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Review of Development Finance xxx (2017) xxx–xxx

Review of DEVELOPMENT FINANCE

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Full length article

Sectoral linkages of financial services as channels of economic development—An input–output analysis of the Nigerian and Kenyan economies☆

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Abstract

Sectoral linkages of financial services of the Nigerian and Kenyan economies are evaluated by means of an input–output analysis for 2007, 2009 and 2011. Backward linkages, forward linkages, multiplier effects and variation indices for the financial services sectors are determined. Due to the increasing importance of mobile money, we additionally investigate these linkages for the communication sector. We find high forward and backward linkages for the Nigerian financial services sector only. Here, changes in final demand for or primary input into the financial sector have a wide and evenly spread impact on the rest of the economy classifying the financial sector as a key sector. Regarding Kenya, however, the sectoral linkages of the financial services sector are lower. This may be due to the well-developed mobile financial market in Kenya. But results for the communication sector, however, yield rather low linkage values and multiplier effects for both economies. All results are confirmed by a robustness test. Nonetheless, they could have been influenced by a lack of data coverage especially with regard to mobile money and a high degree of informal financial transactions. Still, our findings confirm the significance of financial services as channels of economic development for both the economies.

JEL classifications: D57; G20

Keywords: Financial services; Input–output analysis; Sectoral linkages

1. Introduction: aim and scope of the study

The financial system is the nerve center of a country's development (Financial Stability Report, 2011) and an efficient provision of financial services determines the economic growth and prosperity of a country. Furthermore, providing opportunities for employment and income generation, savings and investment, wealth accumulation and loan provision, the financial sector is crucial for a country's economy and business environment. This is of specific importance for Africa, since an efficient provision of financial services fosters the expansion and the competitiveness of local companies which aim at a participation in regional and international markets (Sutton and Jenkins, 2007).

The latter fact becomes all the more important in light of recent developments towards the fragmentation of production processes and an expansion of Global Value Chains (GVCs) which are a first step into world markets for emerging and developing economies. However, only very few sub-Saharan African nations are well-integrated into GVCs, among them Nigeria and – slightly less so – Kenya (Draper et al., 2015). These two economies in particular play a significant regional role in West and Eastern Africa. As Ogunleyhe (2011) suggests, Kenya and Nigeria can be considered growth poles in Africa (together

☆ The study is part of the Research Project on Financial Sector Reform and Development in Africa launched by the African Economic Research Consortium (AERC). The study was supported by a grant from the AERC. The findings, opinions and recommendations are those of the authors and do not necessarily reflect the views of the Consortium, its individual members or the AERC Secretariat.

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http://dx.doi.org/10.1016/j.rdf.2017.01.004
1879-9337/

with South Africa, Botswana and Angola). The state of development of their financial sector plays an important role for both the domestic economies and the neighboring countries as there might be positive spillovers to other countries in the region.

However, the body of literature appears to be incomplete here, as the inter-sectoral connectedness of financial services in emerging and developing countries so far has not been considered in detail. We therefore aim to assess the overall economic effects stemming from the sectoral linkages of the financial services sectors in Nigeria and Kenya. As both countries already have a sufficiently well-developed financial sector – although not a world class one, like, for example, South Africa – they provide a suitable framework for the analysis. The analysis will enable us to understand the developmental impact of the financial sector in both Nigeria and Kenya outlined by their inter-sectoral linkages to the other sectors and the overall economy.

To do so, the study proceeds as follows. First, a brief outline of the theoretical relevance of inter-sectoral linkages and its empirical evidence is given. Subsequently, an overview on the current state of financial sector development in Nigeria and Kenya is provided. In the main part of the study we analyze the financial sector's interconnectedness in both the Nigerian and Kenyan economies. This is done with the help of an input–output analysis. Inputs into the financial sector can be of different kinds, such as infrastructural or business services inputs which ensure the provision of financial services. Outputs of the financial services sector are for example credits, loans or insurance services. The input–output analysis comprises assessments of linkages to the other sectors of the economy and the assessment of overall economic effects coming from the financial sector (multiplier effects). This additionally allows for a characterization of the role of the financial sector by a key sector assessment. Finally, we discuss the results as well as policy implications.

