## Mapping the financial sector in Kenya

Kenya has been among the most frequently-cited countries in discussions of financial inclusion, especially surrounding the rise of mobile money. Given this rapid change, what types of financial services does someone in Kenya have access to today? Is there equal access throughout the country or is it concentrated or missing in certain areas? The Kenya Map of Financial Inclusion (Fig. 1) pulls together detailed location data from the main providers in the market to help zoom in from a broad look of the country to a more granular view of the local landscape.

Figure 1: Map of financial sector in Kenya
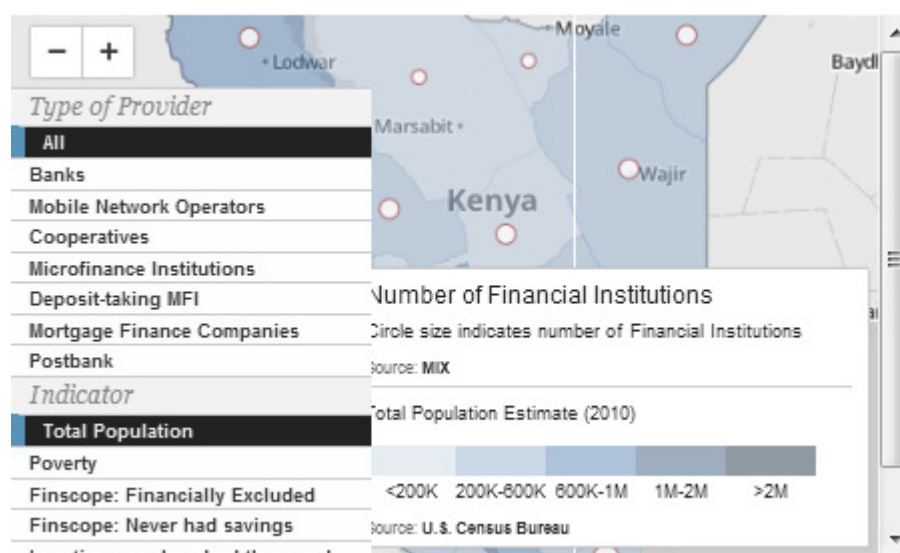
The Kenya map (one in a series including Nigeria, South Africa and Rwanda) links together several datasets, each of which can be accessed via the map or the Google Fusion Table database. The map visualizes the district-level distribution of bank branches, M-Pesa and banking agents, and microfinance institutions.

Data on bank branches comes from surveys carried out by FSD Kenya and the Central Bank of Kenya as part of the FinAccess 2009 study. The same bank branch data has also been incorporated into maps by the FSP program at the Bill and Melinda Gates Foundation, although this map is the first time the data has been released for public usage.

Data on branches and agents for the Kenya Post Office Savings Bank (KPOSB) come from KPOSB, with data geolocated by Reason & Skyll in Nairobi with support from World Savings Banks Institute (WSBI) in Brussels.

Data on savings and credit cooperatives (SACCOs) comes from the Kenya staff of the World Council of Credit Unions (WOCCU).

Data on the location of M-Pesa mobile banking agents and on the branches for some other financial institution have been collected using primary sources and web scraping. Listings for non-deposit-taking microfinance institutions come from the database of AMFI Kenya.[1] The map also displays data on savings products collected by the SPINNAKER project in a separate view. (To access this view, click on any a specific location 'bubble' on the map.) Data on savings products has been integrated with location information on providers to create a savings product landscape for the country. More on the SPINNAKER data can be found on their interactive infographic here.

Unlocking these datasets reveals unique insight. For instance, the CBK/FSD Kenya branch survey includes the dates when bank branches opened, and data on SACCOs includes dates when these institutions were founded. We also have similar annual trend data for MFI branch expansion from MIX Market and on the growth in agents from M-Pesa and KPOSB.

Using this time series data, figure 2 shows the last 100 years of development of the financial sector in Kenya.[2] Fifty years ago, a person in Kenya would have had access to just over one hundred bank branches and cooperatives each. Coverage would extend to parts of the country, but certainly not all. Within the last fifty years though, the number of cooperative has grown by more than thirty times, while there has been a seven-fold expansion in the number of bank branches. Much has changed for Kenyans, and cooperatives are playing an important role in meeting their financial needs.

