UNITED NATIONS UNIVERSITY
UNU-WIDER

WIDER Working Paper 2016/89

# Financial systems in new middle-income African economies

## The opportunities and the risks

Alan R. Roe*

July 2016

In partnership with

POLICY RESEARCH REPOA FOR DEVELOPMENT

United Nations University World Institute for Development Economics Research
wider.unu.edu

**Abstract:** This paper examines the possible implications for the financial systems of low-income African economies and in particular Tanzania of their stated aspiration to achieve middle-income status. In doing so it finds little evidence that the mere increase of gross domestic product per capita will lead necessarily to financial systems that are larger, deeper, or more inclusive. The paper examines both theoretical and econometric evidence to pin down this central conclusion. It also identifies a number of critical structural features that retard progress with financial sector development in some countries and advances a set of plausible hypotheses about the likely sequencing of development in different parts of the financial system—banks, capital markets, pensions, etc.

**Keywords:** financial development, banks, Tanzania, econometrics, theory

**Acknowledgements:** The ideas for this paper emerged gradually from a programme of work undertaken over a number of years with the finance team at Oxford Policy Management (OPM) in the UK. I am particularly indebted to the stimulating conversations with Robert Stone, Sukhwinder Arora, Richard Williams, Machal Karim, Thorsten Beck, and others that occurred particularly during our recent work on the so-called Impact-Oriented Measurement (IOM) Systems for the Financial Sector Deepening (FSD) Network in Africa. I am also most grateful to Tony Addison at UNU-WIDER for giving me the opportunity to write up the ideas. Neither the FSD network, UNU-WIDER, OPM, nor the individuals named carry any responsibility for the remaining failings of this paper. They are mine alone.

*Non-resident Senior Research Fellow, UNU-WIDER, Helsinki, Finland, Associate Fellow, University of Warwick, Warwick, UK, and Senior Associate, Oxford Policy Management, Oxford, UK; alan.roe@opml.co.uk.

This study has been prepared within the UNU-WIDER project 'Jobs, poverty and structural change in Africa' as part of UNU-WIDER's collaboration with Policy Research for Development (REPOA) on socio-economic transformation.



Information and requests: publications@wider.unu.edu

ISSN 1798-7237 ISBN 978-92-9256-132-1

Typescript prepared by Lesley Ellen.

UNU-WIDER acknowledges specific programme contribution from Policy Research for Development (REPOA) for a series of studies on socio-economic transformation and core financial support to its work programme for the governments of Denmark, Finland, Sweden, and the United Kingdom



Katajanokanlaituri 6 B, 00160 Helsinki, Finland

## 1 Introduction and outline

Several African countries including Tanzania have defined 'visions' for their medium term economic futures in which they anticipate achieving 'middle-income status' by, for example 2025 or 2030.[1] The paper sets out to establish what this transition may mean for the financial sectors of those economies in terms of both the size of those sectors but also for the broadened range of assets and financial services that these sectors may offer once middle-income status is achieved.

These implications have already been spelled out *ex ante* in some of the African Vision statements with which we are familiar. For example, in the Kenyan case, the financial services sector is seen as one of six key sectors for the achievement of the country's vision (Republic of Kenya 2007). Specific policy aims for the sector include: the transformation of the **banking sector** with fewer but larger banks; the development of a comprehensive model for **pension reform**; development of a comprehensive strategy for (international) **remittances**; formulation of a new policy for the issuing of benchmark **sovereign bonds**; and the implementation of institutional and legal reforms to help Kenya become a **regional financial centre**. This paper seeks to set such aims into a somewhat broader context and then use this to comment on the likely shape of African financial systems when and if middle-income status is achieved.

**Box 1: Middle-income status**

Middle-income status is a big and also a somewhat ambiguous target. At present—2014 data (World Bank 2016)—the average per capita income (GNI) in all low-income countries globally is US$630 per annum. In Sub-Saharan Africa (SSA) where some countries such as South Africa, Mauritius, and Namibia are already middle-income, the average income is higher at US$1,650 per annum. But this is still equivalent to only 35 per cent of the corresponding average income in all middle-income countries globally: currently US$4,700. For the lower-income countries of SSA such as Kenya, Tanzania, Uganda, and Rwanda where per capita incomes are currently between US$600 and US$1,300, even 7 per cent growth for the next 16 years (2014 to 2030) would still leave many of them below an income level of US$2,000 and so well below the global middle-income average of US$4,700. What this means for the lower-income countries is that their 2030-type visions must in practice refer to attaining and slightly surpassing the present status of *lower*-middle-income economies where the present global average income is just over US$2,000 per annum. For these countries the relevant middle-income comparator countries of today (in income terms) are countries such as India (current income US$1,600), Sri Lanka (US$3,400), Bhutan (US$2,300), Bolivia (US$2,900), and **not** the majority of middle-income countries of Latin America such as Brazil (average income US$11,800) and Mexico (US$10,000), or the majority of the countries of East Asia such as Thailand (US$5,800) and Malaysia (US$11,100). The paper reflects that reality in the comparisons that it draws.

The task of anticipating the future shape of African financial systems needs to be undertaken against the background of the significant changes that many of these systems have seen during the past two decades. Hence, the paper begins in Section 2 with a brief résumé of some of the main features of that past record. Section 3 then provides a definition of financial sector development and uses it to provide some simple statistical comparisons as between today's

[1] For example Tanzania's 2025 vision envisages Tanzania's graduation from a least-developed into a middle-income country, with the elimination of abject poverty and the maintenance of a high GDP growth rate of at least 8 per cent per annum. Kenya's Vision 2030 launched in 2008 aspires to achieve a compound growth rate of GDP of 10 per cent per annum beginning in 2012, or about 7 per cent per annum in per capita terms by 2030—so as to achieve middle-income status with per capita income exceeding the current world average (some US$10,000).

financial systems in low-income Africa and in a selection of middle-income countries in Asia and Latin America. In essence the question posed is—*are the financial systems of middle-income countries systematically different/better?* Section 4 examines and seeks to account for some of the differences seen in our selective comparisons by reference to some recent econometric and theoretical literature about the multiple influences on financial sector development. Section 5 selectively relates the analytical evidence to the current Tanzanian situation. Section 6 examines two particular opportunities that are also potential dangers. Section 7 offers a few main conclusions.

## 2 Africa—the recent past

Financial systems in Africa have undergone significant changes in the past 15–20 years. In the 1970s and 1980s most such systems were dominated by government-owned banks which themselves had been set up in response to the much criticized colonial banking systems of earlier periods. But the experiments with state-controlled banking had led to many difficulties that were progressively resolved—not least by widespread re-privatization—during the 1980s and 1990s. This has resulted in a situation where many African countries now see an ownership structure for banking dominated by foreign banks—initially mainly European but now increasingly African[2]—with a far lower incidence than previously of state-owned banks (Beck and Cull 2013).[3] This privatizing reform was accompanied by a general move to more liberal policy approaches to banking and financial activity. In many countries this included the abandonment of restrictive regulations—including administrative controls on interest rates and the use of sector-based or other directed credits. At the same time, regulatory standards have become much improved with most African countries moving towards higher levels of compliance with Basel core standards for banking regulation and supervision, and the parallel standards for capital markets and insurance.

African banks and other financial institutions have also been quick to adopt and adapt new technologies and especially those relating to mobile phone payment and agency banking.[4] Both mainstream banks and more specialized access institutions such as those engaged in micro finance have together achieved major improvements in the numbers of people having reasonable access to financial services. Part of this has been due to institutional changes that have seen a considerable expansion in, for example, the number and range of activities of Micro Finance Institutions (MFIs)—borrower numbers served by African MFIs increased from 1.6 million in 2003 to 8.5 million by 2009.[5]

Certainly there has been a sea change in attitudes towards financial access and inclusion and numerous important policy initiatives have been designed to improve this. Finally, some opening up of traditionally closed national borders combined with the broader globalizing tendencies of this period have seen several African banking systems developing cross-border activities. This

---

[2] Initially this was South African banks, such as Standard Bank. More recently, it has also involved West African banks—notably Ecobank and Bank of Africa. As one consequence of bank consolidations in Nigeria, Nigerian banks started expanding throughout West Africa.

[3] In Tanzania, the failing National Bank of Commerce that was established to counter the undue influence of foreign banks in the mid-1960s, was eventually privatized after splitting it into a commercial bank that assumed most of the original bank's assets and liabilities, and the National Microfinance Bank, which assumed most of the branch network and the mandate to foster access to financial services. In general the new banks have performed well.

[4] Agency banking typically involves owners of small retail businesses trained by a bank to collect deposits and process payments, including payments on small-scale loans.

[5] This is based on those MFIs that report to the Microfinance Information eXchange (MIX).

too has extended to the region's stock markets with cross-listing across two or more exchanges becoming increasingly common. A few African countries such as Nigeria and Kenya are seeking to take this one step further by creating international financial centres.

The overall result is that today, most African countries have deeper and more stable financial systems than was the case some 20 years ago. Greater macroeconomic and financial sector stability has in turn given African economies greater and more favourable access to fund-raising on the international capital markets. In relation to the subject of this present paper, it is debatable whether the very significant reforming and deepening changes that we have seen have depended on higher levels of per capita income. Indeed most of the evidence suggests that the much better growth rates of per capita income seen in African economies in recent years are the **consequence** of the liberal reforms in finance and elsewhere in these economies and not the cause. So when looking ahead, one question that logically arises is whether the future move to middle-income status will lead **automatically** to further improvements in the financial sectors or whether such improvements will have to be hard fought through further challenging reforms. The next section begins to address that question.

## 3 Financial sector development—some contrasts

Let us begin by framing some ideas about what we mean by 'financial sector development'. This concept in practice embraces a range of different changes in financial institutions, providers, products, and practice. Most commentators on the subject could perhaps agree that financial sector development incorporates some at least of the following five types of inter-related change:

- **Size**—the financial sector gets bigger and so delivers a larger volume of the savings, credit, payment, and other services for which it is designed.[6]

- **Depth/diversity**—the financial sector becomes more diversified in terms of the type of specialized financial providers and products that it supports—this change should help to ensure that more and/or better financial services become available.

- **Access/inclusion**—a particular aspect of financial sector diversification—the sector provides products and services that can be used by erstwhile excluded groups of people or businesses. The main sub-divisions of access/inclusion would probably be (i) geographical,[7] (ii) gender, and (iii) age (e.g. youths vs. others).

- **Efficiency**—the financial providers become more productive in terms of the delivery of those services: i.e. higher productivity in managing financial products and services lowers the cost per unit of their delivery. This would include financial

[6] Custom and practice in much of the empirical literature has meant that analysts who have needed some measurement of the concept have in practice operated in a largely pragmatic manner with 'size' as their focal point—specifically they have defined financial development in terms of what can be most readily measured at sectoral level for most countries. This explains, for example, why so many empirical papers have used indicators such as the ratio of bank deposits to GDP and the ratio of private credit to GDP, both of which are easily measured for most countries. These are important (and measurable) indicators, but we should see them as a part of a bigger picture and not the whole of that picture.

[7] For example, geographical access/inclusion—the financial sector delivers its services to a broader geographical spread of individuals and businesses. Any indicators used to assess geographical access need to be disaggregated by specific location (e.g. province, region, county, district, etc.)

innovations that enhance efficiency such as the introduction of mobile payment services (e.g. using mobile phones) and agency banking—developments that might also be considered under the diversity heading above.

- **Soundness/regulation**—the institutions for the regulation and supervision of the sector become more highly developed as do the competencies that are available to the regulatory agencies. So financial providers and financial services and products become safer, more trusted by their users and so more actively used.

A wide range of indicators are available to help us examine the links between these five components of financial sector development and income levels, and so to answer the question, *are low- and middle-income countries significantly and consistently different in relation to the five components?*

Detailed econometric analysis has revealed that the answer to this question differs significantly as between different components and indicators: i.e. the income elasticity of the various components and indicators does indeed differ (see Table 5 in Section 4). But even casual observation tells us that some components of financial development do not need to wait for significantly higher levels of income before they can occur. For example, Africa has led the way in developing some types of mobile payments services and has not had to await middle-income status to see these changes and their highly significant social benefits in place. The M-PESA system in Kenya is the best known example but this is merely representative of a broader African success in this area (see Table 1).

Table 1 is adapted from a recent study by Allen et al. (2014). It summarizes a few of the financial sector differences between the African and other low- and middle-income economies.

Table 1: Differences in selected financial variables—Africa versus other low- and middle-income countries

| | Middle and low-income countries (excluding sub-Saharan Africa) | | sub-Saharan Africa | |
|---|---|---|---|---|
| *Dependent variables* | *Mean* (%) | *Standard deviation* (%) | *Mean* (%) | *Standard deviation* (%) |
| Liquid liabilities/GDP | 55.4 | 32.7 | 31.8 | 16.8 |
| Private credit/GDP | 40.0 | 24.7 | 19.4 | 16.9 |
| Account at formal financial institution | 35.2 | 21.5 | 21.0 | 16.3 |
| Loan from a financial institution | 10.1 | 6.1 | 5.2 | 3.2 |
| Mobile phone used to send money | 2.3 | 4.1 | 8.8 | 13.2 |
| Mobile phone used to receive money | 3.5 | 6.1 | 11.9 | 15.3 |
| Mobile phone used to pay bills | 2.5 | 4.4 | 3.3 | 5.1 |

Source: Adapted from Allen et al. (2014: 28).

