respective target and potential levels at its midpoint. The other points on the gray line involve nonzero, though symmetrical, inflation and output gaps.

Allowing that the unemployment gap is itself a simple function of the output gap, the conclusion supposedly follows that, despite hitting its target, an NGDP-targeting Fed could end up letting both inflation and unemployment stray from their ideal levels. Put differently, the Fed's "reaction function" might not call for it to react at all to situations in which both inflation and output wander far from levels consistent with the spirit, if not the letter, of its dual mandate.

FIGURE 1. The Central Bank's loss as function of price and GDP gaps: Nominal-GDP targeting
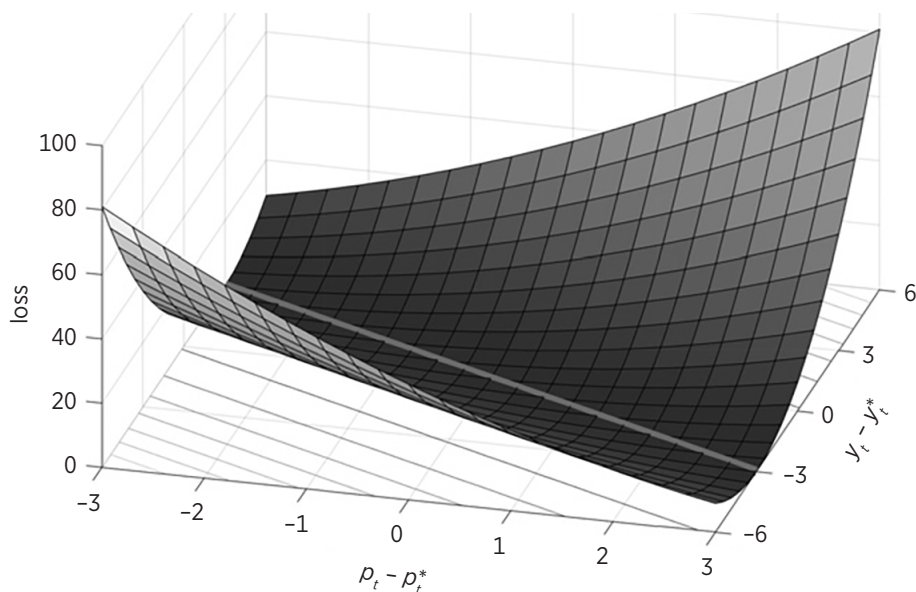
Source: Image reproduced with permission from Lars E.O. Svensson, "Monetary Policy Strategies for the Federal Reserve," *International Journal of Central Banking* 16, no. 1 (February 2020): 174.

Figure 2 shows, for comparison, the corresponding figure for flexible price-level targeting. In that case, the central bank's loss is minimized only when both inflation and output are at their preferred (zero gap) levels. It thus appears that a price-level target is more consistent with the Fed's dual mandate and less likely to be costly to society than an NGDP target.

At first glance, Svensson's arguments seem damning. They raise the specter of NGDP-targeting Federal Open Market Committee members resting easy even though output has fallen far below its potential level, because inflation has risen just as sharply! Alas, Svensson says (quoting John Williams's colorful language), this is in fact a possible consequence of a policy which, instead of taking both measures of economic well-being seriously, "mashes" them together.[7]

But a closer look at Svensson's argument shows it to rest upon three fallacies. I'll call them the fallacy of the phony equilibria, the fallacy of the phantom instrument, and the fallacy of the fictitious loss.

The Fallacy of the Phony Equilibria

As we've seen, the chief concern raised by Svensson's paper is that, because any given NGDP level is consistent with a continuum of inflation and output gap combinations, an NGDP-targeting Fed

