


2016-01-01

Convergence? The Incursion of Technology in the United States - Mexico Remittance Corridor

Sam Wilner Simon

University of Texas at El Paso, swsimon@miners.utep.edu

Follow this and additional works at: https://digitalcommons.utep.edu/open_etd

 Part of the [Economics Commons](#), [Latin American Languages and Societies Commons](#), [Latin American Studies Commons](#), and the [Public Policy Commons](#)

Recommended Citation

Simon, Sam Wilner, "Convergence? The Incursion of Technology in the United States - Mexico Remittance Corridor" (2016). *Open Access Theses & Dissertations*. 753.

https://digitalcommons.utep.edu/open_etd/753

This is brought to you for free and open access by DigitalCommons@UTEP. It has been accepted for inclusion in Open Access Theses & Dissertations by an authorized administrator of DigitalCommons@UTEP. For more information, please contact lweber@utep.edu.

CONVERGENCE?
THE INCURSION OF TECHNOLOGY IN THE UNITED STATES – MEXICO
REMITTANCE CORRIDOR

SAM WILNER SIMON

Master's Program in Latin American & Border Studies

APPROVED:

Josiah Heyman, Ph.D., Chair

Gregory Schober, Ph.D.

Patrick C. Schaefer, J.D. LL.M

Charles Ambler, Ph.D.

Dean of the Graduate School

Copyright ©

by

Sam Wilner Simon

2016

DEDICATION

Dedicated to the hardworking people who send and receive remittances.

CONVERGENCE?
THE INCURSION OF TECHNOLOGY IN THE UNITED STATES – MEXICO
REMITTANCE CORRIDOR

by

SAM WILNER SIMON, B.A.

THESIS

Presented to the Faculty of the Graduate School of

The University of Texas at El Paso

in Partial Fulfillment

of the Requirements

for the Degree of

MASTER OF ARTS

The College of Liberal Arts

THE UNIVERSITY OF TEXAS AT EL PASO

December 2016

STATEMENT OF THE PROBLEM

The United States-Mexico remittance corridor finds itself at a crossroads, exacerbated by an amalgam of factors including tapering migration levels, a more mature Mexican economy and higher levels of technological permeation. I identify the individual, governments and service providers as the three main actors in the United States – Mexico Remittance Corridor. I deploy an interdisciplinary set of sources, ranging from academic journals to World Bank datasets to illustrate the logistical hurdles that are delaying changes to what many experts believe, is an unsustainable status-quo. I explore the idea of a Galtung inspired mutually reinforcing triangle as a means of depicting the potential convergence of the interests of governments, the individual and the private sector in the decreasing of informal remittances. I argue that technology has the potential to open the remittance market as well as provide new areas of cooperation between actors. Whether or not this market shifts towards the formal or informal sector is widely contingent on how policymakers respond to the dynamic needs of unbanked populations with transnational economic behaviors.

TABLE OF CONTENTS

DEDICATION.....	iii
ABSTRACT.....	v
STATEMENT OF THE PROBLEM	1
CHAPTER 1: INTRODUCTION	2
CHAPTER 2: LITERATURE REVIEW	8
CHAPTER 3: METHODOLOGY	18
3.1 Concepts and Inspiration Behind a Reinforcing Interest Model	18
3.2 Data and Methodological Challenges Pertaining to the Research:	20
CHAPTER 4: THE IDEAL OUTCOME MODEL.....	24
4.1 An Introduction to the Model	24
4.2 The Model Applied to the Bolstering of Formal Remittance Mechanisms	24
4.3 Example B: The Potentials of Big Data and Social Media as Spaces of Collaboration	26
4.4 The Model Applied to United States Regulatory Compliance Efficiencies	28
CHAPTER 5: TECHNOLOGY; A GAME CHANGER OR A CHANGE IN THE PROBLEM?	30
5.1 The Differences between Electronic Banking and Electronic Payments	30
5.2 The Triumph of Kenya’s M-Pesa as a Model of Collaboration	31
CHAPTER 6: REMITTANCES IN MEXICO AND THE CASE OF MiFon.....	34
6.1 The Culture of Financial Access in Mexico	34
6.2 Government Response: Alternative forms of Cash and Participation in Intergovernmental Financial Access Initiatives	35
6.3 The Case of MiFon.....	39
6.4 The Contrasting Realities of MiFon and M-Pesa.....	42
CHAPTER 7: SECURITY CONCERNS: LEGAL FRAMEWORK AND EXAMPLES OF REGULATION IN PRACTICE	45
7.1 The Unintended Consequences of Know Your Customer (KYC): Somalia 2014	45
7.2 Technology and Unregulated Money Transfers? The Case of Liberty Reserve	46
7.3 A Survey of the Current Regulatory Climate	47
7.3 Know Your Customer; Origins and Critique.....	50
7.4 Arizona v. Western Union.....	52
7.5 The Dodd-Frank Act’s Impact on the United States – Mexico Remittance Corridor	53

CHAPTER 8: TECHNOLOGY BASED POSSIBILITIES AND ALTERNATIVES TO TRADITIONAL REMITTANCES	55
8.1 The Potential of Crypto Currency in Global Remittances and Mexico	55
8.2 Kiosk Prepaid: The Potential of Hardware	57
8.3 The Alternative Financial Sector: Its Appeals and Shortfalls	58
CHAPTER 9: POTENTIAL FLAWS IN THE MODEL	62
9.1 Regulatory Shocks, Outside Actors and Economic Jolts	62
9.2 Unrepresentative Categories, Technological Shortfalls and Irrational Actors	64
CHAPTER 10: CONCLUSION, POLICY RECCOMENDATIONS AND THE POTENTIAL FOR FURTHER RESEARCH.....	67
10.1 The Concept of Access.....	67
10.2 Policy Recommendations.....	69
10.3 Recommended Topics for Further Research	70
Diagram of the Model	72
WORKS CITED	73
CURRICULUM VITA	84

