

# Discussion of “Is Exchange Rate Stabilization an Appropriate Cure for the Dutch Disease?”

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The experience of commodity-driven booms in open economies is by now so common that it is a curious historical fact that we still refer to this as the Dutch disease, since the actual episode involving the discovery of natural gas in the Netherlands in 1959, and the appreciation of the guilder that resulted, seems to be have been one of the mildest instances of this phenomenon. There are now dozens of examples whereby a natural resource boom due to either the discovery of new supplies or an increase in resource prices leads to a currency appreciation and a crowding out of non-resource-related traded goods sectors. There is a sizable literature on the Dutch disease, both from a trade perspective as well as a macro policy perspective.

It is worth asking the question of why we call this a disease. A rise in supply or price of an exportable good would clearly seem to be a beneficial event for an economy. The answer is twofold. In an extreme case, a resource boom can be transformed into a resource curse if it leads to a battle over property rights and political instability. In fact, overall real income may be actually lower after the resource boom than before. This is the experience of many emerging and developing economies. In countries with stable political institutions, by contrast, resource booms typically have less serious detrimental consequences on the economy. Yet there still may be difficult problems of short-term adjustment as a rise in overall absorption and an increase in demand for factors from the resource sector may lead to nominal exchange rate appreciation and wage inflation, generating excessive real exchange rate appreciation.

The present paper falls into the second category. It takes a standard New Keynesian open-economy model, amended to include a

resource sector, and explores the consequences of a large rise in the price of the resource. This leads to a (an eventual—see below) rise in overall GDP but a fall in output of the traditional export sector. In the model, there are two reasons why the response to a resource boom may be inefficient. First, there are sticky prices, so that the response of output to shocks of any kind is generally inefficient. Secondly, there is a learning-by-doing externality, whereby productivity in the traded goods sector is a function of organizational capital. This is taken as given by each firm, but in the aggregate, it depends on the level of activity in the traded goods sector.

The main question addressed by the authors is this: should the authorities attempt to stave off the real appreciation effects of a resource boom by fixing the nominal exchange rate? The answer is unequivocally no. This is an interesting result, especially in light of the second inefficiency mentioned above; in the presence of a learning-by-doing externality, the social cost of moving resources out of the traded goods sector exceeds the private cost. By fixing the exchange rate, the authorities might hope to reduce these costs. However, this is not the case. While it is true that fixing the exchange rate in response to a resource boom prevents a loss of output in the traded goods sector, and also limits the real exchange rate appreciation, it prevents an efficient adjustment in other sectors that more than offsets the benefit of a stable traded goods sector. In welfare terms, it is clearly undesirable to peg the exchange rate. It is easy to see the intuition for this. In the face of the large income shock imparted by a resource boom, a fixed exchange rate imposes extreme procyclicality on the economy, in effect generating an exacerbating expansionary monetary policy, leading to output booms in both the traded and non-traded goods sector.

The model is calibrated to Canadian data as regards the parameter choice, but the paper does not attempt to replicate any particular resource boom episode in Canada. The most model verification that is done is a comparison of the unconditional variances from the model to those from the Canadian economy. It would be nice to have a more accurate comparison of GDP with actual resource boom episodes. In future work this could be achieved by VAR identification of commodity price or supply shocks in data, together with the nature of the macro responses to such shocks. Canada has a much more diversified economy than other commodity countries such as

Australia, New Zealand, or Norway. To really get to grips with the resource boom problem per se, we would want to try to separate these from other shocks, such as those to monetary policy, the U.S. business cycle, etc.

The paper goes on to outline the optimal monetary policy response to a resource boom. The optimized monetary policy does in fact act somewhat to stabilize exchange rates, but it is very far from a pegged exchange rate.

Overall the paper makes a valuable contribution to the macro literature on commodity price shocks in open economies. There are, however, some aspects of the model which may raise questions about whether it can give a full account of the characteristics of resource booms and Dutch disease episodes. One curious feature is that overall GDP initially falls in a resource boom (so long as the exchange rate is allowed to adjust). This happens both in the case of sticky prices and a Taylor rule, under flexible prices and an internalized learning-by-doing externality, and under the optimized monetary rule. Although GDP rises in successive periods as the persistent effects of the price shock lead to rising demand for non-traded goods, it seems odd that what after all is a positive supply shock leads to an immediate fall in overall GDP. It seems to be coming from the role of wealth effects through endogenous labor supply. This is a common feature of dynamic stochastic general equilibrium (DSGE) models with standard preferences, but here it opens up a conceptual difficulty because the direct resource boom, unlike a productivity shock in a standard DSGE model, does not elicit higher labor supply—there is no endogenous employment in the resource sector.