FIGURE 2. The Central Bank's loss as function of price and GDP gaps: Flexible price-level targeting
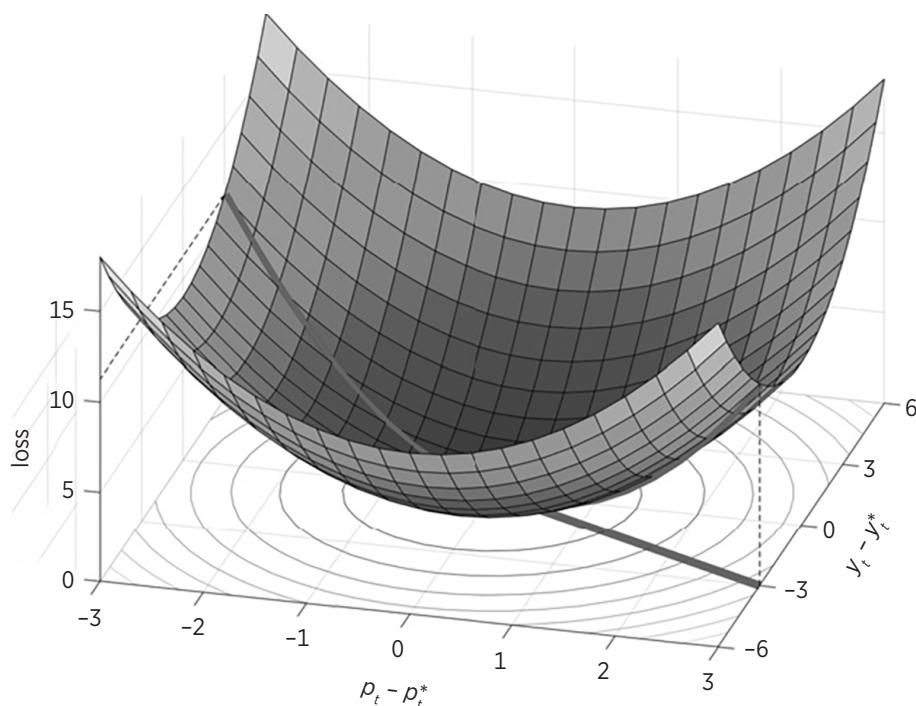
Source: Image reproduced with permission from Lars E.O. Svensson, "Monetary Policy Strategies for the Federal Reserve," *International Journal of Central Banking* 16, no. 1 (February 2020): 173.

could fail to take action to improve situations involving substantial but symmetrical inflation and output gaps.

But is that a real danger? Although it's true that a given NGDP level is consistent with all sorts of inflation and output combinations, including some nasty ones, it is so *only in a strictly arithmetical sense*; and it doesn't follow from that mathematical truth that an NGDP-targeting Fed could ever actually steer the US economy into most of those combinations.

Why not? The explanation starts with the prosaic observation that, although untold combinations of inflation and output may all add up to the same NGDP level, the *actual* levels of inflation and output an economy generates depend not merely on the level of NGDP its central bank targets, which informs the state of aggregate demand, but on the interaction of that level and the economy's aggregate supply schedule, which determines how rapidly prices rise in response to a given NGDP growth rate. Given some state of aggregate supply, a particular NGDP target results in a unique inflation and output combination. And the state of aggregate supply is itself something generally assumed to be beyond any central bank's control.

To illustrate this point, figure 3 shows a simple AS-AD (for aggregate supply and demand) diagram. In it, as in Svensson's discussion, y^* stands for potential output, which the Fed must take as given, while π^* corresponds to Svensson's p^*, the Fed's inflation target. The rectangular-hyperbola aggregate demand schedule reflects a policy of NGDP level targeting, where Y^* is the targeted NGDP growth rate. That schedule is the exact counterpart of the gray line in figure 1. Although all the points on Y^* are consistent with $Y - Y^* = 0$, most involve nonzero inflation and output gaps, and so are not ideal. (The areas to the northeast and southwest of Y^* correspond to the darker portions of Svensson's 3D picture.)

Now, it would indeed be alarming news if, thanks to a policy of NGDP targeting, the United States could find itself on one of the "bad" points on its stable NGDP schedule, like point b in the figure above, with nonzero but offsetting inflation and output gaps. But how could it? Assuming an initial equilibrium at point a, in order for it to end up at point b, the aggregate supply schedule would itself have to shift to the left. Such a shift would, however, imply a like change in potential output. Although it's true that, were such an adverse supply shock to occur, keeping NGDP fixed would result in a positive inflation gap, it wouldn't lead to a corresponding, negative output gap.

Because they can't be realized in practice, the nonzero symmetrical inflation and output gaps represented by all save one of the points on Y^*, given y^*, are irrelevant to assessing the merits of NGDP targeting. In worrying that an NGDP-targeting Fed might give rise to an equilibrium represented by any of them, Svensson appears to fall victim to the *fallacy of the phony equilibria*.

