Poor people's money: The politics of mobile money in Mexico and Kenya

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A B S T R A C T

The diffusion of mobile money (also mobile payments) has so far been uneven by country. While in Kenya upwards of 50 percent of the population uses mobile payments platforms, in Mexico the proportion is barely above 2 percent. Drawing on interviews and secondary sources, this paper finds that the actors and the politics surrounding diffusion are key to success. Specifically, regulatory capture sheds light on the extent to which a highly regulated financial sector may seek to protect itself from competition from the telecommunication sector via mobile payments regulation they advocate for and even help formulate. In Mexico, the bank-led regulatory model of mobile payments has limited the diffusion of the service to the unbanked population because of regulatory capture by the banking industry. In Kenya, by contrast, the Mobile Network Operator (MNO)-led model has resulted in much higher rates of diffusion and reflects the extent to which telecommunications firms have played a decisive role in designing the regulatory regime and the limiting the impact of financial industry capture in that country. The implications for policymaking and regulation are discussed.

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1. Introduction

In the Latin American and Caribbean and sub-Saharan Africa regions, over 80 percent of the population has access to mobile phones while 39 and 24 percent of the population, respectively, has access to financial services such as payments, savings, and credit (Demirgüç-Kunt & Klapper, 2012). In these countries, "bank accounts are for the well off", in spite of the fact that access to financial services are seen as a strategy for growth and development (CGAP, 2009, p. 13; Demirgüç-Kunt & Klapper, 2012). This is the promise of the technology known as mobile money or mobile payments.[1] Mobile money services allow the mobile phone users to send a payment via a text message (SMS) to an individual or a business phone number. This technology promises to make financial services available to the "financially excluded" in the most economically disadvantaged regions of the world without the expense involved in the diffusion of traditional banking. Because of the greater diffusion of mobile phones compared to access to traditional banking, there are efforts to offer mobile money services to a mass public in all regions of the world.

After the some of the failures of the Washington consensus, contemporary development scholars began to emphasize financial development and poverty reduction as part of a strategy for equitable development driven by "modest reforms and

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[1] Mobile money and mobile payments describe the same text money transfer service and the terms are used interchangeably throughout the paper. As explained below, this service is different from the one commonly referred to as Mobile Banking.

experimentation" (Rodrik, 2006, p. 974; Williamson, 2000). Among the international organizations that promote financial inclusion, the G20 established a Global Partnership for Financial Inclusion and more than 100 financial regulatory institutions have adopted the Maya Declaration of 2011. The latter promotes financial inclusion and was drafted by the Alliance for Financial Inclusion, a project funded by the Bill and Melinda Gates Foundation. The Consultative Group to Assist the Poor, created in 1995 and housed at the Word Bank, has directed its efforts around the objective of financial inclusion, and the United Nations promotes access to financial services via the Secretary General's Special Advocate for Inclusive Finance for Development (UNSGSA). A common theme in all of these efforts is financial inclusion via new communication technologies and specifically, via mobile phones, which have become the missing link for some development economists who see access to savings, payments and/or credit via these new technologies as a way to offer these services to "areas previously difficult to serve profitably" (CGAP, 2009, p. 13). Reflecting the importance of mobile payments as a strategy for financial inclusion, in 2014 the IMF began to report data on the number active mobile payments accounts in countries around the world (IMF Press Release, 2014).

While there have been important efforts to offer the services around the world, the diffusion has been uneven by country. In order to understand why the service has failed to diffuse in countries where the need is evident, this paper compares the cases Kenya and Mexico. These are both countries in which access to traditional financial services is relatively low, and mobile phone diffusion and "latent demand" for financial services is high, making them ideal markets for mobile money services. A review of the development of mobile payments in these two countries reveals that, while it has made important inroads, in Mexico the service has been significantly slower to take off, whereas in Kenya it has exploded at a dizzying rate. By way of comparison, two years after the national launch of the service in each country 22 percent of the population in Kenya used mobile payments and less than one percent did so in Mexico. Three years after the service was launched in each country, 40 percent of Kenyans were users compared to 2.2 percent of Mexicans (see Table 1). The difference in the diffusion of mobile money services is a function of the different regulatory paths taken by Kenya and Mexico, which are, in turn, a function of the level of *regulatory capture* by the banking industry. Regulatory capture sheds light on the extent to which existing regulated industries are able to fend off competitors via regulation they advocate for and even help formulate.

Mobile money regulatory paths are exemplified by two different models: the Mobile Network Operator (MNO)-led model and the bank-led model. The most important difference between these two models is that in the former, mobile payment providers do not have to follow the same regulatory requirements that banks follow when they take deposits or conduct deposit-related functions. In the bank-led model, mobile service providers are obligated to work in conjunction with a bank and as a result, the service is subject to the pre-existing oversight of the country's financial regulators. There are important consequences to the model adopted to facilitate mobile money. The bank-led model appears less dynamic and less likely to stimulate the rapid growth of mobile money because of the regulatory obstacles but also because banks, which are the primary drivers under this model, are not necessarily interested in servicing the banking needs of the poor (Platt, 2011; Wright & Shivshankar, 2011). If the promise of mobile money is that it makes financial services available to the financial excluded, what explains a country's adoption of the more restrictive bank-lend model as opposed to a more promising mobile MNO-led model? To answer this question this paper discusses the factors that are conducive to the adoption of the bank-led model, exemplified by the Mexican case, and of the MNO-led model, exemplified by the Kenyan experience. It is argued that, paradoxically, a relatively lax banking regulatory regime (which is normally seen to cater to the interests of banks) makes it less likely that the government will be *captured* by the banks it regulates and it will be less likely to protect the interests of the banking industry by insisting on a bank-led model of mobile money. A stronger financial regulatory regime will make it more likely that the banking industry will be able to fend off the potential competition from telecommunication firms by insisting on regulation that will ultimately make it more difficult for the mobile-money service for the unbanked to takeoff. The type of mobile money regulatory regime is thus explained by the political relationship between banks and the country's financial regulators and the extent to which is characterized by regulatory capture.

