

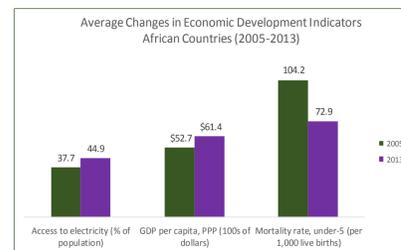
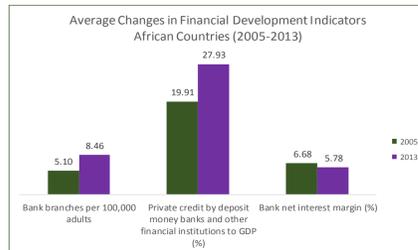
Linking Financialization and Economic Development in Africa

Introduction:

The role of finance in economic growth of a country has been a long debated topic among economists and academicians. Even though there isn't enough strong empirical evidence to support the claim that financialization drives growth, there is evidence that in countries with higher levels of financial intermediation and financial development, finance exerts a disproportionately large, positive impact on the poor and hence reduces income inequality. This means that the policy implications regarding financial structure, depth, innovation and regulations for developing countries will vary depending on the level of current financialization in specific economies. Africa's financial systems have progressed over the past 20 years, but the continent still faces many challenges. Policymakers will need to consider the impact of structure and regulations of financial system on the overall economy of the countries in the continent. This project examines the relationship between social and economic development indicators such as per capita national income, health, education, living standard, and indicators of financial development such as depth, access and efficiency of financial institutions and markets in African countries. The goal is to observe if countries with higher level of financialization have indeed higher level of social and economic growth and vice versa. Specifically, the project intends to answer the following spatial questions: a) Where has there been a significant increase or decrease in social and economic development over time (2005-2013) in Africa? b) Where has there been a significant increase or decrease in financial development over time (2000-2014) in Africa? c) Does level of financial development have a positive relationship with level of socio economic development in African nations?

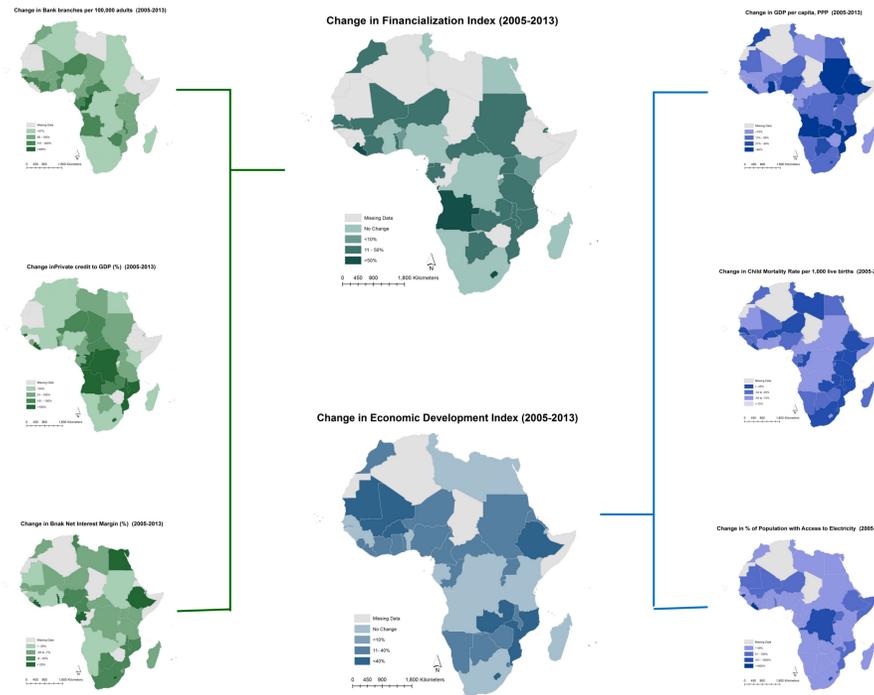
Methods:

To answer the spatial questions, this project develops two simple indices - a) financial development index, and b) economic development index - referred to as "Findex" and "Econdex" respectively from here on. In developing the Findex, three indicators for **depth** (% of private credit by deposit money banks and other financial institutions to GDP), **access** (bank branches per 100,000 adults) and **efficiency** (bank net interest margin) of the banking system in Africa was considered. Since, most African nations do not have developed capital markets yet, capital market indicators were not included in this study. Similarly, for Econdex, three indicators for countries **national income** (GDP per capita in Purchasing Power Parity, constant 2011 international \$), **health** (Mortality rate among under-5 children per 1,000 live births) and **living standard** (% of population with access to electricity) were considered.

