

# Exchange rate regimes and monetary schemes for commodity dependent countries: an approach to the current account

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# Presentation outline

- Identification of the main issues:
  - commodity business cycle
  - the relevance of macroeconomic policy
- The first research: hypothesis, questions, methodology
- The second research: hypothesis, questions, methodology
- The third research: general issue
- What next

# Different dimensions of commodity dependence in LICs

- In LICs the traditional features of commodity dependency are exacerbated by:
  - - the high degree of dependency on the export of the commodity;
  - - the lack of financial markets and specific markets for commodity price risk such as futures, options, swaps and commodity-linked notes designed to make revenues more predictable, which does not allow hedging for traders and producers (Hewitt and Page 2001);
  - - the weak and underdeveloped structure of the economy, where export receipts are:
    - The main source of government revenues: thus the fiscal balance is tightly linked to the external balance (Dehn 2001).
    - The main source of foreign exchange, which has implications on monetary policy commitment (Adam 2005)

# Commodity price business cycle

.... *typically booms do not translate into sustained increases in income – they are missed opportunities – whereas crashes produce devastating and long lasting declines* (Collier and Gunning 1999)

## Under a commodity burst:

- countries run into recession due to the high degree of dependency of the economy on the export of the commodity
- the fiscal deficit expands and needs to be funded by domestic financing as external financing is not an option under a burst
- domestic financing in LICs is usually carried through seignorage and further raises the level of inflation.
- foreign exchange reserves may be depleted and the central bank can be forced to devalue

## Under a commodity boom,

- countries may be exposed to absorptive capacity bottlenecks and may invest in low return investments
- the government will face a trade-off between saving and spending the foreign exchange, yet in LICs there is a high opportunity cost if the inflow is not spent
- spending may determine appreciation of the real exchange rate and jeopardise the country's external competitiveness (Corden 1984)
- ..while saving through the accumulation of foreign exchange in the central bank may have an inflationary impact, if the foreign exchange is not sterilized. Yet, sterilization may be costly

# The relevance of macroeconomic management

- Traditional solutions for commodity dependency in LICs entails:
  - production diversification
  - the development of the financial sector and especially of markets for hedging against commodity risk,
  - a cautious macroeconomic management of the shocks which should entail a combination of fiscal, monetary and exchange rate policy and should aim at buffering terms of trade shocks, smoothing spending and promoting growth along the commodity business cycle (Adam 2006).

# Integrated macroeconomic policy

**Fiscal policy:** the degree of export receipts that accrue to the government and the way the government use the receipts may affect the economy in different ways and, thus, will require different central bank reactions (Collier and Gunning 1999).

**Monetary policy:** according to the degree of foreign exchange saved by the government the central bank has the option to sterilize the intervention in order to avoid inflation through the issuance of bonds.

**Exchange rate regime:** the choice of the *ex ante* exchange rate regime crucially determines the way the inflow is managed and the quantity of inflow that can be accumulated in central bank reserves; it also determines the extent to which the nominal exchange rate can be managed, which has in turn an effect on inflation and on the real exchange rate (Adam and Buffie 2005)

# Exchange rate policy

- Under a fixed exchange rate regime the central bank is required to modify the amount of foreign exchange reserves in order to keep the parity. Under a commodity boom, for instance, the monetary policy will accumulate forEx reserves to counteract the appreciation of the domestic currency. This will entail implications for the rate of inflation
- Under a flexible exchange rate regime the central bank cannot modify the nominal rate and if a commodity boom occurs the foreign exchange will not be saved by the central bank and the domestic currency will appreciate
- A managed float will reflect a combination of the inflationary and monetary effect in such a way that the more *managed* is the rate, the more likely it is for the inflationary effect to prevail.

# The current debate on monetary policy and exchange rate regimes

- The literature generally agrees on the importance of having a certain degree of flexibility for commodity dependent countries as flexible rates can:
  - automatically buffer the economy from these shock (Mundell-Fleming)
  - allow monetary policy intervention (The impossible trinity)
  
- From the flexible vs fixed debate the literature has now shifted to the discussion on *How to float?* (Velasco 2000) which focuses on what monetary policy target can better guarantee and promote price stability, therefore it considers only nominal anchors, such as:
  - Inflation targeting
  - Monetary targeting
  
- More recently a general consensus has emerged for flexible exchange rates with an inflation targeting, given also the success of many IT countries.

# Empirical evidence

As a consequence, the new agenda for developing countries is to adopt a flexible exchange rate regime with an inflation target.

Yet, evidence demonstrates that:

- Some IT emerging markets do not overlook other targets, especially real ones [Eichengreen (2006) on Korea, Soto (2003) on Chile, Masson and Patillo (2006) on South Africa].
- While many SSA countries have moved towards more flexible regimes fear of floating is still widespread (Masson and Patillo 2006) and can be explained by *fear of macroeconomic variability* (Adam, Buffie, O'Connell, Patillo 2006).

# The counterarguments

.....the choice of exchange rate regime should be a function of a country's economic development strategy (Eichengreen 2006)

Only few are the positions advanced in favour of real targets for the economy:

- Williamson 1994: the level of exchange rate matters especially in a country that is still developing and need to safeguard the incentive to invest in the tradable sector
- Frankel 2002: a country would improve its external balance and growth performance targeting the real price of its export commodity (PEP)
- A study by Soto 2003 illustrates that targeting the real exchange rate will provide more stability in output performance

# First research:

- **Hypothesis:**
- Targeting the real exchange rate will prove to be more export enhancing and growth promoting for commodity-dependent LICs than inflation targeting
  
- **Research questions:**
- Is there a case for real exchange rate targeting in commodity dependent LICs?
- How appropriate can be a real exchange rate targeting with respect to a traditional inflation targeting for commodity dependent LICs?
- Which is the impact of this scheme on output growth and on inflation as opposed to traditional inflation targeting?
  
- **Country of study:** Zambia

# Methodology

- The real exchange rate formula is Edwards (1985) RER for small open economy:  $RER = \frac{P_t}{P_{nt}}$
- Stochastic simulations will be applied in order to detect which is the impact of a commodity shock (negative/positive) on the stability and growth of export, output and inflation.

# Second research:

The actual debate has recently integrated the theory on exchange rate regimes with the one of monetary policy. Yet, the choice of an exchange rate regime should be also included within fiscal policy choices as they may well have an impact on monetary variables, like inflation, but also on the real exchange rate.

## **Hypothesis:**

The choice of an exchange rate arrangement cannot be separate from government fiscal policy options

## **Research questions:**

What is the scope for a scheme for the management of commodity boom which takes into account the role of fiscal policy in a framework of real exchange rate targeting?

- This scheme should consider the degree of export receipts that accrue to the government and the receipts that the government save and do not spend.

# Methodology

- Following Bevan, Adam, O'Connell and Patillo 2006 a scheme for fiscal+monetary policy will be formulated and applied to Zambia recent copper boom.
- Stochastic simulations will be carried out and the results will be compared to the actual results in terms of output, export and inflation.

# Third research

- It will explore the possibility for government commodity-linked financial security instruments for the management of commodity risk in Zambia

# What next?

- Refinement of the hypotheses and research questions
- Analysis of the different methodological approaches on stochastic simulations:
  - for exchange rate regimes and monetary targets in developing countries
  - for the management of mineral commodity booms
- Deepening of dynamic econometric techniques for the formulation of a model
- Collection of data through fieldwork in order to calibrate the model to Zambia's economic features and to data availability.

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