It is noted that while Africa lags behind the comparator countries on the first four indicators—that relate to the size and the inclusiveness of the financial system—it is a clear leader in terms of the three indicators of the new mobile phone-based technologies of finance.

Previous econometric research, including that by Allen et al. (2014) offers a good basis for assessing broad tendencies and relationships for large samples of countries.[8] But it is also useful to examine some simpler data comparisons to examine the nature and orders of magnitude of difference between selected low- and middle-income countries in the five areas of financial development listed above. This is done on a very limited and selective basis in Annex 1 for three

[8] For example, see Beck et al. (2008).

representative African countries (Kenya, Uganda, and Tanzania) and for three low-middle-income comparators from other continents (Bolivia, the Philippines, and Sri Lanka).[9] There is no suggestion that these small samples can tell us all we need to know about the low- versus middle-income differences, but they do indicate the range of complexities that arise in trying to assess what middle-income status may mean for today's low-income Africa economies. Annex 1 uses data from 2000 through 2011 and a mainly graphical approach so that the important contrasts are immediately and visibly clear.

Some of the more interesting results of this comparative exercise are summarized below. Together, they enable us to give a clear answer to the question posed at the start of this section. The answer is: *low- and middle-income countries show some differences but are* ***not*** *consistently different from each other in relation to most components of financial development.* Our sample of six countries is of course very small and certainly cannot be taken to be fully representative, but it is sufficient to illustrate the inherent complexity of any links that may exist between income levels and financial development.

**Size:**

- The association between higher incomes and banking system size is at best weak.

- Since 2000, the banking systems of the three low-income African countries have shown the capacity to grow faster than gross domestic product (GDP), partly due to the market and other reforms of that period as summarized above.

- In at least one case (Kenya), this fast growth has produced a larger banking system relative to GDP than those seen in some of the three comparator middle-income countries.

- On the basis of the trends already established it seems more than possible that the remaining gaps in size (as measured by bank deposits relative to GDP) could be closed well before the three African economies fully attain the income levels that define 'middle-income'.

**Depth/diversity:**

- It has been possible for at least one low-income African country (Kenya again) to achieve greater depth in certain non-banking financial systems (insurance and capital markets) than that seen in some of the comparator middle-income countries.

- Even within the sub-set of the three low-income African economies, there is enormous diversity. In particular, Kenya's per capita income is some 90 per cent higher than that in Tanzania and Uganda, but its insurance assets relative to GDP are no less than 700 per cent higher!

- Two of the African countries (Tanzanian and Uganda) and two of the middle-income countries have tiny pensions systems compared to substantial pensions industries (as measured by assets) in both low-income Kenya and middle-income Bolivia.

---

[9] The main data source for this is the World Bank Global Financial Development Database (GFDD) which compiles the data into a very useful single Excel file. For details of this work see Čihák et al. (2012).

- In relation to stock market capitalization, low-income Kenya once again ranks second behind a middle-income country (this time the Philippines) in the level that has been achieved; Uganda's stock market capitalization has grown rapidly and is now not far behind that of Kenya.

**Access/inclusion:**

- Although the three low-income African economies have achieved great progress in improving access to financial services since 2000, they nonetheless all lag a long way behind the three middle-income countries on two of the three indicators used to measure access (numbers of ATMs and bank branches).

- However, a significant qualification to that conclusion is introduced by the great success that Kenya has achieved in recent years in increasing the numbers of bank accounts per 1,000 adults. Those numbers rose six-fold between 2004 and 2011 to a level where they exceeded those in the two middle-income countries for which the data are available.[10]

**Efficiency:**

- Bank lending—deposit interest rate spreads in the three low-income African economies are still very high relative to both good international standards and the levels seen in the three middle-income countries. This is in spite of some clear improvements in recent years as reforms have taken hold. However, a middle-income country that has experienced very high rates of historical inflation (Bolivia) performs no better in this regard.

- A large part of the explanation of the high interest spreads in Africa is the high overhead costs of the banks of the three low-income African economies—these costs are still high in spite of recent reductions.

- In spite of these apparent inefficiencies, many African banks manage to achieve high rates of return on their assets.

## 4 Why is middle-income status not sufficient?

It is apparent from the simple comparisons in Annex 1, as summarized earlier, that there is no simple transition of a country's financial system to a new uniquely defined shape as income rises towards middle-income levels. A variety of other things need to happen to convert financial systems that may be small, shallow, and non-inclusive into something better. *What might these other things be?*

There has been relatively little research devoted to this question in an African context until quite recently.[11] Much more work has been done on measuring the impact of financial development

[10] A large part of this rapid growth is attributable to the unique role played by the Equity Bank. Allen et al. (2012) show how Equity Bank's branching expansion to underserved areas and a strategy to attract minority-speaking clients by communicating with them in their native Swahili achieved substantial increases in the probability of having a bank account.

[11] As recently as 2013 de la Torre et al. (2013) noted that 'remarkably, the literature (particularly the empirical literature) that attempts to explain how economic development and financial sector policies jointly affect financial development is still nascent'.

on economic growth than on exploring how financial development itself is affected by various policy interventions and by economic growth. However, recent papers by Allen et al. (2014), and Beck et al. (2008) have usefully identified the financial frontier benchmarks to which African economies may aspire and the main factors that determine the likely positions of these frontiers.

### 4.1 Econometric evidence

Allen et al. (2014) set up a maintained hypothesis in which ten explanatory variables are assumed to exert an influence on (i) two indicators of **financial development—**essentially the size of the banking sector as discussed above, and (ii) on two indicators of **financial inclusion—i**ndicators similar to those we have used above under the heading of access/inclusion. They estimate regressions of a set of dependent financial development and financial inclusion variables under each of these two headings against the ten explanatory variables. This is done first for a group of non-African low- and middle-income comparator countries and then for a group of African low- and low-middle-income countries. The estimated parameters of the two sets of regressions and their levels of statistical significance together provide some answers to the question we posed at the start of this section.

The explanatory variables and the size of their effects as revealed by the regression coefficients are summarized in Table 2 (non-African countries) and Table 3 (African countries only). A quick overview of why these variables might be expected to have an effect on financial development is provided in Box 2.

Table 2: Regressions for non-sub-Saharan African low- and middle-income countries—financial development and financial inclusion (statistically significant coefficients only)

| | Deposit liabilities/GDP | Private credit/GDP | % of adults with bank account | % of adults with loan from a formal institution |
|---|---|---|---|---|
| Population (Ln) | | | | |
| Population density (Ln) | | | | |
| Natural resources | | -0.1352* | | |
| Offshore centres | 0.03487** | 0.03423*** | | |
| GDP per capita (Ln) | | | | |
| Growth | | | | 0.9145** |
| Inflation | -1.7581* | | | |
| Institutional Development | | 0.2420*** | 0.1319* | |
| Manufacturing/GDP | | | | |
| School enrolment | | | | |
| Constant term | 0.7054*** | 0.3659*** | | 0.1111** |
| No of observations | 72 | 72 | 61 | 61 |
| Adjusted $R^2$ | 0.1644 | 0.419 | 0.1971 | -0.0128 |

Note: Statistical significance: ***, **, * indicate significance at the 1, 5, and 10 per cent levels respectively.

Source: Adapted from Allen et al. (2014: Table 6).

Table 3: Regressions for sub-Saharan African low- and middle-income countries—financial development and financial inclusion (statistically significant coefficients only)

| | Deposit liabilities/GDP | Private credit/GDP | % of adults with bank account | % of adults with loan from a formal institution |
|---|---|---|---|---|
| Population (Ln) | | | | |
| Population density (Ln) | 0.0458*** | 0.0286* | 0.0393** | -0.0146 |
| Natural resources | -0.0709*** | -0.0580* | | |
| Offshore centres | | | | |
| GDP per capita (Ln) | 0.0842** | 0.0858** | 0.1208*** | 0.0192* |
| Growth | 1.4790* | | 2.5315** | |
| Inflation | | | | |
| Institutional Development | 0.0790** | 0.0727* | | |
| Manufacturing/GDP | | | | |
| School enrolment | | | | |
| Constant term | 0.5761*** | 0.2810** | 0.3643*** | 0.0939*** |
| No of observations | 40 | 40 | 35 | 35 |
| Adjusted $R^2$ | 0.7292 | 0.6505 | 0.6458 | 0.3698 |

Note: Statistical significance: ***, **, * indicate significance at the 1, 5, and 10 per cent levels respectively.

Source: Adapted from Allen et al (2014: Table 7).

In the case of the non-African economies the authors report that the estimated coefficients in the first two equations describing *financial development* (Columns 1 and 2 of Table 2) mostly have the expected signs. However, as Table 2 shows, only a handful of these coefficients are statistically significant at the 1 per cent, 5 per cent, or 10 per cent levels: specifically only the offshore centre, natural resources, and institutional variables. The goodness of fit as indicated by $R^2$ values of 0.1644 and 0.419 is also quite low. Significantly, given our earlier comments, the GDP per capita variable is not statistically significant in either of those two equations and is actually negative in the second. Similarly low levels of statistical significance and low $R^2$ values apply to the two *financial inclusion* variables shown in Columns 3 and 4 of Table 1. So there is no strong evidence of a middle-income income effect.

**Box 2: Explanatory variables**

Population size—could boost financial development due to scale and networking effects that make the provision of financial services easier and more efficient in larger economies.

Population density—could have a positive impact on financial development and financial inclusion because it gives more people easier access to services.

Natural resources—the (negative) effect here depends on the wide range of arguments that together constitute the so-called 'natural resource curse'.

Offshore centres—the logic here is that countries having such centres tend to have larger financial sectors than their economies would otherwise warrant.

GDP per capita—is expected to be positively linked to financial development and financial inclusion, e.g. because of scale economies and the effects of higher incomes on savings.

Growth of GDP—the effect of real growth on financial development is ambiguous—there are several potentially offsetting factors.

Consumer price inflation—would be expected to slow financial development if it makes loan contracting over extended periods more difficult. Inflation could also have a dampening effect on depositing in the formal financial system.

Institutional development—would be expected in general to help financial development and financial inclusions. Allen et al. (2014) measure this using the KKM Index.

Manufacturing/GDP—the size of this variable may boost the financial sector given the proposition that industrial sectors that are relatively more in need of finance tend to grow faster in countries with well-developed financial sectors.

Secondary and primary school enrolment—as a proxy for the state of education in a country is likely to have positive impacts on financial development, e.g. indirectly if capacity deficiencies in financial management constitute a deterrent to financial development.

Source: adapted from Allen et al. (2014).

By contrast, the results for sub-Saharan Africa (SSA) in Table 3 show a greater number of significant regression coefficients. In particular, in the first two equations (relating to financial sector development) high statistical significance is found for population densities, natural resources (a negative effect), GDP per capita, and the quality of institutions. The goodness of fit of the equations as indicated by the $R^2$ coefficients is also much higher at 0.7292 and 0.6505 respectively. So here there is a clear and significant income effect but one that is diluted very significantly by strong additional effects coming from factors that feature large in many African economies namely: population densities (often low); natural resource dependence (often high); and institutional quality (often poor). We can check these last statements merely by examining the summary statistics for these three variables as shown in the Allen et al. (2014)—see Table 4. It can be seen that for each of these three variables—that are statistically significant in the equations—the average African country has less favourable values (in terms of impact on financial development) than do the comparator countries.

Table 4: Summary statistics—means for period 2007–11

| | sub-Saharan African countries | Comparator middle- and low-income countries |
|---|---|---|
| Population density | 0.090 | 0.131 |
| Natural resource dependence | 0.112 | 0.063 |
| KKM index of institutional quality | -0.681 | -0.393 |

Source: Adapted from Allen et al. (2014).

In relation to *financial inclusion*, the third equation in Table 3 shows again a strong effect of population densities and a strong and highly significant effect from GDP per capita. The $R^2$ coefficient of that equation is also high. Once again there is a clear conclusion that the positive gains for the financial sector that are associated with higher incomes are likely to be diluted significantly by the effects of low population densities.

**Box 3: Benchmarking African financial systems**

Allen et al. (2014) also use the equations for the non-African countries to define 'benchmarks' for each of the four dependent variables and refer to these as the 'predicted values' that are then compared with the 'actual values' found in the data for the countries of SSA. The results of this comparison can be summarized as follows.

In terms of financial development, only eight of 40 African countries have ratios of deposit and other liquid liabilities to GDP that are at or above their predicted levels. Only six of these countries (Cape Verde, Mauritius, Namibia, Kenya, Gabon, and Guinea) exceed their predicted levels.

