

## MOBILE PAYMENTS FOR REMITTANCES IN LATIN AMERICA: BENCHMARKING WITH AFRICA

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Even though remittances to the Latin America and Caribbean (LAC) region are expected to slow down by around 6 percent in 2009 before recovering in 2010, their large recorded value of USD 63 billion in 2008 brings these flows to center stage as a source of growth in times of crisis. There is certainly much to be done if governments aim at having a proactive role in increasing the incentives for remittances. The so-called mobile payments, which make use of mobile technology, have the potential of becoming an essential tool for remittances. Firstly, while bank branches and cash machines account for merely 10 to 20 percent of the population in LAC on average, 80 percent in the region currently have a mobile phone. The key element of success of mobile payments is indeed the size of their distribution networks. Secondly, transaction costs of currently around 9 percent for USD 200, can be substantially reduced by increased competition and by the low capital and operational costs of mobile operators.

While mobile phone solutions are being used by banks in many LAC countries such as Brasil, Chile, Mexico and Argentina, these are mostly used to access bank information and only in very few cases to make payments (like Argentina and Colombia). Moreover, these solutions are directed at those users already having a bank account and hence are adding a new distribution channel to the traditional ones of bank branches and cash machines. The extent to which bank-led models do or do not fully integrate telecommunications solutions will define the nature of their future clients. Banks need to make use of the

size of mobile networks (or other large distribution networks such as supermarkets, lottery kiosks) to cash in and cash out payments if they are to access the unbancarised population on a large scale. On the other hand, in LAC there are also some recent mobile payment solutions which are solely telecommunications-driven (see Paraguay, Dominican Republic and Venezuela). In these cases, issues arise on the compliance with financial regulation in terms of anti-money laundering and combating financing terrorism (AML/CFT), the presence of non-banking correspondents and the blurring frontier between payments and deposits.

In mobile payments, mobile phone operators are essential actors in reaching the bulk of the population, and private initiatives are the norm. In contrast, mobile banking requires the presence of banks to locate deposits, and its feasibility remains an open question. As much as both banks and mobile operators identify mobile payments as profitable services, none of them are leading the scene in transforming mobile payments into deposits. Hence, while the major bottleneck for mobile payments is regulatory, for mobile banking the problem is the governments' ability and willingness to provide the adequate incentives for private entities to deliver these services.

### Why mobile payments?

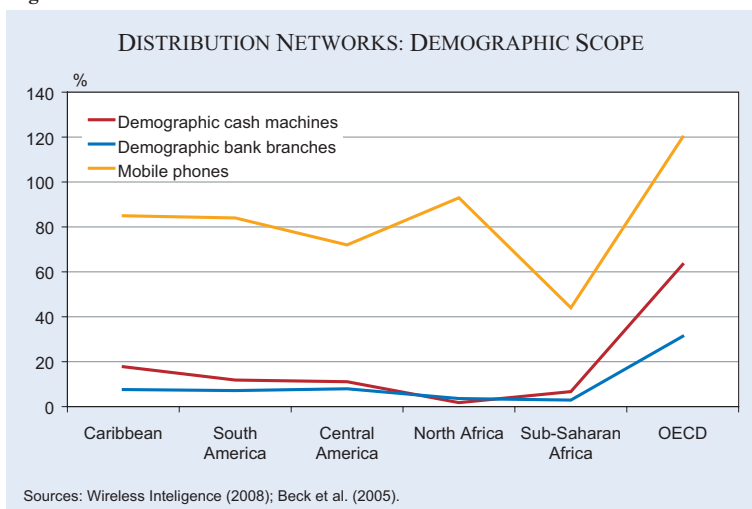
#### *Size of distribution networks*

The key success of mobile payments is the size of mobile phone operators' distribution networks. Indeed, mobile payments are more likely in those countries that have little access to bank branches and cash machines. Figures 1 and 2 show that across the entire Latin American region the penetration of these traditional payment systems averages just 10 percent. In the Caribbean countries, the penetration is slightly higher, at 20 percent in demographic terms (Figure 1) and 40 percent in geographic terms (Figure 2). And yet, the size of these networks is very much lower than that of mobile phone opera-



\* OECD. This paper represents only the author's views. It has substantially benefited from the research done at the OECD (2009a) and OECD (2009b) and from comments received during the ICTs for Development InfoDev-OECD Conference, Paris, 10-11 September 2009.

