

Mobile-Money and Remittances: Barriers, Potential and Future Research Directions
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Within academic discourse concerning the relationship between economic remittances and development potential, too much focus has been given to considerations of macro-level impact on origin countries when the strongest empirical evidence linking economic remittances to development has been gathered at the micro-level. Most researchers agree that the greatest direct effect of remittances is on the economic wellbeing of individual families. In addition, this effect has shown potential to increase due to recent advancements in remittance technology that could facilitate quicker, more secure, and less costly methods for sending money. However, there exist significant research gaps in regards to new remittance technologies: one, in that their potential has not sufficiently been analyzed in terms of migrant and remittance receiver needs, and two, that researchers have not adequately addressed the topic within a socio-cultural framework. In an attempt to begin to address these two issues, this paper focuses on the United States-Mexico remittance corridor to examine the potential advantages and limitations of remitting via cellular phone. It also proposes a possible research perspective for future considerations of the socio-cultural implications surrounding economic remittances focused on the informal market.

Before beginning this analysis of new remittance technologies, it is important to acknowledge the questions regarding macro-level development potential that have tended to dominate discussion of economic remittances in many spheres.¹ This focus comes as a result of broader questions about the relationship between migration and development, from which “[t]he transfer home of migrant earnings and savings is generally seen as the most important positive effect of migration for the countries of origin” (Castles 23). As a consequence, researchers, academics, governments, and others have at times cited too great a potential in economic remittances to generate economic development at the regional and national levels, creating what Kapur (2004) has called “the development mantra.” This “mantra” is not only reflected in recommendations put forth by committees such as the Global Commission on International Migration (GCIM 2005) and the House of Commons International Development Committee (IDC 2004), but also in information published by mobile communications companies who lead development of new remittance technology. Companies such as Global System for Mobile communications (GSM) seem to have taken their cue from reports issued by the GCIM and IDC that place “special stress on the role of economic remittances in improving livelihoods, increasing demand and stimulating production (Carling 2006 as qtd in Castles 23). While the Global Commission on International Migration also makes clear that although economic remittances “can make an important contribution to growth, [they] should not become a substitute for an economic policy that develops and draws upon the talents of people who have remained in their country of origin” (31), it seems this warning was not picked up by mobile communications companies. For instance, GSM professes that “[f]or receiving countries, such funds [as remittances] have huge economic and social benefits on a national scale” (GSMA 7). This statement comes close to insinuating that migrants, “some of the world’s most exploited

¹ See Kapur (2004); Castles and Delgado Wise (2008); OECD (2007) as examples

workers[,] should provide capital for development, where official aid programs have failed” (Castles and Miller, “Globalization” 58). This erroneously large investment in migrant remittances grew from academic theory that predicts a multiplying effect of remittances spent in origin countries, which has positive impact beyond remittance receivers.

The theoretical grounds for this perspective is New Economics of Migration, which views migration decisions as ones made by families, households or communities and not by single individuals (Castles and Miller, “Theories” 24). Such framework immediately directs scholars to the macro-level, pressuring them to equate levels of economic remittances with potential for economic development past the individual, and even the household level. Using the social group as the unit of analysis, the New Economics approach deems, “it is necessary to examine the long-term effects of remittances on investment, work and social relationships right across the community (Taylor 1999 as qtd in Castles and Miller, “Theories” 24) and argues that “remittances can be a source of investment, income diversification and insurance in economies lacking formal institutions to fulfill these roles” (Castles and Miller, “Globalization” 61). This anticipates a sort of economic development ripple effect caused by remittances that is based on weak empirical evidence. As Skeldon asserts, “[d]evelopment drives migration, not the other way around” (13), and the evidence for hypotheses that view remittances as means of overcoming or filling gaps created by structural deficiencies within national economies is simply not present.

By example, Jorge Durand (2009) points out that Mexico has been receiving remittances consistently for over a century and that there is no empirical evidence that remittances have had a significant effect on the development of the country (27). He also highlights the small effect economic remittances have had on reducing poverty rates throughout Latin America and cites Andrés Solimano’s figures as proof. In 2008, remittances “reduced the poverty rate by 1.4% and extreme poverty (indigence) by 1.5%” (*ibid*). These unimpressive findings are not unusual and “[t]he general lesson that emerges from the many studies is that remittances do not automatically lead to sustainable economic and social development” (Castles and Miller, “Globalization” 61). It is imperative to recognize that while the impact of economic remittances on individual families can be extreme, this impact is not easily extrapolated to entire communities, regions, or nations. Thus, instead of promoting national development of origin countries as the premise supporting advancements in remittance technology, mobile companies would be more accurate in pointing to the documented impact of economic remittances on individuals and families.