STATEMENT OF THE PROBLEM

As the permeation of technology and its potential begins to affect the United States – Mexico remittance corridor, the individual, the private sector, and policy makers could potentially face a new frontier. Technology provides opaque legal territory, the potential for market competition and client anonymity. I ask the question of what the interests of the individual, the private sector and policy makers are currently and how factors like technology could reshape this. Throughout the paper I will be exploring the following questions:

1. How has/is technology and its potential reshaping the remittance market globally?
What implications could this have on the United States – Mexico remittance corridor?
2. What role does a lack of banking access play in the United States – Mexico remittance corridor?
3. What are the potential benefits and shortcomings of the utilization of mobile technology in this particular remittance corridor?
4. What are some of the key legal hurdles inhibiting technological permeation into the United States – Mexico Remittance Corridor?
5. Could governments, service providers and individuals find a common economic, political space where the interests of each actor become intertwined and mutually reinforcing? How could this succeed? What factors could make this fail?

CHAPTER 1:

INTRODUCTION

The economic importance of the Mexican diaspora in the United States is of particular significance due to its size, scale and the impact of its financial behavior on two of the world's fifteen largest economies (Lynn-Lopez, 2015). The World Bank estimates that Mexicans living abroad hold the world's largest "diaspora savings," valued at \$53 billion (World Bank, 2015). The United States Government Accountability Office (GAO) estimated that Mexico received over \$25 billion in remittances, 95.6% of which derived from the United States, surpassing oil in terms of value to the overall economy (GAO, 2016). Remittances into Mexico utilizing two bank accounts make up just 36.3% of total transactions. Since Money Transfer Operators/Operations (MTOs) utilize the banking system for 97.5% of all transactions into Mexico, 63.7% pass through banking infrastructure but find themselves locked out of services (BBVA, 2016). Although increased competition from start-ups and technological permeation had led to a steady decline in transaction charges in 2015, such fees slightly rose again, reflecting a disturbing trend (Kuhlmann, 2016).

One of the reasons for Mexico's heavy reliance on MTOs is because the nation ranks dead last amongst The Organization for Economic Co-operation and Development (OECD) nations and at the lower end of Latin American nations in terms financial inclusion. While Mexico's La Encuesta Nacional de Inclusión Financiera ranks this at 44% (Aguadé, 2015), data from a 2014 study places Mexico's banking access at 27.42% (Tovar, Pavón, 2014). It is also worth noting that many remittances from the United States derive from undocumented persons whose illegalized status might limit their ability and desire to utilize the banking sector. If either the sending or receiving party does not have banking access, the transaction may be excluded from the realm of generally cheaper transfer rates offered by banks (World Bank, 2016).

According to Statista, a technology consultancy firm, Mexican cellphone permeation is set to rise from 65.1% of the national population to 82.3% by 2019 (Statista, 2015). Due to a legacy of Mexicans paying some of the world's highest cellphone for voice coverage, more than half of all users utilize their phones for functions other than talking (Ramirez, 2009). Internet Live Statistics takes World Bank International Telecommunication datasets and juxtaposes them to internet traffic levels. The firm estimates that out of a population of 128,632,000, Mexico has over 58,016,507 internet users, a number which has more than doubled since 2008 (Internet Live Statistics, 2016). Legal scholar, Collin Watterson, notes that in Mexico more people have cellular phones than bank accounts because they are easier to obtain (Watterson, 2016).

Dilip Ratha, manager of migrant remittances at the World Bank, argues that technology, particularly mobile phones, provide the greatest opportunity to fix the inadequacies in the current remittance market (Mohapatra, 2016). As cellphone utilization permeates, they can be used to provide cheaper remittances by shortening the chain of agents involved in a transaction. Mexico's growing population, with rapidly increasing technological sophistication, has allowed for the bridging of the digital divide, helping companies like XOOM Inc., Remitly and Transferwise to use the digital realm to bypass the infrastructural monopoly held by traditional operators like Western Union and MoneyGram. According to the World Bank, these companies' lack of physical infrastructure results in lower operating costs that are being passed on to consumers (World Bank, 2015).

Mohr World Consulting, a firm specializing in advising providers of remittances, notes the latest global trend of the growing interest in mobile financial services amongst telecommunication companies (telecoms) (Cuevas-Mohr, 2015). The firm asserts that cellphone providers already have customer information, are used to dealing with programs that generate smaller profits than

banks and would likely see a financial service as an investment in retaining customers (Cuevas-Mohr, 2015). Even though it eventually declined a banking license, an example of a telecom foray into mobile value transfers was seen in the exploration and lobbying undertaken in Mexico by provider Movistar (Suarez, 2016). The success of telecom mobile finance schemes, as seen in Kenya, South Africa, the Philippines and Bangladesh are widely believed to be one of the greatest hopes for reducing the cost of remittance transactions globally (World Bank, 2015).

Penny Crosman, the Editor in Chief of the American Banker Magazine's Technology Section, cites the remittance industry's precarious regulatory situation as responsible for simultaneously keeping transaction fees high and discouraging market competition. Crosman pinpoints "Know Your Customer," general overregulation and large fines as the main culprits in reinforcing the current remittance fee structure (Crosman, 2016). Crosman also notes that the retroactive nature of the industry means that service providers often do not discover nefarious transactions until after they occur (Crosman, 2016). This makes the barriers to market entry extremely high as a few unforeseen fines can bankrupt a new operation overnight (Crosman, 2016).

