

General Discussion: Monetary Policy for Commodity Booms and Busts

Chair: Ilan Goldfajn

Mr. De Gregorio: It's a very interesting paper because in addition to the traditional work that looks at commodity prices and monetary policy, this paper adds financial frictions, which are quite important, especially in emerging market economies. I think it captures one of the main concerns of monetary policy in commodity-exporting countries, which we witnessed the recent commodity price boom. They are the appreciation of the currency, a rise in inflation and a need to tighten. However, when tightening takes place, there is further appreciation because of carry trade and potentially some form of Dutch disease. In your paper you don't have export, but you have an importing competing sector. Your discussion is correct on what's optimal policy, and how it is a complement to monetary policy. One possibility, which is discussed in the paper, is fiscal policy through taxes and subsidies. However, what fiscal policy has done in many commodity-exporting countries is build a buffer during good times. This has led to many countries having sovereign wealth funds. Beyond the direct effects of prudent fiscal policy on aggregate demand, sovereign wealth funds mitigate the financial friction, by improving the net asset international position. Something similar happens with exchange rate management, because the accumulation of reserves seeks to soften the appreciation by intervening in the foreign exchange markets. Its effects are in general transitory and provide

some limited relief on the exchange rate front. However, the building up of reserves has also the advantage of alleviating the financial friction. These policies should be included in the analysis of optimal reactions to commodity price booms under financial frictions. And a final point regarding the source of fluctuations in commodity exporting countries. The figure that for Argentina shows that the main expansion during a commodity boom is the sharp increase in investment, more than consumption. There's an investment boom, and then when the price declines there is an investment bust. And that is a quite important feature of the business cycle in commodity-exporting countries. Adding capital formation and investment in the commodity producing sector could add more realism to the model.

Mr. Frenkel: I would like to refer to the statement that the “exchange rates peg is a double-edged sword.” I fully agree with this statement, but wonder which of the two edges one should choose. Using the nominal exchange rate in order to stabilize the nominal system when inflation is high, has a built-in contradiction. On the one hand, it produces a quick result since the nominal exchange rate has an immediate impact on prices (especially where the monetary authority lacks credibility), but on the other hand since domestic inflation is relatively high, pegging the exchange rate results in a continuous loss of competitiveness which in turn necessitates an occasional adjustment of the peg. However, that very adjustment of the peg brings about a loss of credibility as market participants realize that the monetary authority is losing its battle with the high inflation. This built-in contradiction can and should be reconciled by articulating in advance the path of the nominal exchange rate and the target inflation rate. Specifically, as the monetary authority pegs the rate, and as everyone realizes that, the peg is not sustainable (since domestic inflation is still high), the monetary authority should announce in advance that along the disinflation path, there will be occasional changes in the nominal exchange rate. Furthermore, it should be announced that as domestic inflation recedes the accompanying change in the nominal exchange rate will also get smaller and this process continues until inflation is reduced to its long-run target. What is achieved with this strategy is that the occasional changes in the nominal exchange rates that occur along the path, are not viewed

as a *failure* of the strategy, but as a result of the *success* of the continuous move toward price stability. Of course, to be successful the announcement of the monetary authority needs to be credible and such credibility is enhanced by a consistent application of the strategy.

Mr. Solohub: Thanks for a very good paper. I would say it's actually very relevant for emerging markets because at the moment my country, Ukraine, is very much facing the same. Positive terms of trade combined with acceleration of capital inflows. We are trying to deal with this by the means you have been mentioning—flexible exchange rate and domestic inflation targeting role. The question was a suggestion I basically have, is about macroprudential instruments because you mentioned about this, and Wei Xiong also mentioned about this, but in practice it's actually extremely important. Sometimes it's even a first line of defense for the countries because they have problems with applying in the moment, let's say, tighter monetary policy. So, I would say the paper would very much benefit from exploring in detail this one.

The second suggestion is actually also about practical cases. I would suggest that the paper would benefit from getting examples from more recent episodes as have been mentioned by Wei, 2007-08 commodity price boom, or with price short on 2014-16, because the case with Argentina, Chile and Mexico is they have been first of all pretty distant in time. We have seen a lot of changes in the global financial markets since then. So, I would say relevant examples could be much more relevant than that. The paper is very practical. It's very much a toolkit for policymakers on what to do, and therefore, the application to the latest episodes could be very interesting and constructive.

Ms. Forbes: Really nice paper. It raises a whole set of questions. I'll give you three more to throw on the list. First, as you know there's a long literature on this source behind a movement in oil prices. The source of the shock determines the impact. And building on Wei's comments, have you thought through for different reasons why if commodity prices move, you might have different effects if it's a supply shock versus demand shock or etc.

Second, I know your model is linear, but are there any nonlinear effects that should be on our radar? For example, if there's an increase in commodity prices versus a decrease, are there some different effects that we should just think about even if they're not formally modeled.

And then third, this is going a little beyond your paper, you focus on commodity exporters. Are there any implications for the United States? The United States is obviously not in that net commodity exporter or small open economy, but now is a major commodity producer. So, how can any of these effects spill through?

