Discussion

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In this paper, Black, Coletti, and Monnier seek to determine the plausible range of net welfare outcomes associated with a permanent reduction in inflation. They estimate the welfare costs of disinflation by simulating the Bank of Canada's Quarterly Projection Model (QPM). The costs of disinflation are temporary in the base-case version of QPM; however, they consider several modifications that imply permanent costs of disinflation. These include labour-market hysteresis, induced permanent government debt increases, and interest rate floors. To evaluate the benefits of disinflation the authors survey the econometric and model-based literature and transform the reported effects into welfare measures that can be compared with costs estimated using QPM.

This discussion focusses on the role of the QPM structure and its modifications in determining the cost estimates, and on how alternative model assumptions and modifications might affect both cost and benefit estimates. It concludes with some suggestions regarding how the net welfare benefits could be judged.

The model assumptions underlying the base-case disinflation cost estimate seem reasonable. The key assumption is a sacrifice ratio of 3 embodied in the QPM Phillips curve. The authors recognize the difficulties in measuring the sacrifice ratio as well as its probably unstable character.

The authors find that introducing some small degree of labour-market hysteresis into the model increases the welfare loss. This is not surprising, as disinflation then generates permanent as well as temporary costs. The range of welfare losses would be considerably increased if long-run trade-offs

between inflation and unemployment were assumed along the lines of the results of Akerlof, Dickens, and Perry (1996). Those results are observationally equivalent to a non-linear hysteresis that appears only at low levels of combined inflation and labour productivity growth. Using a model calibrated to U.S. data they estimate that a permanent reduction in inflation from 2 to 1 per cent would raise the natural rate of unemployment by 0.5 percentage points, and that a reduction from 1 to 0 per cent would add an additional point to the natural rate. Underlying this result is the assumption that workers exhibit some degree of downward nominal wage rigidity, and thus that inflation acts as a lubricant. This result is controversial, and questions arise: Do asymmetric rigidities really exist? If so, would they actually persist once agents adapted to a new low-inflation regime? Nevertheless, the result can be considered in the spirit of Black, Coletti, and Monnier's readiness to include a wide variety of cost and benefit studies in their evaluation of the net welfare effects of disinflation.

In the base case, government debt is constrained to remain at its control level. The authors consider an alternative in which a disinflation generates a permanent increase in the ratio of government debt to gross domestic product (GDP). This greatly mitigates the short-run consumption losses associated with the disinflation but generates rather small permanent consumption losses not present in the base case. Several model features are relevant to this result. In the dynamic version of QPM, aggregate demand shocks generate fluctuations in economic variables around paths generated by a steady-state QPM. A steady-state QPM features a Blanchard-Weil framework of continuous overlapping generations in which dynastic households have a constant probability of death, and intergenerational disconnectedness (incomplete altruism) results from the birth of new households. This feature ensures that full Ricardian equivalence does not hold and that permanent increases in the stock of government debt will lower long-run consumption. In the pure Blanchard-Weil framework, current disposable income affects consumption only through its impact on wealth. This is necessarily small, hence debt shocks have fairly small initial effects on consumption as well. However, in a dynamic QPM these effects are magnified owing to the assumed existence of consumers whose expectations are formed by rules of thumb and who consume all their disposable income.

A curious feature of the result is that the welfare cost of the disinflation is actually less in the endogenous debt case than in the base case. The authors themselves seem puzzled by this, noting that both a disinflation (excluding non-modelled benefits) and a debt increase are "welfare deteriorating in their own right." It is hard to see how this statement is consistent with the results. In both cases, the same interest rate increase is

the exogenous force driving the disinflation. If we net this exogenous shock out of both scenarios, then the difference between the two cases can be interpreted as simply the effect of the permanent debt increase. The authors state that "the impact … [on] consumption forces the monetary authority to take a slower approach to reducing inflation," and that this improves welfare. A clearer interpretation is simply that the debt increase itself raises consumption enough to more than offset (in a welfare sense) the long-run consumption reductions, and that a temporary inflation increase is a by-product of the fiscal expansion.

This welfare result is very doubtful, since QPM likely understates the long-run costs of government debt. In the simulations, the permanent increase in the debt implies that taxes must eventually rise for a given level of spending in order to ensure debt sustainability. However, labour supply in QPM is exogenous, therefore the assumed increase in personal income taxes has limited permanent effects. If an endogenous labour supply based on optimizing behaviour were introduced, permanent employment reductions would result. This tax distortion channel could well exceed in importance the Blanchard-Weil savings channel in the determination of the long-run costs of a permanent increase in government indebtedness. The costs could also be substantial if the required primary balance adjustment occurred on the expenditure side. This would clearly be so in the case of a permanent reduction in government investment, but it could also follow in the case of a reduction in government absorption. As Baxter and King (1993) show, if government absorption generates consumption goods that are not substitutable with private consumption goods, then a permanent reduction in absorption will lower current wealth and leisure consumption, and employment and output will then be permanently reduced.

A further surprising feature of the Black, Coletti, and Monnier result is that it is contrary to the QPM-based finding of Macklem, Rose, and Tetlow (1994) that a permanent debt increase leads to sizable welfare reductions. It is unclear what differences in model or simulation assumptions might explain this.

This said, the fact remains that there is nothing that forces a government to accept a permanently higher debt-to-GDP ratio as a consequence of a disinflation. This is ultimately a question of a policy choice.

The introduction of interest rate floors generates quite small permanent costs. This would seem a reasonable result given the inflation rates that are considered. It should be noted, however, that the Summers effect would likely bind more often if additional sources of shocks were included, such as supply shocks.

The authors' survey of the benefits of disinflation suggests that the effect of the tax on money balances is generally small while tax interaction effects are moderate to large. Cross-country time-series econometric studies yield estimates ranging from nil to large, while single-country studies yield estimates ranging from nil to huge. The authors are right to argue that the econometric studies are likely to be difficult to interpret, given the large number of other shocks that are present over time, as well as the endogeneity of both output and inflation. Benefits arising out of reduced uncertainty may be measurable in observed risk premiums. However, the output effects of reduced uncertainty may be difficult to detect when many other shocks are occurring. Benefits arising out of improved ratios of price signal to noise may result in improved resource allocations that would not be captured in aggregate output measures.

The above considerations suggest that the cost and benefit ranges may be even wider than those reported by the authors, rendering even more difficult a determination of the net welfare effects if the ranges are taken at face value. The question is, how should we interpret these ranges? A major difficulty is that strong and weak studies are lumped together, perhaps generating wider estimate ranges than if they were based on informed weightings of the studies. Ultimately, policy decisions must be based on an informed weighting of the evidence. The Black, Coletti, and Monnier paper is useful, however, in allowing various cost and benefit estimates to be compared easily through the use of a common welfare measure, and it is in this light that the paper should be judged.

References

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