Of the \$25.8 billion in remittances sent from the United States to Mexico, almost ten percent was lost to service fees (World Bank, 2015). The non-internet payment systems employed by Western Union and MoneyGram have fees structures that depend on the particular United States city from which the money is being sent (World Bank, 2015). The industry also contends that many of these fees are attributable to compliance with the Know Your Customer laws, which became more heavily enforced after September 11, 2001 (Watterson, 2013). An amalgam of United States laws, intended to police the banking sector or improve customer rights, have also been applied to remittance markets. United States laws such as the Bank Secrecy Act of 1970, the Electronic Fund Transfer Act of 1978, the Know Your Customer clause, and the 2001 Patriot Act,

as well as laws like Dodd-Frank of 2010, have all had large impacts on the United States – Mexico remittance corridor (Trautsohl, Johnson 2012).

I focus on private citizens (individuals), financial operators and governments to evaluate the potential the mentioned factors have on pushing these actors towards a space of mutually reinforcing interests. I evaluate some of the potential behavioral modifications governments, remittance providers and senders/receivers would need to make for the interests of each actor to become part of a mutually reinforcing state of equilibrium. In examining the Mexican migrant, I assess economic behaviors, preferences and previous studies of remittance senders and receivers. In examining the recipient, I look at previous works about where Mexican remittances go after they are received, and consider the implications of laws that complicate receiving processes. This paper also examines the barriers faced by Mexicans on either side of the border when attempting to open bank accounts that would place their monetary transactions in the realm of the formal sector. I look at the ramifications of laws such as the Bank Secrecy Act of 1970 and the 2001 Patriot Act, which can make receivers of remittances more vulnerable because remittances are still mostly cash based (Welty, 2009). The implementation of KYC often relies on the gut instincts of third party agents of MTOs, who are given the power to interrupt or freeze funds from a transaction based on an opaque set of standards (Financial Times, 2007).

In evaluating the nation state's role, I argue that, while governments have the potential to be the biggest winners in reforms to the remittance markets, they also must make unprecedented, decisive reforms in this arena. In the United States the question of which entity is in charge of governing remittances must be addressed. Legislative reform could lower transaction fees as companies become more willing to experiment with alternative technology based forms of money transfer. A lowering of transaction fees could alter consumer sending patterns but would also help

to further enhance the staying power of the formal sector. The World Bank and International Monetary Fund rank Mexico's economy as the world's fifteenth largest, and with \$24.8 billion transferred, remittances have surpassed oil as a national source of income (Harrup, 2016). While 90% of remittances begin in hard currency form (Crosman, 2016), only 36.3% of remittances were received through bank accounts, demonstrating a clear lack of financial inclusion (BBVA, 2016). There are indications that this is also changing as employers and governments on both sides of the border utilize more affordable prepaid debit cards as a means of dispersing payments (A. Cohen, 2010).

The metadata derived from transactions has the potential to be an extremely valuable commodity because it can be used to give policymakers a better sense of security as well as a sense of the scope and scale of the remittance economy. This knowledge can be used to enhance both national and economic security by combatting money laundering and inflation, respectively. As both governments on either side of the border gain a better understanding of the remittance market, development programs, such as Mexico's 3X1, can be made more efficient. While Western Union and MoneyGram could face increased upstart competition, the ability to collect and synthesize large swaths of customer data (El-Sayed, 2011) could also inure to their benefit. They could see an increase in cash flow from the utilization of formal services and could benefit from an expanding pool of potential partners.

This paper utilizes aspects of Latour's actor network theory to examine factors, characteristics and potential outcomes for the United States – Mexico Remittance Corridor where the nation state, markets, legal systems and individuals inevitably intersect and begin infringing on each other's behavioral sphere. While I argue that technology could play a role in helping to balance the interests of these three actors, I recognize that it also has the potential to make the

remittance market more anonymous. I conclude with the idea that through legal reform or the lack thereof, policymakers have the ability to sway the directional influence technology will have on the United States-Mexico remittance corridor. I use the triangle approach as a means of mapping a speculative model of what such cooperation and its failure amongst the actors could look like.

While speculative, this work is unique because it views the United States – Mexico Remittance Corridor as a behavioral sum of its actors. This helps to examine the direct and indirect ways policy changes and the behaviors of actors impact one another within this remittance market. Another aspect of this paper that differentiates it from previous works is the application of the International Relations concept of cooperation, with the endgame being a climate of collaboration that addresses and identifies the long-term interest of all parties. The concept of linking the interests of multiple actors could also allow for governments, individuals and corporate actors to respond more rapidly and in unison to the unpredictable changes that often plague the world of remittances.

CHAPTER 2:

LITERATURE REVIEW

The topic of Mexican migrant remittances as a means of economic growth has been subject to much academic discourse. Leigh Binford argues that more credence should be given to the 1980s “structuralist” position which, owing to neo-liberal economic policies, asserted that remittances are not a catalyst for rural economic development (Binford, 2003). Jeffery Cohen takes a “functionalist” approach in rebutting Binford by suggesting that characterizing remittances as successful solely when they build an economically sustainable lifestyle, fails to recognize that they are often intended to serve as a form of immediate personal/familial economic relief (Cohen, 2005). Ezra Rosser bridges the divide in this debate by arguing that the myriad effects of remittances make them better to function as a tool to combat poverty than a development practice (Rosser, 2010).

Robson and Weist chronicle the economic lure of migration and the effects it has had on indigenous communities in rural Oaxaca, Mexico. Robson and Weist note the graying of populations, as a generation ventures northward and to urban Mexico. Communal leadership roles fall to the old and the very young, who often times are cast into the limelight with little experience (Robson, Weist, 2014). Robson and Weist use the examples of population decline and the socio-economic schisms that can develop between communal members and those abroad to demonstrate how remittances are limited in their ability to replace a person’s presence (Robson, Weist, 2014).

