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Food Prices and Inflation in Tanzania

C. Adam, D. Kwimbere, W. Mbowe and S. O'Connel

For the first decade following the profound liberalization measures of the mid-1990s, the economy enjoyed strong output growth and low and stable headline inflation that remained close to the country's indicative target of 5 percent per annum. With the onset of the global financial crisis in 2008/09, the macroeconomic environment became much more volatile, with inflation peaking at 19 percent in December 2011. Although the pick-up in inflation and inflation volatility clearly reflected developments in the domestic and global economies, it was not clear how much of the volatility was due to external factors and how much was really a reflection of domestic factors including stance of fiscal and monetary policies. This study sought to investi-

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Food Prices and Inflation in Tanzania

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gate inflation dynamics in Tanzania. The emphasis was put on identifying the principal structural determinants of inflation in the economy, which could ultimately provide a basis for developing operational inflation forecasting models within the Bank. This was achieved by estimating a manifold factor single-equation models for month-on-month overall inflation and its principal components, namely: food, energy and core inflation.

Supply side factors play a large role in determining food and energy inflation while demand side factors drive growth in core inflation.

Specifically, four key findings are worth noting. First, money growth and hence the stance of monetary policy matters for inflation both in the long-run and in the short-run. The transmission to overall (headline) inflation is principally through core inflation (excluding food and energy inflation) but not exclusively so; monetary or demand-side effects also feed food and fuel price inflation, particularly in the short run. The second finding of the study is that food price inflation is predominantly driven by both domestic agricultural supply shocks (proxied by deviations of rainfall from its long-run pattern) and the pass-through from world prices for food and fuel. Third, the effect of domestic supply conditions on food price inflation points to the asymmetric effects of trade policy in Tanzania; while food imports appear to respond quickly to domestic production short-falls, the capacity to export surplus food production is much more muted so that market adjustment in this case occurs through falling prices, other things remaining constant. This result appears to have important implications for trade policy and production incentives in agriculture although a much closer analysis of regional prices is required before firm policy conclusions can be drawn. Fourth, overall inflation exhibits strong seasonality, reflecting the within-year price dynamics in food. Non-food inflation is, by contrast, broadly non-seasonal. Finally, prices in Tanzania are generally flexible, more so for the food and energy sub-components of core inflation.

Financial Architecture and the Monetary Transmission Mechanism in Tanzania

P. Montiel, C. Adam, W. Mbowe and S. O'Connel

Many central banks in low income countries have been playing an important role in the short-term macroeconomic stabilization process. However, the ability to carry out this function depends on the strength and reliability of the links between the monetary policy instruments they control and aggregate demand. The strength and reliability to a large extent, hinge on the countries' financial architecture: the size and composition of its formal financial sector, the degree of development of its money, bond, and stock markets, the liquidity of its markets for real assets such as housing, the extent of its links with external financial markets, and its exchange rate regime. This study sought to investigate the effectiveness of monetary transmission in Tanzania, using vector auto-regressions.

There is no strong evidence of monetary policy transmission to price level and output in Tanzania."

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Financial Architecture and the Monetary Transmission Mechanism in Tanzania

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Overall the study concludes that, there is no strong evidence of effective monetary policy transmission to the price level or output. This implies that the Bank of Tanzania has limited scope for short-run stabilization policy not because it lacks the monetary autonomy to alter liquidity conditions in banks, but because changes in bank liquidity may not translate reliably into changes in bank behavior. Further work is however required before this conclusion can be drawn with much confidence. This is because the current study focused on the effects of monetary policy shocks on aggregate demand, as indicated through changes in the price level and an interpolated estimate of monthly real output. To interpret these results, it would be desirable to complement these aggregate estimates with micro-based evidence of how individual banks actually respond to monetary policy shocks.

Towards the SADC Monetary Union: Real Exchange Rate Misalignments and Nominal Exchange Rate Convergence

Camillus Alphonce Kombe

The objective of the study was to make an assessment of nominal exchange rate convergence as well as real exchange rate misalignments in SADC countries. Nominal exchange rates were examined using sigma convergence, which measures the dispersion of exchange rates between different countries over time. In this context, convergence increases when the cross-sectional standard deviation of exchange rates declines. Applying this approach to SADC exchange rates versus the United States Dollar, and focusing on the period 2002-2010, indicates some convergence of exchange rates among the SADC Countries.