Table 1
Mobile payment users by country.
Source: IMF Financial Access Survey and author's calculations.

Year	Mexico		Kenya	
	# Of users	% Of population	# Of users	% Of population
2013	2,699,378	2.2	25,326,333	57.1
2012	883,657	.73	21,060,000	48.7
2011	247,473	.20	19,191,000	45.6
2010	–	–	16,446,300	40.2
2009	–	–	8,882,580	22.3
2008	–	–	5,082,470	13.1
2007	–	–	1,345,270	3.56

Note: The service was effectively launched in Kenya in 2007 and in Mexico in 2010.
–=No data reported.

This study is organized as follows. The analysis begins with a review the literature on regulatory capture and how it provides the context for understanding the kind of mobile money regulatory model adopted. The third section reviews the conditions necessary for the emergence of mobile money services to illustrate how both Mexico and Kenya meet these criteria, except for the difference in regulatory models. The fourth and fifth sections examine the cases of Mexico and Kenya in detail, paying close attention to the evolution of the different regulatory frameworks and advancing the case that regulatory capture offers a compelling explanation for the different mobile money regulatory models and strikingly dissimilar rates of mobile money diffusion in each country.

This paper employs a process-tracing, qualitative methodology to compare two cases over time (Collier, 2011). Mexico and Kenya vary on the dependent variable, rates of mobile money diffusion, but also represent most different cases (Seawright & Gerring, 2008). Specifically, Kenya and to a slightly lesser extent Mexico, are extreme cases, which allow us to explore the causal factor or factors that contribute to our understanding of diverse outcomes when it comes to the growth of mobile payments. Data collection includes primary sources such an interviews, government documents, and media reports as well as secondary sources.

2. Regulatory capture and the diffusion of mobile money services

This paper highlights the importance of political factors for our understanding the adoption of the MNO-led model versus the bank-led model of mobile money services. The findings suggest that a regulatory capture framework explains the regulatory model adopted for the provision of mobile money services. Economists have noted that an extensive regulatory regime is likely to engender a close relationship between regulator and regulated industry. This relationship is commonly referred to as regulatory capture and could interfere with the growth of competitive industries (Hardy, 2006; Stigler, 1971). In "Theory of Economic Regulation," Sitgler explained that "as a rule, regulation is acquired by the industry and is designed and operated primarily for its benefit" (Stigler, 1971, p. 3). He explained the dynamics of the relationship between regulator and regulated industry using the example of the regulation of the U.S. trucking industry in the 1930s. Initially, the industry was confined to the cities, but as truck capacity and roads improved, the extensively regulated railroad industry took notice of the potential competition and was the catalyst for the states' regulation of trucks' weight and dimension. This is not to say that the regulation of the new, competitive industry may not be appropriate or necessary, but that an important catalyst for the regulation of an emerging industry may be regulators acting on the behalf of a regulated industry that is trying to fend off new, potential competitors.

Bank regulators are particularly vulnerable to regulatory capture primarily because the banking industry is one of the most highly regulated industries in the world. As Hardy explains:

> Even in less developed countries, banks are subject to numerous regulations and an elaborate system of on-site and off-site supervision. Major banks typically have supervisors working on their premises at all times. Elaborate regulations are typically imposed also on other components of the financial system. The direct costs of complying with regulations can constitute a significant share of financial institutions' operating costs (Hardy, 2006, p. 3).

Moreover, the banking industry is generally made up of a number of large banks that are "well connected … and have access to channels of influence" (Hardy, 2006, 4). In the case of emerging economies, most of the largest banks maybe foreign and bring with them experience in the way in which they interact with the regulators in their home country. The question is why would banks support regulation of their own industry, even though it might be costly? They support it in part because it is a way of increasing entry barriers and controlling the number of competitors (Hardy, 2006). This is not to say that "regulatory capture is an all-or-nothing affair … in a world where capture varies, it seems very likely that some regulatory systems have done a better job than others at resisting it" (Carpenter & Moss, 2013, 453). At a minimum, however, for regulatory capture to occur, the relationship between the regulator and the regulated is close primarily because of the existence of regulation. The absence of strong regulation precludes the development of regulatory capture by an industry.