Only eight of 40 African countries (Gabon, Angola, Liberia, Nigeria, Namibia, Cape Verde, South Africa, and Mauritius) have ratios of private credit to GDP that exceed their predicted levels.

In terms of financial inclusion no less than 18 of 35 African countries have percentages of adults with a bank account above their predicted values.

But this strong performance does not translate to access to credit where only three of 35 African countries (South Africa, Swaziland, and Mauritius) have a percentage of adults with a loan from a financial institution above their predicted values.

## 4.2 Theoretical insights and the role of institutions

The statistical results above go a long way in helping us to account for the rather erratic patterns of financial development revealed by our simple numerical analysis in Annex 1 and Section 3. An additional layer of theoretical analysis based on some other recent papers helps us to build further on those insights. In particular it can help to unpick the reasons for the highly significant regression coefficient attaching to the variable 'institutional development' (as in Table 3).

In a series of papers by de la Torre et al. (2013), the authors see the process of financial development as a gradual transition from what may be termed *relationship finance* into *arms-length finance*. During that transition the erstwhile frictions that impede arms-length finance, are gradually eroded by a process of 'market completion' (de la Torre et al.: 515).[12] Prominent among the various frictions are a variety of what the authors term *bilateral agency* frictions including information gaps and asymmetries and high levels of contract enforcement costs—possibly due to poorly defined titles to, for example, land that might otherwise be used as collateral for loans. Hence part of the process of 'market completion' relates to the establishment of new institutional arrangements that can mitigate these frictions. The authors argue also that these bilateral frictions are commonly intensified in their effects by a variety of *collective frictions* which restrict the scope of multilateral interaction and participation. These are frictions that hinder

[12] They note that much of the earlier literature focused on the mitigation of asymmetric information failures, such as moral hazard and adverse selection (e.g. Akerlof (1970), and Stiglitz and Weiss (1981)). The more recent literature has given more emphasis to enforcement costs and the absence of lack of collateral (e.g. Holmstrom and Tirole (1996) and Geanakoplos (2009)).

agents' capacity to agree, act upon, and enforce financial contracts that—if they could be made—would be collectively beneficial.[13]

The significant regression coefficient that Allen et al. (2014) find on their institutional development variable provides some broad empirical confirmation that these various frictions remain important in low- and middle-income countries (see Tables 2 and 3).

The authors suggest that the private responses to coping with these various frictions can be divided into two subsets, namely: (i) responses aimed at lessening the frictions themselves (e.g. by acquiring better information, using collateral, delegating decisions to third parties); and (ii) responses aimed at lessening the exposure to these frictions (diversifying and pooling risk, buying insurance, staying liquid). But private agents (including financial institutions) acting alone cannot 'complete the market'. That will also need some state actions including such interventions as: (i) the provision of a basic contractual and informational infrastructure to facilitate contracting; (ii) coordination arrangements that can facilitate increased participation (e.g. systemic lending of last resort, and government guarantees); (iii) regulation to internalize externalities or protect consumers; and maybe (iv) the direct provision by the state of some financial services.

**In summary, the process of financial development may reasonably be described as one in which private agents find ways to cope with the various bilateral and multilateral frictions as just described and in which public policy increasingly finds ways to either remove some of these frictions or make them easier to live with.**

In this interpretation the financial system of a low-income country at any point in time will represent merely a snapshot of how this process has developed thus far in that particular country. Clearly the snapshot need not be the same for all low-income countries since the specific frictions and the manner in which they have been addressed by that point in time can differ. But one would expect similarities across low-income countries of similar types, e.g. agrarian economies in Africa that have all emerged from some form of colonial rule.

What is particularly helpful about this approach, given the subject of our present paper, is that it suggests that certain regularities may be expected as the various frictions are gradually eased. De la Torre et al. (2013) express this as follows:

> The first regularity concerns the sequence in which various financial activities are likely to develop, the second regularity concerns the shape of the paths they are likely to follow once they begin, and the third concerns the volatility of financial development, reflecting the seeds of financial instability that germinate while financial development takes place. (de la Torre et al. 2013: 519)

[13] These frictions can best be explained by using the examples of transaction costs and risk management. Many of the gains from financial sector activity relate to the reduction in transaction costs and the ability to diversify risk. But these gains depend on multilateral arrangements involving many players who may be hard to get together and coordinate. The underlying arrangements take place in markets, and/or through the work of specialized financial institutions that offer services such as insurance cover. The benefits of such services are pooled across a large number of customers. The higher the number of participants is, the higher the benefits of participation will be. However, although participation in principle can create positive externalities for society at large, it may be hindered by coordination failures including the absence of appropriate networks to support that coordination. 'Collective cognition frictions'—one does not participate in an activity which one's community cannot understand—will also compound the failure fully to realise potential in these areas.

Using this sort of analysis, it is possible to venture some broad statements about the sequence in which certain types of financial development (and problems) may occur as African economies such as Tanzania evolve towards middle-income status.[14]

To put some numerical flesh on these theoretical bones, the authors estimate a series of regressions with 16 different dependent variables each indicating some aspect of financial sector development. Specifically, those dependent variables are:

- Six components of commercial banks' operations (such as credit to the private sector and credit to government)
- Two variables for insurance company premiums (life and casualty)
- Mutual fund assets
- Pension fund assets
- Public debt securities in issue
- Two variables for private debt securities in issue (domestic and international capitalization)
- Equity stocks—total stock market capitalization
- Banks' net interest margin
- Equity market turnover.

[14] Examples of such statements include the following: (i) activities that are the least constrained by either bilateral or collective frictions will probably develop first—so, for example, early stage financial institutions may find it easier to deal with governments and small well-defined groups of individual businesses than with larger more dispersed individuals, and businesses; (ii) financial services that are strongly inhibited by collective frictions are likely to develop only after a mass of participation has been reached that is sufficiently large to trigger the positive network externalities needed to sustain those services; (iii) but once some critical threshold of participation has been passed, participation—intensive financial activities—are likely to show the most rapid development paths; (iv) there are various possible downsides to this process—for example, the reduction of bilateral agency frictions will facilitate a switch from dependence on (narrow-group) private information sources to (broader) public information, which in turn can boost rates of participation but might also lead to a socially insufficient supply of screening and monitoring; and (v) similarly, bonanzas associated with enhanced rates of participation may feed periodic collective moods of optimism that can unleash bouts of exuberance during cyclical upswings followed by collective despair once any downswing takes hold.

The explanatory variables in the regressions include a series of structural variables similar to those used in the paper by Allen et al. (2014) as described above. These include both population size and population density which are policy-exogenous, and the presence or otherwise of an offshore centre. The variable GDP per capita (at the start of the data period) is included to recognize the possibility that countries at *different initial levels of economic development* can follow different paths of financial development.[15] The regression coefficient on this variable is defined as $\alpha_1$. A further variable describing the *growth* of GDP per capita is included to capture the effects of *income growth* over time (regression coefficient = $\alpha_2 + \alpha_3 Y_0$). The coefficient ($\alpha_4$) on *population size* is also central to their analysis. The data used in the estimation are annual country data for the period 1980 to 2010. Since the authors use a double log formulation for their regressions, the coefficients mentioned can all be interpreted as elasticities.

Table 5: Financial development—sequencing of main components

| |
|---|
| ***Components of financial development (FD) involving negative returns to scale*** ($a_4$ coefficient on population size < 0) |
| Foreign public debt (early development: $\alpha_1 < 0$; $\alpha_2 + \alpha_3 Y_0 < -0.1$) |
| Casualty insurance (middle sequence in development: $\alpha_1$ between 0 and 0.5; $\alpha_2 + \alpha_3 Y_0$ between 1 and - 0.1) |
| Pension fund assets (middle of sequence of development; $\alpha_1$ between 0 and 0.5; $\alpha_2 + \alpha_3 Y_0$ between 1 and - 0.1) |
| ***Components of FD involving low returns to scale*** ($a_4$ between 0 and 0.1) |
| Domestic public debt (middle of sequence of development as defined above) |
| Bank credit to government (middle of sequence of development as defined above) |
| Bank private credit (middle of sequence of development as defined above) |
| Bank retail funding (middle of sequence of development as defined above) |
| Bank wholesale funding (middle of sequence of development as defined above) |
| Net interest margins (middle of sequence of development as defined above) |
| Life insurance (later development: $\alpha_1 > 0.5$; ; $\alpha_2 + \alpha_3 Y0 > 1$) |
| ***Components of FD involving high returns to scale*** ($a_4 > 0.1$) |
| Stock market capitalization (middle of sequence of development as defined above) |
| Domestic private debt—bonds (later development as defined above) |
| Stock market turnover (later development as defined above) |
| Bank claims on financial sector (later development as defined above) |
| Mutual fund assets (later development as defined above) |
| Foreign private debt (later development as defined above) |

Source: Adapted from de la Torre et al. (2013).

[15] The authors note that this variable also allows: (i) for the fact that there may be path-dependence in financial development with an initially strong situation (e.g. of relevant institutional arrangements) becoming self-reinforcing, and (ii) for an effect of technology transferability where a new financial innovation in one country quickly transmits to other countries thereby improving the situation of all countries irrespective of their income levels. For example, low-income countries have clearly been able to leap-frog in areas such as credit cards and mobile electronic banking.

Based on the regression results and the associated elasticities, the sequencing of different components of overall financial development can be summarized as in Table 5.

These econometric results do not fully confirm the priors suggested by the theoretical analysis. However, certain basic propositions do emerge from this analysis. These include the following insights suggested by the results:

- **Public-sector borrowing** develops at a relatively early stage with borrowing in international markets occurring even before borrowing at home (first and second blocks of Table 5). Arguably this happens because sovereign borrowers are relatively well known and so less impacted by agency frictions. **Foreign borrowing** and in foreign currencies could arise relatively early on because international markets have overcome the relevant collective frictions.

- As the relevant frictions gradually erode, governments find it easier to engage in **domestic borrowing**. However, because of ongoing problems with collective participation frictions, governments typically start by borrowing from local banks instead of from the financial markets. As a consequence of this, domestic public debt seems to develop later than does domestic bank credit to government.

- During the earlier stages of financial sector development, there will be a dearth of public information, as well as various weaknesses in the contractual framework—for example the absence of much tradable collateral. Hence most lending will be relationship-based: dependent on private knowledge/information rather than at arm's-length public information. In these circumstances **bank lending** (to the government and the private sector) would be expected to develop relatively early and certainly ahead of capital markets or asset management arrangements such as mutual funds. Table 5 confirms this.

- Because of the stronger agency frictions associated with arm's-length transactions, **capital markets** would be expected to develop only once public information has improved sufficiently. However, stock markets (as measured by capitalization) have sometimes developed ahead of prediction. The authors explain this by the fact that equity issuance is an essential component of corporate finance and governance for (a few) larger firms. However, because of size thresholds and collective frictions that limit participation, Table 5 shows that the development of **primary markets** precedes the development of **secondary markets** as measured by market turnover where the ability to trade liquidity is essential. Similar logic applies to **mutual funds**.

- **Equity markets** are likely to develop ahead of **corporate bond** markets possibly because their unlimited upsides can better compensate for the downsides associated with agency frictions. Table 5 results support this.

- **Pension funds** can in principle develop earlier than mutual funds as suggested by Table 4 because the collective frictions can be overcome by government in part at least (e.g. by legislating mandatory arrangements).

- **Life insurance** activity would be expected to develop relatively late because it is much hindered by collective frictions and it also needs market-based assets in which to invest: these in turn are slow to emerge

- But **general/casualty insurance** could be expected earlier because like pension fund assets the relevant friction can be overcome in part by policy, e.g. mandatory insurance for motor vehicles.

*In summary*

This more theoretical analysis suggests that there is a logical sequence in which different aspects of financial sector development are likely to occur. That sequence and the speed at which it works itself through is dependent on two broad sets of influences. First, it is a function of influences that are inherent to a country's specific situation and so not easily changed by policy; examples are: the economies in scale of providing some financial services; population size and population densities; and certain initial conditions such as the pre-existing level of GDP per capita. Second, the sequence is also determined by a combination of bilateral and collective frictions which in various ways, and to different extents, can be amended by appropriate policies and the construction of improved institutional arrangements. Because of the importance of the second set of factors, the actual progression of any county through the various stages of financial sector development cannot be regarded as deterministic. Policy interventions, if appropriate, do have the scope to speed up or slow down a pathway that might otherwise occur. So countries in low-income Africa that are currently lagging in some components of financial sector development do have it in their own power to improve that situation at the margin but only to the limits permitted by the first set of factors that policy has little power to alter.