Figure 1



tors, which already reach around 80 percent of the population.

The comparison between Latin America and the Caribbean, on the one hand, and Sub-Saharan Africa, on the other, can provide us with some evidence on the potential scope of mobile payments in LAC. Sub-Saharan Africa is the region of the world where mobile payments had been deployed the most successfully by 2009. Mobile phones in this region are providing access to communication to around 40 percent of the population, while the number of bank branches and cash machines remains very low, at below 10 percent. The gap between the number of mobile phone users and the number of bank branches and cash machines is two times larger in Latin America and the Caribbean than in Sub-Saharan Africa, as we can see in Figures 1 and 2. We could therefore expect electronic payments to have a large

potential in the Latin American and Caribbean region.

Figure 1 shows that in OECD countries 6 out of 10 people have access to some traditional means of payment. In another perspective, Figure 2 shows that 90 percent of the countries' land area is covered by these services. This does not imply, however, that mobile payments are not used in this region. The large size of traditional payment networks in the OECD relative to LAC and Africa nevertheless leads to different business models of pay-

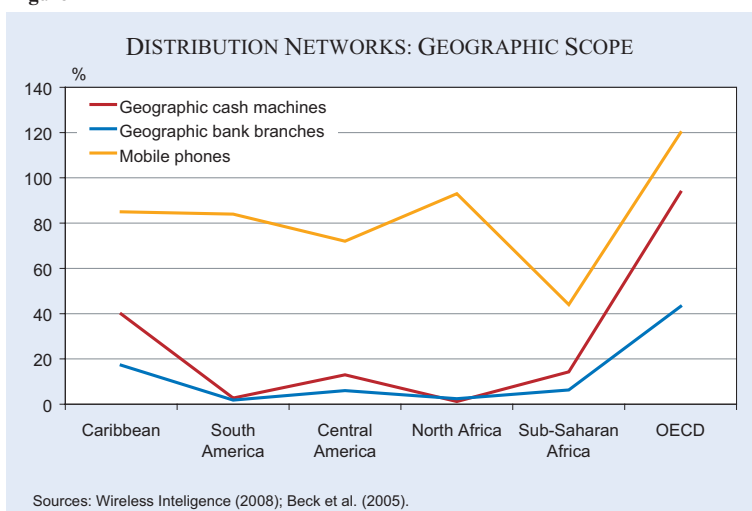
ments. In OECD countries mobile payments are used by people who are already bancarised as an additional channel through which they can access and operate their bank account. In Sub-Saharan Africa, mobile payments are mainly targeted at people who are not bancarised and do not necessarily imply bancarisation. Indeed, successful examples of mobile payments in Africa are led by mobile operators: M-Pesa in Kenya and MTN Mobile in South Africa.

In Latin American and Caribbean countries, for the time being, mobile payments have followed a business model close to practices in the OECD region, offering these services to people who already have a bank account. This type of mobile payment system is found in Argentina (Red Link), Colombia (Redeban Multicolor) and Mexico (Nipper). The use of mobile systems for payments is at an embryonic

stage when compared to the use of this technology for receiving alerts or accessing bank account information. Indeed, in terms of accessing bank information through mobile phones, Brazil has 474,000 users, Mexico 134,000 and Chile 87,000.

Some pioneer mobile solutions are being implemented for people not having previously been bancarised. For international payments, some initiatives are being launched: Spain and Ecuador (Halcash) and the United States and Colombia (Celexpress). However, in these two

Figure 2



cases, the mobile contribution is not being fully exploited. People in the recipient countries are being contacted by mobile phones about the remittance, but are still requested to access a bank branch or cash machine to withdraw the money.