From the perspective of the financial industry, mobile payment services offered by the telecommunications industry threaten the monopoly of financial services offered by commercial banks. If there is regulatory capture, that is, if the relationship between the central bank and bank regulators and the banking industry close, we will expect banks to endeavor to prevent mobile providers from offering the service independently and only using the banks as trustees of the mobile provider account, thereby bypassing financial regulation. In extreme cases, efforts by telecommunications firms to offer mobile payments services at all may be effectively blocked by regulatory agencies. In Sri Lanka, for example, the central bank refused to even meet with mobile phone providers (Solin, 2011). In this case, mobile banking services will likely be offered by existing banks to existing bank costumers with bank accounts, while mobile payments using more simpler phone technology will be slower to takeoff. Banks will continue to offer their services to the banked customers and simultaneously prevent mobile providers from offering the services to non-banked customers. If bank regulators are willing to work with the mobile operators, banks may still be in a position to demand that the mobile operator is regulated and required to work closely with a bank or banks. The behavior of banks in puzzling to some mobile operators, because the former have made no effort to service the very same clients from the lower end of economic strata that the mobile payments operations target

Table 2
Variables explaining diffusion of mobile payment services: Mexico and Kenya.

	Mexico	Kenya
Financial alternatives	Low levels of financial access measured by the number of bank accounts and geographical access and proximity to bank branch or automated teller machines.	Low levels of financial access measured by the number of bank accounts and geographical access and proximity to bank branch or automated teller machines.
Mobile phone diffusion	High Mobile Phone Subscription Rates	High Mobile Phone Subscription Rates
Latent demand for financial services	International and Domestic Remittances are an important source of income for Mexican households.	International and Domestic Remittances are an important source of income for Kenyan households.
Regulation	*Regulatory Capture* by banks at the time of program launch results in a Bank-Led Model of Mobile Payments.	Absence of *Regulatory Capture* by banks at the time of program launch results in Provider-Led Model of Mobile Payments.

(Daly, 2011). However, while it seems that for mobile operators offering mobile payments does not significantly alter their balance sheet, banks are ultimately protecting what is essentially their core business. The World Bank has noted that the bank-led model that seems to be increasingly favored by governments has probably contributed to the slower growth of mobile money, but offers not explanation as to why the bank-led model is favored (Demirgüç-Kunt & Klapper, 2012). As we shall see below, Kenya and Mexico are ideal markets for the development of mobile payments, except for the differences in regulatory paths, which are a function of the occurrence of regulatory capture in the latter.

3. Mobile money: explanatory variables

The variables that make it likely that mobile money will develop as an important alternative for financial inclusion consist of the following: first, there has to be a lack of the kinds of financial alternatives that exist in developed countries; second, there must be high rates of mobile phone diffusion; third, there must be a latent demand for financial services; and fourth, the regulatory environment needs to facilitate the supply side of the market while taking into account the possible risks involved when a technological innovation is introduced (Heyer & Mas, 2011; Flores-Roux & Mariscal, 2010). Mexico and Kenya have important similarities in terms of potential for mobile banking, however, the regulatory environment has proven to be and important barrier in the case of Mexico and an important catalysis in the case of Kenya (see Table 2).

3.1. Financial alternatives

Generally speaking, access to financial services is greater in the developed world but there is also significant variation within regions (see Table 3). On average, 89 percent of population in high income OECD and non-OECD countries have an account at a formal financial institution, compared to 39 percent in Latin America and the Caribbean and 24 percent in sub-Saharan Africa and 55 percent in East Asia and Pacific Region (Demirgüç-Kunt & Klapper, 2012, 11). In the case of Kenya only 33 percent of the population reports having an account at a formal financial institution and in the case of Mexico the figure is 18.7 percent (Demirgüç-Kunt & Klapper, 2012, 51). Another important indicator of financial access measures geographical access and proximity to a bank branch or automated teller machines (ATMs). In high income countries such as France and Spain, for example, there are over 35 bank branches per 100,000 adults, over 100 ATMS per 100,000 adults, and over 90 ATMs per 1000 km^2. By contrast Kenya and Mexico have less than 16 bank branches per 100,000 adults. Mexico (48) has more ATMs per 100,000 than Kenya (9). With 22 ATMs per 1000 km^2 Mexico has more than Kenya's which only has 4, but both countries have significantly less than the likes of France and Spain. In terms of use of financial services, a survey conducted by the World Banks's Global Financial Inclusion Project, the single most important reason respondents gave for not having a formal bank account was that they simply did not have "enough money" (65%); followed by "too expensive" (25%); "family member already has a bank account" (23%) and "too far away" (20%) (Demirgüç-Kunt & Klapper, 2012, p. 3). However, respondents in Sub-Saharan Africa and Latin America and the Caribbean cited "missing documentation" as the primary reason for not having a formal account. For these developing economies in which financial access for the poor is largely lacking, mobile money services offer an alternative avenue to engage in financial transactions and a relatively low cost; but in order for the service to take off, mobile phones need to be readily accessible.

3.2. Mobile phone diffusion

Contrasting the access to financial services in the developing world, mobile phones have diffused at a more rapid rate, even faster than the Internet (see Table 3). And while high income OECD countries have, on average, higher levels of mobile phone penetration, the rates for Latin America and the Caribbean and sub-Saharan Africa are significantly higher than rates for access to financial services. In Kenya, mobile phone subscription rates are 71 percent of the population while in Mexico it is 86 percent (The World Bank, 2013), much higher than rates of access to financial services. The expansion of mobile payment services thus offers an important alternative that could transform access to financial services in developing

Table 3
Access to financial services and mobile phone and Internet diffusion: sample countries (2013).
Sources: IMF Financial Access Survey; World Bank; Demirgüç-Kunt and Klapper (2012).