2. Inter-sectoral linkages: theoretical relevance and empirical evidence

Inter-sectoral linkages, comprising backward and forward linkages, reflect the interconnectedness between the sectors of an economy, with mutual interdependencies between the sectors being decisive for the extent to which the growth in one sector contributes to the growth of other sectors as well as overall growth. Backward linkages create additional demand for the output of upstream sectors which, in turn, induces an increased upstream investment and an increased level of capacity utilization, as well as a possible upstream technological upgrading. The overall effect on the economy depends on the kind of sectors to which a sector is backwardly linked (Tregenna, 2008). By contrast, a sectors' forward linkages impact downstream sectors. Thus, decreasing costs of a sector's output can result in growth inducing effects to downstream industries. These could include downstream investment, technological upgrading, or increased productivity and resource utilization. Both these growth inducing mechanisms – backward and forward linkages – are so-called Hirschman-type production linkages (Tregenna, 2008).

In his theory of inter-industrial linkage analysis, Hirschman (1959) especially emphasizes the role of backward linkages for growth stimuli. He further argues that forward linkages cannot exist in a pure form since they are a result of the demand that emanates from existing backward linkages. Thus, the existence of demand is a condition for forward linkages. Accordingly, Hirschman states that forward linkages can be considered a powerful reinforcement of backward linkages. This consideration leads to the differentiation between industries that *induce* economic development via backward linkages and industries that *enable* economic development via forward linkages (Hirschman, 1959).

The relevance of inter-sectoral connectedness is shown in a number of empirical studies. However, studies specifically focusing on the inter-sectoral connectedness of financial services are scarce. Furthermore, the majority of studies dealing with inter-sectoral linkages focus on industrialized countries. Examining, for example, the European economy for key markets and key sectors with the help of an input-output analysis, Rueda-Cantuche et al. (2012) find that the financial sector is a forward-oriented sector (exhibiting significant forward linkages to the other sectors of the economy) which is evenly spread throughout the whole economy.

Considering emerging economies, studies on inter-sectoral connectedness predominantly merely control for services in general, not for financial services in particular. Tregenna (2008), for example, focuses on the manufacturing sector as the engine of growth and its linkages to the services sector for South Africa. She concludes that the strong backward linkages from manufacturing to services indicate that cost and quality of services inputs are critical for the competitiveness of manufacturing (Tregenna, 2008). In order to assess the channels of service-led growth in India, Hansda (2007) concludes that services in general have the largest growth inducing effect on the economy through both forward and backward linkages to the other sectors of the Indian economy. Nevertheless, he stresses the need to further investigate inter-sectoral linkages, especially with regard to financial services. This result is backed by Singh (2006), who emphasizes the basic role of services for the industrialization process in India. Rashid (2004) argues that both services and manufacturing are instrumental for the development of the primary sector in Pakistan. Finally, Tounsi et al. (2013) try to identify key sectors in Morocco and come to the conclusion that data quality and the year of investigation are critical for the robustness of the results—a warning which will be kept in mind. In light of the increasing necessity of developing countries to develop a suitable financial industry, however, the linkages of the financial sector are increasingly relevant and deserve closer scrutiny.

[3] The World Bank's 'Country Policy and Institutional Assessment (CPIA) Financial Sector Rating' (World Bank, 2015a) measures financial stability, efficiency and access, CPIA rates (1 = low, 6 = high). The indicator 'private credit to GDP' shows the domestic private credit to the real sector as percentage of GDP in local currency; 'deposit money banks' assets to GDP' takes into account credit to government (next to private sector) and other bank assets.

Please cite this article in press as: Freytag, A., Fricke, S., Sectoral linkages of financial services as channels of economic development—An input–output analysis of the Nigerian and Kenyan economies. Rev. Dev. Finance (2017), http://dx.doi.org/10.1016/j.rdf.2017.01.004