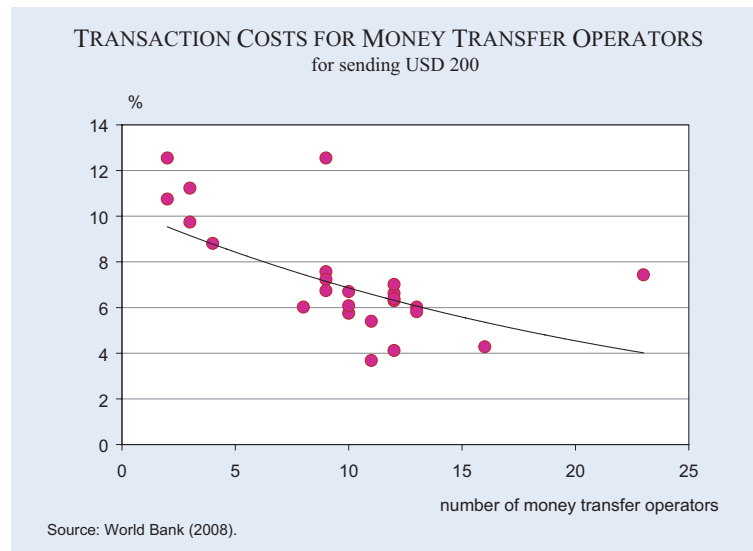
Nevertheless, there are examples of mobile operators' main comparative advantage being exploited. This is the case of some mobile payments at the national level: Paraguay (Tigo), Dominican Republic (Orange), Venezuela (Diemo) and Jamaica (Mobile Money). These examples reflect the differences between bank-led and mobile-driven payment systems. Bank-led mobile payments tend to use mobile technology as an additional distribution channel; hence they typically do not implement business solutions that fully exploit mobile operators' main contribution: the availability of a large network for cash-in and cash-out operations.

On the other other hand, mobile-driven payment solutions target mobile phone users who are not necessarily bancarised, allowing them to cash in and cash out through the mobile network distribution points – any kiosk or shop that sells mobile services such as prepaid cards. To the extent to which these mobile operators do not accept deposits and hence payments remain in the network for a limited period of time, financial regulation is not fully applied.

#### *Drop in transaction costs*

High transaction costs for remittances can justify the use of mobile technology. In Figures 3 and 4 we can observe transaction costs for money transfer operators and banks, respectively when sending USD 200 to LAC countries. Each of the points in these figures represents a precise corridor: for example, money being sent from Britain to Brazil or from Spain to Colombia. We can appreciate in both Figures 3 and 4 that

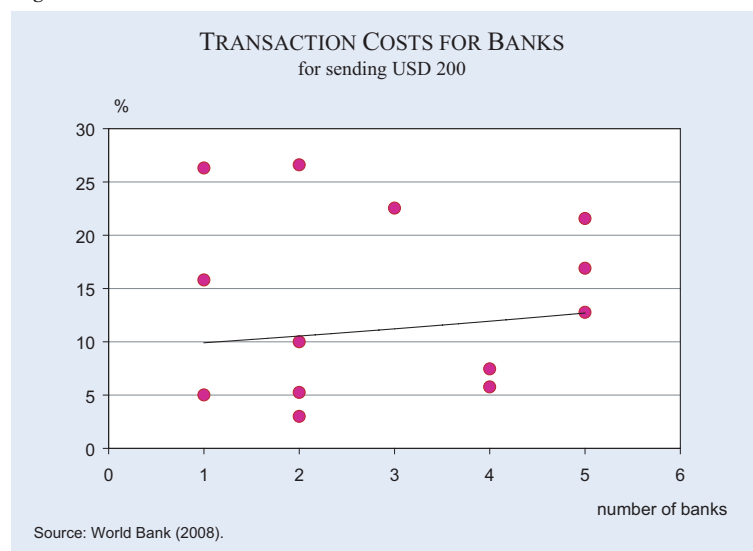
**Figure 3**



transaction costs are high: they average 7.2 percent for money transfer operators and 11.1 percent for banks.

In addition, whereas the costs are very concentrated in the case of money transfer operators, they are very dispersed in the case of banks. At the upper limit, in the corridor between the Netherlands and Dominican Republic, banks are requesting 26.3 percent, while banks in the corridor between the United States and El Salvador are characterised by 3 percent transaction costs. Some precise examples can also be found between Spain and LAC. BBVA is offering the Dinero Express service to send remittances from Spain to LAC: up to 3,000 euros for a flat rate of 5 euros if the amount is cash, and 3 euros if it is done from a bank

**Figure 4**



account. If the client is using the product 'cuentas claras multipaís', the service is free. There is a commission upon receipt and the amount can be cashed out without one having a bank account. Banco Santander is offering a service named Santanderenvíos which allows up to 3 free payments per month, with a maximum of 2,000 euros, for those clients having a bank account.