In a 2016 study on a correlation between remittance reception and the utilization of formal Mexican financial services, Christian Ambrosius and Alfredo Cuecuecha apply data from Mexico’s National Institute of Statistics and Geography (INEGI) to review the linkages between

remittances and new usage of formal savings or checking accounts (Ambrosius, Cuecuecha, 2016). While the study finds that financial inclusion might be growing on paper, many receivers of remittances prefer to extract the full payment from a bank account in cash. The same study also links remittance reception to the existence of both preexisting and new debt. Ambrosius and Cuecuecha concede that preexisting debt might be the causation of a migration or the result of one, but also argue that the vast majority of cases are due to a utilization of informal loans with higher interest rates (Ambrosius, Cuecuecha, 2016). Ambrosius and Cuecuecha argue that without access to formal credit, many households that receive remittances will still be susceptible to greater amounts of debt during unforeseen financial shocks such as illnesses, crop failure or other emergencies. One of the most crucial elements of the study is that it highlights that the study of financial access needs to encompass more than entry into one facet of an institution. Ambrosius and Cuecuecha conclude with the argument that a key demand for formal loans is going unmet and thus, remittances are limited in their ability to function as substitutes for access to credit (Ambrosius, Cuecuecha, 2016).

Raúl Hernández-Coss of the World Bank examines the mechanisms for sending remittances to Mexico, concluding that a shift from informal to formal sectors would likely take place (Hernández-Coss, 2008). Hernández-Coss bases this assessment on the Mexican Consulate's 2002 issuance of the Marticular Consular de Alta Seguridad (MCAS), an official form of government identification, aimed at granting "illegalized" migrants access to formal sector American and Mexican financial institutions. Hernández-Coss also notes the 2005 launch of Directo a Mexico, a collaborative effort between the Federal Reserve banks of the United States and Mexico to offer cheaper remittances to those with United States bank accounts (Hernández-Coss, 2008). The work of Hernández-Coss is important because it showcases the initial excitement

surrounding the beginning of the MCAS and Directo a México, and government to individual collaborative efforts. Although not explicitly stated, the work of Hernández-Coss alludes to the long history of lack of access to financial institutions as one of the main reasons for such a heavy reliance on MTOs and the informal sectors as the vehicles for transferring money.

Bourreau and Verdier cite a 2008 survey of Mexican financial inclusion, stating that 70% of the unbanked thought the transaction fees associated with an account were too high (Bourreau, Verdier, 2010). Evan Welty argues that the emergence of banks as a player in the remittance market could be inevitable due to their ability to subsidize the costs of remittances by using them as a lure to sell additional services to these prospective customers (Welty, 2009). The same study also finds a preference amongst Mexican migrants to remit smaller sums of cash more frequently, though they are discouraged from doing so by transaction fee structures (Welty, 2009). Ambrosius and Cuecuecha argue that due to proximity, fees and the lack of proper documentation within Mexico, only 27% of Mexicans have access to the formal banking sector (Ambrosius, Cuecuecha, 2016). This lack of access has led to a heavy reliance on MTOs with vast agent networks and high transaction fees, such as Western Union or MoneyGram (Ahmed, 2016). Penny Crosman notes the historical advantages enjoyed by Western Union and MoneyGram, as they portrayed themselves as the only way to send money through a monopolization of government spaces like post offices (Crosman, 2016). Crosman also cites the inefficiencies of the often excruciatingly long and ever changing money trail of banks and agencies, each taking their cut of a remittance transaction (Crosman, 2016).

Ambrosius, Fritz and Stieger compare the functions of microcredit agencies in the Dominican Republic, Mexico and El Salvador, concluding that such institutions might be better positioned to help fight rural poverty than traditional banking institutions due to their preexisting

infrastructure aimed at processing small scale transactions. Another positive aspect of microcredit agencies handling remittances is that such payments could immediately function as loan collateral (Ambrosius, Fritz, Stiegler, 2014). Ambrosius, Fritz and Stieger also argue that in Mexico, microcredit agencies have an advantage over upstart companies because they are already established and not seen as a direct threat to the nation's powerful banking establishment (Ambrosius, Fritz, Stiegler, 2014). Burgess et al note the array of newer financial options aimed at Mexico's poor. Burgess touts the potential of such operations as Banco Azteca's ability to reach new layers of society. This work also voices skepticism because much of the bank's business model is aimed at extending lines of credit at exponentially high interest rates (Burgess, 2013). The work of Burgess et al alludes to the concept that Mexico's overreliance on cash reinforces a system of financial exclusion (Burgess, 2013).

Zygmunt Bauman coins the term "liquid modernity" to describe the global shift from a reliance on bricks and mortar to one that is based on software. Bauman acknowledges that software is much more adaptable than the physical, when changes occur in the global status-quo (Bauman, 2013). This shift is visible in Mexico where Watterson acknowledges, it is easier to obtain a cellular phone than a bank account (Watterson, 2013). Tony Godfrey notes that nearly a quarter of Mexico's population live in rural areas, multiple hours from banking access, and only 9% of that population hold formal bank accounts (Godfrey 2015). The case for mobile banking/payments is strengthened by a 2009 study of Mexican strategic telephony undertaken by Ramirez and De Angoitia (Ramirez, De Angoitia, 2009). The study finds that, as a result of exorbitant call charges, Mexicans are 52% more likely to use their phones for something other than talking, evidencing a consumer base willing to be innovative with technology to avoid costs (Ramirez, De Angoitia,

2009). A population with an 80 % cellphone permeation rate, of which 60% are smartphones, would appear to be an ideal population for mobile methods of money transfers (Suarez, 2016).