FIGURE 3. Aggregate supply and demand
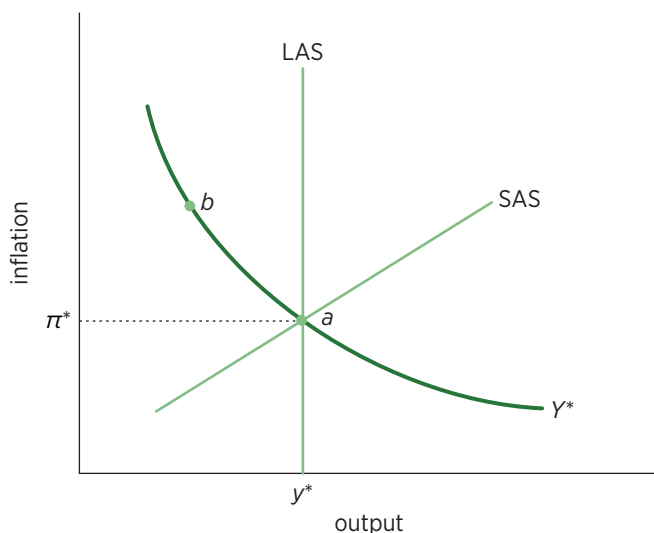
Note: I've drawn this figure in inflation-output space (rather than the usual price level-output space) to allow for a positive long-run inflation target. I've also assumed for the moment that the Fed's NGDP target happens to be consistent with the supposed ideal of zero output and inflation gaps, as represented by the equilibrium point *a*.
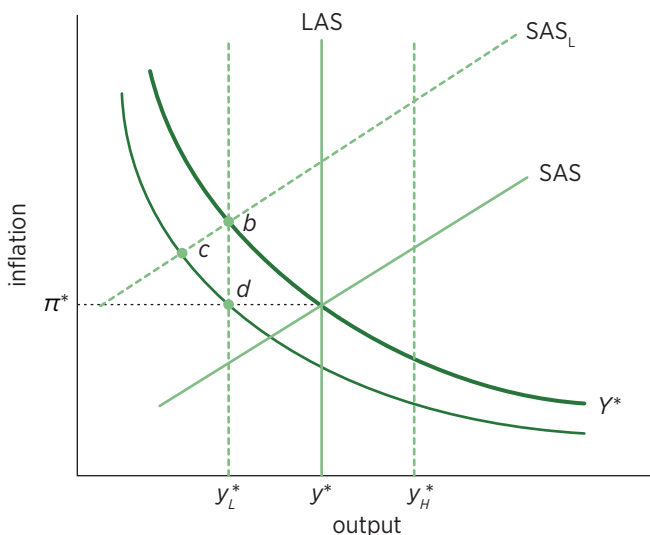
The Fallacy of the Phantom Instrument

Further reflection reveals another problem with Svensson's argument, to wit, that the zero inflation and zero output gap combination it treats as ideal may itself not always be achievable in practice, at least in the short run.

Thus suppose that, instead of maintaining a constant NGDP level, upon being confronted with an adverse supply shock of the sort discussed above, the Fed lowers its NGDP target to a level consistent with an unchanged long-run inflation rate. This case is allowed for in figure 4, where potential output (or long-run aggregate supply) level is assumed to vary between high and low levels surrounding its mean, with the low level coinciding with point *b*.

Suppose that, when confronted with the lowest level of potential output, the Fed tries to keep inflation on target. Can it do so while also maintaining a zero output gap? Probably not, because any aggregate demand innovation entails, *ipso facto*, some movement along an upward-sloping short-run AS schedule. By trying to maintain a zero inflation gap, the Fed is likely to create a temporary, negative output gap, coinciding with the temporary equilibrium shown as point *c*. (If, on the other hand, the Fed tries to keep above-average output growth from causing disinflation, it risks boosting output above its sustainable level. It might, in other words, fuel a boom-and-bust cycle.)

More generally, in claiming that NGDP targeting involves a flawed Fed reaction function, Svensson simply takes for granted that the Fed can improve upon such targeting using a different policy. That is, he assumes either that there's some action it could take that would keep both gaps at zero, or that it could at least reduce one of the gaps without increasing the other. But in assuming so, Svensson falls victim to the *fallacy of the phantom instrument*.

FIGURE 4. Aggregate demand and supply with variable potential output

Although the name is my invention, it was Nick Rowe, a macroeconomist, now retired, from Carleton University, who drew my attention to the fallacy of the phantom instrument when I showed him an early version of this essay. As Nick explained to me in an email,

> Yes, if the Central Bank had instruments, and so could control *both* P (price level) and y (real GDP) at the same time, then an NGDP target would be a bad idea. . . . But it does NOT have two independent instruments that can move P and y in opposite directions. It can either loosen (raise both P and y) or tighten (cut both P and y). So it's screwed.