In Figures 3 and 4 there is an exponential trend line that highlights the development of transaction costs with the number of money transfer operators and banks, respectively. In Figure 3, the slope of this line is consistent with basic economic principles: increasing competition through a larger number of operators should result in decreasing costs. There are two clusters in the figure. A first cluster 'low competition-high transaction costs' with 2 to 4 money transfer operators and 9 to 13 percent costs, and a second cluster 'high competition-low transaction costs' with 8 to 14 banks and 4 to 8 percent costs. In Figure 4, however, there is no clear relationship between the degree of competition between banks and transaction costs: the exponential line in the figure is quite straight, and even roughly increasing.

This analysis leads to the conclusion that non-banking competition is driving down transaction costs in LAC, a hypothesis consistent as well with the African experience as described in Box 1. On the basis of this information we can anticipate that mobile technology is more likely in countries with a weaker presence of money transfer operators and under any banking market structure, since in those cases transaction costs are high. Here we can conclude that mobile technology can bring down costs by the increase of non-banking competition *per se*.

#### Origin country of remittances

A casual look at Table 1 reveals that the most promising markets for the delivery of mobile payment services can be identified by the country from which the migrant is sending the remittance. Indeed, there is an extremely close relationship between the country of origin and the operator chosen for payment services. For migrants

#### Box 1

##### LAC ahead of Africa: non-banking competition driving down transaction costs

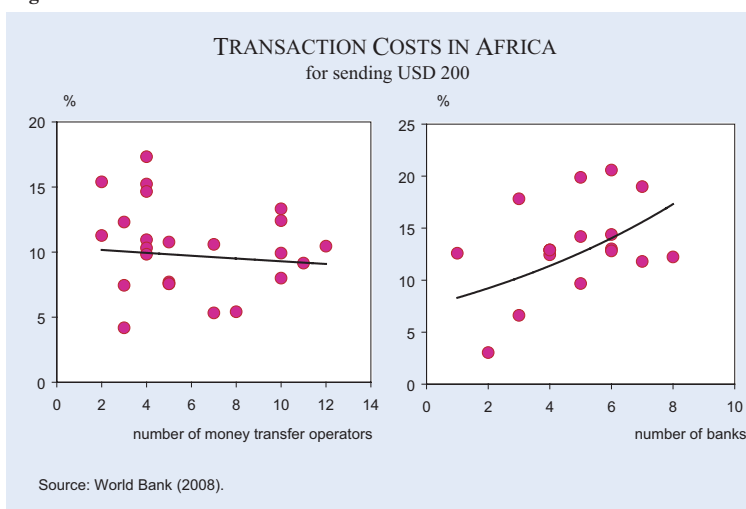
By having a close look at Figure 5 and comparing it with Figures 3 and 4, some insights can be gathered. Firstly, while we have learned from the LAC experience that money transfer operator competition is driving down transaction costs, this is more likely as the degree of competition becomes high. The number of mobile transfer operators in LAC is 8.3, much larger than the 5.1 found in Africa. In turn, transaction costs for money transfer operators in LAC are 2.5 percentage points lower than in Africa for USD 200: 9.7 percent versus 7.2 percent.

Secondly, bank competition is so far not having a clear impact on transaction costs. While in Africa there are on average 4.3 banks per corridor, two times more than in LAC, where the number of banks is 2.4, transaction costs are alike: 12 percent for USD 200. The same conclusions can be drawn for larger amounts. Hence, by integrating the lessons from LAC and Africa, we can conclude that non-banking competition is driving down transaction costs.

sending remittances from Japan, the Netherlands, Canada and France to LAC countries, the number of money transfer operators is systematically low – between 0 and 6 in Table 1 – and the transaction costs for USD 200 average 15.5 percent.