Sandra Suarez compares the differing outcomes of mobile money in Mexico and Kenya, as will be discussed again, arguing that regulatory capture is widely responsible for its failure in the former and success in the latter (Suarez, 2016). Suarez defines regulatory capture as the excessively close relationship between Mexico's banking sector and its government, which utilizes regulation to prevent the competition that could arise if cellphone providers were able to legally allow customers to transfer money using existing networks (Suarez, 2016). Evans and Pirchio conducted a study of 22 nations that adopted electronic payments, concluding that bank-led models, as seen with Mexico's MiFon program in rural Oaxaca, are far more likely to fail than those led by another actor, such as Kenya's M-Pesa (Evans, Pirchio, 2014). Alberto Guillén points out that Mexico's 59 million Facebook users rank fifth globally, and considers that Facebook could eventually provide a platform for users to send and receive money (Guillén, 2015). Information already present on Facebook could potentially function as a new means of verifying identities in compliance with KYC practices. Facebook also has dormant banking licenses in 48 states, meaning it could begin services at its own behest (Guillén, 2015). Guillén also notes that cybersecurity could be an issue, and that battles are likely to ensue if banks perceive social media to be infringing on their domain (Guillén, 2015).

Dan Schatt, formerly of PayPal, argues that at this pivotal time, banks need to forge relevant partnerships with innovative startups to remain efficient and competitive (Schatt, 2014). Schatt points out that throughout history, many of banking's most crucial innovations have their origins outside of the banking sector (Schatt, 2014). Schatt argues that startup ventures have the potential to offer banks new means of reaching and stimulating customers, while banks can provide such

actors access to discounted capital and an established ecosystem with compliance expertise. Schatt encourages banks to embrace this by viewing new actors as potential partners rather than competition (Schatt, 2014). Schatt cites the amalgam of unfavorable consumer opinions of banks as evidence for a need to recalibrate and rebrand (Schatt, 2014).

John Cassara looks at financial regulatory policy and its influence on the black market peso exchange. This system of parallel banking links non-related monetary transactions to existing international exchanges of goods (Cassara, 2015). Cassara notes the US Government estimation that the anonymity of this system provided drug cartels with a means of laundering over five billion dollars in 2004 alone (Cassara, 2015). Emiko Todoroki uses the case of the 2014 “Somalian Remittance Crisis” to highlight the dangers of using a heavy hand to regulate the remittance market (Todoroki, 2014). The war-torn nation of Somalia suddenly found itself cut off from the majority of its 1.29 billion dollars in remittances, because a United States bank discovered that approximately \$4,000 was allegedly obtained by the terrorist organization, Al-Shabab (Todoroki, 2014). This single bank’s fear of regulatory bodies set off a chain reaction that reverberated throughout the banking sector working with Somalian remittances, creating a stoppage (Todoroki, 2014). The event is also of significance because it clearly highlights how quickly remittances can become high risk and low reward, thus cementing the low position of remittances on the banking sector totem pole.

Johnsøn and Trautsolt warn of the perils of applying banking style regulations to non-banking and informal entities (Trautsolt, Johnsøn 2012). Colin Watterson seconds this view by arguing that to draw remittances out of the informal sector and to prevent them from drifting back in the future, governments should devise incentives that make the formal sector more competitive (Watterson, 2013). Watterson notes that much of Western Union and MoneyGram’s initial

business overhead, goes towards complying with the strict “Know Your Customer” clauses originally aimed at banks that dealt in much larger sums of money. Arkadi Kuhlmann acknowledges that in aggregate, remittance surcharges actually rose in 2015 (Kuhlmann, 2016). Kuhlmann points out that without changes to the industry, customers might be driven underground (Kuhlmann, 2016). Noel Maurer asserts that one of the biggest issues facing the United States remittance industry is the lack of universal criteria for taxing and regulating service providers (Maurer, 2016). A 2016 report by the United States Government Accountability Office (GAO) alludes to the possibility that this might be due to the government’s difficulty in measuring the scope and scale of the industry (GAO, 2016).

Coon examines the current state of the remittance process, noting that migrants are sometimes referred to as “Walking ATMs” because their illegalized status often results in an overreliance on cash (Coon, 2015 & Barranco, 2015). Cash is usually the preferable payment medium in the United States because it protects both the migrant and the employer from a paper trail. While this yields immediate logistical utility, multiple studies correlated a rise in migrant populations with an occasional rise in robberies against these individuals (Coon, 2015 & Barranco, 2015). Both studies also find that being a victim of a crime has a direct impact on a migrant’s remittance behavior. Coon determines that being burglarized will increase the size and occurrences of remittances, whereas being robbed will decrease the size and occurrence (Coon, 2015). Coon speculates this is due to the personalized nature of a robbery as being an attack on the individual as well as their assets. A common reaction to this is to reexamine one’s own situation and potentially invest in security measures (Coon, 2015).

One of the reasons remittances to Mexico rank fourth globally is the government’s 3X1 program, which subsidizes every collective peso generated for government approved projects in

Mexico by three (Lynn-Lopez, 2015). Sarah Lynn-Lopez provides a valuable interdisciplinary analysis of the successes and shortcomings of the Mexican Government's 3X1 program (Lynn-Lopez, 2015). Lynn-Lopez observes that living in the United States alters remittance sender's perceptions of space and culture. This has led to the increased preference of American architectural styles because they are associated with success (Lynn-Lopez, 2015). The local construction apparatus is often unfamiliar with such practices, leading to many being squeezed out of the changing native economy. One of the most important aspects of the work of Lynn-Lopez is showcasing that remittances are often a transfer of ideas, culture and values, as well as cash.

Narayan and Mishra look at evidence from 54 developing nations and conclude that remittances often lead to inflation when a government fails to take decisive democratic action to accommodate these changing realities (Narayan, Mishra, 2011). Egyptian economist Nabil Khodeir uses the experience of his post-revolutionary nation and the sudden influx of remittances from the Arabian Gulf to warn of the potential dangers of remittances. (Khodeir, 2015). Khodeir argues that if government is unaware, unable or unwilling to take action, sudden uncontrolled inflows of cash can result in rapid microeconomic shocks that can further destabilize already precarious economic situations (Khodeir, 2015).