---

[1] The astute reader will note discrepancies in the Safaricom data reported at various points in this article and on the map. The location information for the map is based on detailed agent listings for 17,000 agents, formerly hosted at: http://www.safaricom.co.ke/index.php?id=275. (An archived version can be found at: http://web.archive.org/web/20101107203710/http://www.safaricom.co.ke/index.php?id=275.) The current Safaricom pages do not provide any detailed listings or geographic information on agents: http://www.safaricom.co.ke/personal/m-pesa/m-pesa-agents. Given the high degree of penetration of M-Pesa services in the country, such detailed listings may seem unnecessary. The trend data featured later in the article reports much higher figures for M-Pesa agent outreach than in the map data - Safaricom provided regular reports on the growth of the agent network, reporting over 40,000 agents currently. As with the detailed agent listings, the statistics also could no longer be found on the Safaricom site at the time of publication.

[2] The long-term trend data relies on a few distinct sources and involves some estimates. The bank branch data from FSD Kenya / CBK has 'dates established' for 284 of the 999 branches in their database. We extrapolated from this data so that all branches had the same growth trend. The data on SACCOs is from the WOCCU database and covers the year established for 4166 of the 4179 of the SACCOs in the database. The database contains no start dates after 2004; in addition, 112 SACCOs are listed with start dates before 1910 - it is not clear if some of these are data entry errors, but we have left them as-is in this graph. An alternative view on these trends can be found here. The MFI branch data comes from MIX Market; it excludes banks and SACCOs covered elsewhere in the data and interpolates values where missing. Consequently, the overall trends should be read as indicative, rather than exact, outside of the most recent years.

Figure 2: Growth of financial sector infrastructure in Kenya - 1900 - 2011

Branch growth: banks, SACCOs and MFIs (1900 - present)
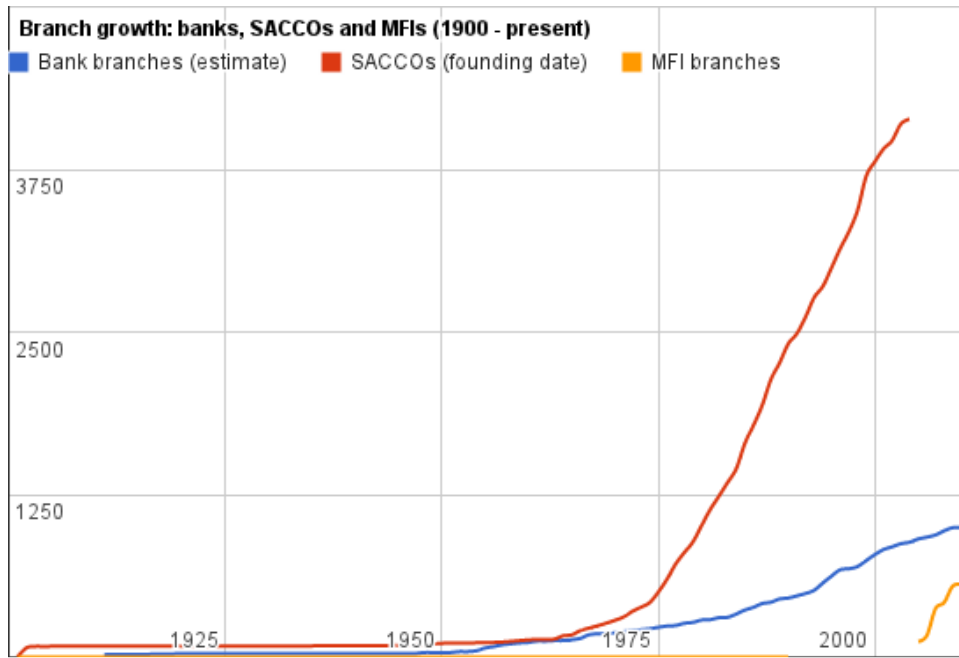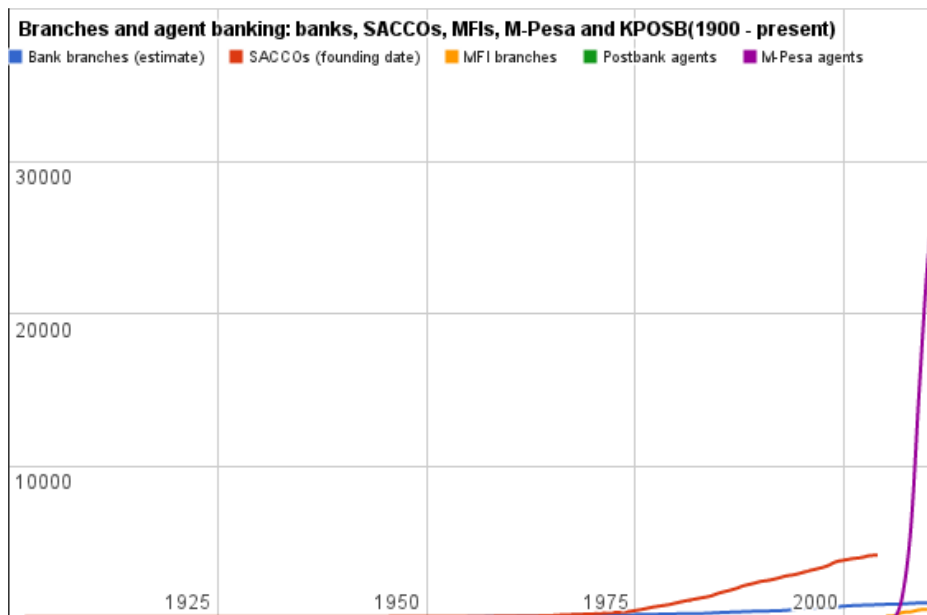■ Bank branches (estimate)   ■ SACCOs (founding date)   ■ MFI branches