### 4.3 Further comments on population and population densities

One of the strongest results for Africa emerging from the econometric evidence—from both Allen et al. (2014 ) and de la Torre et al. (2013)—is that the relatively low densities of African populations is likely to be a significantly retarding factor on the development and broader take-up of financial services. This insight fits well with studies on individual African countries that have identified a similar problem when examining the penetration of such services into different parts of those economies (Johnson et al. 2006).[16] The basic proposition from some of these studies is that early-stage financial development will invariably be concentrated in geographical areas of high population density where the economies of scale in the delivery of most financial services will be easier to achieve. That proposition is strengthened if the geographical regions of high population density are also areas of relatively higher average incomes and low levels of poverty.

Figure 1 presents these ideas in a two dimensional diagram relating to Kenya where population densities are shown on the horizontal axis and income levels are shown (in reverse) on the vertical axis.[17] Areas of highest population density and relatively high incomes are shown in the bottom left quadrant in the diagram. Areas of lowest population density and relatively low incomes are shown in the top right quadrant in the diagram. It is a reasonable presumption that financial development as assessed by the sector's geographical coverage will involve early-stage activity mainly in the bottom left quadrant. Thereafter there is likely to be a gradual—but possibly slow—break-out (of branches, accounts, etc.) into the other three quadrants. Analysis by Peachey (2007) for Kenya showed that the so-called 'access' commercial banks in that country were not really achieving that break-out. Only the Kenya Postbank (KPOSB) and some of the

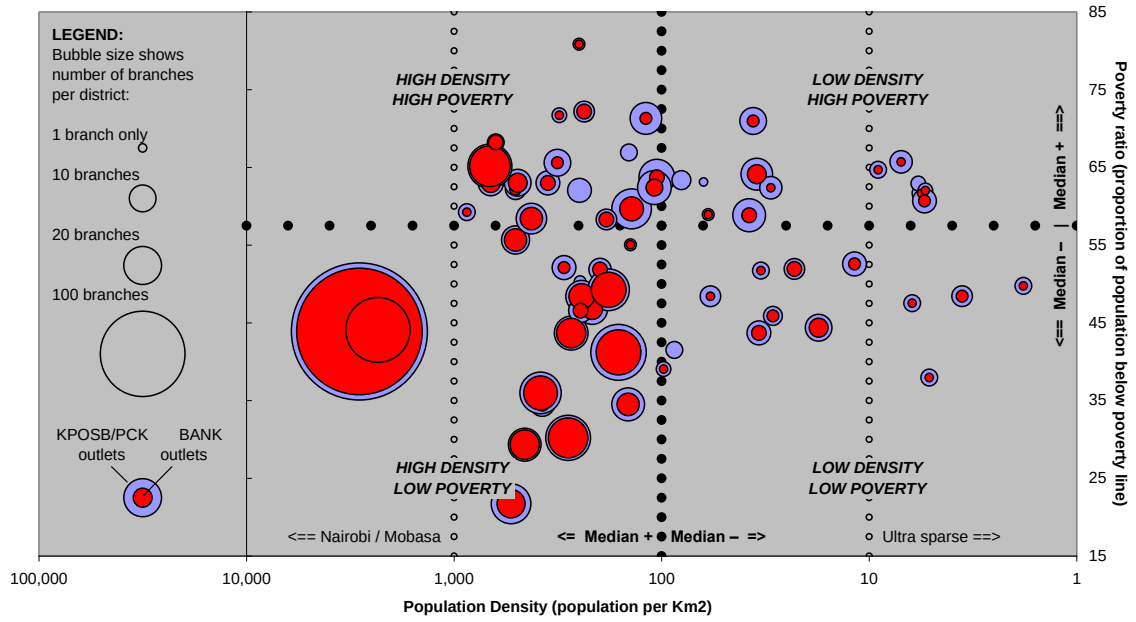
[16] The ideas elaborated here build on the 'frontiers of finance' model as propounded in Johnson et al. (2006).

[17] The data points in the diagram are districts. Each observation plots the number of bank branches in a district. The size of the bubble indicating each observation is proportional to the number of branches in that district.

other state-owned banks had been able to do so by that date. Notice in Figure 1 how the branches of the mainstream commercial banks are concentrated in areas of high population density and relatively high incomes with really very few branches, especially in the low-density and low-income quadrant of the diagram. By contrast the state-owned banks (represented here by KPOSB) are far more significant (in terms of both absolute and relative numbers) to the branch outreach in those more difficult areas.

This analysis goes some way to explaining the situation noted in the earlier comparative discussion (Section 3). It was shown there that Kenya lags the middle-income comparator countries in terms of numbers of bank branches but leads them in terms of the numbers of bank accounts. Evidence such as that in Figure 1 suggests that the relatively small number of bank branches can be explained by the inherent difficulties of extending branch banking to the poorer and less densely populated regions of Kenya. But since some of the mainstream banks (notably Equity Bank) have innovated to develop much enlarged customer numbers in the other areas (especially the bottom left quadrant of Figure 1) the number of bank accounts for Kenya *as a whole* is still high even by middle-income country standards.

Figure 1: The reach of Kenya Postbank beyond the commercial bank network

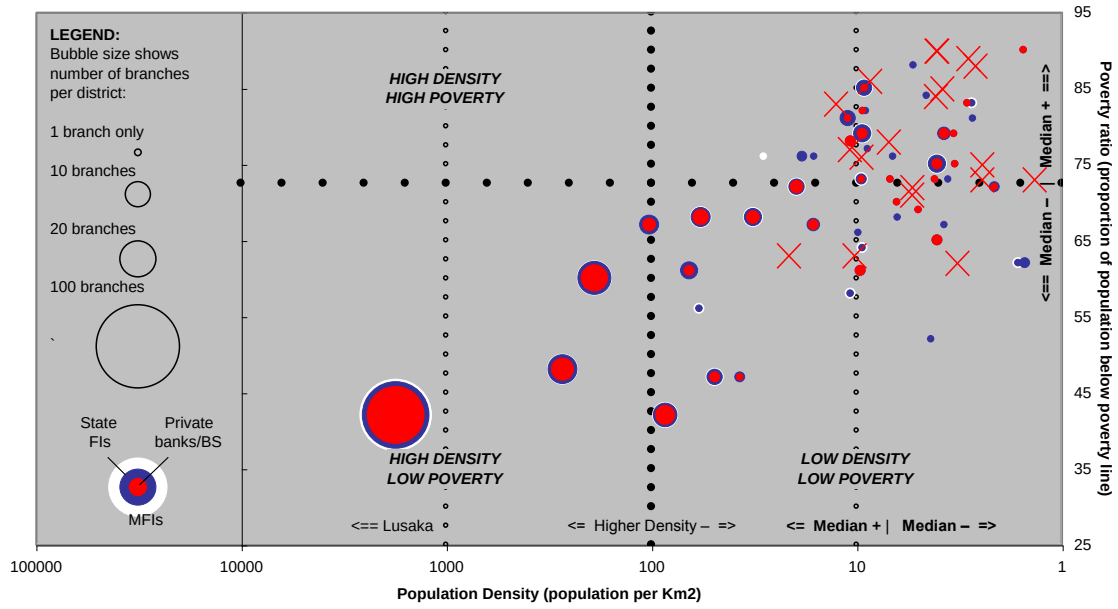



Note: KPOSB = Kenya Post Office Savings Bank and PCK = Postal Corporation of Kenya (the Post Office)

Source: Peachey (2007).

This type of complex pattern does not seem unusual in Africa. Figure 2 shows a similar graphical picture for Zambia.

Figure 2: Outlet numbers at district level in Zambia—2006–07




Source: FinMark Trust (2007).

This graphic again shows branch and similar financial outlet numbers at the district level. It depicts private banks and building societies in red, state financial institutions in blue, and MFIs in white. The red crosses denote districts in which there are no banks nor alternative formal financial institutions of any kind. In those low population density, high poverty areas where outlets are available, it is notable that most of them are outlets of state financial institutions. Only a very few of these districts are served by private banks or building societies, and, somewhat unexpectedly, relatively few are served by MFIs—even they struggle to overcome the constraining factors of limited economies of scale and the very high costs of doing business in those communities.

These two country examples illustrate (i) the inherent difficulties of financial development in countries where population densities (at least in some geographical regions) are low and people generally are poor, but also (ii) the role that government policy can and does play in partly overcoming these inherent constraints.

## 5 Implications for Tanzania

The analysis summarized in Sections 3 and 4 provides a credible set of reasons why the link between income growth on the one hand (moving a country towards middle-income status) and financial development on the other is not straightforward. It is certainly not representable as a neat linear progression. That same analysis also enables us to make some sense of the otherwise messy patterns of financial change (and differences with middle-income countries) that are described in detail in Annex 1 and summarized in Section 3. It is beyond the scope of this present paper to provide a full diagnostic of the factors that constrain financial development in Tanzania. But in this section we use the raw materials so far presented to assess a number of relevant issues.

## 5.1 The Tanzanian situation to date

- The **size** of the banking system has grown impressively since reforms began in the early 1990s and certainly since 2000. This has arguably been due to a combination of rapid sustained income growth but also to the various sector reforms that have occurred during that period (Annex Figure A1). Convergence on middle-income status in this dimension of FD may not be far away.

- However, the **depth and diversity** of the sector as indicated by the volumes of insurance, pension, and capital market activities remains very low—lower than better performing neighbour countries such as Kenya and even below Uganda (in some aspects—Figures A2, A3, and A4 in the Annex).

- In spite of very substantial achievements in the period for which we have data (since 2004) Tanzania's delivery in the areas of **access and inclusion** have lagged well behind the comparator middle-income countries and also behind Kenya which is the regional pace-maker in this component of financial development (Figures A5, A6, and A7 in the Annex).

- In terms of **efficiency**, the Tanzanian banks have made significant improvements since 2000 but still operate with both interest spreads and overhead cost ratios that are high by middle-income country standards. However, the rate of return on banks' assets has declined significantly since 2000 indicating possibly a more competitive operating environment.

- The available comparative data on bank soundness and stability are limited in the case of Tanzania. But, based on the available partial information, both capitalization rates and rates of non-performing loans have improved markedly over the past few years, mirroring the experiences in Kenya and Uganda.

## 5.2 The next movers—pensions and capital markets?

Several aspects of Tanzania's current situation fit well with the theoretical priors described above. Although the banking sector has developed strongly since reforms began in the 1990s, the non-bank parts of the system still lag behind.[18] This is particularly true of the complex of activities around **capital markets, pensions, and insurance**. As the country moves towards middle-income status this complex of financial activities could be important 'next movers' in terms of financial development. As Figure 3 makes clear, apart from banks, a country's pension and insurance companies represent potentially the most significant institutions intermediating

[18] A 2011 report noted that 'The Tanzanian financial system, after 20 years of significant reforms remains, in essence, a bank-based system. This has not prevented the system from growing—indeed total financial sector assets have expanded rapidly in the past decade from a total of TZS1,637 billion at end of December 2001 to TZS10,040 billion in December 2009—a cumulative growth of over 500 per cent or 25 per cent per annum in nominal terms. The December 2009 total is the equivalent of US$6.6 billion at today's exchange rates or about 34 per cent of GDP. But this high rate of growth has been led by the growth of private sector deposits in the banking system and has not fundamentally reduced the bank share of total financial intermediation and the channelling of funds.' See Oxford Policy Management (2011) and also Bank of Tanzania (2011).

between households and the user of investment funds.[19] In principle, the pensions and insurance companies together can become significant institutional investors that would be able to convert large quantities of private household savings into similarly large quantities of demand for the bonds and other securities that are floated by those companies trying to raise investment funds. In the context of significant prospective new issues of bonds in Tanzania in the next few years including from organizations such as the new Tanzania Mortgage Refinance Guarantee Company (TMRC),[20] the reformed Tanzania Investment Bank (TIB), the prospective Tanzanian Development Bank (TADB), and the Tanzania Petroleum Development Corporation (TPDC)—the National Oil Company—the pension funds could be critical to the successful future of these issuers.

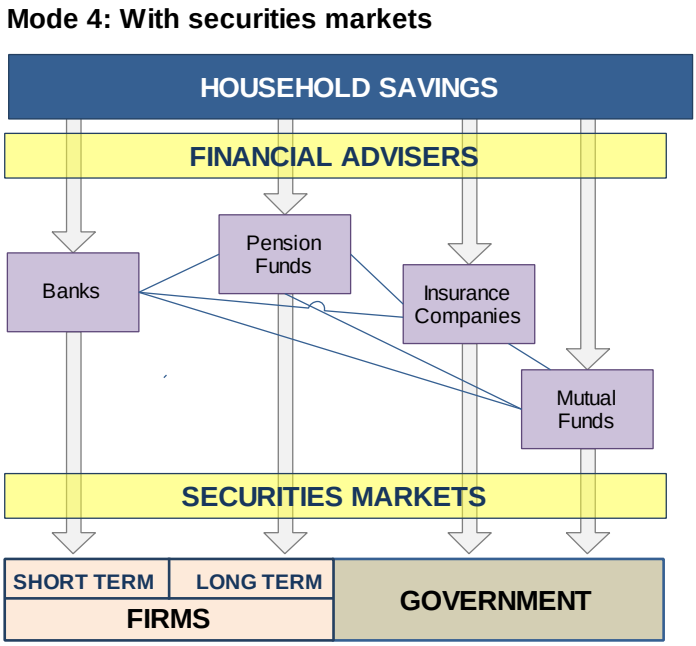
The relative slowness of development here is explained by several factors which will need to be corrected by further reforms if a real catch-up is to occur. First, only a relatively small part of the funds channelled via pension funds and insurance companies currently get used for productive investment. This is because a large part of the available funds are either deposited with the commercial banks (and so are on-lent predominantly for the short-term purposes favoured by the Tanzanian banks) or lent to government via the purchase of Treasury bills and bonds.[21] Second, the present coverage of pension schemes is limited: the proportion of Tanzanian workers and self-employed persons who currently have access to a *credible* pension on retirement is well under 10 per cent.