Eugene Lyle's 1903 article about the United States' political influence in Mexico helps to illustrate the significant period of time that the policies in the United States have impacted the Mexican political economy (Lyle, 1903). This lends credence to the idea that legal reforms pertaining to remittances would likely need to begin in the United States before they are implemented in Mexico. To truly gauge the scope of Mexico's informal economy, Ghosh, Anderson, Powell, Sutton and Elvidge deploy geographic methods to detect various forms of light emission. Through the utilization of open source economic data and signals intelligence obtained

through satellite imagery, the team estimates that the inflow of remittances are as much as 150% larger than any current official statistic (Ghosh, 2009). The study makes excellent use of unconventional methods to examine Mexico in its entirety, demonstrating the scope of economic activity that likely transpires outside the realm of the formal financial sector. Dilip Ratha, the World Bank's lead economist on remittances, substantiates these claims as he notes that the true value of remittances is generally at least 50% greater than what is reported (Ratha, 2012).

In evaluating the potential and limitations of modern technology, Evgeny Morozov notes that much of the latest wave of innovation is driven by young entrepreneurs who come from a solutionist based school of thought. Morozov argues that this ideology tends to fetishize the development of a solution, as opposed to mastering an understanding of the problem itself (Morozov, 2013). Morozov also worries that, while technology has the ability to strengthen democracy, it can also function as a consolidator of power by absorbing and controlling the dispersion of information, rendering it vulnerable to undemocratic practices (Morozov, 2014). Colin Richard applies this logic to the field of electronic remittances by arguing that the consolidation and merging of technology and finance could allow an authoritarian to virtually stop an economy in ways previously inconceivable (Richard, 2012).

Private consultant Hugo Cuevas-Mohr notes that because of the regulatory climate, many of the established MTOs are expending the vast majority of their resources on security as opposed to innovation (Cuevas-Mohr, 2015). This is likely due to the recent "de-risking" phenomena as banks close the accounts of MTOs after deeming them to be "high risk" (Cuevas-Mohr, 2015). The potential of technology to become a disrupter in the international remittance market is widely recognized (Hernández-Coss, 2005; Welty, 2009; Rameriz et al., 2009; A. Cohen, 2010; Ratha, 2012; Burgess, 2013; Hugh, 2013; Reinsch, 2013; Winn, 2013; Schatt, 2014; Tovar, 2014 Godfrey,

2015; Cuevas-Mohr, 2015; Guillén, 2015; Suarez, 2016; Thomas, 2016). A 2015 international study in the developing world by the Brookings Institute compliments this argument by concluding that there are clear correlations between increases in technological inclusion and an eventual increase in financial inclusion (Villasenor, 2015). While there is a growing consensus that technology is reshaping the remittance market, there are clear differences in opinion amongst authors as to how this will come about and what its potential impacts are.

CHAPTER 3:

METHODOLOGY

3.1 Concepts and Inspiration behind a Reinforcing Interest Model

The concepts of political equilibrium and mutually reinforcing interests have long histories in the fields of political science and international relations but have since been applied to all strata of business and civil negotiations (Ordshook, 1982). Much inspiration for my usage of the mutually reinforcing triangle derives from the work of Robert J. Axelrod and his studies on the science of cooperation (Axelrod, 2006). After a strenuous series of computer simulated game theory, Axelrod concludes that the actors who are able to see that cooperation, rather than instant gratification, is in their best long-term interests, are the ones most successful in the grander scheme of things (Axelrod, 2006). The manifestation of these concepts into a triangle derives influence from the workings of Emmanuel Kant's Perpetual Peace, in which a space is reached where the interests of all parties are dependent on and reinforce one another (Kant, 1932). Within the scope of my work, the concept of equilibrium is used to denote a socio-political space where the interests of the individual, the state and private sector could potentially become solidified and strengthened by the interests and behaviors of each other, or could contribute to collapse.

The main actors in the United States – Mexico Remittance Corridor are the individual, the private sector and the government; each can be isolated to evaluate factors that drive/could drive their behavior and the reactions this elicits from other actors. In evaluating each actor, a variety of sources could be utilized to identify what interests are prioritized. A triangle demonstrates the interconnectedness of all actors as the triangle is composed of equal, intersecting lines. Given the multifaceted natures of technology and the Mexican remittance market, a mixture of quantitative

and qualitative information was used. Since government policy always has a direct or indirect effect on remittances, government data and expert's critique of policy help provide a sense of why such measures were undertaken and what their impacts have been. Government information and policy analysis was heavily utilized for the portions of the paper that cover the history of the remittance market and the legislation that addresses that market and other methods of transferring money.

The United States – Mexico Remittance Corridor is often incorrectly categorized as only flowing in one direction. While the United States ranks first as the world's largest sender of remittances, it also receives 49.7% of the \$810.6 million sent from Mexico, making it the world's largest recipient of remittances from Mexico (BBVA, 2016.). It is believed that the majority of these transactions are to pay for the journey northward or to help recent migrants establish themselves in the United States before remittances begin to flow in the opposite direction (Ambrosius, Cuecuecha 2016).

Given the tendency of governments to focus on their own interests (Morgenthau, 1950), it has been the World Bank that has undertaken some of the most extensive efforts to view remittances and their impact on both local and global scales. From simple cut and dry statistics to in-depth studies of specific corridors, the World Bank's mediums of disseminating this information include books and info-graphics. One of the most useful datasets provided by the World Bank is its Remittance Price Index. This tool allows a user to choose a sending and receiving nation and view all the potential formal sector operators and their fluctuating transaction fees in near real time.