Country	Commercial bank branches/100,000 adults	ATMs/100,000 adults	ATMs/1000 km^2	% Mobile phones subscribers	% Internet users
Algeria	5.12	6.57	0.77	102	16.5
Brazil	47.70	130.74	23.16	135	51.6
Botswana	9.34	29.38	0.69	161	15.0
Canada	24.41	222.82	7.15	78	85.8
Chile	17.17	64.50	11.91	134	66.5
China	7.85	46.94	55.75	89	45.8
Colombia	146.85	39.84	12.33	104	51.7
Egypt	4.87	11.69	6.52	122	49.6
France	38.71	109.17	107.04	98	81.9
Germany	13.90	116.17	237.00	119	84.0
Guatemala	38.03	34.94	29.12	140	19.7
Jordan	20.33	32.20	15.09	142	44.2
Kenya	5.57	9.99	4.37	71	39.0
Korea	18.41	290.03	1265.79	111	84.8
Mexico	15.32	48.35	21.34	86	43.5
Morocco	24.42	25.11	13.20	129	56.0
Peru	88.36	38.65	6.41	98	39.2
Poland	32.53	57.64	62.15	113	62.8
Philippines	8.63	22.95	48.73	105	37.0
Russian Fed.	38.39	155.55	11.53	153	61.4
South Africa	10.34	61.88	18.40	147	48.9
Spain	74.48	118.60	93.19	107	71.6
Tanzania	2.56	5.79	1.72	56	4.4
Tunisia	18.35	23.59	12.56	93	43.8
U.K.	22.24	126.84	273.36	124	89.8
U.S.	35.73	173.08	46.46	96	84.2

Financial data for the U.K. is from 2012 and from the U.S. from 2009.
– =Not available.

countries where mobile phones are ubiquitous. To engage in mobile payment, a user does not need access to smart technology or need to have a mobile phone with broadband access. This is an important distinction because the efforts to provide mobile banking are not the same as the efforts to provide mobile money.

To some extent, the financial services offered via mobile banking are no different than those offered by traditional banks. Mobile banking allows the bank client to access their bank account, transfer funds, locate branches and ATMs and in some cases pay bills via a web browser or text messaging. Mobile payment services allow the mobile phone user to send a payment via text message (SMS) to an individual or a business phone number or make long a distance payment. Thus, while a bank may offer clients mobile money services, an individual does not necessarily need to have a bank account in order to engage in mobile payments. Because of its high costs, the developed world is more likely to have access to the Internet via mobile phones and to the wide variety of services offered by banks. In most OECD countries, for example, mobile broadband outnumbers fixed broadband (OECD, 2012). By contrast, in developing countries people are less likely to have access to the smart technology due to higher costs of phones and/or lack of know-how. The regulatory dilemma is whether or not to treat mobile money as mobile banking, and require mobile money users to open a bank account and provide the same documentation they would be required by a bank, when the benefits of mobile money are that users can take advantage of the service at a lower cost with the technology they already possess.

3.3. Latent demand

In addition to the lack of financial alternatives, and high rates of mobile phone diffusion, another important consideration for the opportunity of mobile money to develop is the latent demand for financial services (Heyer & Mas, 2011). As noted by Collins, Morduch, Rutherford, & Ruthven (2009) in *Portfolios of the Poor*, poor people already manage a large number of fairly complex financial transactions. They explain,

> the poor are as diverse a group of citizens as any other, but the one thing they have in common, the thing that defines them as poor, is that they don't have much money. If you're poor, managing your money well is absolutely central to your life – perhaps more so than for any other group (Collins, Morduch, Rutherford, & Ruthven, 2009, p. 4)

Thus, it may very well be that there is greater demand for reliable financial management tools from the poor than from any other group in society. One specific example of latent demand for mobile services is in countries where remittances are an important source of household income. Like mobile payments, remittances have become an important source of financial support and people rely on all sorts of methods to get the money to their families. International remittances can represent as much as 30% of a small country's GDP. International remittances represented 1.8 percent and 2.4 percent of the GDP of

Mexico (2013) and Kenya (2012), respectively (World Bank Data, n.d.). Mexico is the third largest recipient of cross-border remittances, behind China and India. However, sending money abroad can be expensive, especially if there is no efficient domestic infrastructure that facilitates the receipt of remittances