[19] The same 2011 report noted that the pension and insurance companies are indeed the second and third most important financial institutions in terms of assets in Tanzania: accounting for 21 per cent and 2 per cent of total financial system assets respectively. See Oxford Policy Management (2011).

[20] It was also noted at that time that TMRC had capital of TZS6 billion (1 billion per shareholder) and a US$30 million loan from the World Bank. The World Bank loan enabled operations to begin, but the TMRC business plan envisaged the need for further capital for on-lending as early as 2012 or 2013. TMRC therefore needed to go to the capital market quite early to float bonds with two-, five- and ten-year maturities. These bonds are likely to be attractive to Tanzanian investors and to investors in other East African Community countries. The question then was, will the market be able to handle the issues by that stage, particularly for non-Tanzanian investors?

[21] Pension fund investments in Tanzania have also traditionally favoured real estate investments— a considerable proportion of which are actually investments in Government real estate (such as Government buildings and housing for public service), that make only a limited contribution to the financing of long-term development.

Figure 3: A broader financial system—a stylized view




Source: Robert Stone (unpublished).

Thus far the policy actions for this sector have not provided the boost that is theoretically possible via, for example, the introduction of a more broadly based mandatory pension system. Tanzania has missed a significant opportunity that is suggested by the analytical results from Section 4. Until very recently all of the six main pension funds in Tanzania were state-owned and subject to a variety of controls and pressures which were inimical to 'market completion' and the development of a strong modern pension system.[22] The contrast with Kenya is significant. In that country, by 2011 there were already some 1,290 private schemes regulated by the Retirement Benefits Authority of Kenya. Although Kenya's pensions' coverage is still only about 10 per cent of the population, that still provides a much sounder basis on which to build the industry than is the case in Tanzania.

**Insurance** is a complementary activity to pensions. This is because the evolution of private pensions and life insurance are inextricable in terms of both products and institutions. However, despite significant premium growth in recent years, the insurance sector in Tanzania remains very small.[23] Long-term insurance, for example, represented only 10 per cent of total insurance premiums in 2009. General/casualty insurance has been somewhat stronger in line with the theoretical results from Section 4. As is the case with the Tanzanian pension funds, a large proportion of the total investment assets of insurance companies have traditionally been placed in government securities and bank deposits (together, 48.8 per cent in 2009) or in real estate (35.1 per cent), with only 7 per cent invested in shares and 1.4 per cent in other financial instruments (TIRA 2010). So this sub-sector also needs significant further policy support—and not just higher per capita income—if it is to give greater support to the longer-term financing needs of the productive economy.

[22] This describes the situation that applied at least until 2011 when the new regulatory agency for the sector, Social Security Regulatory Authority (SSRA), was set up and began its large programme of work to direct the reform of the sector.

[23] The penetration rate of general and long term insurance together was only 0.8 per cent overall by 2009 according to the Tanzania Insurance Regulatory Authority (TIRA), compared to 2.63 per cent, for example, in Kenya in 2008.

As regards the Tanzanian **security markets,** these are characterized at present by limited depth and even lower levels of liquidity as reflected in low rates of turnover. For these and other reasons they do not provide the large and deep investment possibilities for pension fund and insurance assets that are theoretically possible. Both these characteristics will need ongoing institutional and policy reforms[24]—and not just higher per capita incomes—if the markets are to play the fuller role in the long-term finance characteristics of many middle-income countries. There are several aspects to this. First, a comprehensive set of policies for these markets is a signal of the authorities' intention to end the bank-based dominance of the Tanzanian financial system at least in the medium and longer term. Second, a larger and more complete set of capital market institutions will make it easier to achieve development in other parts of the financial system—not just pensions and insurance. In particular, the future size and, more importantly, the liquidity of the Tanzanian securities markets will be a critical determinant of just how large can be: (i) the scale of mortgage refinance through TMRC; (ii) the scale of new types of SME lending through TIB; and (iii) the scale of new types of agricultural lending through TADB. Failure in the area of capital markets will condemn all three of these new initiatives either to permanent budgetary and/or donor support or to only very slow growth of their activities based on (limited and mainly short-term) bank financing.

The theoretical insights from Section 4 suggest that stock markets (as measured by capitalization) have sometimes developed ahead of prediction. This is partly because equity issuance is an essential component of corporate finance and governance for (a few) larger firms. It follows that countries with relatively large numbers of such firms may achieve financial development in this dimension ahead of other countries. This factor could help to explain why Tanzania lags so far behind Kenya—with its greater predominance of larger agricultural and industrial firms—in this dimension of FD (see Figure A4 in Annex 1).

### 5.3 The next movers—finance for smaller firms?

Survey evidence for SSA as a whole as assembled by Beck and Cull (2013) clearly shows the disadvantages that this region suffers in terms of the access of smaller businesses to credit facilities. The data for both small and medium-sized enterprises (MSMEs) and also larger enterprises are taken from Beck and Cull (2013).[25]

The authors note that the dominant proportion of all the enterprises in Africa are *informal microenterprises* whose establishment often stems from the lack of alternative economic opportunities. Since such enterprises are unable to produce formal financial accounts or arrange formal guarantees, it is unlikely that this large segment of the enterprise population will become bankable for formal credit even over the medium- or longer-term.

A second segment—and still large element—comprises *small formal enterprises* (employing more than five person but less than 50), some of which may have high growth potential. These firms—often also referred to as the 'missing middle'—are usually too big to be helped by

[24] For some years, the Capital Markets and Securities Authority (CMSA) has been pursuing an active programme of institutional and policy reform. This has included: work to improve the regulatory framework (e.g. improved compliance with the principles of the International Organisation of Securities Commissions (IOSCO)); improving the structure and governance of the Dar es Salaam Stock Exchange where the board was dominated by brokers, and which also depended on subsidies from the government; and developing Real-Time Gross Settlement links between Kenya, Tanzania, and Uganda in the context of capital account liberalization, particularly in relation to cross-border securities transactions in East Africa.

[25] Which in turn is based on various Enterprise Surveys—see World Bank Group (n.d.).

microfinance institutions but are not formal or established enough to be of real commercial interest to most banks. A final, much smaller segment comprises *medium-sized enterprise*s some of which will have good export and other markets. Typically these will be eligible for bank credit and may also benefit from credit guarantees of the type provided by the Tanzanian government, but are unlikely to have access to equity and other market-based financing facilities of the sort enjoyed by some larger firms.

In Tanzania recent survey data[26] suggest that in 2010—the year when the survey was conducted—there were 3,162,000 **non-agricultural** MSMEs in the country as a whole, of which 54 per cent were rurally based (1.7 million) and the rest were urban.[27] These enterprises were operated by a total of 2,754,697 different owners, some owners having more than one business. Amongst these, a dominant 69 per cent of the total employed only a single person or employed only between one and four persons (98 per cent), confirming the Beck and Cull (2013) proposition above. Arithmetically this leaves only about 2 per cent of owners who engage five or more persons: a total of 55,000 owners. Amongst these, some unknown part will be 'medium' sized (i.e. will employ more than 50 person in the official classification).[28] The current population of SMEs—five to 50 employees—(in non-agricultural activities alone) *that constitute the missing middle* is certainly in excess of 50,000 enterprises but could be as high as 70,000. It is a big potential market!

Additionally in the agricultural sector, the 2011 AgFiMS (Agricultural Finance Markets Scoping) Survey suggested that just over a quarter (25.5 per cent) of all the **agricultural enterprises** were identified as having the potential for commercial viability (AgFiMS Tanzania 2012). That sub-group of 519,450 enterprises was defined by AgFiMS as the '**qualifying market segment**', but a significant proportion (89 per cent) of these enterprise were at the time not formally registered and so many amongst them were unlikely to be early targets for the use of financial and other services to help boost output and growth. Additionally only about 1 per cent of the market segment businesses (circa 5,000 agri-businesses) employed more than six persons and so qualified for the status of SME as defined by the other survey.[29]

Although the absolute numbers of MSMEs has certainly expanded greatly over the past 20 years, there is not much tangible evidence of many individual SMEs from the 'missing middle' emerging to become crucial drivers of growth in particular sectors. The study of *An Enterprise Map of Tanzania* (Sutton and Olomi 2012) does provide a few examples of initially small indigenous companies that have grown to become major enterprises.[30] But such examples do not seem to be numerous and there is not much real evidence that SMEs have so far been the truly dynamic force on overall economic growth that they are in some countries. The general impression is of most small companies remaining small for extended periods of time.

---

[26] The Micro, Small and Medium Enterprise (MSME) Survey 2010 was conducted by the Ministry of Industry and Trade and the Financial Sector Deepening Trust of Tanzania (FSDT). See Ministry of Industry and Trade (2012).

[27] More detail on this and related SME issues can be found in Roe and Stone (2013).

[28] Many others will be located just over the (artificial) line that distinguishes 'micro' from 'small' and so will have many of the same characteristics as the genuinely micro enterprises.

[29] There is a problem here since the AgFIMS survey used six employees rather than five as a cut-off point. Hence the numbers of SMEs cited here must be treated as approximate only.

[30] One is Banana Investment Ltd (BIL)—established as a backyard family business in 1989 but now a significant player in the sector. Another is Bonite Bottlers Ltd started in a Dar residence in the mid-1980s but now part of the large IPP Group of Companies.

The third block of data in Figure 4 confirms the missing-middle proposition for SSA as a whole. The gap in terms of access to credit is shown there to be relatively modest when comparing medium and large enterprises. It is much more substantial when comparing small with medium-sized enterprises. Given also the large population of small enterprises in Tanzania, there would seem to be a large pay-off in terms of financial deepening if products could be found to cater to this group and if the other identified constraints on their expansion could be addressed.

In relation to the narrow topic of improved financial products for SMEs, Tanzania in recent years has seen some encouraging initiatives and institutional successes in SME and in rural and agricultural finance, some of which may be replicable and scalable. Box 4 summarizes the key features of one of these.[31]

**Box 4: The PASS Initiative for agricultural SMEs**

Successful SME initiatives have included the Private Agricultural Sector Support (PASS) programme that was created in 2000 by the Government of Tanzania and financed by Danida. It became an autonomous legal trust in 2007. PASS was established to address the issue of access to finance by SME farmers and agribusinesses in Tanzania, providing mainly Business Development Services (BDS) and credit guarantees, initially through the Cooperative and Rural Development Bank (CRDB), but later through six other partner banks as well. The development objective of PASS is to accelerate 'investments, financing and growth of commercial agriculture, agribusiness and agro-processing', a task at which it has been remarkably successful. Crop and livestock production, tractors, and farm machinery represent about two-thirds of PASS financing, but SMEs involved in processing, input and output trading, and hire purchase have increased from about 12 per cent to about 33 per cent since 2010. Between 2002 and 2011, PASS supported the submission of 2,897 business plans to banks, of which 2,005 (69 per cent) were accepted: they served 977 individual client businesses and 1,740 groups in this period.

Source: Oxford Policy Management (2011).

Specific initiatives such as PASS have seen their chances of succeeding enhanced by the generally good progress (i) in restructuring Tanzania's two largest and most significant banks—the Cooperative and Rural Development Bank and the National Micro-Finance Bank (NMB)—formerly a part of the failed National Bank of Commerce, and (ii) by the significant entry of new banks and MFIs. The two restructured banks have not only seen very rapid balance-sheet growth but have also been able and willing to innovate and introduce new approaches not least to serving the SME markets of Tanzania.

As regards new entry, there have been further innovative boosts for SME but also MSME and agricultural financing from several relatively new entrants including Exim Bank of India, Bank of Africa, Ecobank Transnational, BRAC, and Access Bank.[32]

[31] See also Temu and Ndyetabula (2012).

[32] For example, Exim has benefited from a financial and technical association with the International Finance Corporation (IFC) and with PROPARCO, the French private finance subsidiary of Agence Française de Développement. The IFC is helping to transfer best-practice SME banking skills through a twinning arrangement. Also, Exim in Tanzania is helping to fill the financing gaps (i) by making a limited number of important wholesale facilities available to partner institutions who operate at the lower end of the market, and (ii) by using leasing to provide support to its client businesses, admittedly for only small equipment items such as small agricultural equipment and sewing machines.

