Special Feature B

Product Price Targeting—A New Improved Way of Inflation Targeting

by Jeffrey Frankel[1]

Introduction

Many countries have experienced highly variable terms of trade in recent years, as a result of unusually high volatility in world prices of oil, minerals, and agricultural products. Exporters of these commodities enjoyed sharp improvements in their terms of trade in the years up to 2008, and again in 2010–11, and a sharp deterioration in 2009. There is risk of another decline in the future. For importers of oil, food, or other raw materials, of course, the pattern is precisely the reverse.

Terms of trade volatility poses a serious challenge to the inflation targeting (IT) approach to monetary policy. IT had been the favoured monetary regime in many quarters. But the shocks of the last five years have shown some serious limitations to IT, much as the currency crises of the late 1990s showed some serious limitations to exchange rate targeting.

There are many variations of IT: focusing on headline versus core CPI, price level versus inflation, forecasted inflation versus actual, and so forth. Some interpretations of IT are flexible enough to include output in the target at relatively short horizons. But all orthodox interpretations focus on the CPI as the choice of price index. This choice may need rethinking in light of heightened volatility in prices of commodities and, therefore, in the terms of trade in many countries.

A CPI target can lead to anomalous outcomes in response to terms of trade fluctuations. Textbook theory says it is helpful for exchange rates to accommodate terms-of-trade shocks. If the price of imported oil rises in world markets, a CPI target induces the monetary authority to tighten money enough to appreciate the currency—the wrong direction for accommodating an adverse movement in the terms of trade. If the price of the *export* commodity rises in world markets, a CPI target *prevents* monetary tightening consistent with appreciation as called for in response to an improvement in the terms of trade. In other words, the CPI target gets it exactly backward.

An alternative is to use a price index that reflects a basket of goods that the country in question produces, including those exported, in place of an index that reflects the basket of goods consumed, including those imported. It could be an index of export prices alone or a broader index of all goods produced domestically. I call the proposal to use a broad output-based price index as the anchor for monetary policy Product Price Targeting (PPT).

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Why Target an Output-based Price Index?

Many small open countries still pursue an exchange rate target. The argument for targeting an output-based price index if the alternative is an exchange-rate target can be stated succinctly. It delivers one of the main advantages that a simple exchange-rate peg promises, namely a nominal anchor, while simultaneously delivering one of the main advantages that a floating regime promises, namely automatic adjustment in the face of fluctuations in world prices of the countries' exports.

Why not simply float? Even if a country decides to float, as so many did after the currency crises of the late 1990s, it still needs some sort of anchor for monetary policy. This reasoning is what led to the popularity of inflation targeting in the first place. But what should the price index be?

The argument for targeting any of the output-based price indexes is that it is robust with respect to terms-of-trade shocks. If the terms-of-trade shock is a fall in the export price, these output-based indices allow the currency to depreciate, a desirable property unavailable to CPI-targeting. If, on the other hand, the terms-of-trade shock is a rise in the price of imported oil for example, CPI-targeting says to tighten monetary policy enough to raise the currency, an undesirable property that is not held by output-based targeting. Some central bankers say they avoid the problem of import price shocks by targeting core CPI, excluding energy and farm products, either as an explicit *ex ante* policy or by explaining away such import price increases *ex post*. But CPI-targeters such as Brazil, Chile, and Peru are observed in fact to respond to increases in world prices of imported oil with monetary policy that is sufficiently tight to appreciate their currencies. This is an undesirable property, the opposite of accommodating the terms of trade.

Export Price Targeting

At one time, I proposed tying the currency to a single export commodity (Frankel, 2003). The plan was to fix the price of that commodity in terms of domestic currency. For example, Zambia would peg its currency to copper—in effect adopting a metallic standard. Jamaica would peg to alumina. The UAE would peg to oil.[2] And so forth. I called it PEP, for Peg the Export Price.[3]

Some responded to this proposal by pointing out, correctly, that the side effect of stabilising the local-currency price of the export commodity in question is that it would destabilise the local-currency price of other export goods. It could in effect hard-wire the Dutch Disease: when the leading export booms, the currency automatically appreciates, and all other exports lose competitiveness. The scenario could be extreme: a doubling in the dollar price of oil would double the dollar value of the local currency. Land, labour and capital move out of the export manufacturing sector, for example, and into non-traded goods (along with the booming commodity sector). If agricultural or mineral commodities constitute virtually all of exports, then this may not be a big issue. But for most countries, no single commodity constitutes more than half of exports. Moreover, even those that are heavily specialised in a single mineral or agricultural product may wish to encourage diversification further into new products in the future, so as to be less dependent on that single commodity. Imposing extra volatility on them seems inconsistent with this goal.