Moreover, while international remittances are an important source of income for many developing economies, the fact is that "a far greater number [of people] migrate from rural to urban areas within their own country" (Shroff, 2009, p. 2–3). The World Bank does not have comparable data for domestic remittances, but a survey conducted by Latin American Center for Monetary Studies found that about 14 percent of the Mexican population in 2010 were internal migrants and of those between three to four million are likely to send money to families or friends living in a different city anywhere between 12 and 17 times a year. That means that, at a minimum, between 11 and 15 percent of Mexican families were likely to be recipients of internal remittances (CEMLA, 2012). A study conducted by Gallup in 2011 found that in Sub-Saharan Africa over 30 percent "of adults received money from family members or friends living in a different city of their country in the 30 days before the survey" compared to 4 percent of adults who received money from abroad (Gallup, 2012, p. 1). In the case of Kenya 59 percent of adults received money from domestic sources compared to 4 percent from international sources (Gallup, 2012, p. 2). Without access to banks branches, ATMs or mobile payments, the rural recipients have to travel to a city or post office and back to the village; "[a process that] could take over a week." Alternatively, they may have to trust and pay someone else to serve as a carrier (Morawczynski & Pickens, 2009, p. 3). Thus, with regard to latent demand, there is little question that poor people who already engage in numerous financial transactions would want to make use of a service that is relatively cheap and secure. The question is then, how easy or difficult it is for potential users to adopt the service and that is when regulation factors in.

3.4. Regulation

When it comes to mobile money, it has been noted that regulation is a double-edged sword. Too much regulation can stifle innovation while too little regulation can be risky. Regulation can increase consumer confidence but too many hurdles can make the innovation less attractive. As explained above, in the bank-led model, mobile service providers are obligated to work in conjunction with a bank and the service is subject to the oversight of the country's financial regulator. The banking industry is less likely to submit to a mobile provider-led model because it believes that it gives a competitive advantage to mobile payment providers who are not subject to financial regulation promoted by the intergovernmental Financial Action Task Force such as Know-Your-Customer (KYC) and Anti-Money-Laundering (AML) requirements and more recently Combating the Financing of Terrorism (CFT) guidelines. By contrast, the telecommunications industry is less likely to support a bank-led model because it limits their freedom to innovate and offer the service free of financial regulatory restrictions. Mobile service providers also argue that they are offering a new service to poor customers, which have been largely ignored by banks in rich and poor countries alike. Thus, the argument goes that in order to increase access to financial a service, the solution is not to expand the formal banking sector because they are more likely to service the well-to-do (Kendall, 2012). The type of regulatory model adopted has an impact on the diffusion of the service because the profitability of mobile money for mobile service providers rests on the volume of business; that is, being able to charge relatively poor customers very little for a many of transactions, and in some cases, regardless of the amount. From their perspective, too much regulation compromises the volume and potential profits of offering the service because they make it more expensive to use and more cumbersome to sign up for. They argue that the concerns about money laundering and fraud raised by the banks are misguided because amounts of money being transacted are "very small" (Solin, 2011). By contrast, banks do not make money from offering services to poor people. Other than preventing mobile service providers from offering the services, banks gain very little by being the primary driver of mobile payments and are in fact less likely spend time and money helping advocating its use and teaching customers how to use it (Solin, 2011). Thus the goals of banking the unbanked are compromised when the regulatory model of mobile money is bank-led as opposed to MNO-led.

4. Mexico's bank-led model

Reform of the telecommunications industry in Mexico occurred in the 1990s when the country began a process of liberalization and it opened national and long distance services to competition. However, the Mexican telecommunication regulatory body, the Secretariat of Communications and Transportation (SCT) granted Telcel a license to operate in all of the nine regional markets, while other competitors were each granted a license to operate in one regional market. Over time, the mobile phone market, which began with nine competitors, became dominated by Telcel, with 75 percent of the market and Telefónica Movistar (owned by Spanish Telefónica), with 14 percent. By all accounts, Telcel became the dominant player in the market largely thanks to a favorable regulatory regime (Aceves, 2013; Vargas-Hernández, 2014).

In 2008 the company decided to work with banks in order to offer mobile banking but also mobile money services. Telcel joined forces with Banamex (U.S. Citigroup) to work on a mobile payments initiative that worked with SMS, but only for account holders of Banamex (El Economista, 2008). Because the service did not require clients to access the Internet in order to conduct financial transactions it was clearly not a mobile banking system. When the service was launched in the 2009, Banamex explained that 75 percent of its clients were also Telcel's clients, and those shared clients was "their target market" (Mejía, 2009). Movistar and Lusacell (third largest wireless company) had also launched a mobile banking initiative in

conjunction with other banks, such as BBVA Bancomer (Spanish), Banca Mifel, HSBC Bank Mexico (U.K.), Santander (Spanish), ect., and also Banamex. The project, called Nipper, and also geared to existing bank clients, failed. By all accounts, the service failed primarily because Telcel was not interested in participating in this initiative. Still by this time, most of these banks already offered mobile banking services to their clients (Alba & AFI., 2009). In 2011, Telcel announced its alliance with BBVA Bancomer, the largest bank in Mexico, to offer mobile payment services to the bank's clients but also to new formerly unbanked clients. From the perspective of BBVA, it was important to be able to offer mobile payment services to bank clients who were also clients of Telcel, as opposed to only being able to offer financial services via the Internet and smartphone technology; the bank estimated that about 80 percent of bank clients were also Telcel customers (El Economista, 2011a). Telefónica Movistar also announced an alliance with MasterCard to offer mobile payment services (El Economista, 2011b).