For migrants sending their money from Spain, the United States and Britain to LAC countries, the context is significantly different. These corridors are characterized by four times more money transfer operators than in the previous example – 11.6 on average. In line with this result, transaction costs in these corridors are more than two times lower: 6.6 percent on average. The data reveals that transaction costs are defined by the country originating the remittance independently of the country of destination. Hence, transaction costs of remittances being sent to LAC countries

Figure 5



**Table 1**  
Transaction costs according to the country of origin of remittances

Destination	Origin	Number of money transfer operators	Transaction cost (in % of USD 200)
Brazil	Japan	0	19.71
Dominican Republic	Netherlands	2	17.14
Haiti	Canada	2	15.14
Haiti	France	3	11.38
Jamaica	Canada	4	14.02
Peru	Japan	6	19.92
Surinam	Netherlands	3	11.23
LAC: Low presence of money transfer operators	Japan, France, Canada, Netherlands	2.8	15.50
LAC: High presence of money transfer operators	US, Spain, Britain	11.6	6.60

Source: World Bank (2008).

are highly dependent on the market structure of the payment services in countries originating the remittance.

Table 1 could induce us to consider that the number of money transfer operators is higher when there is a larger volume of remittances being sent through a channel. Indeed, one would tend to think that Spain, the United States and Britain are the countries where transaction costs for remittances to LAC are lower because they have a large number of LAC migrants. At a closer look at the equivalent data for Africa, it becomes clear that the number of migrants in the country originating the remittance is not closely related to the level of transaction costs or to the degree of competition in mobile payments.

Indeed, Spain, the United States and Britain are again in the corridors with a larger number of money transfer operators (8.4 on average), and with lower transaction costs (10.4 percent on average). In comparison, France (with a large number of African migrants), South Africa, the Netherlands and Germany are those countries from which migrants are sending remittance to Africa, with an extremely low number of money transfer operators (below 1 on average) and with high transaction costs (16.9 percent on average). Hence, the regulatory framework – the number

of money transfers operators present – in origin countries appears to be the primary factor defining the transaction costs in the corridors. In those corridors with countries of origin such as France, Japan, Canada, South Africa, the Netherlands and Germany, where the proliferation of money transfer operator competition is low, mobile payments are the most likely since the margin for new competitors is large.

#### *Volume of remittances*

The more promising markets for mobile payments most probably involve the LAC countries receiving the larger volumes of remittances as presented in Table 2. Mexico is the country that attracts by far the largest volume of remittances (USD 24,000), equivalent to the amount sent to the whole of South America. Besides, Mexico, Brazil and Colombia are also large recipients of remittances with volumes similar to those in Northern and Western African countries such as Algeria, Morocco and Nigeria, where mobile payment pilots are to be launched shortly.

In line with the previous discussion, Table 2 highlights the fact that there is not a clear-cut relationship between the volume of remittances in the recipient country and transaction costs. Hence, we cannot infer that corridors with higher volumes of remittances are attracting more competition, causing prices to drop.

**Table 2**  
Transaction costs according to the country of destination of remittances

Countries with a large volume of remittances		Remittances in USD million	Transaction costs (in % of USD 200)
Central America and Mexico	Mexico	24,254	6.7
	El Salvador	3,328	4.1
	Guatemala	3,557	5.8
	Honduras	2,286	5.9
South America	Brazil	7,373	10.5
	Colombia	4,516	6.0
	Ecuador	3,162	5.1
	Peru	2,869	10.1
Caribbean	Dominican Republic	2,739	10.0

Source: World Bank (2008).

*Small amounts for urban-rural transfers*

By having a close look at Figures 6 and 7, we can see that transaction costs increase very rapidly, both for money transfer operators and for banks, as the amount being sent by the migrant is smaller. This can be easily understood by looking at the gap between the exponential lines defining transaction costs in the figures. This line is systematically defining a gap between USD 500 and USD 200 of at least 2 percentage points for money transfer operators and of above 5 for banks. Indeed, across operators, whereas transaction costs are around 4 to 6 percent for USD 500, they increase to about 9 percent for USD 200.

