The current global crisis highlights the need to better understand the financial and broader interconnectedness among the various sectors of the economy and between them and the rest of the world (Murinde, 2009; ECB, 2011; Shrestha et al., 2011). African think tanks, central banks and government treasury departments (Ministry of Finance/Economic Development) need to engage in dialogue among themselves and with other stakeholders about the policy frameworks for supporting high economic performance for fighting poverty. But for country experts and think-tankers to engage fruitfully in ‘policy dialogue’, it is essential to have a framework that can disentangle issues, appreciate the dynamics and identify the intrinsic core policy issues and prescriptions. Also, the strategic visions of CEOs, the wider private sector, and NGOs depend on their ability to disentangle the same/similar issues and identify the intrinsic core (the heart of the matter!). For example, in order to design effective financial sector policies for growth and poverty reduction, it is imperative to intimately understand the role of the financial sector in the development process. Such fundamental insight into the mechanisms that link the financial and real sectors of African countries can be derived primarily from the medium of the flow of funds, for “...a main function of the flow of funds accounts is to reveal the sources and uses of funds that are needed for growth and development...” (Klein, 2000). This Brief posits the importance of the flow-of-funds framework in design and implementation of development policy in Africa.

1 Introduction: What is meant by ‘flow of funds’?

Flows of funds arise from the transactions which take place in an economy, involving purchases or sales of goods, services, or assets and liabilities. National flow of funds accounts provides a record of these flows for the whole economy; the corresponding accounts cove-
is to show the sources and uses of funds which a country needs for its growth, development and poverty reduction. Flow of funds analysis can reveal information about imbalances in the economy and changes in the distribution of funds.

Simulations of the effects of different economic policies on intersectoral flows can give a clear picture of the channels through which policies may affect different sectors of the economy and therefore the functional distribution of income in the economy. Flow of funds analysis is widely used in the industrial economies as a basic information tool, and for detailed policy analysis. However, its use in developing countries is very limited, mainly because of a general lack of detailed, accurate and timely flow of funds data. An exception is India, which has unusually detailed flow of funds data that has been developed over the last 40 years. However, the publication of the Indian data has generally taken place with a lag of some 5 years; hence the data cannot be used for immediate policy analysis. In general, a lack of data implies a lack of existing applications of the flow of funds in developing countries, but there is no shortage of potential applications to improving understanding of diverse economic problems.

2 Lack of flow of funds data in developing economies is unfortunate

The absence of flow of funds data in developing economies is unfortunate, for it can be argued that flow of funds analysis may be of even more value in the developing world than in the industrial countries. Economic analysis and policy are based on information about the prices and the quantities traded in an economy. The major industrial economies benefit from a vast range of organized and informal markets whose prices provide much of the basic, timely information upon which economic policy is based.

In African economies, where markets are more fragmented, and securities markets are invariably thin and illiquid, prices provide much less useful policy information. More information on quantities, particularly on the flow of funds, would be very valuable for policy-makers. Thus, the flow of funds could play an important role in developing countries to aid the study of financial sector development and resource mobilization issues so as to identify effective financial sector policies for promoting poverty reducing economic growth (Murinde, 2009; Staritz, 2008; Sing and Hamid, 1992, Singh, 1995, Singh, 2003).

3 A New flow of funds device: How to generate “new” data

As part of a DFID-funded research programme concerned with finance and development, we developed a new framework for the compilation and analysis of the flow of funds in developing countries (Green and Murinde, 1998a and 1998b). In constructing this framework we had three main objectives. First, we aimed to make the best possible use of existing data sources to construct flow of funds data. The data used in this new template are all derived from information which is reported to and regularly published by the IMF in its main statistical publications. Of course, it can be argued that the use of pre-existing data implies that the constructed flows of funds merely involve a rearrangement of the data and do not provide ‘new’ information.

However, the flow of funds format is generally the most useful presentation of data for policy purposes, since it identifies the key flows in

3 In recent years South Africa has made significant attempts to regularly publish its flow-of-funds data.

4 Also see recent extensions by Green et al. (2012).
the economy, and these are typically used explicitly or implicitly in policy analysis. Second, since the flow of funds has to be internally consistent, construction of the accounts helps identify inconsistencies in the data and areas for improvement in data collection. Thus our methodology provides a framework within which national statistical authorities can adapt pre-existing data compiled for the IMF, and upon which they can build and extend their own flow of funds data at substantially lower cost than would be incurred in compiling these data from scratch. These data have the further advantage that they are compiled within internationally-agreed guidelines, and are therefore broadly internationally compatible across countries. In many countries, compilation of basic flow of funds accounts would require relatively small improvements in the timeliness and coverage of national data already reported to the IMF. Third, we aimed to extend the coverage of existing financial data to include financial instruments not typically held or issued by the banking system. These particularly include instruments arising from recent innovations in financial markets and the development of national stock markets.

