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# Financial Sector Competition and Knowledge Economy: Evidence from SSA and MENA Countries



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## Abstract

The goal of this paper is to assess how financial sector competition plays out in the development of knowledge economy (KE). It contributes at the same time to the macroeconomic literature on measuring financial development and response to the growing field of KE by means of informal sector promotion, microfinance, and mobile banking. It suggests a practicable way to disentangle the effects of various financial sectors on different components of KE. The variables identified under the World Bank's four knowledge economy index (KEI) are employed. Three hypotheses based on seven propositions are tested. Results show: (a) the informal financial sector, a previously missing component in the definition of the financial system by the IMF significantly affects KE dimensions; (b) disentangling different components of the existing measurement of the financial system improves

dynamics in the KE–finance nexus, and (c) introduction of measures of sector importance provides relevant new insights into how financial sector competition affects KE.

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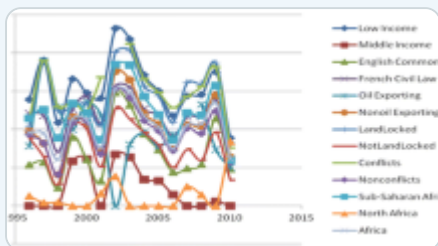
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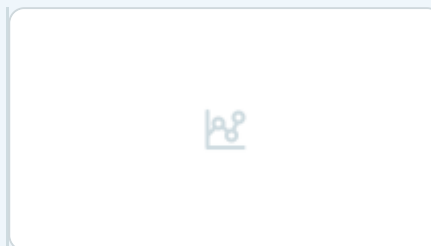
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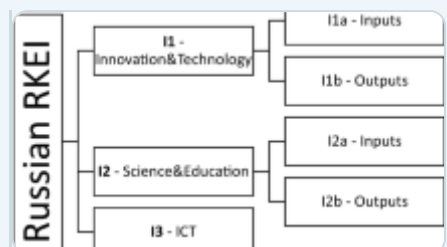
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1. For instance, the African Union Extraordinary Assembly of Heads of States and Governments adopted the Ouagadougou Declaration on Employment and Poverty Alleviation in 2004. More recently, in May 2006, the Economic Commission for Africa's (ECA) 39th Conference on African Ministers of Finance Planning and Economic Development was convened on the subject: The Challenge of Employment and Poverty Alleviation in Africa.
2. Unlike developed countries, a great chunk of the monetary base (M0) in developing countries does not transit through the banking sector.
3. The proposition and employment of new financial development indicators draws from recent findings which have established that the burgeoning phenomenon of mobile banking cannot be effectiveness assessed by traditional financial development measures (Asongu [2012a](#), [b](#)). Hence, assessing the KE dimensions in the context of these findings could lead to interesting policy measures on how financial sector competition plays out in enhancing KE.
4. United Nations Development Program.
5. In the first empirical assessment of the incidence of finance on KE, we use two definitions of the financial system: the traditional IFS (IMF [2008](#)) and Asongu ([2011](#), [2012a](#), [b](#)) measures of financial sector importance.
6. Gries et al. ([2009](#)) state: "In the related literature several proxies for financial deepening have been suggested, for example, monetary aggregates such as Money Supply (M2) on GDP. To date there is no consensus on the superiority of any indicator" (Gries et al. [2009](#), p.1851).
7. A bias in the definition of 'financial system deposits' (aka liquid liabilities) by the International Monetary Fund (IMF) best illustrate this point. According to the IFS, the financial system is made-up of the formal and semi-formal sectors;

that is deposit money banks and other financial institutions (see lines 24, 25 and 45 of IFS, IMF [2008](#)). Whereas, this conception and definition could be quasi-true for developed countries, it fails to take account of the informal financial sector in developing and undeveloped countries.

8. Bank credit on bank deposits.

9. Private domestic credit on GDP.

10. Deposit bank assets/Central bank assets plus deposit bank assets.

11. To put this in other terms, the need to evaluate how one financial sector develops at the expense of another (and vice versa) and the incidence of these changes on various components of KE could be crucial in grasping the KE-finance nexus.

12. See Bizri ([2009](#)), Arab Report ([2009](#)) and Bizri ([2009](#)).

13. An OIR test is applicable only and only if there is an over-identification presence. That is, the instruments must be higher than the endogenous independent variables by at least 1° of freedom. In the cases of exact-identification (instruments equal to independent explaining variables) and under-identifications (instruments less than endogenous independent variables), an OIR test is by definition impossible.

14. In modeling the FE regressions, we first of all assess the presence of heteroscedasticity with the Breuch-Pagan test. This has a double interest: (a) it lends credit to the use of robust HAC standard error generalized least squares (GLS) with FE and (b) it confirms the validity of controlling for heteroscedasticity in the TSLS approach with robust HAC standard errors.

15. Unobserved heterogeneity controlled by the FE regressions is only one cause of endogeneity.
16. Whether the informal sector (a previously missing component in the definition of the financial system) significantly affects KE.
17. Disentangling different components of the existing measurement of the financial system contribute the KE-finance literature?
18. Introducing measures of sector importance is relevant to understand financial sector competition in KE

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# Appendices

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## Appendices

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**Table 8 Summary statistics and presentation of countries**

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**Table 9 Correlation analysis**

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**Table 10 Variable definitions**

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**Table 11 Segments of the financial system by degree of formality in paper's context**

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