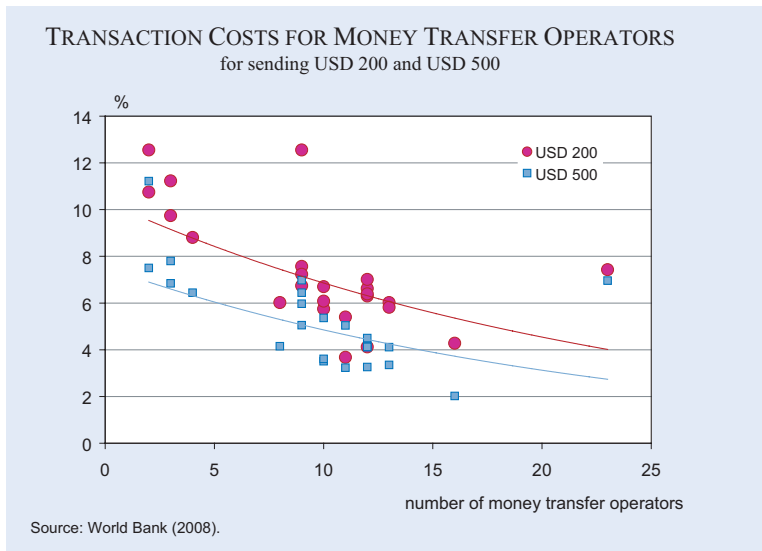
A more detailed analysis reveals that banks are those agents that request particularly high commissions for small amounts. We can see in Table 3 that, while transaction costs between banks and money transfer operators differ by 1.2 percentage points for USD 500, the divergence increases to almost 4 percentage points for USD 200. The gap is even larger for African countries: 3 percent for USD 500 and 6.4 percent for USD 200.

The most plausible reason why banks are more expensive than money transfer operators for small amounts of transfers is that banks are focused on a small number of wealthy customers. Small amounts are typically sent by less wealthy customers, however. Hence, these small transfers would require a change in the banks' business model so as to be profitable under low margins through economies of scale (many customers). At the same time, this business model should allow the co-habitation with the

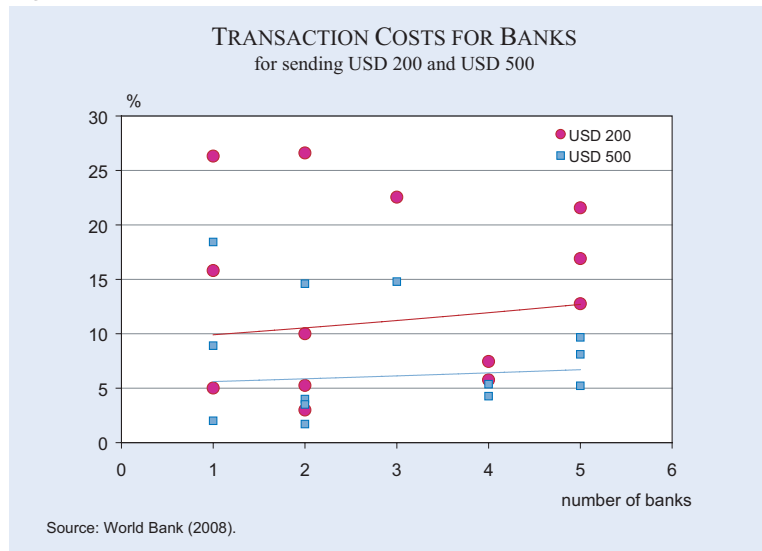
previous portfolio of clients that generates high margins.

For the time being, instead of increasing their portfolio of small clients (by standardizing transfers, reducing delays, reducing costs, etc.), banks are sometimes engaging in agreements with money transfer operators. The typical exchange implies

**Figure 6**



**Figure 7**



**Table 3**  
Transaction costs according to the amount of remittances

	Bank costs (in % of USD 200)	MTO costs (in % of USD 200)	Bank costs (in % of USD 500)	MTO costs (in % of USD 500)
LAC	11.1	7.2	6.1	4.9
Africa	13.3	10.1	6.9	7.1

Source: World Bank (2008).

offering the banks' infrastructure against the money transfer operators' standardized procedures and an added margin on usual transfer operators' transaction costs. The bank can keep its portfolio of clients and at the same time benefit from accessing low income customers through transfer operators. Banco Salvadoreño, the second largest commercial bank in El Salvador is an example of the link between money transfer companies and banks. Banco Salvadoreño has a presence in most US states through strategic alliances with some of the biggest MTOs, including Western Union and Bancomer Transfer Services. Nevertheless, the largest examples are the agreements between Western Union and La Poste across many African countries.

Transaction costs still remain around 7.2 percent when sending USD 200 through mobile transfer operators. In addition, the typical amount of money that a migrant in an urban area would like to send to his family in a rural area in the same country, would probably be often much smaller. Mobile technology can do much to reduce these costs for very small amounts. Indeed, when you take the most expanded example of mobile transfers so far, in Kenya, it is 10 times cheaper to send 9 euros through the mobile network M-Pesa than through a money transfer operator. Whereas M-Pesa requests a commission of 5 percent, Western Union demands 50 percent.