Ms. Tenreiro: Let me start with José De Gregorio. You raise many good points. The way to interpret our exercise is, what's the residual volatility that monetary policy needs to tackle once fiscal policy or your sovereign wealth fund have done their optimal moves? My homework is about the monetary policy response and I'll see what's left from these other optimal policies. A sovereign wealth fund will work great in this context. It works well in Chile somehow. It never worked in Argentina. Those are the constraints and monetary policy will have to respond more strongly in countries like Argentina.

That connects also with macroprudential policy. Of course, we want to come to a cyclical macroprudential instrument here to fight the amplification effect which is at the core of the problem here. If you have the countercyclical macroprudential instrument, go for it, and then what is left will be what monetary policy needs to tackle. One thing, and it's tricky here because the financial conditions are determined abroad. So you need to think about a very clever instrument here to counteract the amplification. I would disagree though with your point on exchange rate management. Trying to smooth it is not going to help you here. It's going to exacerbate the problem because you have an even larger commodity expansion if you try to fix the exchange rate. There would be an even bigger gap between the increasing prices of commodities in dollars vis-à-vis your domestic cause. That would not help you here. You want the exchange rate to appreciate.

On Jacob Frenkel's point, I couldn't agree more with you. But it's a very tricky path to trace, and there's no template out there. The literature is very patchy. The experiences of different countries who

transition to inflation targeting are so varied. I think we need more work on how to work out that transition, especially as we think of many countries that are now coming in—African countries that will be emerging. We need some more thought on how to get there. I couldn't agree more with your broad guidance, but we need more concreteness on exactly how to structure.

Then the other point about, are we dated. The case studies we look at is Pacto in Mexico, in Argentina, Austral and Primavera. Are they dated? Actually, I think Argentina's problem now is a lot of inertia inflation and it wasn't so much about fiscal discipline. It was about tackling inertia inflation when they had the unions really against the government. It's not the problem that has disappeared. But I take your point that other conditions have changed; obviously as a monetary policymaker you may take those into account.

Kristin Forbes raised the issue of sources of shocks, which goes back to Wei's comments. Those are very important. From the perspective of a small product economy, if increasing prices due to excessive money is coming because there's an increasing global demand or because supply in some other competing countries has fallen, from the perspective of the smaller product economy probably is not going to make a big difference. If the shocks are driven by investment shocks as Wei was mentioning, the relevance is the persistence. They might be much more volatile than shocks even by demand movements. But I should say the model is flexible enough to incorporate different persistences, so in effect, we work hard in one of the examples we have to see if that correlated movements in commodity price increases and global demand, and you can work equally with the supply shock. It's about the calibration of the persistence. But the framework is flexible enough for that.

Linearity, we have an optimal commodity size in the model, and deviations either way are bad, and you want to lean against those deviations. There might be a reality to some other sources, but we're not dealing with them here.

In the United States, I'm not looking at the United States here. This is a small product economy and I won't stretch it.

Mr. Olsen: Thank you for an interesting paper. We have in our research department a few studies which provide similar results, but without these results added from the credit constraint that you added to the model framework, I guess, for particular relevance for emerging economies. But it's also very nice when clear results from model exercises match with actual events/experience from the real world. Let me briefly give you two episodes from our history as an oil nation. We have experienced two major negative oil price shocks. The first one happened in 1986. Norway had a currency pick. We actually devaluated for a moment, for the last time by the way. After that, the krone was OK. But the point is, the krone was devaluated, but wage earners, price setters, didn't react properly. On the other hand, they required some compensation, so they didn't accept the necessary reduction in real wages and real incomes. The result was that the economy went into a downturn, or at least contributed to a downturn, and wage acceleration came after many years with high unemployment.

Next episode, 2014. We had an inflation target; much more flexible inflation target. We had some room to maneuver also at the time in monetary policy. At the time, the policy rate was 1.5. We reacted immediately when oil prices fell. That stimulated the economy, but we were also quite explicit that this monetary policy would also sort of underpin a weaker krone. So a real depreciation has to come about. Altogether, we had some problems in the aftermath, but it went much better than in 1986.

A main point for me, and the main reason, is we had a more sensible regime in monetary policy, but the main difference is also that wage earners, parties in labor market, price setters reacted much more sensibly. They provided moderation. That was also a very important part of the communication by the central bank. We sort of reminded everybody of the 1986 experiences. I think these two episodes support your formal conclusions.

Mr. Alghaith: Thank you, Silvana, very much for this interesting paper. While I understand that this paper assumed that there is no active role for the fiscal, I'm quite curious, in an event where the government actually dominated the economy, and take the receipt of

the revenues of the commodity and spend it. Would the monetary policy be able to execute their goals and reach it in that manner? For example, if the government keeps spending, and monetary policy and the economy overheats, and then you have inflation, and you try to increase the interest rate to overcome this situation, would you be able to do it? If not, then what would be the appropriate monetary policy to be executed?