3.2 Data and Methodological Challenges Pertaining to the Research:

For this specific undertaking, government data from the United States Federal Reserve, Mexico's Instituto Nacional de Estadística y Geografía (INEGI) and the World Bank often differed from one another regarding the same topic. The differences in data can be explained by the fluctuating nature of the informal remittance market, as each is affected by this at a different time (Le Franc, 2001). While branches of governments always have differing interests and capabilities, data deriving from a specific government is useful because it provides a sense of what they perceive to be their remittance reality. A clear turning point in the study of remittances came after the attacks of September 11, 2001. Before this date, an EBSCO search of the term remittances, reveals a field mostly covered by anthropologists and a sprinkling of economists. If the dates of this search are modified to only post 2001 works, the field has a huge influx of security specialists and economists, signifying a drastic shift in how research is conducted, to whom the field is significant and how such studies are funded.

A critical difficulty in researching the modern United States – Mexico Remittance Corridor is the ever changing nature of the subject matter. Such research entails ascertaining information on mobile telephonic access, financial participation and the legal practices of the involved sectors in both nations. Even smaller academic articles regarding technology and this corridor, such as those written by Tony Godfrey and Sandra Suarez, have strung together small portions of vast arrays of sources. An additional challenge in using datasets and studies that look at technological and financial inclusion, is to not assume participation in one service is indicative of access to others typically associated with it. An example of this can be seen in the 2016 research of Ambrosius and Cuecuecha which demonstrates access to a savings account in Mexico does not mean these

customers are using it for savings or have access to lines of credit (Ambrosius, Cuecuecha 2016). This same logic holds true in Ramirez' study of Mexican telephony, where access to a cellphone, did not mean a participant could afford to consistently use it for voice coverage (Rameriz, 2009).

Another research limitation with the United States – Mexico Remittance Corridor is a lack of information about the history of informal remittances as well as information about their current state. This is to be expected, because In comparison with Chinese Snakehead networks and the Muslim World's Hawala systems, there has not been as much research done on the informal personal remittance networks of the United States – Mexico Remittance Corridor as a system as complex has yet to be uncovered. the large amounts of work centering on informal value transfers within, a scheme as complex catering to the needs of the individual has yet to be uncovered and researched along the United States – Mexico Corridor. While much information exists about Latin America's various black market peso exchanges, such networks generally deal with the cross border laundering of large quantities of illicit cash, rather than the individualized transactions Hawala or Snakehead networks are often also setup to process (Cassara, 2015). In Mexico, the nation's overreliance on cash and lack of financial access makes it especially difficult to gauge people's habits of spending and saving (Burgess, 2013). In Mexico, the nation's overreliance on cash and lack of financial access makes it especially difficult to gauge people's habits of spending and saving (Burgess, 2013).

Hernández-Coss of the World Bank argued that transnational busses between the United States and Mexico remain a critical courier of informal remittances, either in the form of money orders or hard currency (Hernández-Coss, 2005). The previously cited 2009 Mexican light emission study's claim that both informal remittances and the informal economy are grossly underestimated (Ghosh, 2009) is also supported by a 2014 International Labor Organization study,

citing that approximately 60% of Mexicans work in the informal economy (ILO, 2014). For the sake of this paper, a lack of more concrete information about the informal economy makes it difficult to argue that technology, if not embraced, could provide remittances with a new informal platform.

Remittances occupy an interesting space between the interests of governments, the financial sector and the individuals that rely on them. The World Bank estimates that 601 billion USD are sent yearly between migrants and their families (World Bank, 2016). While collectively this is a huge sum, most of the time funds travel in much smaller denominations that are coupled with stringent banking regulations regardless of the transfer amount. This reality creates an environment where the actual value of remittances to a service providing company is subject to volatile booms and busts. To companies such as Western Union and MoneyGram that utilize a traditional electronic wire transfer network, the vast majority of profit must derive from transaction fees because they have few other sources of income (Abrosius, Fritz, Stiegler, 2014). Banks and internet based ecosystems would theoretically be in a better position to offer customers a cheaper product because remittances could easily be packaged with other more consistently profitable services (Welty, 2009). A downside of banks and startups having other means of profit generation is that remittances would be of only secondary interest to these companies, as seen by the actions of Wells Fargo and the Merchant's Bank of California in Somalia in 2014. Much of the current remittance research is future focused and sees further linkages between remittances and other financial services, rather than exploring new ways to make remittances profitable on their own terms (Schatt, 2014; Frisby, 2015; Mohapatra, 2016). The relative abandonment of an attempt to create greater value from remittances is indicative of industry frustration towards government practices like KYC and other Financial Action Task Force (FATF) standards (Winn, 2013).

A challenge in researching the legal framework of the United States – Mexico Remittance Corridor is that it is governed and overseen by laws that were not originally intended for this purpose (Rosser, 2008). This is exemplified by the Bank Secrecy Act (1970), the Patriot Act (2001) and the Know Your Customer controls (2002). As a result, remittances in the United States are governed by an opaque array of federal agencies and local state apparatuses (Aysa-Lastra, Cachon Rodriguez, 2015). Legislation that is purposefully written broadly, like the Patriot Act, can have global reverberations. The fact that the United States and Mexico are both party to the same 36 nation Financial Actions Task Force (FATF), aimed at standardizing global banking practices, provides new possibilities for legal collaboration and, as will be explained, new problems. Regulation and the legal implications of actions help provide a lens to explain the actions of individuals, institutions and markets. Drawing inspiration from game theory, I attempt to analyze the behaviors of policymakers, the private sector and individuals to determine the interconnectedness of their past actions, while speculating on how this might impact the market's future (Axelrod, 2006).

CHAPTER 4:

THE IDEAL OUTCOME MODEL

4.1 An Introduction to the Model

The ideal outcome model is a triangular relationship between the financial sector, governments and the individuals utilizing remittances. The concept entails each of these actors demonstrating good faith by pursuing their best long term interests, while searching for, and exploiting, linkages between themselves and other actors. This model could eventually serve as a blueprint for interactions between actors requiring cooperation. This would need to commence by application to very specific issues, testing its viability as well as the resolve of actors to collaborate. The issues most likely to foster a climate of cooperation in the earliest attempts at implementing the triangular model will likely be ones where all actors are affected. All actors should recognize the possibility that other actors might desire the same overall outcome but for differing reasons (Fisher, Ury, Patton, 1991). Actors would need to be aware that their actions could elicit responses that may not be proportionate to their own, but should still be viewed as responses, none the less.