Fans of Herold Demsetz may realize that the fallacy of the phantom instrument is a special case of what he called the nirvana fallacy,[8] also known as the perfect solution fallacy. This is "the view that presents the relevant choice as between an ideal norm and an existing 'imperfect' institutional arrangement" rather than one "between alternative real institutional arrangements."[9]

The Fallacy of the Fictitious Losses

It's at least conceivable that, despite the above arguments, NGDP targeting would still be inferior to some alternatives, because the true central bank quadratic loss function, instead of being balanced, assigns a greater weight to inflation than to output or employment gaps. In that case, enduring larger or more frequent output gaps may well be a price worth paying in order to avoid losses associated with having inflation deviate from its assigned target.

But can such relative weights make sense? It's here that the *fallacy of the fictitious losses* comes into play. This fallacy consists of calling something a policy loss when incurring it keeps real variables at their desired (loss-minimizing) levels, while avoiding it doesn't.

Economists are taught, for good reason, to treat people's well-being, or their utility, as a function of real variables only. The behavior of a nominal variable, like the inflation rate, is supposed to matter only insofar as it influences real variables. According to this perspective, variations in the rate of inflation are bad, not in themselves, but because they can cause undesirable changes in real variables like output, employment, and consumption. Obviously, when a central bank can avoid an undesirable change in real variables by keeping inflation stable, its failure to do so is costly, and it makes sense to call that cost a loss.

But when, as in the case of the adverse supply shock considered above, letting the inflation rate change is the only way to avoid undesirable changes in real variables, it makes no sense to treat the inflation rate change itself, as opposed to the adverse supply shock, as a bad thing. It makes even less sense to favor a policy, like strict inflation targeting, that would avoid a higher inflation rate only by further reducing real economic activity.

This drawback of strict inflation targeting is, as Svensson acknowledges (with reference to work on the topic by Ben Bernanke[10]), also a drawback of price-level targeting. A central bank, Svensson

says, "cannot 'look through' shocks to the Phillips curve ('cost-push' shocks) that temporarily drive up inflation, but must commit to tightening policy in order to reverse the effects of the shocks on the price level."[11] Price-level targeting may therefore call for "possibly painful tightening even as the supply shock depresses employment and output."[12] Precisely. It shouldn't be necessary to add that such painful tightening is hardly likely to be worth it, especially considering that it's only long-run price stability that really matters to investors. James Tobin had a reason, after all, for saying that "it takes a heap of Harberger triangles to fill an Okun gap."[13]

In fact, *all* the popular alternatives to NGDP targeting differ from it in calling for keeping inflation closer to its target that NGDP targeting would when doing so means tolerating greater deviations of output from its sustainable level. Consider flexible price-level targeting. According to Svensson, were the Fed to practice it, and assuming an Okun coefficient of 2 (meaning that for every 1 percent increase in unemployment real output declines by 2 percent), its implied loss function would be

$$L_t = (p_t - p_t^*)^2 + (1/4) \, (y_t - y_t^*)^2,$$

implying "a relative weight on stabilizing the GDP gap equal to 1/4."[14] This means that, instead of considering avoiding output (and implied unemployment) gaps *more* important than keeping inflation on target, a price-level targeting Fed would consider a relatively large output gap a price well worth paying for the sake of stable inflation.

This point brings us back to Svensson's suggestion that those who favor NGDP targeting treat it as an end in itself, rather than as potentially flawed means for achieving more fundamental macroeconomic goals. That shoe is instead on the other foot: It's those who regard a perfectly stable inflation rate or price level as desirable ends in themselves who seem to forget what really matters. If some alternatives to NGDP targeting seem less costly, it's only because of flawed accounting that treats all deviations of inflation from its target, including those that are essential to keeping output and employment at their potential levels, as bad things.

Our Elastic Dual Mandate
Whatever its microeconomic merits, the treatment of all fluctuations in the rate of inflation as losses can be understood as a way of formally recognizing the dual mandate's stable prices component. This seems to be Svensson's understanding. According to it, even if it would have fewer undesirable real consequences, NGDP targeting falls short of other targeting strategies in being less consistent with the dual mandate.

But does the dual mandate's focus on stable prices really favor those other policies? Surely the most straightforward understanding of stable prices equates it not with a stable above zero inflation rate, but with a *constant* long-run price level. Understood that way, the mandate would rule out not just NGDP targeting, but all of the alternatives to strict inflation targeting that Svensson considers.