The reason why mobile phone operators can be so advantageous for small amounts is that the distribution networks are already available: mobile phones reach 80 percent of end users to make requests and receive information and mobile phone agents (kiosks, supermarkets, etc.) are largely available to cash in and cash out. Not only infrastructure costs but also operational costs are low, as the network agents are already making their living with other activities and typically receive just a commission for the delivery of mobile payment services.

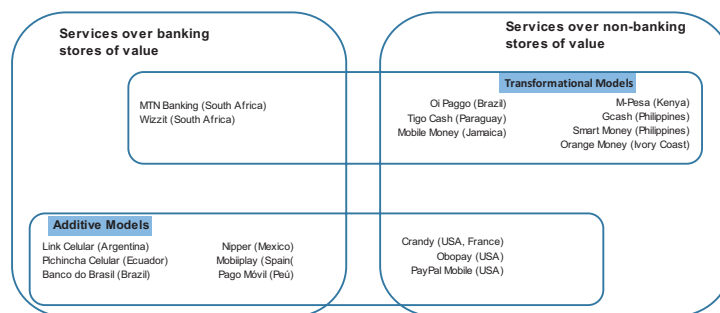
**Regulation: the major bottleneck for mobile payments**

Currently existing mobile payment models have been able to proliferate due to regulatory

flexibility. This regulatory flexibility has enabled the emergence of a wide range of technological solutions under the common umbrella of mobile payments. There are solutions that can be used by standard mobile handsets: Unstructured Supplementary Services Data (USSD) and SIM toolkit. The USSD technology is being used in Paraguay (Tigo) and allows deploying an open system independent of the mobile network operator. SIM toolkits are used in Mexico (Banamex and Telcel) and add a special menu to make payments. These are proprietary systems, and only members of the mobile operator can transfer funds. More advanced technologies require enhanced mobile handsets. This is the case of the Wireless Application Protocol (WAP) in Mexico (Nipper).

While these different technological solutions are continuously growing under the close monitoring of telecommunications and financial regulatory authorities, the proliferation of organizational structures to deliver mobile payment/banking services is now being strongly questioned. As we can see in Figure 8, at the early stages of mobile payments some organizational structures were bank-driven – Mexico (Banamex, Telcel, Nipper) and Ecuador (Halcash); others led by mobile operators of their own – Paraguay (Tigo); and finally jointly developed by banks and mobile operators – Jamaica (IDB). As activities are growing, it appears increasingly important to be backed up by a bank to avoid business uncertainty. Indeed, the main issues halting the rise of mobile payments are the compliance with financial regulation in terms of anti-money laundering and combating financing terrorism (AML/CFT), the presence of non-banking correspondents and the blurring frontier between payments and deposits.

**Figure 8**  
PROLIFERATION OF ORGANIZATIONAL STRUCTURES FOR MOBILE PAYMENTS/BANKING



Source: Analistas Financieros Internacionales (2009).

Among the anti-money laundering and combating financing terrorism norms, there are features such as 'know your client' (KYC), where information on the individual making the transaction needs to be accessed, requests that may not be straight-forward due to the high levels of informality among clients. There is also a need to establish limits on daily and monthly transactions. The initial pilots, developed by the well-known M-Pesa pioneer mobile solution in Kenya aimed at establishing payments from Britain, was left aside since it failed to comply with AML/CFT.

Norms for non-banking correspondents have to be favorable to the growth of mobile payments. The large size of distribution networks of mobile phone operators is their main comparative advantage for payment services. Without an enabling regulation to allow the agents of the distribution network (e.g. kiosks, supermarkets, etc., as mentioned above) to cash in and cash out payments, the key element of success of mobile phone operators remains unexploited. Typically, this regulation should prescribe who can be a non-banking correspondent, which activities can be handled, whether an agent can belong to different networks, who is responsible in case of conflict, where confidential information on clients is stored, and which are the security measures, to mention a few of the issues.