As explained below, these alliances with the banks show that while telecommunication companies were trying to convince the Mexican government to allow them to offer mobile payment services directly to their clients, they had also formed alliances with the Mexican banks in order to also reach the existing bank clients. The he announcement of these alliances underscored that the services would also be opened to the unbanked, but it was evident that unless users opened a bank account and became a bank client, it would be impossible to take advantage of these services. From the perspective of the client with a smart phone and a bank account, they could make financial transactions via the bank's internet platform without the direct involvement of the telecommunication provider or via SMS.

When telecommunication firms asked the Mexican regulatory agencies for permission to offer mobile banking services, they encountered strong opposition from a savvy banking industry that had recently become dominated by foreign banks. In 1982, the Mexican government nationalized the industry in order to limit the exodus of capital as a result of the international debt crisis. By 1992 the baking system became wholly privatized once gain, followed by a bailout in 1995. As a result of these crises the Mexican financial system has emerged as highly regulated. In the case of AML and KYC regulatory standards recommended by the intergovernmental Financial Stability Board, Mexico met many of them since its membership in 2000. Currently, foreign banks' share of the Mexican commercial bank market is over 70 percent (Haber & Musacchio, 2013, 86). According to Haber and Musacchio (2013, p. 2), "no other country in the world has the penetration of foreign banks been as rapid or as far-reaching as in Mexico". In 2008, the telecommunications companies approached one of the Mexican regulators, the Secretariat of Finance and Public Credit, about mobile banking. Spanish-owned Telefónica was one of the most active companies to lobby the government, even hiring a former Secretary of Finance to lead the effort. However, by all accounts, the Mexican government insisted that they needed to consult with the banking industry, specifically explaining that "Mexico is a democracy" and such consultations are part of the transparency required (SFPC, 2011). It was clear from the discussions that if telecommunications companies wanted to offer mobile payments services, they would, in effect operate as banks when they were not, and that would not be possible (SFPC, 2011). Moreover, as explained above, many of the largest Mexican banks were already in the business of offering mobile banking services and even mobile payment services, though provided that the users already had a bank account (Bills, 2008). At one point, Telefónica was even offered a banking license, which it promptly refused. It worth noting that from the perspective of the government, it is easier to offer a banking license that to come up with a new regulatory regime tailored to the combined preferences of the telecommunication industry and the banking industry, because banking regulation already exists. From the perspective of telecommunications companies, changing its business model to operate a bank to offer the mobile is and extremely expensive proposition because of the regulatory requisites, but also because it would place them in direct competitions with one of their biggest clients, the banking industry (Martín, 2015).

Finally, in 2010, the National Banking and Securities Commission, the Bank of Mexico and the Secretariat of Finance and Public Credit drafted regulation that resulted in a decidedly bank-led model of mobile payments. The Mexican government's decision was based on a strict definition of what is a deposit and how it should be subject to pre-existing financial oversight. As explained in an BBVA working paper,

> the process of gathering funds to associate them with a mobile phone is considered a *deposit,* and given that in Mexico, fund-gathering is restricted to financial entities authorized to that effect, *the associated business models should be strictly run by banking institutions.* Therefore, only authorized financial entities can participate as suppliers in the mobile financial services market, such that only mere adjustment need[ed] to be made to the financial regulations, and not to those for telecommunications, in order to permit operations with these new schemes (emphasis added) (López-Moctezuma & Samaniego (2012) as cited in Alonso, Fernandez de Lis, Hoyo, López-Moctezuma, and Tuesta, 2013)

The new regulation allowed for the creation of "simplified accounts or low-risk accounts" that relaxed the AML requirements to facilitate the opening of accounts tied to mobile phones. Identification requirements are a function of the type of account created, which is, in turn, a function of the size of the transactions. For example, the most basic simplified account does not require legal identifying documentation they are basically anonymous. The second level up, requires the user's full name, date of birth, gender, and home address. The identification requirements become more stringent as you move up the pyramid. It is worth noting that money transfers that exceed 70 UDIS (about 370 Mexican pesos or $25 US) require the recipient to open a deposit account. Established banks can open these simplified accounts or can name an agent (correspondent bank) or a niche bank can be created to administer the creation of these accounts. The latter have minimum

capital requirements, which are lower than for the established commercial banks. These agents are an important facilitator of mobile payment diffusion, but according to IMF data the creation of these authorized agents in Mexico has been slow. As of 2014, there were only 14 active agent outlets per 1000 km². The mobile-payment regulatory regime designed by the Mexican government in conjunction with the banks is extremely complicated and offers an important explanation for the slow diffusion of mobile payments. It also makes the banks, who are more likely to cater to their existing clients, the ones responsible for promoting the service (Huérfano, 2011). This is of course the market that was created by the regulatory regime. The regulatory obstacles in Mexico become even more apparent when compared with the Kenyan case.

