

TERM OF TRADE SHOCKS IN A MONETARY UNION: AN APPLICATION TO WEST-AFRICA

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NON-TECHNICAL SUMMARY

Monetary regimes in West Africa are divided in two groups of countries that almost match a linguistic divide. On the one hand, French-speaking countries of the West African Monetary Union (WAEMU) are in a monetary union, and their currency, the West-African CFA franc, is pegged on the euro. On the other hand, English-speaking countries have independent currencies with mostly managed floating exchange rate regimes. Still, both group of countries are part of the Economic Community of West-African States (ECOWAS) grouping, a free trade area.

Since 1993, monetary union has been an objective of ECOWAS. In 2000, an impetus was given to this project through the creation of the West-African Monetary Zone, which groups together five of the non-WAEMU members of ECOWAS (The Gambia, Ghana, Guinea, Nigeria and Sierra Leone). The intention was to proceed to monetary union within this sub-group by 2003, and then organize monetary union with WAEMU. However, the first step of this plan was several times re-scheduled due to insufficient progress in terms of convergence. In June 2007, a 'single-track' approach was adopted to proceed to monetary union directly at the ECOWAS level in 2012. The pros and cons of monetary integration in West Africa has been extensively discussed in the literature. The inclusion of a very large, oil-exporting country (Nigeria) in the project has especially been shown as a serious handicap.

In this paper, contrasting with the previous literature, we assume that the project goes through, and we discuss the monetary regime to be chosen by the future, ECOWAS monetary union. More specifically, we study how the monetary union can deal with asymmetric commodity-price shocks: oil-price shocks in Nigeria that may spill over other members of the union; and non-oil commodity-price shocks that the single central bank may have more difficulties to tackle given the weight of Nigeria, whose non-oil exports are a minor share of the economy.

We simulate, in a two-countries DSGE model representing WAEMU and Nigeria, the impact of oil-price and other commodity-price shocks under three monetary regimes, successively: (i) a flexible exchange rate with fixed money supply, (ii) a flexible exchange rate with accommodating monetary policy (where export receipts are monetized), and (iii) a fixed

exchange-rate regime with unsterilized official interventions. We also study the implication of having an oil stabilization fund in Nigeria.

We find that an increase in the oil price has a positive impact on Nigerian consumption, although this economy suffers from a Dutch disease (a fall in the production of non-oil commodities exports) that can hardly be erased by appropriate monetary regime in a monetary union. Absent a stabilization fund, a flexible exchange rate with exogenous money supply (at the union level) produces the lowest level of volatility in consumption, whereas a fixed exchange rate leads to the highest volatility.

Conversely, the fixed money-supply regime produces the highest volatility of consumption in WAEMU in the face of oil-price shocks, whereas a fixed exchange-rate regime isolates the economy from the shock. However the two economies can agree on a fixed money-supply regime if they are hit by both oil and agricultural-price shocks (we take the case of cocoa beans, that count for a large share of agricultural exports of both WAEMU and Nigeria).

Finally, we find that an oil-stabilization fund can be very successful in stabilizing both economies and reduce their possible disagreements on the common monetary policy.

We conclude that, in the presence of a well-functioning oil stabilization fund, the fixed money supply regime (with a flexible exchange rate) seems to be the best for both economies. However, should the stabilization fund not play its role in allowing financially-constrained households to smooth their consumption inter-temporally, a disagreement may arise between the two economies on the conduct of monetary policy.

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