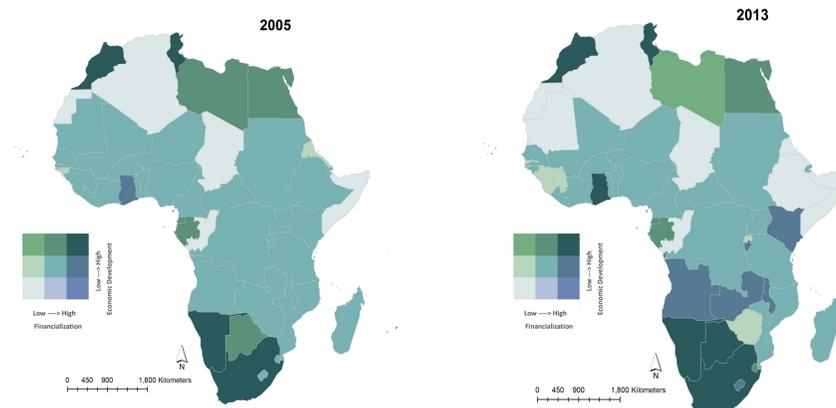


As we can see, on average, most indicators for finance and growth have improved for Africa as a continent over the last eight years, but one must be mindful of the enormous variation within the region. The next section illustrates how each of these indicators, along with overall financial development (Findex) and socio-economic development (Econdex) have changed in different African countries.

Changes in Financialization & Economic Development in Africa (2005-2013):

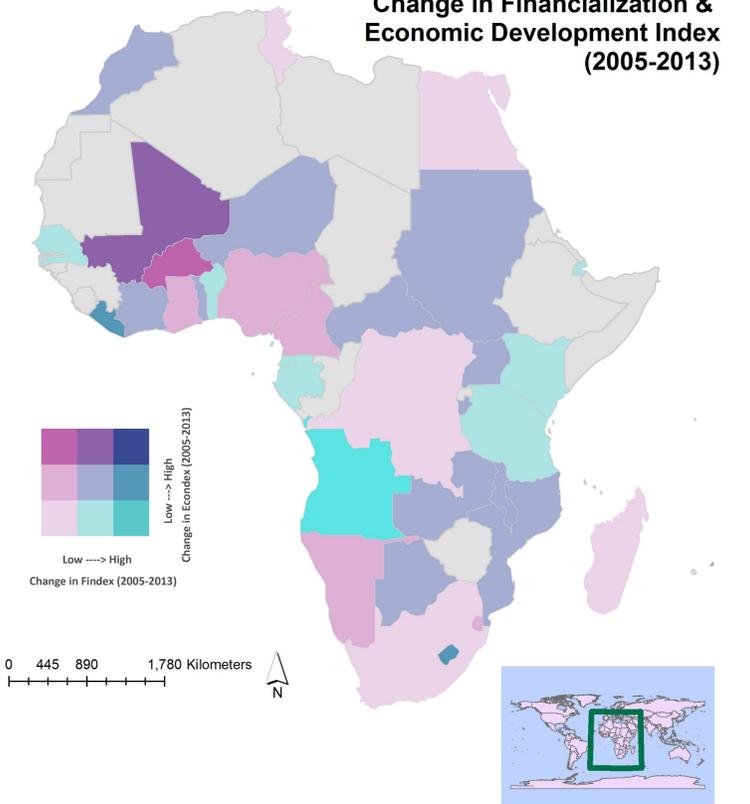


Financial & Economic Development Index



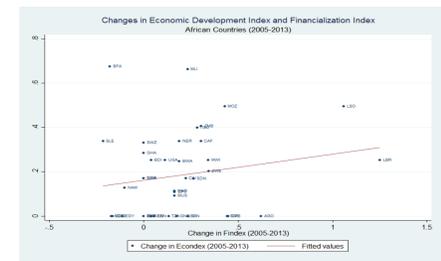
Using a bivariate choropleth mapping method, it is also possible to depict how much the high, medium and low levels of these two indicators correspond with each other for the two years (2005 and 2013).

Change in Financialization & Economic Development Index (2005-2013)



Finally, the changes (as ranked by low, medium and high) in composite indicators of finance and growth over the last decade is illustrated in the above map.

1 (low, high)	1 (med, high)	0 (high, high)
4 (low, med)	14 (med, med)	2 (high, med)
6 (low, low)	8 (med, low)	1 (high, low)



Conclusion:

As we can see, there seems to be a somewhat positive pattern in the relationship between changes in financial development and economic development. Most countries fall in the *low-low* (6) or *med-med* quadrants (8), which supports the hypothesis that finance and growth are positively related. Only one country (Angola) has achieved higher change in financial development but no change in economic development, while one other (Burkina Faso) had the opposite. The variation in patterns among the countries suggests that the most important thing to remember is, one size does not fit all. While it is helpful to discuss the commonalities and similar challenges across Africa, economists and global policy advocates must be mindful of the significant differences.

Map Projection: Africa Lambert Conformal Conic

Reference:

- Stevens, Josh. "Bivariate Choropleth Maps: A How-to Guide." (2015) Available at: <http://www.joshuastevens.net/cartography/make-a-bivariate-choropleth-map/>
- Cámara, Noelia, and David Tuesta. "Measuring Financial Inclusion: A Multidimensional Index." IMF Working Paper (2014)
- Thorsten Beck, Samuel Munzele Maimbo, Issa Faye, Thouraya Triki. "Financing Africa-Through the Crisis and Beyond." The World Bank, 2011

Data Sources:

- Global Financial Development Database and World Development Indicators, The World Bank . Accessed April 20, 2017. <http://databank.worldbank.org/data/reports.aspx?source=global-financial-development>

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