5. Kenya's mobile network operator-led model

The banking industry in Kenya, at the time when mobile payment services began to be offered, could not be more different that the one in Mexico. While Kenya was one of the few African countries that refused to nationalize its financial industry at the time of independence, it still remained a relatively small and fragile banking sector (Upadhyaya, 2011). The first banks to have been established in Kenya during the colonial period remain dominant. However, relative to the banking industry in Mexico, Kenyan banking industry was subject to less regulation when mobile payments was first launched in 2007. Take for example, the Know-Your-Customer rules, in the case of Kenya such verification is difficult even today "due to a general absence of physical addresses for most Kenyans" (GPFI, 2011, p. 5). With regards to Anti-Money Laundering regulation, the Kenyan parliament passed a bill adopting a legal framework in 2009, long after mobile payments had been introduced in the country. In 2011, the Financial Action Task Force which monitors progress in this area continued to identify Kenya as a country "with strategic AML deficiencies" and 2012, regulation that would allow for the implementation of the legislative act had still not been drafted (KPMG, 2012; ALN Insight, 2010; GPFI, 2011, 7). It was only at the end of 2014 that Kenya was finally taken of Financial Action Task Force list of deficient countries (FATF, 2014). While it is difficult to quantify the degree of regulatory capture, it can only occur if the industry is highly regulated, leading the former to cater to the interests of the later. If regulation is relatively lax, the relationship between regulator and regulated is not a close one. In addition, as we saw in the case of Mexico, for regulatory capture to be observed, there needs to be some evidence that banks were involved in the regulatory process of mobile payments and that their interest were different from the interests of the telecommunication, but that was not the case in Kenya. While the Bank of Kenya was involved from the outset of the process, its behavior did not match the behavior of a regulator acting on behalf of the banking industry.

M-Pesa (or Mobile-Cash) was launched by Safaricom, of the Vodafone Group in 2007. The origins of the idea actually date to 2003 and a matching grant from the U.K. Department for International Development. The grant was awarded to the company that proposed the best project to improve access to financial services in the developing world. Because the idea originated with a telecommunications firm, Vodafone decided that existing software, designed around the needs and specifications of commercial banks, would not serve their needs and simply decided to "build their own services from scratch" (Hughes & Lonie, 2007, p. 83). Vodafone figured that because their target customer were the unbanked, "whatever we designed would need to operate in the absence of a consumer bank account. Therefore we needed to hold whatever real money was in the system in a bank somewhere on the customer's behalf" (Hughes & Lonie, 2007, p. 84). This is a very important difference between the Mexican and Kenyan model of mobile payments. In the former, the mobile phone customer has to open an bank account, whereas in Kenya, the mobile provider is the bank account holder and the money is "parked" in that bank account on behalf of the costumers. At no point in the process were mobile phone users be forced to open individual bank accounts.

The Vodafone designers then decided that the best way to test the service was to find mobile phone users that had clear financial services' needs and decided to pilot the program with a local microfinance institution, Faulu Kenya. They explain,

> Most of Faulu's customers repay a few dollars every week into the Faulu bank account. The normal process for doing this is to form groups of about 20 people who meet each week and submit cash to the group treasurer. He in turn takes the money to a local bank, accompanied by a suitable bodyguard of group members. This may involve a long bus journey to the nearest bank. The weekly loan repayment ritual is time-consuming, costly, and keeps people away from their businesses (Hughes & Lonie, 2007, p. 84).

It is important to note that at the time, microfinance transactions were not regulated by the Kenyan government. Moreover, while the Bank of Kenya was contacted prior to the launch of the pilot, it seems that it showed very little interests in the project. That still left unresolved the issue of how the money would be "deposited" to or "withdrawn" from the mobile phone account. The decision was made to use the Safaricom retail outlets which mobile phone users already had access to when they needed to buy prepaid airtime credit, phones, etc. These retail outlets are not owned by Safaricom, but by independent dealers who were happy to get the training and help test the M-Pesa service. In the end, not even the servers that would run the program be located at the bank where Safaricom would park the mobile money of its clients. The pilot was finally launched in 2005 with eight retail outlets and 500 microfinance bank clients who also received training. Within a few months Vodafone began to notice that mobile phone users were using M-Pesa for every day financial transactions, including paying back loans to individuals, businesses paying each other, depositing cash before traveling to another area of the country and withdrawing it within hours (Hughes & Lonie, 2007, 84–90). Also notable were "some of the

larger businesses using M-Pesa as a overnight safe because the banks closed before the agent shops" and M-Pesa costumers becoming "informal airtime resellers" (Hughes & Lonie, 2007, p. 90).

There was no doubt in the minds of Vodafone and Safaricom executives that the pilot had been a success and that it allowed telecommunications providers to offer a new service that could contribute to customer retention and new revenues (only the sender is charged a transaction fee). The next step was to launch the program nationally. Once again, the Bank of Kenya was approached and, while it seems that regulators showed more interest this time around, they raised no real objection to the national launch of the service. From the perspective of Vodafone and Safaricom, what they were proposing was truly innovative because at the time Kenyan banks did not even offer mobile banking services to their clients. That also meant that there was no existing regulation of e-money transactions (electronic transactions received legal recognition a year after the national launch of M-Pesa) and thus a diminished possibility of regulatory capture by the banks. The serviced was launched in March of 2007 and within a year M-Pesa had more clients than Kenyan banks had clients. Unhappy with what they perceived as new competition, some of these banks lobbied the Kenyan Minister of Finance to launch a probe of the service because they claimed that it was a pyramid scheme and the clients would loose their money in the long run. The Ministry launched an investigation in December 2008 and published its findings a month later. The government found that M-Pesa was safe and that, while in theory it competed with banks, it was targeting clients who did not have access to financial services and thus filling in an important gap (Kinyua, 2009). Today, Kenyans use mobile money services for all sorts of financial transactions and are now are even accessing savings and other financial services via text messages. The model remains a mobile provider-led model with four mobile money services companies: M-Pesa (Safaricom), Zap (Bharti Airtel), Orange Money (Orange) and YuCahs (Yu Mobile) and over 200 active agent outlets per 1000 km^2 (IMF, 2014).