Discussion of the importance of remittances for individual families is important for reestablishing the premise that should drive development and assessment of new remittance technologies. Remittances have a great importance for individual families in that they can improve living conditions, provide greater access to resources, and positively affect other lifestyle changes. Durand points to findings from the Latin American Migration Project (LAMP), which reveal a positive direct impact of economic remittances on the diet, housing, education, and health of individual receiving families. Research performed in eight different Latin American countries concludes that remittance receiving families have better domestic installations such as electricity, drinking water, sewerage, a refrigerator, an automobile, and a telephone or the internet, which not only improve daily living conditions, but also “result in greater well being and better opportunities for human development [...]” (27). The purchases and investments made possible for individual families or households due to economic remittances “allow children to do better at school, make it possible for food to be prepared in more hygienic conditions, and provide improved resources for dealing with effects of the weather” (LAMP

2008 as qtd in Durand 28). Such studies as LAMP illustrate the positive effects economic remittances can have on the daily lives of individual families, and while this is not evidence that remittances indeed generate development, it does make clear the point that remittances do positively affect development. Moreover, this micro-level impact provides sufficient reason for investigating how such effects may be multiplied by use of new remittance technologies.

As Portes *et al.* (1999) observe, earlier migrants, now as recent as three decades ago, did not have the same access to e-mail, the internet, cell phones, frequent international flights, highly developed transportation infrastructure and other rapid communication technologies accessible today. These technologies are developing new methods for remitting, especially within the mobile industry, where leading service providers are promoting low cost and convenience as key advantages of remitting via cellular phone, or what is known as “mobile-money” (Alampay and Bala 2009). It is necessary to describe the process of mobile-money and remitting via cellular phone in order to understand the potential of such technologies and the need for further research.²

Traditional, non-mobile methods of remitting, whether through formal or informal (sometimes referred to as ‘legal or illegal’) channels, require that both the sending and receiving party complete a physical money transfer for each transaction made. Necessary components of these transactions are ‘cash-in’ and ‘cash-out’ centers, which refer to formal financial institutions and money transfer organizations such as banks, loan shops, lottery dealers and local merchants, but not to informal remittance channels. Therefore, physical money transfer can take place at some type of cash-in/cash-out center or at the recipient’s home or business in the case that remittance delivery service is provided. This means that costs can be incurred for each transaction either personally by the migrant and/or remittance receiver in time and money spent to travel to cash-in/cash-out centers, or in fees paid to the remittance courier for transaction and delivery. Costs can also be incurred in program enrollment, at cash-in/cash-out of remittances, and in actual remittance transaction. More specific discussion of cost is to follow.

To facilitate these transactions, a SIM card (Subscriber Identity Module), or portable memory chip used in cellular phones, is specially equipped with security features for mobile banking and allows migrants to electronically transfer money from their account to the receiving party’s account or prepaid card. Both the transaction and confirmation take place through a text messaging system (sometimes referred to as SMS or Short Message Service). Then, the individual in the home country has a few options for receiving the remitted money, depending on the specific service provider. In all cases, s/he will receive a text message notifying her/him of the transaction and providing a confirmation number. Thereupon, in order to obtain the money remitted, s/he may travel to a cash-out center or use a specially issued card to either retrieve the money from an ATM or make a purchase as with a credit or debit card, again depending on the service provider.

As mentioned in the introductory paragraph of this essay, it is important that new remittance technologies be analyzed in terms of migrant and remittance receiver needs. This involves consideration of the multiple factors that affect which methods for remitting are most used by migrants. Factors such as cost, transparency, security and trust, and accessibility must be considered in order to understand the barriers that may prevent migrants from utilizing certain remittance methods. Various non-profit and civil society organizations are leading such research

² Throughout this essay, explanation of mobile-money and remitting via cellular phone draws from Alampay and Bala (2009), unless otherwise noted.

by surveying migrant remittance needs and preferences in an attempt to advise financial institutions and other remittance service providers on best practices for formulating and administering remittance products. Similarly, many organizations also print financial education materials for migrants to assist them in choosing the best remittance method for their needs. The Global Commission on International Migration highlights this service in discussion of remittance transfer and cost systems in their 2005 report and states that, “[m]igrant associations and civil society institutions also have an important role to play in this respect, by collecting, analyzing and disseminating relevant information on the different transfer services that are available to people who wish to remit” (GCIM 27). With this in mind, the following discussion and analysis draw heavily from research conducted by Appleaseed, a non-profit network of 16 public interest justice centers in the United States and Mexico, for their explanation of the factors that most affect migrant decisions in choosing remittance service providers and methods.