Building on these initial successes both in Tanzania and elsewhere in Africa, ideas are beginning to emerge for further innovation including the idea for new private equity funds to extend the frontier of enterprises served by equity finance to a new set of smaller and medium enterprises.[33] This would, of course, require seeding and technical support from external donors such as the International Financial Centre (IFC) and Commonwealth Development Corporation (CDC) for the establishment of SME-focused funds. But if appropriate products could be designed there would seem to be great potential for this to become a route to deepening further this otherwise shallow component of the financial system in Tanzania, and at least reduce the magnitude of the so-called missing middle.

## 6 Other opportunities and dangers

In addition to the two 'next mover' possibilities just discussed, there are perhaps two major new developments on the horizon that could have a large bearing on the size and depth of Tanzania's financial system by 2025. The first relates to the possible financial sector effects of Tanzania's large gas finds[34] that in a few short years will start to transform the pattern of the country's export earnings and its government revenue streams. The second relates to the collateral effects of capital market liberalization in the East Africa region and the specific issues that may arise if neighbouring Kenya succeeds in developing an effective IFC. The problem is to assess whether these will be positive or negative developments for Tanzania's own financial sector development.

### 6.1 Oil and gas

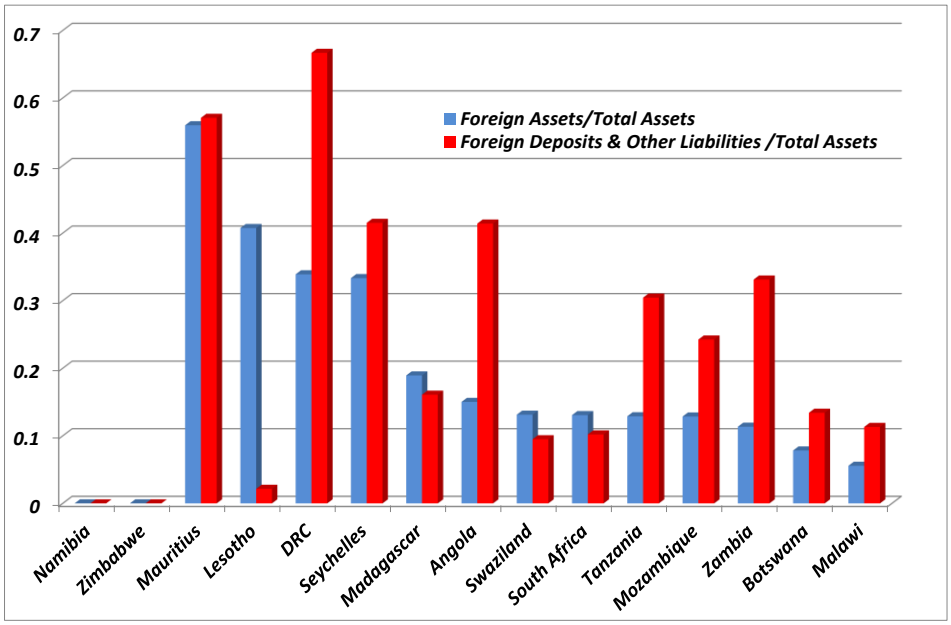
The confirmed gas finds to date in Tanzania indicate that the scale of new investment in this sector could be huge and that the new annual levels of foreign direct investment (FDI) could by some margin exceed anything that Tanzania has previously experienced. Revenue flows to government by the mid-2020s might possibly exceed the present levels of foreign aid receipts (ODA) and make Tanzania less aid-dependent. Gas-based exports (mainly LNG) will likely become the largest single export of the country.

But having said this, it is important to note the results from the econometric analysis of Allen et al. (2014). These showed generally *negative* coefficients for the effect of the natural resources variable on several components of financial development especially the volumes of private credit (see Tables 2 and 3). However, not all such coefficients were statistically significant. One possible explanation for the negative coefficients is the crowding-out effect of large transactions by multilateral companies of the other credit activities of banks: large-scale lending to reputable international companies may overcome the agency frictions referred to earlier but at the expense of other local borrowers where such frictions remain. A simple scrutiny of bank balance-sheet data offers a further angle on this matter. Specifically as shown in Figure 5, some low-income economies notably Tanzania, the Democratic Republic of the Congo, and Zambia have relatively high levels of access to foreign financing through their banking systems compared to most other SADC countries. This factor might be expected to boost the size of their banking systems. The feature that links these three economies is the high levels of (mining-related) FDI in their productive economies.

[33] The CDC has been particularly active in examining this possibility in recent months.

[34] To date most oil and gas concessions have found only gas in commercial quantities but the possibility of also finding oil is not ruled out.

Figure 5: Foreign assets and foreign liabilities in banks—by country—2011




Source: Adapted by the author from Committee of Central Bank Governors in SADC (n.d.).

Certainly the negative effect as posited by Allen et al. (2014) is not the only possible effect. Another offsetting and *positive* effect could be the influential role that the multinationals could have if they floated their local subsidiary companies on the local stock markets. This could quickly help to deal with the chronic shortages of good quality paper which currently hampers the security markets. Another possible positive effect is the one that could come from local content and supplier development programmes that could help to boost the numbers of good quality and credit-worthy local businesses—some of them initially SMEs.

So, in short, there is no clear-cut basis for predicting the direction of effect that Tanzania's gas bonanza might have on its financial development. There will be for sure some important opportunities presented and it will be yet another challenge for policy to find the best ways to capitalize on these.

## 6.2 Kenya's International Financial Centre

The econometric analysis by Allen et al. (2014) hypothesizes that countries having offshore financial centres may have larger financial sectors than their economies might otherwise warrant. Their empirical results for a sample of low- and middle-income countries supports this hypothesis. But, significantly, they did not report any effect of the offshore variable in their regression for SSA countries. Nor did they comment on the possible very significant effects of the location of an offshore financial centre in a neighbouring country. In the specific case of Tanzania, there are important questions about the interaction of its own development of the capital market institutions with the parallel development of those same institutions in neighbouring Kenya. In particular it seems highly plausible that any success that Kenya may achieve with its ambition to establish what it calls an International Financial Centre in Nairobi will boost its already very substantial lead over Tanzania in terms of capital markets, pensions, and insurance businesses (see Figures A2, A3, and A4 in Annex 1). In the context of more liberal capital movements, Kenya might do this by becoming the preferred location within the region for share listings, for the location of new private equity funds (including those that may extend access to equity to a range of stronger SMEs (see Section 5), and for the establishment of a range of financial services of interest to offshore companies. Although this could boost the scale and

diversity of financial services in East Africa as a whole, it could conceivably retard some aspects of financial sector development in Tanzania itself.

## 7 Main conclusions

This paper has assessed some of the implications for financial systems in low-income African countries such as Tanzania as they move towards their stated targets of middle-income status. It has addressed this task by first identifying the five main components that we argue together define 'financial sector development', and next by examining a set of numerical indicators which taken together can provide a reasonable basis for tracking financial development in each of those five component areas. The examination of changes over time of each of the indicators for a sample of three low-income African economies and three comparator middle-income countries, has demonstrated two things. The first is that there is no inexorable connection between the attainment of middle-income status—as measured by GDP per capita—and progress in most of the component areas of financial sector development. The second is that in some of those component areas, low-income African countries have already surpassed the levels of financial development seen in the comparator middle-income countries. In other areas the remaining gaps to be closed are small and could be closed quite soon. The paper does not pretend that these limited comparisons can be regarded as in any way representative of the low- versus middle-income differences for all countries, but they do illustrate the inherent complexity associated with trying to explain such differences.

In an attempt to offer some partial explanations, the paper has also related the numerical comparisons to some of the results that have emerged from the recent econometric and theoretical literature on the factors that drive financial sector development both in Africa and elsewhere. That literature suggests a range of factors that may intervene to complicate the link between levels of GDP per capita on the one hand and financial sector development on the other. At the core of such factors is a set of **institutional factors** that the theory tells us can easily create a variety of frictions that hold back financial development. More specifically the theory suggests that the process of financial development may reasonably be described as one in which private agents find ways to cope with various bilateral and multilateral frictions and in which public policy increasingly finds ways to either remove some of these frictions or make them easier to live with. This formulation is consistent with the econometric literature in which various institutional variables have been shown to be statistically significant influences on financial development. The theoretical and empirical results together suggest an important role for various policy interventions including those that strengthen critical institutions such as those relating to collateral and credit information

However, the econometric literature in particular also indicates that there are **structural factors** holding back financial development that are much less likely to be responsive to policy measures. Foremost among these is low population densities—a factor that the econometric results clearly show to be a drag on financial development. The paper elaborates this crucial point by using detailed examples from both Kenya and Zambia about the specific manner in which low population densities combined with high rates of poverty can be problematic for the spread of financial services to certain regions of a country. This analysis also suggests a role for state policy—but this time a role in actually establishing state-run banking services in lower population and higher poverty regions: something that has happened to a limited extent in both Kenya and Zambia.

Overall, there is clearly no room for complacency that the move to middle-income status will lead inexorably to larger and deeper financial systems. The analysis of the paper helps to identify

the nature of the policy and institutional policy measures that will be needed in addition to higher per capita incomes if that improvement in financial development is to be achieved by 2025 or 2030. The paper finishes by examining selective aspects of the situation in Tanzania. It suggests that there are perhaps two main 'next movers' that could help to drive significant further progress in financial sector development. These relate respectively to the nexus of pension, insurance, and capital market institutions, and to further new innovations in developing credit and other financial sector products for the stronger of Tanzania's large numbers of SMEs. There are also two important imponderables on the Tanzanian horizon. The first is the possible impact on the financial sector associated with the country's imminent move to become an oil and gas economy. The second is the possible collateral effects that could arise from a successful attempt in neighbouring Kenya to establish an International Financial Centre in Nairobi.

## References


AgFiMS Tanzania (2012). *Technical Demand Side Report*. Available at: http://www.fsdt.or.tz/fileadmin/downloads/agfims/AgFiMS_Tanzania_2011_Technical_Demand_Side_Report.pdf (accessed in March 2015).

Akerlof, G. (1970). 'The Market for Lemons: Quality Uncertainty and the Market Mechanism'. *Quarterly Journal of Economics*, 84(3): 488–500.

Allen, F., E. Carletti, R. Cull, J. Qian, L. Senbet, and P. Valenzuela (2012). 'Improving Access to Banking: Evidence from Kenya'. Wharton Financial Institutions Center Working Paper 12-07. Philadelphia, PA: Wharton Financial Institutions Center.

Allen, F., E. Carletti, R. Cull, J. Qian, L. Senbet, and P. Valenzuela (2014). 'The African Financial Development and Financial Inclusion Gaps'. World Bank Policy Research Working Paper 7019. Washington, DC: World Bank.

Bank of Tanzania (2011). *Financial Stability Report, 2011*. Available at: https://www.bot-tz.org/Publications/Fin-stability/FinancialStabilityReportSept_2011.pdf (accessed in September 2011).

Beck, T., E. Feyen, A. Ize, and F. Moizeszowicz (2008). 'Benchmarking Financial Development'. World Bank Policy Research Working Paper 4638. Washington, DC: World Bank.

Beck, T., and R. Cull (2013). 'Banking in Africa'. World Bank Policy Research Working Paper 6684. Washington, DC: World Bank.

Čihák, M., A. Demirgüç-Kunt, E. Feyen, and R. Levine (2012). 'Benchmarking Financial Systems around the World'. World Bank Policy Research Working Paper 6175. Washington, DC: World Bank.

Committee of Central Bank Governors in SADC (n.d.). Home page [online]. Available at: www.sadcbankers.org (accessed in October 2012).

Demirgüç-Kunt A., and L. Klapper (2012). 'Measuring Financial Inclusion: The Global Findex Database'. World Bank Policy Research Paper 6025. Washington, DC: World Bank.

de la Torre, A., E. Feyen, and A. Ize (2013). 'Financial Development: Structure and Dynamics'. *World Bank Economic Review*, 27(3): 514–41.

FinMark Trust (2007). 'Supply-Side Study of the Inclusiveness of Zambia's Financial System'. Draft Report for FSDP Implementation and Steering Committees, Zambia: Oxford Policy Management (OPM) with PMTC (Zambia). Available at: http://www.boz.zm/FinScopeFindings/Zambia%20Supply-Side%20Study%20Main%20Report%20August%202008.pdf.

Geanakoplos, J. (2009). 'The Leverage Cycle'. Cowles Foundation Discussion Paper 1715. New Haven, CT: Cowles Foundation for Research in Economics, Yale University.

Holmstrom, B., and J. Tirole (1996). 'Private and Public Supply of Liquidity'. NBER Working Paper 5817. Cambridge, MA: National Bureau of Economic Research.