Thus, the framework aims to make possible a wider range of policy analyses, including issues that are of particular concern to poorer countries which are seeking to broaden their capital markets, such as the sources of capital flight, and the relation between domestic and international equity flows.

4 Understanding the flow of funds and good policy making

Accurate and timely information is central to good policy-making. Decisions taken in ignorance of the facts or as a result of guesswork are all too likely to be regretted at a later date. The flow of funds provides a basic framework for understanding how financial resources are being generated and allocated across the economy. The flow of funds framework provides the basis for the construction of macroeconomic models for policy design and evaluation. These models are flexible enough to capture the main policy variables which play a major role in financial reform programs in developing countries, for example the official interest rate, government spending, commercial bank loans, income tax and foreign reserves. Using these models, simulations of the effects of different economic policies on intersectoral flows can give a clear picture of the channels through which policies may affect different sectors of the economy and therefore the functional distribution of income in the economy. Typical simulation applications include analysis of the potency of interest rates (e.g. liberalization), changes in different types of tax rates (e.g. income tax, import tax), and changes in government spending, including insight into money financed and debt financed government spending. Examples are discussed below for India and Kenya.

5 Insight into African banks and interest rate liberalization policy

Our research on African banking systems focused initially on the feasibility of compiling comparable panel data. In this larger sample of countries (Botswana, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Namibia, Tanzania, Uganda, Zambia and Zimbabwe) for 1970-2000, we found that there were considerable variations in the availability and timeliness of data. We confirmed that the flow of funds methodology represents a novel way of circumventing data limitations in modeling the behavior of banks in African economies.

Using the flow of funds framework, we constructed a model for the banking sector in
African economies. The model consists of four asset demand equations, namely the reserve demand equation, credit demand equation, foreign debt demand equation, and government securities demand equation. We used monthly data to estimate and test the model on seven African countries during the period 1970-2000: Kenya, Malawi, Namibia, Tanzania, Uganda, Zambia and Zimbabwe (Box 1). We found that the asset demand equations for the banking sector are well-behaved, and are consistent with theory. Specifically, the demand for reserves, credit, foreign debt and government securities by banks are primarily determined by own rates of return: thus we concluded that interest rates for various bank assets matter, in the sense that the demand is sustained by the existence of commensurate returns. One important implication for policy makers is that any government intervention in these interest rates may perversely affect the demand for these assets by banks. We also found that, in general, other interest rates (in addition to own returns) are also important. In this context, a key phenomenon of banks in industrial economies seems to hold true in African emerging markets: that is, market induced returns are important in asset allocation through the banking sector.

6 Formalize the informal financial sector

For Kenya, there were three very interesting findings, which are particularly relevant for policy makers. First, we uncovered results that shed important light on the coexistence of informal and formal (official) financial markets in Kenya (arguably applicable to other developing countries) and particularly on the mechanisms by which the informal markets may be integrated into the formal markets through changes in financial policy. Specifically, we...
found that the effect of a rise in the official interest rate, which represents interest rate liberalization policy, leads to higher incomes in Kenya. Interest rate liberalization increases the supply of bank deposits and reduces the demand for bank loans, thus reducing credit rationing, as funds are channeled from the informal to the formal financial sector. Loanable funds in the formal banking sector increase; increased credit availability may lead to higher investment and higher economic growth.

Second, we found that a rise in government spending unambiguously leads to higher income growth. However, we also noted that if the expansion in government spending is financed by money (through the central bank), inflation is the inevitable result. Hence, in general, this result suggests that it matters how the increase in government spending is financed: “printing” of money by the central bank is inflationary and should be avoided, while policy makers should explore the alternative means of financing government spending.

Third, we found that an increase in external aid and capital inflows leads to higher economic growth, by expanding investment expenditure and hence aggregate demand. Specifically, the increase in foreign aid and capital inflows complement locally available resources for investment expenditure. The results also suggest that on the whole, the exchange rate appreciates: this is consistent with the fact that foreign aid and capital inflows directly improve the foreign exchange reserves of the country and help stabilize the exchange rate in the short run.