The most obvious factor affecting migrant decisions about which method to use in sending remittances is cost. Within formal channels, overall cost for remitting is typically comprised of three possible—and many times highly varying—smaller costs: a transaction fee for sending the money, the exchange rate spread, and sometimes an additional fee to claim the funds in the country of origin (Appleaseed 2005 “Creating”).³ Based on data collected by Appleaseed centers in Georgia, Illinois, Nebraska, and Texas in 2005, the transaction fee for sending \$300 from the U.S. to Mexico was usually between \$9 and \$10. Added to this fee is the exchange rate spread, or “an undisclosed difference between the price the company pays to purchase the foreign currency and the rate the money transfer company charges its customer to send the money” (iii). This rate is based on the Bank of Mexico daily exchange rate and can vary greatly even within a week, especially due to the “recent volatility of the Mexican Peso,” which causes exchange rates to fluctuate dramatically throughout a single day (Baddour 17). Again based on Appleaseed’s data from 2005, the average exchange rate spread for a \$300 transaction was \$5.25, but the range for the exchange rate spread cost was between \$1.92 and \$10.80. After paying the exchange rate spread and transaction fee, a third cost is sometimes charged to the remittance receiving party upon receipt of the money in the origin country. Though these combined costs can represent be as high as nine percent of the amount of money remitted (Appleaseed “Creating” 11), the actual level of importance of cost for migrants in choosing a remittance method or provider seems to vary depending on which factors are considered.

In Castles and Miller’s view, cost is the primary barrier that prevents migrants from using formal remittance channels. These authors assert that “[t]he main reason so many migrants send their money home through informal channels is the frequent high fees for transfer through banks or money transfer organizations (like Western Union or MoneyGram)” (“Globalization” 59). This preference for informal remittance service providers is reflected in Hernández-León’s case study of an informal remittance and courier business he calls Transportes García, operating within the Houston (U.S.)-Monterrey (Mexico) migratory circuit (Hernández-León 2008).⁴ This essay will draw heavily on this case study due to its unique, in-depth analysis of a remittance service provider within the informal market.

In interviews conducted by Hernández-León, customers reasoned that they used Transportes García to avoid higher fees charged by formal courier and remittance firms. For

³ Throughout this essay, explanations of cost are based on Appleaseed (2005 “Creating”), unless otherwise noted.

⁴ Hernández-León uses pseudonyms for both the courier business as well as its owner.

example, regular service costs charged by Transportes García allowed clients to “send up to \$300 for a \$10 fee; up to \$500 for \$12; up to \$700 for \$15; and up to \$1,000 for \$20” (Hernández-León, “Industry” 172). Though it has not been thoroughly explored how factors like exchange rate spread affect informal remittance service provider pricing, the much lower service fees compared to those offered by banks and other formal financial institutions (\$9-\$10 on average to send \$300 to Mexico) make preferences to informal channels unsurprising.

However, also expressed in the interviews were feelings of dissatisfaction with the fees charged by Transportes García and some interviewees argued that the owner, “Jorge García[,] was taking advantage of his customers by not delivering the exact amounts of cash remitted from Houston...” (176). Jorge García also felt this pressure to keep fees low and expressed in his interview that while it made the most economic sense to charge higher prices for his courier services, “the trust and moral obligation that he felt toward the people that used Transportes García prevented him from raising the prices...” (*ibid*). These comments illustrate the high importance of cost in determining how to send remittances, at least in the case of choosing to send via formal or informal channels. They also illustrate the existing pressure on informal carriers to keep prices low, whether inspired by moral obligations or customer demands.

Such moral obligation or pressure may be due in part to the observance that within the informal remittance market, many service providers and their clientele share the same ethic and social networks (Light 2005, 2006 as qtd in Hernández-León, “Industry” 155). This is true in the case of Transportes García in that before becoming a courier owner, Jorge García had entered the Houston community from Monterrey as a labor migrant and thus, was/is a member of the networks he now serves. Because the same types of close social connections that exist within the informal market are not likely to exist within the formal market, and also in consideration of the highly varying cost breakdown explained above, issues of cost may be less of an influence on migrant remittance decisions outside of choosing an informal or formal channel. This is based on the hypothesis that migrants may feel less able to assess cost within the formal sector considering there currently is no obligation for financial institutions to post such information as transaction fees or exchange rate. In fact, the issue of transparency is severe within formal remittance channels. Little to no regulation is required in regards to posting information and institutions are not required to offer consistent information on transaction fees and exchange rate or to verify previously posted information (Baddour 15). Such disclosure regarding remittances products on behalf of banks and financial institutions is highly needed.