Fortunately, there exists regulation of non-banking correspondents across a large number of LAC countries: Brazil (1973), Bolivia (2000), Peru (2005), Colombia (2006), Ecuador (2008) and Mexico (2008). Brazil has the most extended non-banking correspondent networks with 32,100 points of service (supermarkets, lottery kiosks) across the country to deliver Caixa Econômica Federal, Bradesco, Lemon Bank and Banco Popular services.

The third regulatory issue that is constraining the development of mobile payments is the blurring frontier between payments and deposits. Most of the current operators delivering mobile payments highlight the fact that they are not accepting deposits so as to avoid financial regulation. However, the difference

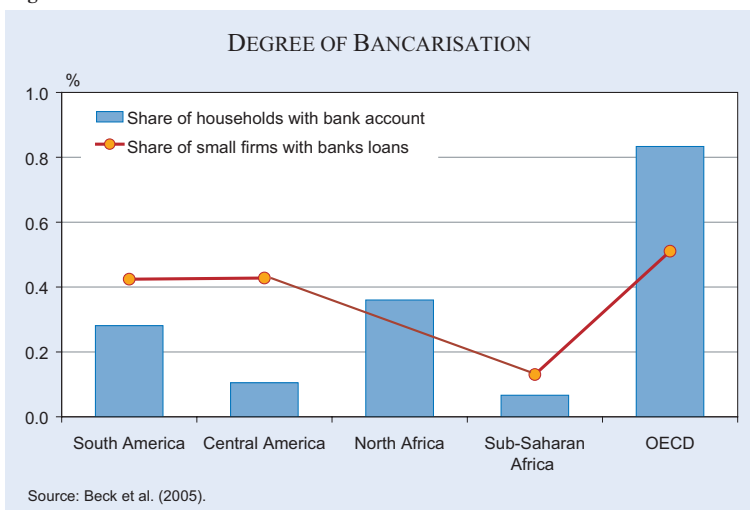
between providing payment or deposit services merely depends on the time that the money spends in the system.

### From mobile payments to mobile banking?

Figure 9 shows clearly that bancarisation is a household issue. While the share of small firms with bank loans is fairly similar across South America, Central America and the OECD countries, the share of households having bank accounts differs significantly. In the OECD more than 80 percent of the population has a bank account, in South and Central America this number drops to 29 and 10 percent, respectively. If we match the lack of households' access to bank accounts in LAC, with the fact that mobile phone payments are basically targeting this segment of the population, mobile technology could be a good catalyst for raising the level of bancarisation. While 8 out of 10 people in LAC have a mobile phone, only around 80 percent are bancarised on average.

Another feature by which bancarisation may be promoted by mobile technology is that mobile payments are allowing to trace a history of the client's activities, which can be used by financial entities to deliver loans to those clients with no collateral and no banking history. Even though payment history can help in granting loans, final decisions are expected to probably still rely on face-to-face contact. In building trust networks the widely predominant physical interaction remains important. Loans are granted depending on soft information that can only be gathered by direct interaction, while hard information

Figure 9



(sex, age, amount, frequency, for example) is registered by payments.

It is fundamental to stress at this point that the growth of mobile money activities has so far been related to payments. These activities have only marginally targeted the bancarisation of the population. The main issue here is that banks and mobile operators are making profits through payments. Banks have largely refrained from converting remittances into deposits, due to the higher administrative costs and lower margin of managing a large number of very small deposits. Some mobile operators have expressed their unwillingness to move from payments to deposits, which would imply having to comply with stronger financial regulation, a higher administrative burden and limited profits as compared to the instant benefits from payments. It is clear that without the appropriate incentives by government authorities, the degree of bancarisation will not be increased, at least not on a large scale.

LAC could replicate the experiences of some countries that have a long tradition of migration and that have applied the appropriate incentives for bancarisation. This is the case, for example, of India, Morocco, the Philippines and Pakistan, where banks have been opening branches in the countries of origin, enabling the migrant to hold bank accounts both in the country of origin of the remittance and in that of destination. Incentives given for migrants to bancarise the money have been: high interest rates, foreign currency denomination, tax exemptions, cash out at low cost in the destination country, to mention a few. In contrast, six countries in LAC (Argentina, Bolivia, Brazil, Colombia, Peru and Venezuela) have recently levied taxes on financial transactions that were meant to be temporary but have been extended due to the volume of revenue that has been collected. More specifically, Colombia is taxing remittances being sent and Bolivia and Brazil are taxing those received in their countries.

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