

# Exchange Rate Management for Commodity Booms: Examining Zambia's Copper Exports

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**The 'Resource Curse' literature** often links a boom in commodity exports with appreciation of a country's real exchange rate as a result of an influx of foreign exchange. This leads to a loss of international competitiveness and hampers diversification of the economy. So adopting the right exchange-rate regime is extremely important for commodity-exporting countries.

The real exchange rate is determined by both the relative value of currencies and relative prices. If the exchange rate is allowed to freely float, the greater supply of foreign exchange from an export boom will appreciate the domestic currency in nominal terms as its value rises relative to that of foreign currency.

If the exchange rate is fixed, the central bank is obliged to sell domestic currency in return for foreign exchange. This will increase the supply of domestic currency, which will boost domestic demand for goods and services and drive up their prices. This will cause real appreciation since the ratio of domestic prices to foreign prices will rise.

## The relevance of the exchange rate regime

Hence, central banks confront a 'trade-off' between nominal appreciation if they allow flexible exchange rates and domestic inflation if they maintain fixed exchange rates. But in both instances the ultimate result is the same: an appreciation of the real exchange rate, whether through a change in the relative values of currencies or the ratio of domestic to international prices.

Economists who favour inflation-targeting recommend flexible exchange rates because they would be more conducive, they argue, to domestic price stability. However, we prioritise exchange-rate management as a more effective tool to combat commodity-induced appreciation.

One reason is that the link between the money supply and domestic prices is often weak because of extensive excess capacity in developing countries. Since under-used factors, such as labour, will be mobilised to increase production when aggregate demand increases, prices will tend to remain stable.

Another reason is that food prices account for a large share of the Consumer Price Index. And they are heavily influenced by supply conditions. So an increase in domestic demand for food, because of an increased money supply, might not significantly affect the CPI.

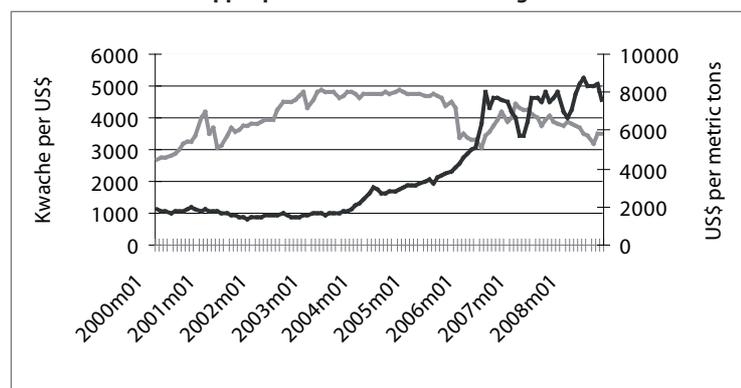
## Exchange rate management of the copper boom

The recent copper boom in Zambia provides a concrete basis to evaluate exchange-rate regimes. The Zambia boom elicited an influx of foreign exchange that, together with speculative capital inflows and debt relief, sharply appreciated the Kwacha, first in November 2005 and then during mid-2007 to mid-2008 (see figure).

However, because the Bank of Zambia was committed to using foreign exchange interventions only to smooth volatility in the exchange rate, it did not undertake any concerted efforts to counteract the appreciation, especially during the sharp upturn of 2005. As a result, Zambia's non-traditional exporters of tobacco, cotton, coffee and horticulture experienced a 30 per cent decrease in their

earnings in domestic currency terms, and thus contracted their production in 2006-2007. This drop in production had dramatic consequences for employment since these sectors accounted for almost 70 per cent of the total workforce while the copper mines accounted for only 10 per cent.

Copper prices and nominal exchange rate\*



\* A lower value of the exchange rate denotes an appreciation  
Source: IMF-IFS

## The Impact on Inflation

What could have happened if the Bank of Zambia had managed the exchange rate? What would have been the respective impact on inflation of the money supply and the exchange rate? What would have been this impact both in the short run and the long term?

To test these hypotheses, we utilised a cointegrated Vector Auto-Regressive (VAR) model for both food and non-food prices during the period 1994-2008. This disaggregation of prices is important because food prices account for almost 70 per cent of Zambia's CPI.

We found that in the short run the CPI was not very responsive to changes in either the money supply or the exchange rate. Food inflation, though sensitive to the exchange rate in the long run, adjusted mainly to its own previous values in the short run. Moreover, though non-food inflation was sensitive to changes in the money supply in the short run, it generated only modest inflationary pressures because it did not account for a large share of the CPI.

Under these conditions, we argue that the Central Bank could have opted for managing the exchange rate since this could have forestalled a real appreciation without having had a major impact on domestic prices.

Our research tends to support the general proposition that in developing countries such as Zambia, a managed exchange rate could prove to be an effective tool for safeguarding international competitiveness without inducing excessive inflationary pressures in the domestic economy.

## Reference:

Elva Bova (2008). 'The inflation-appreciation trade-off revisited: the monetary management of the Zambian copper boom'. Paper presented at the AERC Conference on Natural Resource Management and Climate Change, 15-17th of September, Nairobi.