The fact that “[t]he remittance market is the only financial market of its size without uniform regulation” (Appleseed “Creating” vii) is especially grave in light of the large amounts of money being transmitted through such channels. For 2008, the World Bank estimated that about \$305 billion in remittances were sent worldwide and that \$26 billion were sent to Mexico (World Bank 2009a). The US-Mexican remittance-corridor is the largest worldwide (Frias 18) and in Mexico, remittances are the second largest source of foreign exchange after oil revenues and before tourism. Although they represented a fairly modest 2.3% of GDP at the national level in 2008, in Michoacán, Zacatecas, and Oaxaca, three federal states with high rates of out-migration, remittances reached more than ten percent and between eight and nine percent of the GDP respectively (Banco de México 2009: 51). Of course, this data is not presented to demonstrate the potential of economic remittances for development and the size of remittance flows does not indicate the scale of impact on the country receiving remittances (Harris 144). Rather, data is presented to acknowledge the large flows and consequently, the extreme need for remittance service providers to disclose clear, correct information about their products. In

making recommendations to financial institutions on best practices, organizations like Appleseed tend to frame this need in light of the large amounts of money being remitted from the United States to Mexico—between \$26 and \$28 billion annually during 2006-2008 (World Bank 2009a)—to suggest a constant consumer base for formal remittance service providers as incentive for transparency. But while transparency tends to be the most emphasized factor presented to financial institutions in describing what is important knowledge for migrants as they choose remittance products, and while cost is the most obvious factor, migrant survey and focus groups actually show that trust or security, and accessibility are of more importance to them in choosing how to send money.

Various factors affect levels of trust, including transparency or cost disclosure, on-time delivery, perceived security, reliability, other customer recommendations and social relationships. These factors are not easily isolated from one another in understanding how trust impacts migrant decisions. Still, trust has been raised as a primary consideration/factor in surveys conducted at the Mexican Consulate in Chicago in 2008 as well as in surveys conducted by two Money Service Businesses (MSB), or non-bank remittance service providers where money is usually remitted and received in cash, in 2005 as part of a disclosure pilot program. The survey conducted at the Mexican Consulate found that in terms of selecting a remittance service, respondents cited security as the most important factor (Appleseed “Immigrant Use” 5). Similarly, the survey administered at the MSBs revealed trust and reliability to be major factors. At one MSB 68% of the respondents marked, “the money always arrives quickly and as promised” as the top priority in selecting a remittance service provider and at the other, 67% of the respondents surveyed chose “secure for me and my family” as the top priority (Baddour 9). Though conveyed as separate issues for the purposes of these surveys, trust and security are closely related given that consumers are not likely to trust in providers who use methods for transfer that they do not perceive to be secure.

For example, in a 2002 study of Latin American remittance senders in Miami and Los Angeles, some participants showed a preference for bank-to-bank transfers due to fear of robberies that had been taking place in the country of origin where thieves knew where and when cash remittances were being delivered. One participant commented, “[i]n my country, when you send money it’s very dangerous because everyone knows the places where people pick up the money. They rob people and steal their money. But if I send it this way, from bank to bank, I don’t think that anything would happen to them” (Suro *et al.* 12). The threat of robbery is especially high for informal couriers like Transportes García who are potentially carrying large amounts of cash within a single trip and with certain regularity. By example, Transportes García was transferring an estimated \$40,000 in economic remittances, mostly cash, to Monterrey per week and made regular trips every Monday and Friday evening (Hernández-León “Industry” 170-71). While Transportes García was never robbed, the threat is great and similar services have fallen victim to robbery. In one case, an informal courier was robbed on its way to Monterrey and had \$22,000 taken (Alvarez 1999 as qtd in Hernández-León 223). The nature of such services could reduce trust placed in informal couriers if they are perceived as more vulnerable to being robbed than banks or other formal remittance channels that do account-to-account transfers or do not transport large amounts of cash and multiple remittances at once.