6. Conclusion

Financial inclusion via mobile phones has become the missing link for development economists who see access to savings, payments and/or credit via this new technology as a way to offer these services to populations previously difficult to serve. This paper has reviewed the variables that drive the development of mobile payments in Kenya and Mexico and found they are ideal markets for mobile money services. Specifically, in Kenya and Mexico access to traditional financial services is relatively low, and mobile phone diffusion and latent demand for financial services is high. But, while the potential market for mobile payments is high, the rate of diffusion has been strikingly different across countries. In Kenya, over 50 percent of the population has a mobile payment account compared to a little over 2 percent in Mexico. The difference in the diffusion of mobile money services can be explained as a function of the type of regulatory model in place. An MNO-led model is more conducive to the diffusion of mobile payments than a bank-led model. These two models represent opposite regulatory extremes. In the MNO-led model, the service is run by the mobile phone service provider and operates largely independently of financial institutions, whereas in the bank-led model, the service is run primarily by financial institutions. What explains the decision to adopt an MNO-led model versus a bank-led model of mobile payments? This study finds that the type of regulatory regime is a function of the industry actors involved and their relationship to regulators. Specifically, the level of regulatory capture by banks explains the mobile payments model.

Regulatory capture occurs when there is a close relationship between the regulator and the regulated industry. The closeness of this relationship is, in turn, explained by the extent to which the industry is highly or lightly regulated. The occurrence of regulatory capture can interfere with the growth of competitive industries, because the regulator acts as the protector of the regulated industry. In the case of mobile payments, it is not that banks want to necessarily increase the size of the market by reaching out to the unbanked and poorer segments of the population, but that they want to prevent mobile operators from expanding into what banks see as their territory. In Mexico, the banks' relationship with the regulatory bodies was close, reflected in the level of compliance with international KYC and AML guidelines, and they were able to insert themselves into the regulatory-making process for mobile payments from the very beginning. By contrast, banks' relationships with the Kenyan regulatory bodies was not close, reflected in the country's lax compliance with international KYC and AML guidelines, and they were not able to interfere with the swift process that allowed for the mobile payments services to be launched. Kenyan banks tried to interfere after the program was launched, but by then the regulatory framework had already been established. The cases of Kenya and Mexico illustrate how the diffusion of mobile payments is to a large extent a political issue. Regulatory capture explains the type of regulatory model and the latter explains the likelihood of rapid diffusion of the service to the unbanked and financially excluded population. This is not say that the regulation that results from a captured environment is not necessary or prudent, but that allowing for involvement of the financial industry in the regulatory process may compromise the larger objectives of offering the service in the first place. These objectives are not compromised by the interests of the mobile service providers because they see a profit in expanding the number of low-cost services that they offer to their existing clients. As a rule, compliance with financial regulation makes the service more expensive and increases barriers to entry of telecommunication firms because it makes the service more costly and cumbersome to their clients.

Regulators can overcome regulatory capture when they see the needs of the vast majority of unbanked population as a key driver of policymaking, thus being more favorable towards new models and technologies. This seems to be the case in Bolivia, El Salvador, Guatemala, Honduras and Paraguay, where Tigo Money is offered by the Belgian firm, Milicom International. The service was first launched in Paraguay in 2008 with no regulatory constraints by the Bank of Paraguay or

financial regulators. Mobile phone users could automatically register for mobile payments (Tellez & McCarty, 2011). In the case of Brazil, recent regulation has largely been seen as a "setback for the powerful banking lobby," because non-banks may issue e-money that is not held as a bank deposit but parked in the Central Bank of Brazil (Mondato, 2014). By contrast in Colombia, the regulatory environment is similar to that of Mexico's. Uganda's regulatory guidelines are not strictly MNO-led but are less cumbersome than a strictly bank-led model. The country's mobile money guidelines require MNOs to partner with a bank but users do no have to open a separate account in order to make use of the services and mobile money is deposited in an escrow account, not individual bank accounts. In other cases, regulation has been formulated after the services were effectively offered. An example of this is the Philippines, the first country were the service was offered by Smart Money (2001) and G-Cash (2005). The former was offered as a remittance service in partnership with a bank, Banco d'Oro and the latter was launched by the MNO without a bank partner. These services were initially offered without any regulation and with the official acknowledgment that it signified a new area competition for the banks. Today, both the bank-led and MNO-led model coexist and the country is seen as an example of flexibility. Even after the regulatory landscape was defined, the Central of the Philippines has continued to adapt. For example, one requirement imposed by the Central Bank of the Philippines was that before getting permission to transact mobile money, agents would need to attend a seminar on AML/CFT, which were not widely available outside of the capital, Manila. This requirement has since been relaxed to allow MNOs to provide the training (Di Castri, 2013). Thus, there is no doubt that the world of mobile payments is not uniform, but a mosaic of diverse regulatory realities and variable degrees of regulatory capture with a determining impact on the use of this new technology.

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