In general, the findings relating to commercial banks loans and an income tax rate surcharge are rather mixed, although in general, they point to the need for a careful mix of policy instruments in order to achieve desired macroeconomic effects.

### 7 Some policy lessons from the flow of funds

Box 2 presents the key policy lessons. In general, it should be emphasized that flow of funds is not an hypothesis or a policy prescription but rather a framework for thinking about a range of economic problems, particularly but not exclusively macroeconomic policy problems. The lessons which can be learnt by developing countries from flow of funds analysis are concerned largely with policy issues which are connected to methods for improving general monetary management and economic performance, and by this route to improvements in living standards.

However, the lessons which can be learned from individual country case studies are necessarily limited by the institutional characteristics of the country concerned. Policies which work in a particular way in one country may work differently elsewhere.

First and in general, it is clear from our studies that applied financial research can be carried out in countries with relatively limited data, and this research does shed light on a range of issues, especially: the way in which different sectors of the economy choose their portfolios; how liberalization in the financial sector affects financial and economic performance; how interest rates are determined in a liberalized economy, and how they affect different sectors of the economy, particularly through portfolio selection and the rate of credit expansion.

Second, and more specifically, our studies show that interest rates have a significant influence on portfolio behavior and therefore on the operation of financial markets in ways which are mostly (and perhaps surprisingly) conventional and consistent with what is/are known about industrial economies. This appears to be true, irrespective of whether the
Box 2 Key Policy Points

- Fundamental insight into the linkages between the financial and real sectors of developing countries can be derived primarily from the medium of the flow of funds, for a main function of the flow of funds accounts is to reveal the sources and uses of funds that are needed for growth, development and poverty reduction.
- This research has developed a new framework for the compilation and analysis of the flow of funds in developing countries.
- Accurate and timely information is central to good policymaking. Decisions taken in ignorance of the facts or as a result of guesswork are all too likely to be regretted at a later date. Thus, small improvements in the collection of flow of funds data may easily lead to more substantial improvements in decision-making.
- Financial liberalization policies provide effective mechanisms by which the informal financial sector can be successfully integrated into the formal financial institutions and markets.
- Differences between the liberalized and the previously controlled regimes in India stem from the way in which the controlled regime itself functioned rather than from any features of the economy which are peculiar to India.
- Liberalizing the interest rate regime and giving markets a greater role in the economy will not necessarily complicate the task of monetary policy management. It will be possible for developing countries to learn from the experience of industrial countries in this respect. Lessons learnt in the developing world may also be relevant in more industrialized economies.
- The flow of funds framework extends the coverage of existing financial data to include financial instruments arising from recent innovations in financial markets such as the development of national stock markets. The framework aims to make possible a wider range of policy analyses, including issues that are of particular concern to poorer countries which are seeking to broaden their capital markets, such as the sources of capital flight, and the relation between domestic and international equity flows.
- A key phenomenon of banks in industrial economies seems to hold true in African emerging markets: i.e., market determined returns, which influence the asset formation behavior of households and firms, are important in asset allocation through the banking sector. Further research should apply the flow of funds framework to explore the asset formation behavior of the poor, which remains enigmatic.

“A general lesson from the research is that certain troublesome features of liberalized financial markets are also likely to be evident in developing countries. One example is that of “distress borrowing”. In the industrial countries, a rise in interest rates intended to restrain credit expansion often produces the opposite effect, at least in the short-run, with borrowing from banks increasing, particularly by businesses. This is a typical result of firms struggling to contain and finance inventories as spending in the economy slows in response to the higher interest rates. We found evidence of this phenomenon in India and Kenya, particularly at times in the 1990s. If this proves to be a general characteristic of liberalized markets in developing countries, it underlines the need for gradualism in the implementation of policies intended either to raise interest rates or more generally to give a greater role to the market in interest rate determination. Market determined interest rates are generally higher than interest rates which are constrained by central bank ceilings. However, it cannot be assumed that if borrowing increases following liberalization that this is due to a more efficient allocation of credit and not to a greater incidence of financial distress. Thus, the scope for orthodox policies...”

“Interest rates have a significant influence on portfolio behavior and therefore on the operation of financial markets irrespective of whether the system is liberalized or subject to direct controls.”
in a particular country needs to be tempered by the institutional features of its regulations and by the pace of liberalization.

Reference