Yet by contrast, higher levels of trust may exist within the more familiar non-bank providers as a result of shared social and ethnic networks described above. Social networks can be very strong and immigrant groups have been known to draw on social networks to overcome obstacles of physical capital, or money and assets, and human capital, such as language

(Woolcock 1998). Due to the strength of social networks within migrant communities, trust may be more readily given to [non-bank remittance services or] informal channels. Trust of an informal service provider may be acquired or strengthened by recommendations from another customer within the same network, previously held relationships with remittance service owners, or possibly, by a perceived greater ability to influence the market or better fulfillment of consumer needs granted by shared networks. In other words, migrants may be able to express and have their remittance needs and preferences met more easily within the informal market where social networks have created pre-established lines of communication. These needs may not be easily expressed or met in the formal market, which lacks clearly communicated information and uniform regulation. Attention to consumer needs was definitely noted in Transportes García where “the most important features of the service, from the point of view of migrants, were that the funds were delivered the next day in cash (and in dollars) and that they arrived directly to the family home in Monterrey” (Hernández-León, “Industry” 172). While this example is of a single service within the Monterrey-Houston migratory circuit, such preferences for cash, U.S. currency and next-day, home delivery seem not as likely to be met, or possibly even known, by banks or other formal money transfer operations not engrained within the same social networks.

Other possible barriers that may prevent migrants from using banks or other formal financial institutions have to do with convenience and accessibility. Though not quantified in survey data presented here, it is clear to see how factors such as hours, location, service-language, and perceived formality would likely affect migrant use of different remittance service providers. If migrants’ family obligations, work and/or school schedule conflict with bank hours, this may prevent them from doing business at a formal financial institution. Similarly, if transportation is an issue and migrants who wish to remit are unable to physically get to the bank location, they are also prevented from using their remittance product. Language also becomes a barrier if migrants are worried they will not be able to communicate in a language in which they feel comfortable in order to complete the transaction. Though seemingly small factors, each of these has the potential to greatly affect accessibility to using bank-offered remittance products.

In addition to basic questions of logistics, some researchers conclude that banks and other formal financial institutions can be intimidating to remittance customers due to their perceived formality. Iglesias (2008) attributes preferences of using pawnshops as cash-out centers for local remittances in the Philippines to “their minimal requirements and [that] customers feel they do not have to dress nicely to visit such venues” (as qtd in Alampay and Bala 14). The perception that in order to conduct business at banks, one must dress nicely may also apply to remittance senders in the U.S., particularly considering the generally low levels of financial inclusion of Latin American immigrants. “Though bank participation varies from community to community, on average, 63 percent of Latin American immigrants do not have bank accounts” (Appleseed, “Banking” 1). That Latin American immigrants do not hold bank accounts also suggests they are less likely to be familiar with U.S. financial institutions in general and therefore have had few experiences to draw from to challenge such perceptions of required formality. This inevitably affects migrant accessibility to remittance services offered by banks, however competitive the product may be.

From this description it is clear that a number of factors may affect migrant decisions on which remittance method to use and that it is difficult to dissociate any one factor from another. Still, it is especially important that such factors be considered in the analysis and development of various remittance products, expressly in the case of new remittance technologies. Corporations

such as Global System for Mobile communications (GSM) advertise huge gains for financial institutions, mobile operators, as well as consumers to become involved in “mobile-money” development. GSM in particular has partnered with Western Union, one of the leading single business remittance providers, and has established a working group of about 30 Mobile Operators including AT&T and Telefónica, two of the world’s largest mobile service providers serving the U.S. and Mexico. GSM claims to benefit consumers by reducing cost, especially on small amount transactions, and increasing accessibility (GSMA 2008). While it is true that mobile-money and remitting via cellular phone do show potential benefits, there are also still significant limitations present. The remainder of this essay presents considerations on the potential advantages and limitations of mobile-money.

GSM and other advocates of mobile-money appear to be accurate in their assertions of greater affordability and convenience made possible by using a cellular phone to send remittances. Using the transaction process detailed earlier would likely prove advantageous in reducing cost and increasing convenience and accessibility of remittance sending. As a brief review, the process of remitting via cellular phone includes: 1) a one-time physical money deposit into an account at a mobile-money cash-in center, 2) remittance transaction and confirmation completed via text message, and 3) different options for payment receipt by either retrieving money from a cash-out center or ATM or by using a specially issued card to make purchases. In comparison to traditional non-mobile remittance processes, mobile-money reduces costs by eliminating the need to pay for delivery or the need to travel to a cash-in/cash-out center for every transaction. Because mobile-money could replace actual travel and transaction time with the sending of a text message, costs are reduced in terms of travel and time spent going to cash-in/cash-out centers. Migrants must complete an initial physical transfer of money at a cash-in center, but can then use their cellular phone to make additional transactions as desired without incurring travel or delivery costs. Also, because the actual transaction of funds takes place at the same instant the confirmation text is sent, migrants do not have to worry about money arriving on time. This addresses migrant concerns about money not arriving when promised expressed in the 1998 study of Los Angeles immigrants from Jalisco and in a 2002 survey of Mexican remittances senders in Austin, Texas (Appleseed, “Creating” 6). With mobile-money, advantages of speed are gained at a reduced cost.