Figure 3 adds in the rise of agent banking, and the growth is astounding - it completely dwarfs the historical growth in bricks-and-mortar infrastructure. There are now almost 40 M-Pesa agents in the country for every bank branch. If we draw these trends out for another 50 or 100 years what can we expect? An African Development Bank study claims that an increase in the velocity of money through use of M-Pesa may have lead to higher inflation. While CBK has disputed the influence of M-Pesa on inflation rates in Kenya, the AfDB believes we're only starting to learn about the impact of mobile financial services.

Figure 3: Growth of financial sector infrastructure and agents in Kenya - 1900 - 2011

Branches and agent banking: banks, SACCOs, MFIs, M-Pesa and KPOSB(1900 - present)
■ Bank branches (estimate)   ■ SACCOs (founding date)   ■ MFI branches   ■ Postbank agents   ■ M-Pesa agents

Mapping helps shed light on another aspect of this growth: who reaches the poor and where? Fortunately, the government of Kenya has also opened up a wealth of data on [poverty](#) and other factors on the [Open Data Kenya](#) platform to support this type of analysis. We can now see the landscape for poverty across 69 districts in Kenya and track financial service providers by these same locations. Figure 4 below shows the correlation between the number of points of service by district with the population living under the poverty line, disaggregated by district and type of provider. Since poverty rates are about twice as high outside the capital, those regions may be of more interest.