Exchange rate misalignments, defined as the deviations of actual real exchange rates from their long-run equilibrium paths, are derived by first estimating the long-run equilibrium real exchange rates in terms of the underlying economic fundamentals commonly referred in the literature during 1980-2010. The fundamentals include relative productivity growth, commodity terms of trade, government expenditure, trade openness and net foreign assets. The real exchange rate misalignments are then derived by comparing actual and equilibrium real exchange rates. Overall, the findings suggest that, real exchange rate misalignments have in varying degrees been influenced overtime by countries' policy shifts, especially commitment to prudent macroeconomic policies by SADC members over the recent years.

> ***Real exchange rate misalignments have in varying degrees been influenced by countries' policy shifts, especially the implementation of prudent macroeconomic and structural policies.***

Generally, the study found that most of the SADC countries maintained notable degree of external competitiveness over the recent years, particularly during 2000-2010. During that time, with the exception of Zimbabwe, real exchange rates remained under-valued in relation to their equilibrium levels.

In light of these findings, a number of policy implications were highlighted. In particular, SADC countries have considerable room for limiting flexibility in the exchange rates without risking obstructing their external competitiveness. In addition, as the region moves towards a monetary union, the paper underscored the importance of adopting a common exchange rate policy; one that is consistent with the transition towards a single currency.

Assessing the Stability and Predictability of the Money Multiplier in the EAC: The Case of Tanzania.

Christopher Adam and Pantaleo Kessy

Successful targeting of the money supply depends on the existence of a stable relationship between money multiplier and money supply. Money multiplier (the ratio of the money supply to reserve money) is a measure of the leverage of a country's banking system. It plays a central role in the monetary policy framework of a country which seeks to anchor inflation around a target of money supply. The main objective of the study was to assess stability and predictability of the money multiplier, in order to evaluate the efficacy of the current monetary policy framework in Tanzania and its relevancy to the EAC countries. The study applied empirical models to assess stability of money multiplier using data from Tanzania covering the period from 2001 to 2009.

The key finding is that the money multiplier is stable over the long run so that, on average, the money supply and reserve money has grown proportionately. Also, over the short run, the multiplier is not constant but responds inversely to movements in reserve money. This negative correlation between reserve money and the multiplier weakens the impact of (policy-induced) changes in reserve money on money supply.

"Money multiplier is stable in the long run but unstable in the short-run making the conduct of monetary policy more challenging in the current framework"

The implication of this study is that standard models could be employed to develop a reasonably accurate forecast of the future path of the multiplier and its components. In particular a modest investment in developing robust forecasting models can generate significant returns in terms of policy formulation.

Bank Spreads in the East Africa Community Countries

John Wakeman-Linn, Alexandra Jarotschkin, Asimwe Bashagi, Pantaleo Kessy and Wande Reweta

Bank Spreads – the difference between what a depositor gets as a return for depositing money to a bank and what a borrower pays the bank for borrowed money – is one of the key measures of efficiency of the financial intermediation of the banking sector. High spreads indicates low efficiency while low spreads indicates high efficiency. At high spreads, individuals and firms borrow at higher price, and their deposits in banks earn less than they could in a system with low spreads.

Stable macroeconomic environment, coupled with an efficient credit reference bureau, and sound legal system are key in reducing interest rate spreads

The study sought to identify the drivers of high interest rate spreads observed in the EAC region, using descriptive analysis for the period 1998 to 2010.

The main determinants of interest rate spreads were found to be: the macroeconomic environment, non performing loans (NPL) ratios, the level of competition in the banking sector, the absence of credit reference bureau and the state of the legal system.

The study noted the need to establish efficient credit reference bureaus, sound legal system supportive of the financial sector, and sustain the gains from the macroeconomic stability recorded in the last decade.

Dollarization in Tanzania: Empirical Evidence and Cross-Country Experience

Pantaleo Kessy

Dollarization is a generic term used to characterize the use of any foreign currency instead of the national currency for domestic transactions and store of value. It does not refer to the use of United States dollars only. There are two broad forms of dollarization: i) financial dollarization which refers to residents' holdings of financial assets such as foreign currency deposits and ii) transaction dollarization which is the use of foreign currency for purchases of goods and services in the domestic economy.

A significant use of foreign currency in an economy may be worrisome for a number of reasons: first it has potential risks for creating instability in the financial sector because, in the event of a large depreciation of local currency, foreign currency debtors whose receipts are in local currency may be unable to service their bank loans which would potentially lead to banking crisis. Second, the use of foreign currency as store of value or to carry out transactions in the domestic economy can make the conduct of monetary policy more challenging and less effective. Finally, transaction dollarization creates inconveniences to residents whose stream of income is in domestic currency and have to incur the cost of converting their income in to foreign currency before they can use it.