Overall costs may also decrease by reduction of individual transaction fees facilitated by eliminating the requirement to use physical locations to make transactions. This could serve to lower the remittance service provider’s overhead costs such as staffing, payment for the retail premises, etc. and consequently, allow for reduced transaction fees. Similarly, while exchange rate spread may not be directly affected by mobile-money, “[t]he cost of transmitting money for the provider is not a function of the amount remitted, so it is possible to develop low fixed fees that would still be profitable for providers” (Orozco *et al.* 24). This would also allow for remittances of smaller amounts to be sent. This advantage is significant considering a large number of migrants who remit do not earn high enough wages to send large amounts.

“A 2003 study found that 46 percent of remittance senders had incomes of less than \$30,000 per year” (Appleseed, “Creating” iv). Low transaction fees may allow such migrants to remit slightly more per transaction, which could greatly help individual families who receive remittances. “On the receiving end, 51 percent had monthly incomes of \$370 or less and 76 percent had monthly incomes of \$600 or less. Receiving only \$5 or \$10 more per month because of savings in exchange rate and transaction fees could make an important difference for families earning \$370 or less per month” (*ibid*). The need for lower transaction fees for sending smaller

amounts is so great that GSM refers to such “cost effective low denomination remittances [as] an entirely new market not served today” (GSMA 10). This is echoed in a study by Batchelor that calls facilitating remittances of small value that would become uneconomic when transaction costs are high, “potentially *transformative*, as it provides a completely new service that was previously unavailable in poor communities” (Duncombe and Boateng 1242).

The facilitation of smaller amounts is also linked to convenience and accessibility. Remittance processes are made more convenient in that migrants are able to deposit a single, large amount of money then, send smaller increments over time. In addition to potentially saving money on each small transaction, migrants are able to remit from anywhere they are able to receive cellular service. This means migrants are not inhibited by remittance service provider hours, location, language-services, or perceived formality of banks, and can send money anytime with their cellular phone. Greater accessibility is also granted in the sense that both migrants wishing to send remittances and remittance receiving parties most likely have greater access to mobile phones than to banks or formal remittance institutions. It has already been mentioned that most Latin American immigrants do not own bank accounts. Similarly, access is also limited in Mexico where “74 percent of municipalities, supporting 22 percent of the country’s population, have no bank branch” (World Bank 2006). On the other hand, mobile cellular subscriptions in Mexico have been rising by about ten percent per year. From 2003 to 2008 subscriptions per hundred people rose as follows: 2003: 30; 2004: 38; 2005: 46; 2006: 53; 2007: 63; 2008: 71 (World Bank 2009a). While not all mobile cellular subscription holders also have a need for a remittance service provider, these figures in comparison with the figures of formal financial integration do seem to represent an even larger consumer base than presented before. But while access to cellular phones may be great, access to ATMs as well as to mobile-money enrollment and cash-in/cash-out centers is not necessarily as high.

Mobile-money use may not be as far reaching if potential consumers are not able to access ATMs or financial or other institutions that have partnered with mobile-money providers to serve as cash-in/cash out centers. GSM itself points out the lack of access to banks and ATMs worldwide. “There are currently only about 500,000 bank branches globally and only 1.4 million ATMs” (GSMA 8). As will be shown later, the problem is severe in Mexico and already presents a great barrier to receiving remittances from abroad. But unfortunately, mobile-money does not completely address this problem since in its current stages, a mobile-money enrollment and cash-in center are necessary to begin use of the system. Furthermore, potential for the establishment and proliferation of such centers is ambiguous. Potential seems high considering increased levels of migration from urban areas of Mexico where existing infrastructure could facilitate such access but then seems low considering current use of formal financial institutions.

To explain, Mexicans living in larger cities have greater access to banks and more highly developed transportation and communications infrastructure. This grants Mexican migrants and their families from urban areas greater access to current remittance service providers, cellular phone companies, and other potential mobile-money enrollment and cash-in/cash-out centers. As Hernández-León observes, “[u]rban migrants are generally better positioned to take advantage of recent changes in the remittance industry, particularly the entry of large American financial institutions, which have partnered with Mexican banks to offer cheaper and more efficient ways to transfer money between the two countries” (“Metropolitan” 197). Furthermore, increased migration from Mexico’s cities since the 1980s, as opposed to migration from rural areas that historically dominated the flow, represents an existing clientele base for banks and other

remittance service providers who are able to offer remittance packages made possible by new technologies.