Figure 4: Providers and poverty levels by district
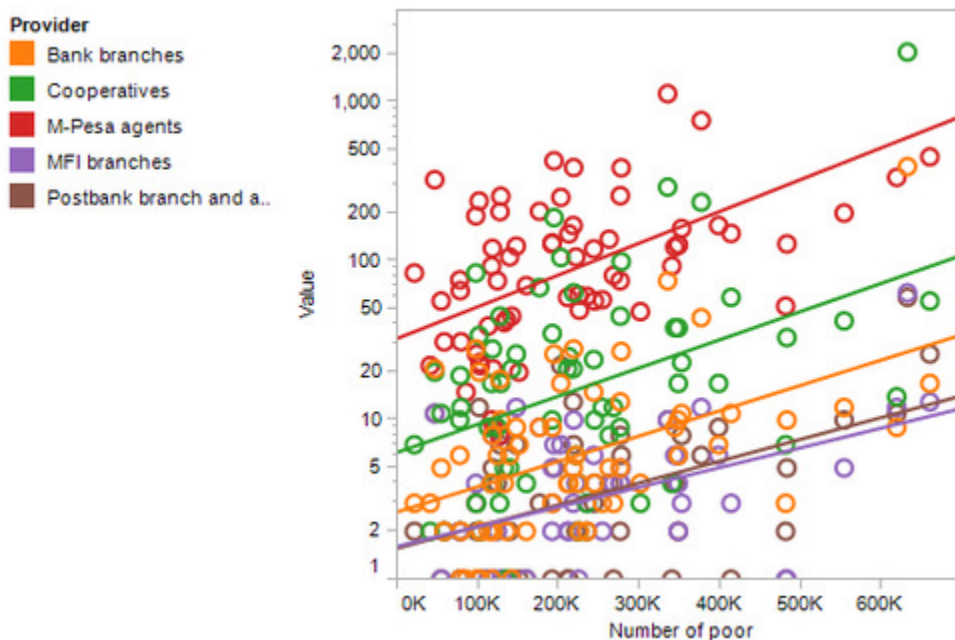
The graphs show that providers do have more locations in areas with more people living under the poverty line. Moreover, the relationship (the slope of the line) is about the same for each provider. No type of provider, not even microfinance institutions, differentiate themselves as substantially more or less likely to offer services in high-poverty areas.

A third dataset provides even more detail. We can link poverty data containing mapping data with data on savings products from the SPINNAKER platform. The SPINNAKER database has details on over 100 savings products offered in Kenya, including account opening fees, minimum balances and inactivity fees. Since we know the providers and the locations, we can see what kinds of options someone would have available. On the map, an integration with the SPINNAKER data can be found by clicking on any point in the map. For instance, the picture below shows the types of products and fees available to someone in the Nakuru district.

Figure 5: Savings products in Nakuru district
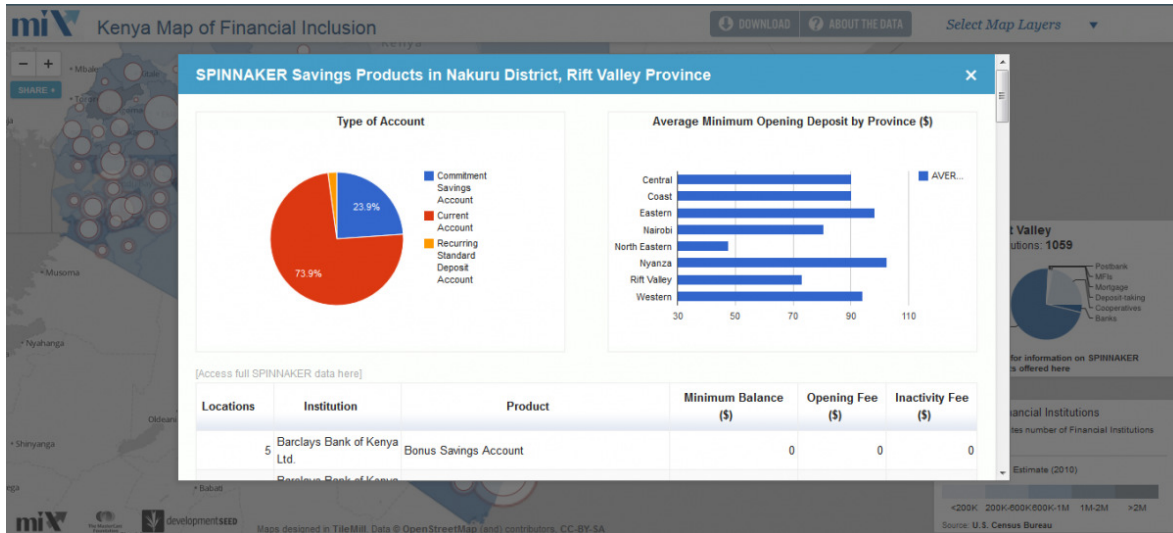
For the country as a whole, we can make the same tabulation of fees by location to see if there are clusters of high or low cost services. Identifying such locales is then one way to target product development by providers looking to reach the poor. Figure 6 and 7 then take this one step further to look at the same data on fees by district.