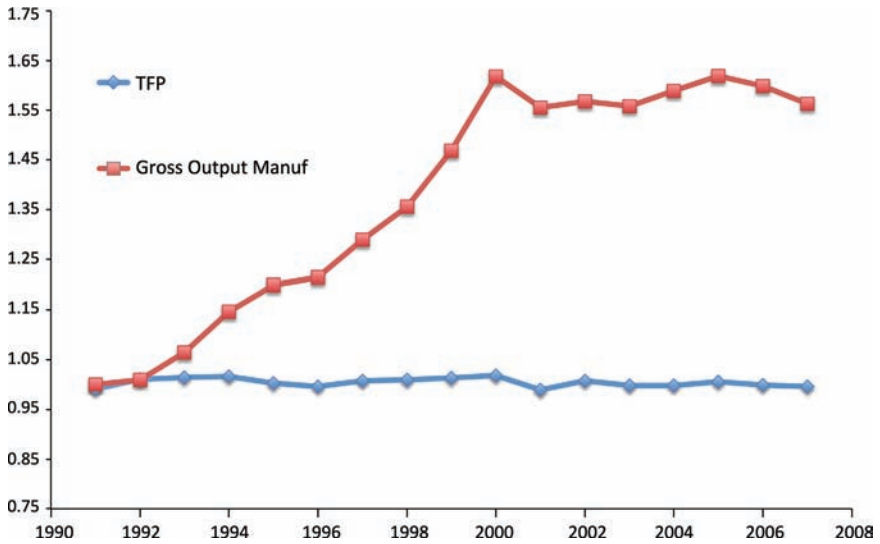
A more general question concerns the role of learning-by-doing. The basic idea behind learning-by-doing is appealing, in that it generates a welfare case for maintaining a higher output of traded goods than would be achieved in an economy without policy intervention, and more particularly, nominal exchange rate appreciation may in fact exacerbate the gap between the actual and desirable output of traded goods. But the time path of response to the commodity price shock in figure 3 of the paper makes clear that the big gaps between traded goods output with and without learning-by-doing arrive only after some quarters have elapsed. In other words, the need for policy is not to arrest the short-term effects of a collapse in the traded goods sector coming from a spike in the exchange rate, but rather

to prevent a medium-run gap between the equilibrium and efficient level of the output of traded goods. This seems much more of a low-frequency market failure, and to be somewhat beyond the purview of monetary policy, and so it is somewhat unsurprising that a policy of exchange rate stabilization is quite unhelpful in dealing with this problem.

A related issue is that the commodity boom here is a very persistent process. The increase in GDP is close to permanent. The role of policy seems to be one which facilitates the optimal adjustment to higher long-run path. By contrast, it would seem that much of the policy problems, or at least the policy discussion, coming from resource shocks arise from the possibility that they will be quite temporary, or at least reversed without warning. Then the economy would be forced to revive a depressed traded goods sector. The welfare trade-offs associated with this type of process are analyzed in Caballero and Lorenzoni (2007).

Is learning-by-doing a reasonable empirical approximation for Canadian data? It would be nice to have some direct evidence for this. In fact, at first glance there seems little to support this. It is well known that there is a productivity “crisis” in Canadian manufacturing. Figure 1 in this discussion seems to support this, and certainly it is hard to argue that total factor productivity is related to lagged output growth in the manufacturing sector, as suggested by the learning-by-doing specification in the paper.

Finally, it is worth noting that one of the biggest policy problems in dealing with resource booms seems to be in attempting to separate the boom from the “froth,” in the sense this term was coined by Alan Greenspan. Episodes of growth and appreciation tend to be associated with “irrational exuberance.” In small open economies, this may lead to exchange rate overshooting, and possibly bubbles or bubble-like behavior in exchange rates. There are certainly some instances where exchange rate overshooting can be a problem—take Canada in the early 1990s, or the recent experience of Switzerland, for that matter. It is this separating of fundamental-driven real exchange rate adjustment from speculative-driven exchange rate overshooting that is likely to be the biggest headache for monetary authorities, since they want to allow the first type of adjustment but ward against the second. But let us admit that this type of policy dilemma cannot easily be captured in a standard New Keynesian

**Figure 1. Canada Manufacturing**

model such as this. So it would be asking far too much of the authors to confront a question such as this. As it is, this paper sets out a solid research question and answers it with admirable expertise.

## References

Caballero, R., and G. Lorenzoni. 2007. "Persistent Appreciations and Overshooting: A Normative Analysis." NBER Discussion Paper No. 13077.