Durand, Massey and Zenteno (2001) describe an increasing bifurcation within the broader Mexico-U.S. flow, “with towns of fewer than 15,000 people contributing 57 percent of the migration and cities of more than 100,000 making up more than 30 percent of the stream by the late 1980s” (as qtd in Hernández-León, “Urban” 8). This trend continued throughout the 90s and into the early 21st century as shown by Roberts and Hamilton (2005) in their analyses of the Mexican Census and the fourth quarter wave of the 2002 Encuesta Nacional de Empleo (National Employment Survey). Their data revealed that “about 29 percent of U.S. migrants in the 1995-2000 period came from cities of more than 100,000 inhabitants” and that during 1997-2002 “large- and medium-sized cities accounted for nearly 40 percent of all U.S.-bound trips (*ibid*). However, because not every urban migrant represents a need for a remittance service provider this population does not represent the population of potential mobile-money users.

Furthermore, current low use of the banks and financial institutions already present in Mexico’s urban centers challenges any predicted potential of mobile-money use based on increased urban migration. “About 75 percent of Mexico is urban, yet 85 percent of adults in urban areas have had no dealings with formal financial institutions” (World Bank 2006). Though some infrastructure may already be present in Mexican cities, current barriers to using formal financial institutions such as “an inadequate points-of-service network, inappropriate financial products, and the difficulty of opening a bank account” (*ibid*) lower potential for mobile-money products to be integrated into existing infrastructure. This is likely part of the reason behind the general consensus that mobile-money actually presents greater benefits for migrants and remittance receivers from rural areas.⁵ Yet, for this to be true mobile-money service providers must make certain to partner not only with banks and formal financial institutions but also with other money transfer operators such as pawnshops, loan services, lottery dealers and local merchants. Utilizing these locations for enrollment and cash-in/cash-out centers would increase accessibility of mobile-money services.

While GSM proposes to address challenges to accessibility by increasing the network of merchants that accept payment with e-cash or with a payment card associated with mobile-money (GSMA 13), this plan seems to underestimate the difficulty in facilitating such changes in largely cash-based economies. As Hernández-León observes, “in rural areas, the sheer absence of banks turns *remeseros* and *camioneteros* into the de facto financial institutions of towns and villages” (Hernández-León, “Metropolitan” 198). This absence mandates a dependence on cash not only in remittance delivery, but also in overall monetary transactions. Thus, in order to expand mobile-money to communities that rely heavily on cash for most transactions, processes should allow local merchants to function as centers where mobile-money could be changed into cash while still ensuring low transaction fees. However, even if barriers to accessibility and convenience are addressed, questions of security and trust still remain.

Heavy reliance on mobile phones to store and transfer such important financial information raises questions about security in regards to technical capabilities. It should be recognized that “as a device for processing and communicating information, the mobile phone is limited in terms of processing power and the user interface (compared with automated teller machines (ATMs) or computer terminals, for example)” (Duncombe and Boateng 1239).

⁵ Parikh & Lazowska 2006, Magnette & Cock 2005 (as qtd in Duncombe and Boateng 2009); GSMA 2008

Questions about cellular phone and SIM card ability to enter, display, process, store, and transmit financial data will all affect actual and perceived security of remitting via cellular phone and consequently influence consumer use.

Yet, aside from secure technology systems, certain levels of security are already facilitated by the nature of the transaction processes of mobile-money. Unlike informal couriers, mobile-money transactions do not entail physical transport of large amounts of cash and can reduce the total trips made and cash handled by the migrant and remittance receiver. This reduces the risk of loss or theft. Also, because transactions are confirmed by text messages received by both the remittance sender and receiver at the same time money is transferred, confirmation numbers are less likely to be mis-communicated or lost. In fact, preference to send information such as transaction details and confirmation (or control) numbers via text message was observed in remittance consumers in the Philippines who already used texting to send such information whether or not they used the mobile-money service to remit (Alampay and Bala 7). This also suggests greater potential for mobile-money in that it reveals an existing level of trust in cellular phones to transfer important information. Overall, the same remittance consumers in the Philippines did not cite mistrust as a reason for not utilizing m-money to remit, however as the authors point out, “their trust may have to do with Filipinos’ high use of SMS and e loading which makes them highly exposed to electronic exchanges” (Alampay and Bala 6). The notion that an individual’s experience with texting and mobile banking and also her/his familiarity with formal financial institutions increases trust in mobile-money is also supported by findings in South Africa that examine perception of the cell phone banking company WIZZIT among the poor. “The perception of the initiative from non-users classified as poor was found to be similar to that towards other formal banking channels—namely distrust and the belief it was not for them” (Duncombe and Boateng 1244). Lack of experience with or knowledge of formal financial institutions, non-cash transactions, and mobile technology does not suggest blatant mistrust of mobile-money remitting but rather, lack of understanding of exactly how such processes function.