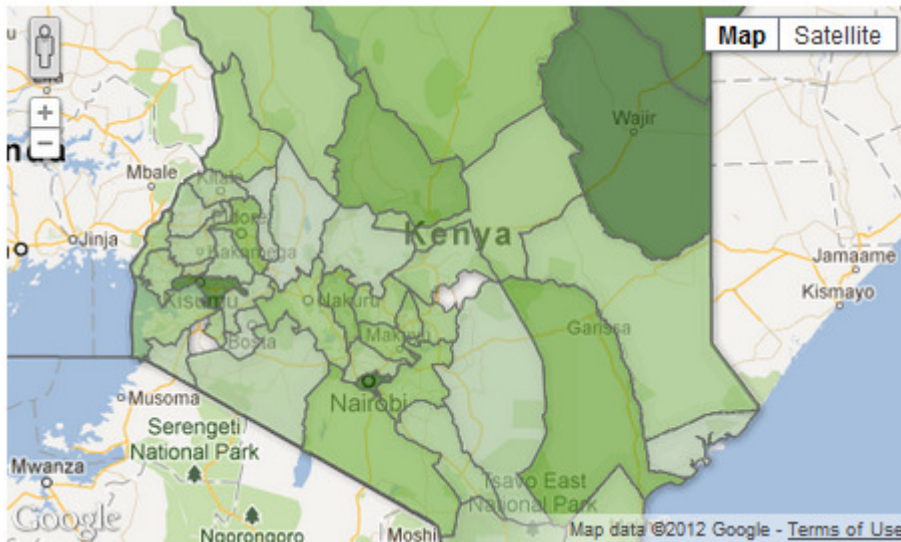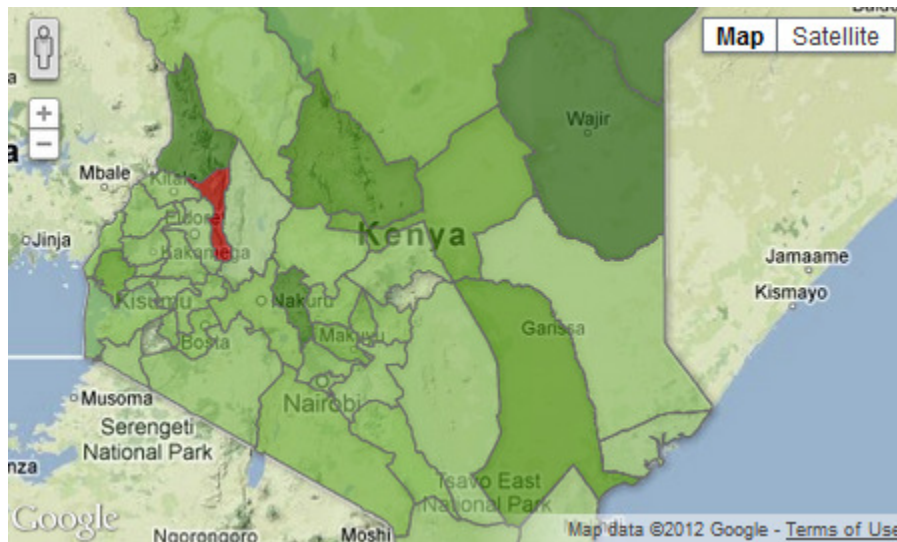*Figure 6: Opening fees for savings products by district*

Figure 7: Inactivity fees for savings products by district

This only covers some of what you can do with the data. Kenya's Map on Financial Inclusion contains a large amount of data that can lead to more interesting questions and insightful dialogue. Take a look and see what you can find!