Johnson, S., M. Malkamaki, and K. Wanjau (2006). 'Tackling the "Frontiers" of Microfinance in Kenya: The Role for Decentralized Services'. *Small Enterprise Development*, 17(3): September 2006.

Ministry of Industry and Trade (2012). '*MSME Baseline Survey 2010'*. Final Presentation Report. Nairobi: Ministry of Industry and Trade.

Oxford Policy Management (2011). 'Comprehensive Policy Framework & Legal Infrastructure for Long Term Development Finance in Tanzania'. Report for the Bank of Tanzania. Dar es Salaam: Oxford Policy Management.

Peachey, S. (2007). 'Development Finance Institutions (DFIs) Shareholder Strategy for Reform of Kenya Post Office Savings Bank'. Report commissioned by FLSTAP for the Kenya Treasury. Nairobi (unpublished).

Republic of Kenya (2007). *Kenya Vision 2030*. Nairobi: Republic of Kenya.

Roe, A., and R. Stone (2013). 'SMEs and their Financing in Tanzania: Background Note for the World Bank'. Unpublished Oxford Policy Management Note.

Stiglitz, J., and A. Weiss (1981). 'Credit Rationing in Markets with Imperfect Information'. *American Economic Review*, 71(3): 393–410.

Sutton, J., and D. Olomi (2012). *An Enterprise Map of Tanzania*. London: International Growth Centre.

Temu A.E., and D.W. Ndyetabula (2012). *Innovations in Rural Financial Services Provision: Evolutionary Lessons from PASS Trust in Tanzania*. Morogoro: Department of Agricultural Economics and Agribusiness, Sokoine University of Agriculture.

TIRA (2010). *Annual Insurance Market Performance Report for the Year ended 31 December 2009*. Dar es Salaam: Tanzania Insurance Regulatory Authority.

World Bank (n.d.). 'Enterprise Surveys'. Available at: www.enterprisesurveys.org (accessed in March 2015).

World Bank (2016). World Development Indicators. Available at: http://data.worldbank.org/data-catalog/world-development-indicators.

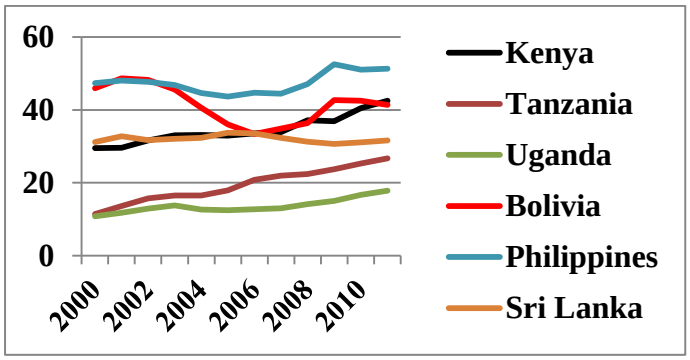
## Annex 1: Low- versus middle-income financial systems: some simple comparisons

The comparisons below examine data for three low-income African economies (Kenya, Uganda, and Tanzania) against three low-middle-income comparators (Bolivia, the Philippines, and Sri Lanka). The purpose is not to reach some strong general conclusions about differences. Rather it is to demonstrate the inherent complexity of the low-income versus middle-income comparisons of financial sector development. All the data are for the period 2000 through 2011.

### Size

The size of the financial systems of lower-income countries—being dominated by commercial banks—is often proxied by the level of bank deposits relative to GDP. Comparisons using this indicator for three low-income African economies and three middle-income comparators are presented in Figure A1.

Figure A1: Bank deposits (% of GDP)




Source: Author's calculations using data from World Bank (2016).

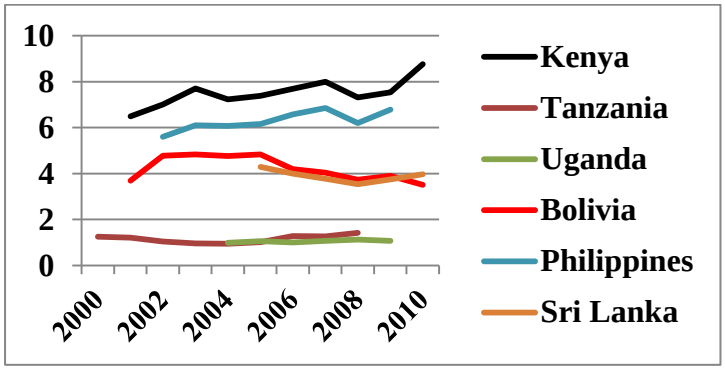
This comparison tells us several things. First, there is some tendency for the three middle-income comparators to have larger banking systems relative to GDP than do the three African countries. However, this association between higher income and banking system size is at best weak: Kenya for example by about 2006 had a larger banking system than both Bolivia and Sri Lanka. Second, some of the gaps between the African countries and the comparators are really quite small (examples are Tanzania versus Sri Lanka and Kenya versus the Philippines). On the basis of the trends already established it seems more than possible that those gaps could be closed before the African economies fully attain the income levels that define 'middle-income'. Third, all three African economies have seen significant increases in banking system size in the past decade. Part of this may be attributable to a pure income effect, but part also is due undoubtedly to the market and other reforms of that period.

### Depth

There are several indicators for which international comparable data could reveal something about the complex depth and diversity of financial systems. For illustrative purposes we here examine just three of these in Figures A2, A3, and A4 respectively, namely:

- Insurance company assets to GDP
- Pension fund assets to GDP
- Stock market capitalization to GDP.

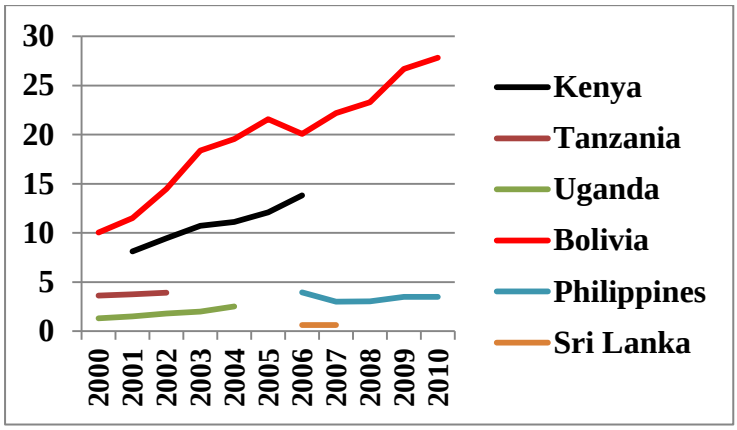
Figure A2: Insurance company assets (% of GDP)




Source: Author's calculations using data from World Bank (2016).

These comparisons are dramatic and perhaps surprising. In particular, Kenya has higher insurance company assets than any of the three middle-income comparators. Additionally, although its per capita income is some 90 per cent higher than those of Tanzania and Uganda, its insurance assets relative to GDP are no less than eight times greater.

Figure A3: Pension fund assets (% of GDP)



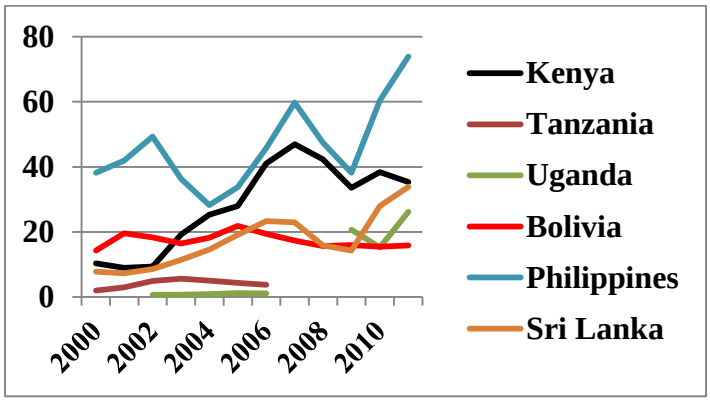

Source: Author's calculations using data from World Bank (2016).

Here the data are quite sparse but they nonetheless convey an interesting picture in which four of the six economies (two low-income and two middle-income) all have very small pensions industries. This contrasts sharply with middle-income Bolivia with pension assets amounting to almost 30 per cent of GDP—a large source of potential financing for longer-term investment—and also with lower-income Kenya where the pensions asset ratio has risen to almost 15 per cent of GDP. In this case there is evidence, admittedly from a small and unrepresentative sample, that the income elasticity is low. Financial sector development in this dimension does not depend uniquely on income levels.

In this case, the Philippines as one of the middle-income comparators stands out as having a large stock market as assessed by capitalization. But low-income Kenya is ranked second—a position that seems out of line with its income. Uganda in recent years has moved from the low

position alongside Tanzania to come close to parity with middle-income Sri Lanka whose per capita GDP is some six times greater![35]

Figure A4: Stock market capitalization (% of GDP)




Source: Author's calculations using data from World Bank (2016).

**Access**

There is by now a rich body of survey data for Africa that tells us a great deal about the various dimensions of financial access and inclusion.[36] But for comparative purposes, we look here at only a small number of indicators that are readily available for many countries. These include:

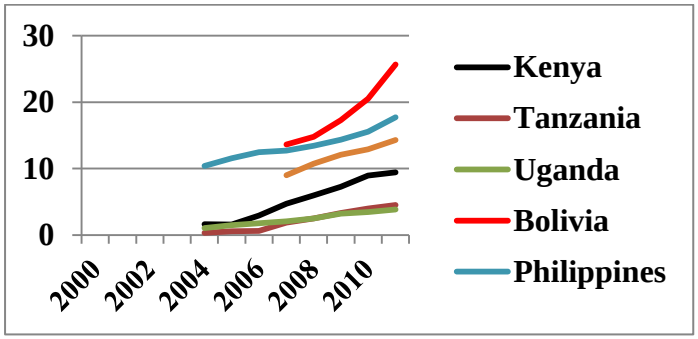
- ATMs per 100,000 adults
- Bank branches per 100,000 adults, and
- Bank accounts per 1,000 adults.

These three indicators each say something about the *infrastructure* of access but not admittedly about access *outcomes* as such.

[35] This is attributable to a number of reforms of the Uganda Stock Exchange that have together improved its liquidity. In addition there is now significant cross-listing of various non-Ugandan companies on the Nairobi and Dar es Salaam exchanges, e.g. Kenya Commercial Bank, Uchumi supermarkets, East African Breweries, Kenya Airways, and Umeme, which is the largest power distributor in Uganda.

[36] For example, the Global Findex survey data. The 2011 Global Financial Inclusion (Global Findex) database, funded by the Bill & Melinda Gates Foundation, measures how adults in 148 countries save, borrow, make payments, and manage risk. The 2014 Global Findex—with expanded data on payments—will be released in April 2015. The designers of existing surveys such as the long-running LSMS and FinScope are being encouraged to add some of the standard Findex questions to their own questionnaires to enhance comparability. See Demirgüç-Kunt and Klapper (2012).

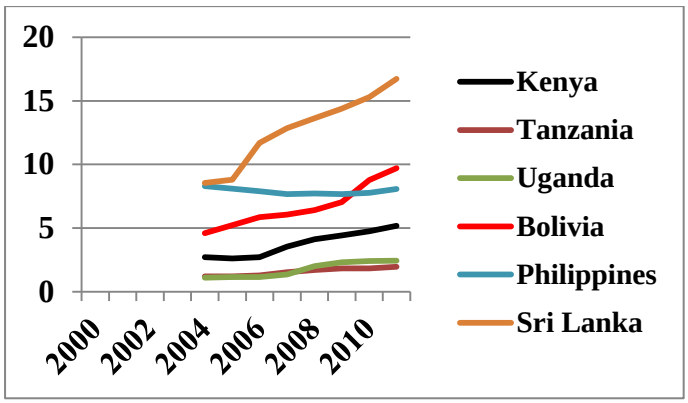
Figure A5: ATMs per 100,000 adults




Source: Author's calculations using data from World Bank (2016).

In this case the data are available only from 2004. They show a clear superiority of the three middle-income countries over low-income Africa. Kenya in particular has made rapid progress in developing its ATM capacities but still lags the three richer economies in this regard.

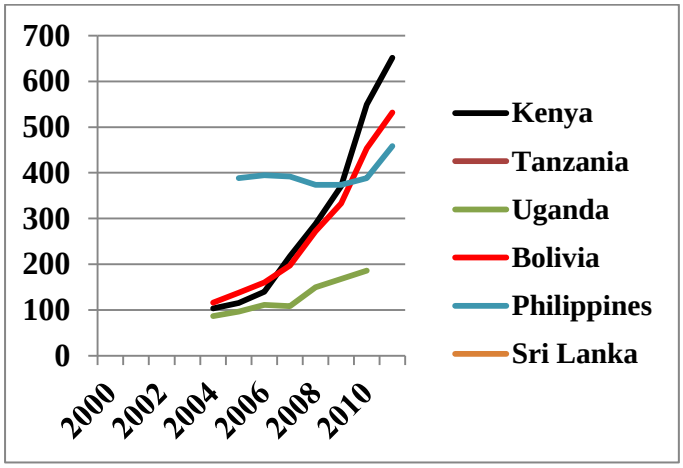
Figure A6: Bank branches per 100,000 adults




Source: Author's calculations using data from World Bank (2016).