What possibly presents a greater challenge to trust in mobile-money, especially in Mexico, are existing networks for sending and receiving remittances. As also noted by researchers as a probable challenge in the Philippine case (Alampay and Boateng 13), Mexico too is a country with a long history of migrant labor, and thus already has an ingrained network and system for sending money home. The same trust that is currently placed in informal channels, as well as certain levels of distrust toward banks and formal channels will not easily be challenged by the mere emergence of new remittance technologies. For this reason, mobile-money service providers must take great care to share clear, accurate information with potential consumers so they are able to make informed decisions and choose the remittance method that best meets their needs. Such problems with transparency that are seen in the current formal remittance market cannot continue with mobile-money if it is truly to expand the greater market as corporations such as GSM claim. “The GSMA forecasts that the ‘formal’ global remittance market could be grown from around US\$230 billion today to over US\$1 trillion in five years with the help of mobile services” (GSMA 11). Though this author argues that such predictions for growth are weakly supported based on current information, the potential advantages of mobile-money to facilitate the sending of small amounts quickly and securely do propose distinct benefits for current consumers.

In examining potential market growth, brief discussion of the current economic situation and its effect on remittances is warranted. Assertion of a sizeable decrease in remittances due to

struggling U.S. and world economies has come from various sources including scholars, the media, and organizations such as the World Bank. In the past couple of years, the World Bank has documented a consistent decline in the amount of money remitted to Mexico. “Over the first two months of 2009 they [remittances] fell by 7.4% compared to the same period of the previous year. Remittances amounted to \$25.1 billion in 2008, 3.6% below the level observed a year earlier” (World Bank 2009b). A broader continuance of this downward trend is predicted in findings from fieldwork research and a nationwide survey of Latin American and Caribbean migrants conducted in 2009. “The study shows that difficulties are mounting for migrants who send money home to take care of their families, and estimates that in 2009 flows to Latin America may drop by 11% over 2008 values” (Orozco 2). However, in evaluating this decline and its effect on the potential of the mobile-money remittance market, it is important to recognize that despite this drop, remittances still represent a large flow of money and estimated 2009 remittances to the region will reach the same amount they did in 2006 (Orozco 9).

In fact, the larger implication of this decline is its potential effect on individual households who rely heavily on remittances for their overall economic wellbeing. These are the same households described previously that could be greatly benefited by slight increases in the amount received per transaction due to lower fees using mobile-money. Similarly, slight decreases in remittances may have detrimental effects on household ability cope with economic hardship. It could be reasoned then, that a much-needed benefit of mobile-money is to counter the effects of the economic recession on remittances by lowering transaction fees. But unfortunately, Orozco reveals that this may not be the thinking behind the way in which the recession is influencing continued development of new technologies. He finds that, “the effect of the recession has created imbalances in the market by causing firms to scale down and freeze of investments originally intended to expand, merge, acquire or develop technological advancements” (11). The economic recession will not erase migrants’ need to send money home and studies have documented the strong willingness and desire of migrants to continue to remit, even when unemployed (Orozco 2009). This puts greater emphasis on the need to thoroughly investigate and develop the potential of mobile-money.

But most importantly, within investigation and development of new remittance technologies, a greater consciousness of migrant and remittance receiver needs must be assumed and should include an attempt to understand the barriers that may prevent migrants from using more beneficial means of sending money back home. Furthermore, remittance processes in general are less well framed as a socio-cultural phenomenon (Duncombe & Boateng 1251), and new technologies in particular have not sufficiently been analyzed or developed within a socio-cultural framework. Based on extensive discussion of the case study of Transportes García throughout this analysis, this author proposes the informal remittance market as a primary realm for considerations of the social and cultural implications of economic remittances. Due to its high demand, historical presence, and engrained social, transportation and communications networks, the informal remittance market provides fertile ground for future research of substantial value, especially in regards to mobile-money. “[I]t is not clear how well the functionality of m-finance systems can be adapted to remittance channels that are largely informal, and rooted in deeper, culturally driven systems of interaction based on trust and social bonding” (*ibid*). As mentioned previously, the informal market may be one of the greatest challenges to the expansion of mobile-money. Mobile-money does present intriguing potential benefits for the remittance market, and especially for individual families, in regards to cost and

accessibility. But, in order for such benefits to be realized, greater consideration of migrant needs within a socio-cultural context must lead future research and development.

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