Most obviously it would rule out strict inflation targeting as practiced by the Fed between 2012 and 2020—targeting that allowed the price level to "behave like a random walk with [upward] drift."[15] "It is a bit ironic," Svensson himself observes, "that inflation targeting with a low inflation target is widely referred to as 'price stability.' 'Low inflation' might be a more appropriate name."[16]

Indeed. Nor can the Fed's 2020 switch to Flexible Average Inflation Targeting (FAIT) be said to have brought us closer to something resembling a layman's understanding of price stability. Yet no one in Congress has yet accused the Fed of failing to uphold the dual mandate's stable prices provision. If the Fed's recent policies satisfy that mandate, surely any reasonable NGDP targeting scheme, and particularly NGDP level targeting (which, like price-level targeting, rules out a randomly drifting price level), can also satisfy it.

Conclusion

Besides claiming that NGDP targeting is flawed in theory, Svensson notes that it is difficult to implement in practice. It's not my purpose to address such practical challenges. Still, I think it worth pointing out that an NGDP target is *easier* to implement than an inflation target in at least one very important respect. This is that, because it implicitly calls for seeing through innovations to potential output, NGDP targeting makes it unnecessary for central banks to try to anticipate and otherwise respond to those innovations. Concerning other real or imagined practical challenges of NGDP targeting, I refer readers to David Beckworth's essay in this series and to his 2019 article on the same topic.[17]

But even if NGDP targeting isn't as easy as some versions of inflation targeting, so long as it has theoretical advantages, it is worth considering, for it may well be that, by aiming for but occasionally missing a theoretically correct target, the Fed will do better than it might by always hitting a target that's sometimes theoretically wrong. Consequently, I hope that in its second review the Fed will reconsider NGDP targeting, at least by taking another, harder look at some of the arguments that caused it to be set aside five years ago.

About the Author
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Notes
This policy brief is a slightly modified version of a 2019 paper, "Lars Svensson on NGDP Targeting," published at *Cato at Liberty*, October 15, https://www.cato.org/blog/lars-svensson-ngdp-targeting.

1. George Selgin, "The Fed's Chicago Shindig," *Cato at Liberty* (blog), June 26, 2019. https://www.cato.org/blog/feds-chicago-shindig.

2. Matthew Boesler and Rich Miller, "Fed's Nominal-GDP Targeters Stage Mini Revolt: Conference Update," *Bloomberg*, June 5, 2019, https://www.bloomberg.com/news/articles/2019-06-05/fed-s-nominal-gdp-targeters-stage-mini-revolt-conference-update

3. Lars E.O. Svensson, "Monetary Policy Strategies for the Federal Reserve," *International Journal of Central Banking* 16, no. 1 (February 2020): 133–93.

4. David Wessell, "What Is 'Average Inflation Targeting'?" *The Hutchins Center Explains* (blog), *Brookings Institution*, May 30, 201, https://www.brookings.edu/articles/what-is-average-inflation-targeting/.

5. Svensson, "Monetary Policy Strategies," 174.

6. Svensson, 174.

7. Svensson, 172.

8. Harold Demsetz, "Information and Efficiency: Another Viewpoint," *Journal of Law and Economics* 12, no. 1 (April 1969): 1–22.

9. Tim Harding, "Perfect Solution Fallacy," *The Logical Place*, December 10, 2013, https://yandoo.wordpress.com/2013/12/10/perfect-solutoin/fallacy/.

10. Ben Bernanke, "Monetary Policy in a New Era," prepared for the conference on Rethinking Macroeconomic Policy, Peterson Institute, October 12–13, 2017, Brookings Institution, https://www.brookings.edu/wp-content/uploads/2017/10/bernanke_rethinking_macro_final.pdf.

11. Svensson, 156.

12. Svensson, 157.

13. James Tobin, "How Dead Is Keynes?" *Economic Inquiry* 15, no. 4 (October 1977): 459–68. Some may be tempted to respond that a predictable inflation rate itself contributes to real well-being by facilitating investment. But inflation targeting tends, as noted above, to result in a price level that resembles a random walk with drift. Price-level targeting is to this extent preferable. In the absence of supply shocks, such targeting is equivalent to NGDP level targeting. However, in the presence of supply shocks, such price-level targeting makes not only expected revenues but factor prices less stable and predictable than they would be under NGDP level targeting. How this would aid rather than hinder investment is anything but clear.

14. Svensson, 173.

15. Svensson, 152.

16. Svensson, 152.

17. David Beckworth, "The Fed's 2024–25 Framework Review: Optimizing the Dual Mandate Through Nominal GDP Level Targeting" (Mercatus Policy Brief, Mercatus Center at George Mason University, 2024); David Beckworth, "Facts, Fears, and Functionality of NGDP Level Targeting: A Guide to a Popular Framework for Monetary Policy" (Mercatus Special Study, Mercatus Center at George Mason University, September 2019).