In relation to numbers of bank branches, too, the three middle-income countries display a clear superiority over the lower-income African economies. It would seem that the significant improvements that Africa has made in this regard are shown by this comparison to leave a still large potential for further improvement.

Figure A7: Bank accounts per 1,000 adults




Source: Author's calculations using data from World Bank (2016).

However, this proposition is challenged somewhat by the remarkable growth in bank account numbers in the case of Kenya (Figure A7). Those numbers rose six-fold as between 2004 and 2011 to a level where they exceeded those in both middle-income countries for which the data are available. (Unfortunately there are no data on this indicator for either Tanzania or Sri Lanka). The Kenya profile is most likely the consequence of two factors namely: (i) the remarkable rise of Equity Bank in Kenya which has rapidly built up new deposits and in the process has overtaken the formerly dominant deposit-taker KPOSB,[37] and (ii) the high urban population concentrations around Nairobi which can enable a relatively small number of branches to handle a relatively large number of accounts.

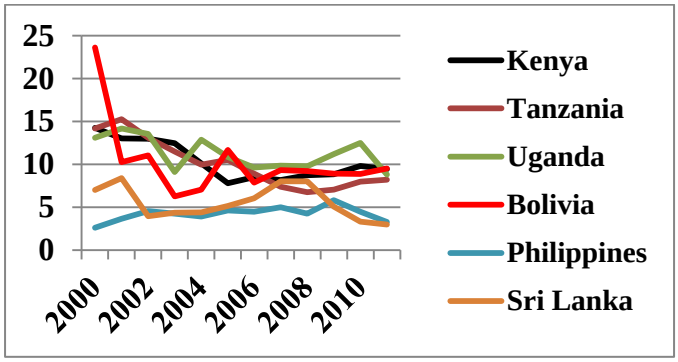
**Efficiency**

Internationally comparative data that can inform us about the efficiency of different financial systems are sparse, but a limited story can be told based on a small set of indicators. The available literature suggests that African banks are relatively high cost and generally quite inefficient compared with banks in other developing economies but that some banks are still able to achieve relatively high profitability due partly to lower levels of inter-bank competitiveness (Beck and Cull 2013). It is possible to examine this matter in relation to our sample of six countries using the following indicators.

- Bank net interest margin (per cent of earning assets)[38]
- Bank overhead costs (per cent of total assets), and
- Bank return on assets before or after tax (per cent).

[37] Allen et al. (2012) note that Equity Bank's branching policy in Kenya favoured minority-speaking districts more so than did the other Kenyan banks. Their econometric results find that the presence of Equity Bank branches has had a positive and significant impact on households' use of bank accounts and bank credit. Specifically, Equity Bank's presence was associated with a 4 to 9 percentage point increase in the probability of having a bank account.

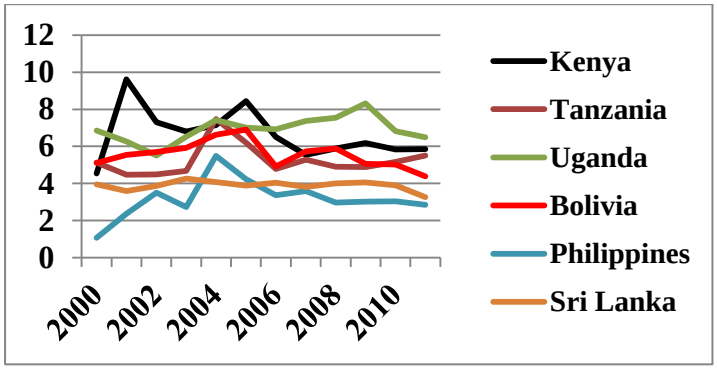
Figure A8: Bank lending-deposit spreads (%)




Source: Author's calculations using data from World Bank (2016).

The picture in Figure A8 is of one of shockingly high interest spreads particularly in the country that has suffered the most severe inflation in the past, namely Bolivia. However, macro reforms there have seen nominal interest rates and their nominal spreads declining to levels which were (2011) close to those seen in the three African economies, i.e. 8–10 per cent. In sharp contrast the other two middle-income economies of Sri Lanka and the Philippines display spreads that are much more reasonable: circa 3 per cent. If judged against that middle-income standard (or the UK level of circa 2 per cent) the African banks still have a long way to go.

Figure A9: Bank overhead costs (% of total assets)

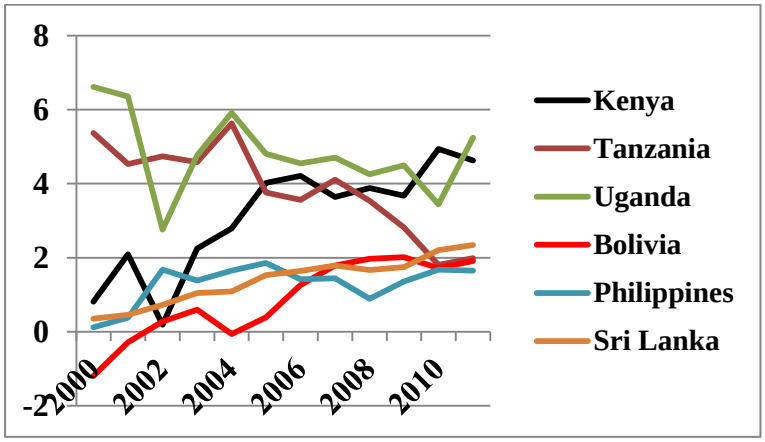



Source: Author's calculations using data from World Bank (2016).

A large part of the explanation of the high interest spreads is the high overhead costs in the banks at least in four of the six countries. As is shown in Figure A9 these costs in the three African economies and in Bolivia are now around 5–6 per cent of total assets, having declined from rates of 7–8 per cent in the relatively recent past. Banks in both the Philippines and in Sri Lanka have significantly lower overhead costs of circa 2–3 per cent of total assets and in this sense they are significantly more efficient.[39]

[39] In the UK and France the overhead cost figure in recent years has been below 1 per cent of total assets, but this is unusual even amongst advanced economies. In Germany, Spain, and Switzerland the figure is over 1 per cent and in the US and Canada it is over 2 per cent

Figure A10: Bank return on assets (before tax)




Source: Author's calculations using data from World Bank (2016).

The data in Figure A10 confirm the proposition from the previous literature that the African banks generally are quite profitable. The rates of return are now hovering around 2 per cent of assets for all three of the middle-income countries but have been generally twice this level at around 4–5 per cent in the three Africa countries. However, there are interesting contrasts between the three; Kenya for example has seen a dramatic increase in return to bank assets over time. In this case the reforms have not only reduced bank costs (Figure A9) but have also enabled Kenyan banks to achieve a reasonably high rate of return that is currently circa 3–4 per cent even after tax. Tanzanian commercial banks by contrast have seen their returns steadily decline from 4.6 per cent in 1999 to only 1.4 per cent after tax in 2011. Uganda's record has been slightly more consistent at least since 2004: by 2011, Ugandan banks were enjoying the highest rate of return among the three East African countries.

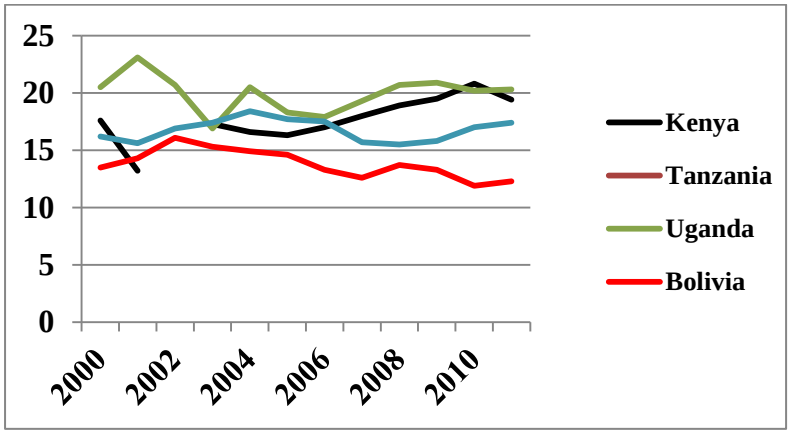
### Soundness and stability

In this area of financial sector development, the internationally comparable indicator data are even more sparse and only very sketchy statements can be made based mainly on the following two indicators:[40]

- Ratio of bank regulatory capital to risk-weighted assets, and
- Bank non-performing loans as a percentage of gross loans.

[40] There is in addition a mass of relevant qualitative and other materials available on this matter for individual countries and not least from some of the work routinely undertaken by the IMF/World Bank Financial Sector Assessment Programme (FSAP) or at least by its Financial System Stability Assessment (FSSA) or Report on Standards and Codes (ROSC) components. There are typically three main components of an FSSA or a ROSC assessment: these relate to commercial banking, to capital markets/securities, and to insurance. Guidelines have been issued respectively by the Basel Committee on Banking Supervision, the International Organization of Securities Commissions (IOSCO), and the International Association of Insurance Supervisors (IAIS).

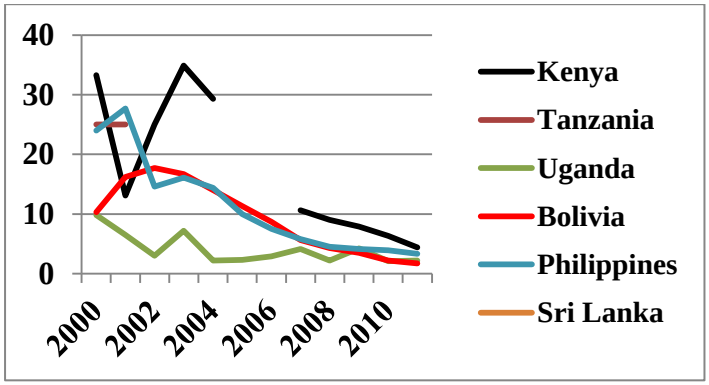
Figure A11: Ratio of bank regulatory capital to risk-weighted assets




Source: Author's calculations using data from World Bank (2016).

The picture in Figure A11 is one of high levels of bank capitalization in both of the two low-income African economies for which we have the necessary data. Both Kenya and Uganda with capitalization rates around 20 per cent are sounder (in this respect at least) than middle-income Bolivia. (Unfortunately there are no data on this indicator for either the Philippines or Sri Lanka).

Figure A12: Bank non-performing loans as % of gross loans




Source: Author s calculations using data from World Bank (2016).

There are several countries in the sample that had serious banking problems in the 1990s resulting in a high incidence of non-performing loans (NPLs). Figure A12 shows a sharp improvement in that situation especially in the Philippines and in Kenya. By 2011 there is little difference in performance on this indicator as between all five of the countries for which the necessary data are available. The ratios now seen, of around 2–3 per cent of gross loans, compare quite favourably with those in most advanced economies some four years after the global financial crisis. There is no evidence at all of a low- versus middle-income difference.

### Overall differences

The comparisons of the various indicators as presented above enable us to give a clear answer to the question posed at the start of Section 2 of the paper—*low and middle-income countries are* ***not*** *significantly and consistently different in relation to all five components of financial development.* Our sample of six countries is of course very small and so cannot be taken to be fully representative, but it is sufficient to illustrate the inherent complexity of any links that may exist between income levels

and financial development. The main results that emerge from those comparisons can be summarized as follows:

- The banking systems of low-income African countries have shown the capacity to grow faster than incomes. In at least one case (Kenya) this fast growth has produced a larger banking system relative to GDP than those seen in some comparator middle-income countries.

- It has been possible for at least one low-income African country (Kenya again) to achieve greater depth in certain non-banking financial systems (insurance and capital markets) than that seen in some of the comparator middle-income countries.

- Although the low-income African economies have achieved great progress in improving access to financial services, they nonetheless lag a long way behind middle-income countries in this regard. However, some qualification to that conclusion is introduced by the great success that Kenya has achieved in recent years in increasing the numbers of bank accounts per 1,000 adults.

- Bank lending—deposit interest rate spreads in low-income Africa are still very high relative to good international standards (and the levels seen in many middle-income countries) in spite of some improvements in recent years. However, a middle-income country that has experienced very high rates of historical inflation (Bolivia) performs no better in this regard.

- A large part of the explanation of the high interest spreads is the overhead costs in the banks of low-income Africa—these costs are still high in spite of recent reductions.

- In spite of these apparent inefficiencies, many African banks manage to achieve high rates of return on their assets.

- Partly as a result of this, the African banks for which we have data have higher levels of capitalization (relative to risk-weighted assets) than do the middle-income comparators.

- After some dramatic declines through the 2000s, the African banks now have NPL ratios which look good against most middle-income and indeed some high-income comparator countries.