[2] Or perhaps to a basket of oil, dollars, and euros (Frankel, 2008).

[3] Operationally, the central bank each day could announce an exchange rate vis-à-vis the dollar, following the rule that the day's exchange-rate target (dollars per local currency unit) moves precisely in proportion to the day's price of gold or copper or oil on the New York market (dollars per commodity). The central bank can then intervene via the foreign exchange market to achieve the day's target.

One way to moderate the proposal is to interpret it not as targeting the price of a single export commodity, but rather as targeting a broad index of all export prices: Peg the Export Price *Index*. (Frankel, 2005) Even under this version, however, a general boom in export goods would likely cause a big appreciation and a loss in competitiveness for the import-competing sector. Factors of production still move into the non-traded goods sector.

Product Price Targeting is a way to moderate the proposal still further. PPT targets a broad index of all domestically produced goods whether they are exportable or not. The GDP deflator is one possible output-based price index, but has the disadvantage of only being available quarterly, and being subject to lags in collection, measurement errors, and subsequent revisions. It may be necessary to construct a new monthly index. Even in a small poor country with limited capacity to gather statistics, government workers can survey a sample of firms every month to construct a Product Price Index.

Comparing Competing Monetary Targets

In a recent paper (Frankel, 2011), I examine a set of countries in Latin America and the Caribbean and compare the paths of prices under the historical monetary regime with what would have happened under five other possible regimes, i.e. dollar target, euro target, SDR target, CPI target, and my output-based price targets.

First, the simulations suggest that the currency anchors offer far more price stability than the historical reality. Second, export-price pegging perfectly stabilises the domestic price of export commodities, by construction. Third, the more striking finding is that product-price targeting generally delivers more stability in the real prices of traded goods, especially the export commodity. This is a natural consequence of the larger weight on commodity exports, as compared to the CPI.

Implementation Issues

If a broad index of export or product prices was to be the nominal target, it would of course be impossible in practice for the central bank to hit the target exactly. There would instead be a declared band for the price index target, which could be wide if desired, just as with the targeting of the CPI, money supply, or other nominal variables. Open market operations to keep the export price index inside the band if it threatens to stray outside could be conducted either in terms of foreign exchange or in terms of domestic securities.

For some countries, it might help to monitor on a daily or weekly basis the price of a basket of agricultural and mineral commodities that is as highly correlated as possible with the country's overall price index, but whose components are observable on a daily or weekly basis in well-organised markets. Much of the variation in South Africa's overall export or product prices, for example, arises in four commodities: gold, platinum, iron, and coal. Jamaica's price index is dominated by five commodities: alumina, bananas, coffee, rum and sugar. In each case, if a short-term price index is to be a bridge to annual targeting of an economy-wide Product Price Index then it should probably give a big weight to housing alongside the export commodities. Including housing would serve several purposes: it would give representation to the important non-traded goods component of production, would raise the correlation of the short-term index with the economy-wide index, and would help keep a lid on incipient asset-market bubbles—which have done more to show the limitations of traditional IT than anything else.

Sum-up: Who Should Consider PPT?

The PPT proposal is not for everybody. It is designed for countries where exogenous terms of trade volatility are a source of macroeconomic instability. The most obvious candidates are countries that specialise in the exports of the most volatile commodities, including oil and gas, copper, and coffee. Countries with the highest terms of trade variability tend to be concentrated among oil exporters and Latin Americans. Topping the list are Libya, Dominican Republic, Chile, Venezuela, Iran, Nigeria, and Honduras.

The terms of trade of some commodity exporters may not be as variable as one might expect, if the world prices of their export commodities happen to be correlated with the world prices of their import commodities. Examples appear to include Colombia, Kazakhstan, and Sri Lanka: although their dollar export prices vary as much as those of oil exporters like Nigeria, the dollar prices of their import commodities tend to move in tandem, so that their overall terms of trade variability ranks relatively low.

Theoretical models of IT typically miss the issue of terms of trade vulnerability, either because they are not designed for open economies or because they rely on well-functioning international capital flows that effortlessly finance temporary trade shocks. But a model that ignores the tendency for international finance to disappear in times of trouble is not very useful for choosing an exchange rate regime.

For a country concerned about terms of trade volatility but not ready to take the plunge of committing to PPT, riskless exploratory steps are at hand. The first step would be for the central bank to collect and publish the statistics for a suitable price index on a monthly basis. This need not be any more difficult than collecting the statistics for the CPI. Indeed, it can be less difficult if capacity is lacking: statisticians need only survey a limited number of commodities. The second step would be for the monetary authorities to announce that they are monitoring the Product Price Index, as one of a number of indicators of the appropriate stance of monetary policy. The third step, for a central bank that is ready to adopt PPT, would be to announce a target range for the Product Price Index.

References

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