Ms. Gopinath: I think this is a really terrific paper. What Silvana highlights is when you're thinking about small open economies and appropriate policy response, it does matter what the shock is. It depends upon whether it's a commodity price shock or it's a financial market shock, and you can have very different reactions. So, there is a bit of state contingency there. The question about what's driving the commodity price movement, I think, is more important than the way you said it. In the way your model works, because you have perfect risk sharing with world markets, you have a bit of a situation where you get a commodity price boom, and actually consumption falls in the small open economy unless of course there's an increase in world demand and then overall consumption is going. How concerned are you about this particular piece in the model, and does it matter for the implications?

Mr. Fischer: It's a very interesting paper and I just wanted to speak up for the old times, because there are lessons in them. On page 9 of the handout, where it says, "As a potential role for heterodox policies," and then, "the ideal solution would build consensus in wage negotiations." That's absolutely true, but that really depends on what the institutional structure of wage negotiations is. The one in which I was involved, not as a country, the Israeli stabilization in 1985 was extremely successful. But it had one big advantage. You've got the United States behind it, and then it became harder to depart too much from the agreements. But the key was there was a labor union which controlled wages, and you had to get them. If you tried to do that today, forget it. There's nothing there that would hold the wage by talking to three people. That's something which just depends on where you are in moving from socialism to market economy, and

that was a successful move. But it's not something anybody could use today. But there are lessons there.

Ms. Tenreyro: Just back on the comments and the experience from Norway. The other question if I understood it correctly was some fiscal pro-cyclicality. As I said, if fiscal policy is being set pro-cyclically rather than countercyclical, then monetary policy has a bigger job. It's to be even more countercyclical itself, so to respond more aggressively to a monetary policy shock.

Gita Gopinath, on your point of consumption. You shouldn't compare it to practical experiences because we're talking about optimal policy, not positive experiences. The result there on consumption that you cite comes directly from the risk-sharing assumption. We worked out the fiscal extreme opposite. There, you don't get the fall in consumption, but the general implications of countercyclical policy, raising rates, letting the currency appreciate still go through. It's not in the paper right now, but it will be in the revised version.

It does capture something that I think has happened in this economy. Political economists talk about their political resource curves. These windfalls can lead to political infighting, corruption, and can deviate investment away from human capital, innovation in the non-commodity sector toward the commodity sector, and those can have consequences. That's what we're trying to capture in the model with a simple framework. But that's the type of mechanisms we are concerned with here.

And yes, I agree Stan (Fischer). Institutions matter. When we tell countries do your inflation targeting, yes it works well. But what we don't know much is how to get there, and the experiences are so varied across different countries that if we are trying to advise the future emerging markets, we need to do more work in trying to understand what exactly worked. Because Israel, obviously, did that, but they did a lot more things as well. So did Chile, so did Mexico, and so we need I think more work in preparing countries to get to a stable path.

Mr. Costa: I attribute high value to this paper, and am very interested in the avenues that it's opening in what concerns macroeconomic policy for countries that are highly dependent on commodities. My

first point is that we are dealing with economies with enclaves, and the issue is to take into account the relative size of the enclave with respect to the economy, and to evaluate the risk of contracting the Dutch disease. This depends a lot on how the enclave is linked with the rest of the economy. In some cases, the enclave has nothing to do with the rest of the economy, like in some offshore-oil producing countries. In the other cases, there is a linkage. The second point that is important in my view is understanding how big will be the impact, if we do not mitigate the risk of contracting the Dutch disease, because this will mean the other side of the economy will suffer a loss of competitiveness and will contract if there is a boom in commodity prices. A third point is the articulation between the public and the private sector, in order to identify the tools that are available to the public sector ... Because, at the end of the day, the challenge is to “sterilize” (i.e. mitigate the impact of) the increase in income in order to avoid the negative effects on the other sectors. If we are unable to achieve “sterilization through policy measures” we need to think about creating sovereign funds and similar instruments to smooth public spending, in order to address the risk of loss of competitiveness and external imbalance. In all these points, the institutional setting is critical. We either have the institutional setting that “sterilizes” the impact of a boom or a bust, or we don’t. In the scenario of not having such a setting, what will be the risk for the other sectors of the economy if the enclave becomes very strong in relative terms? I think this paper presents very important views. However, we should caution against placing the full burden on monetary policy because the impact of commodity booms is very dependent on the structure of the economy, on the institutional setting, and also on the balance between private and public sectors in what concerns the appropriation of the income linked to the commodity booms.

Ms. Tenreyro: I agree that there’s huge dispersion in institutional settings and there’s private and public. Again, the way I want you to think of our exercise is what’s left for monetary policy to stabilize? In a setting in which you don’t have a sovereign wealth fund in which fiscal policy is acting pro-cyclically or not helping with stabilization, then monetary policy will have a lot of work to do. In our settings, probably what’s left is much less, and the monetary policy should

remain quite neutral. So that's the sort of spirit of the exercise. And I wouldn't necessarily, you in, the proposals of a sovereign wealth fund or having more on the fiscal. But I'm speaking more from the perspective of what the central bank would do or should do.