Financial dollarization in Tanzania is moderate in international standards and there is no urgent need for authorities

The objective of this study was to assess the extent and the impact of dollarization on the Tanzanian economy. The study presents some stylized facts of dollarization in EAC countries and compares the trends with those of Tanzania. The study also used an empirical model to assess the determinants of financial dollarization in Tanzania. In addition, a small number of firms operating in Dar es Salaam were surveyed to determine the dynamics of transaction dollarization.

The study revealed that financial dollarization has gained some ground in Tanzania since early 1990s, partly due to exchange rate depreciation. The comparative analysis indicated that the significance of the US dollar as a store of value is greater in Tanzania than in other EAC countries. However, the study noted that the dollarization ratios in Tanzania are moderate in international standards and that there may not be an urgent need for authorities to directly intervene.

Several policy implications emanated from this study: First, there is substantial evidence suggesting that dollarization in general is driven by a desire by firms and households to hedge against inflation and exchange rate risks. As such, macroeconomic policies that ensure long periods of low inflation rate and stable exchange rate could go a long way towards reducing demand for foreign currency deposits.

Long periods of low inflation and stable exchange rate can go a long way towards redusing the demand for foreign currency for domestic transactions and store of value.

Second, highly developed financial markets provide alternative investment opportunities to foreign currency deposits, which in turn could potentially discourage residents' holdings of foreign financial assets.

The extent of transaction dollarization is small and largely limited to some parts of the urban service sector, particularly in the education sector and apartment rentals in some parts of major cities.

Regarding transaction dollarization, the study observed that the extent of the use of U.S. dollar as medium of exchange in preference for the Shilling is small and largely limited to some parts of the urban service sector, particularly in the education sector and apartment rentals in parts of major cities.

The Demand for Money in Tanzania

Christopher S. Adam, Pantaleo J. Kessy, Johnson J. Nyella, and Stephen A. OConnell

The Bank of Tanzania targets the money supply with the ultimate objective of attaining price stability. Success of this framework depends on the stability of the private sector's demand for money. If it is unstable an alternative approach may produce better outcomes. This relationship has been found to be unstable among the industrial and emerging-market economies causing its replacement with other frameworks, particularly those which target inflation.

There is a well behaved dynamic demand function for M2 in Tanzania

The study estimated the demand for broad money (M2) and its two sub-components, currency and deposits, using quarterly data for the period 1998 to 2009. To achieve this, the study investigated the long run relationship between demand for money and its determinants. The study further compared the Bank's trend based methods of forecasting velocity currently used with alternative approaches.

In this study the following variables were used: real GDP as a proxy scale variable for the transactions demand for money; foreign currency deposits, government securities, and inventories of goods as alternative assets to money; depreciation as the main measure of the return on assets denominated in foreign currency; and expected inflation to capture the return on inventories of goods. A proxy of monetary intensity was constructed on the basis of a set of variables.

The study found that real GDP has a smaller impact on demand for money in the short run than it does in the long run. While inflation and depreciation were found to be significant in the short run, the interest-rate spread was insignificant. It further found sharp and intuitively appealing differences among the components of M2. Long-run currency demand responds strongly to expected inflation and not at all to interest rates. The demand for deposits, in contrast, responds very strongly to expected depreciation, consistent with substitution between domestic- and foreign-currency deposits. The study identified a well-behaved dynamic demand function for M2 in Tanzania and shows how this model can be used to enhance the forecasting of velocity.

Exchange Rate Arrangements in the Transition to the East African Monetary Union

By Christopher S. Adam, Pantaleo Kessy, Camillus A. Kombe and Stephen A. O'Connell

The objective of this study was to evaluate different exchange rate arrangements and recommend the appropriate approach for the countries of the East African Community (EAC) in the transition to a monetary union. The study reviewed the existing exchange rate policies in the EAC countries and noted that they differ in some important ways. It examined the exchange rate options that may be adopted during the transition to EAMU, including pros and cons of each arrangement. The options include; managed float, external grid, delegated anchor, internal grid, and collective grid.

The study recommended a two-phase approach, namely convergence phase and the conversion phase. During the convergence phase, the Partner States will work to achieve a set of preconditions for a monetary union that include; macroeconomic convergence criteria, and relevant legal and institutional frameworks. The conversion phase is characterized by announcement of irrevocable rate of parities at which national currencies will be exchanged for the East African Currency Unit and date of commencement of EAMU.

During the convergence phase, the study recommended a managed floating exchange rate system for all EAC Partner States. In the conversion phase, it recommended the internal grid arrangement with a view to limiting exchange rate misalignments on entry into EAMU and facilitating introduction of EACU into circulation.

The transition to EAMU was recommended to be a two-phase process: Convergence phase in which managed float exchange rate arrangement will be adopted; and a conversion phase characterized by an internal grid exchange rate arrangement.

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