4.2 The Model Applied to the Bolstering of Formal Remittance Mechanisms

An example of a good first place to apply this concept is to the benefits derived by all actors in keeping remittances in formalized institutions. From the perspective of government, this could help insure the state's ability to investigate the legality of transactions, while subsequently monitoring for inflation. For the individual depending on remittances, an upside of the formalized sector is that there is generally a system of recourse if transactions get complicated. Since the majority of remittances to Mexico are received by banks or their partners, formalized remittances could also hold the key to greater financial access (Cuecuecha, Pederzini, 2012). A condition of

the 2011 Durbin Amendment forced banks to drop the service fees on debit transactions from .44 cents to .21 cents, resulting in annual losses of over 8 billion dollars for the banking industry (Farrell, 2011). As a result, banks have consistently sought out ways to fill this profit void (Reinisch, 2013). Like MTOs, most banks do not have innovation officers because they too are devoting approximately 90% of their resources to compliance (Schatt, 2014). The diverse field of young financial technology (fintech) firms could benefit the banking sector as both a recipient of investment capital, and a provider of the innovation so many experts believe is needed (Schatt, 2014; Mariotto, 2015).

As an actor identifies such similarities, they can adjust their behavior accordingly. For example, governments can give this outcome a better chance by amending aspects regarding the enforcement of KYC banking standards. This would likely help make the formal remittance market more competitive and incentivize a shift to internet based remitting ecosystems. While solidifying a movement towards their own endgame, the state would also be pushing other actors towards the same goal by linking the disjointed interests of others dependent on the same outcome. Critical to a positive outcome is having actors identify the interests and intrinsic flaws of their counterparts and seek common ground (Fisher, Ury, Patton, 1991). It must be recognized that poor and marginalized individuals who utilize remittances might not have the same capacity as other actors to rapidly shift their behaviors, regardless of long term interests.

Keeping with the KYC example, it is also worth considering how a move by one actor could elicit chainlike reactions. An easing of aspects of KYC implementation could have an immediate benefit for consumers who might find remittance fees suddenly lowered by an influx of new startups or by traditional providers lowering their transaction fees. In accordance with the standard laws of a free market, companies that would not pass on such a savings would likely find

themselves losing customers. As seen in case studies like Kenya's M-Pesa (Mugambi, Lang, 2014), when Western Union lowers transaction fees, business models tend to shift from processing small amounts of higher value transfers to higher volumes of lower value transfers (Orozco, Yansura, Slooten, 2013). Since this correlation between lower prices and lower remittance values exists in a multitude of case studies across time and geography, it can be inferred that the average customer would rather send less money, more often. Anthropologist Karsten Paerregaard speculates that this is likely because the sender prefers to exercise a greater degree of control over their own life, by sending when they can; additionally, the sender can control how the remittance is being spent, due to an increased ability to contribute smaller denominations aimed at achieving specific outcomes (Paerregaard, 2014). In a 2009 study, Morawczynski and Pickens found that cheaper transaction costs led to an increase in small denomination transactions and subsequently, a greater total sum of money was remitted (Morawczynski, Pickens, 2009).

4.3 Example B: The Potentials of Big Data and Social Media as Spaces of Collaboration

Another area where the triangular model could be applied to the interests of all actors is in the potential introduction of datamining to remittances. Schatt argues that many banks are sitting on goldmines of data that are not being utilized to their fullest extent (Schatt, 2014). A critical advantage in more services offering internet based money transfers, is that more consumer data is centralized, generated and stored for further analysis. In synthesizing this information, companies providing remittances can add a new dimension of profit to a transaction by suggesting other potential services that might interest the customer. This profit could also be accessed through selling such information to third party brokers. From the perspective of a customer, datamining can provide a more personalized experience, as well as information about opportunities for which

they are eligible. A study on the topic conducted by Barclays' of London found that 90% of customers would be comfortable with banks having this information as well as access to their geographic location (Schatt, 2015). From a government prospective, datamining also provides another means to monitor for fraudulent transactions. Access to a client's geographic location at the time of a transaction and their finger print could add another layer of authentication (Schatt, 2015).

A less mentioned United States – Mexico Remittance Corridor issue that could promote cooperation amongst actors would be the integration of social media networks into the field of remittances. The Pew Hispanic Center estimates that of all Latinos in America utilizing the internet, 68% use Facebook as well (Lopez, Barrera, Patten, 2013). Inasmuch as there are an estimated 46 million Facebook users in Mexico, (Statista, 2016) this represents a huge swath of consolidated data that could be used for customer authentication purposes (Guillén, 2015). The problem of being underserved by national identification documents is one that plagues Mexicans living on both sides of the border. A common issue in both nations is that people have names with a multitude of compounds that are often transcribed inconsistently on documents, confusing government agencies and sometimes rendering the individual ineligible for standard identification documents (Horowitz, 2016). While Facebook, Twitter and Gmail accounts are widely used for verifications online, the usage of a Facebook/social media authentication process to send and receive remittances in underserved communities might also yield greater inclusion and thus benefit all three actors.

Social media authentication could benefit the individual by allowing investigative account scanning to prove authenticity. Facebook could be of interest due to its ability to ask verification questions pertaining to a specific network of peers as well as its usage of biometric facial

recognition software and fingerprints (Polakis, 2013). It is worth noting that DenizBank in fellow OECD member nation Turkey already uses Facebook in this manner (Schatt, 2014). From an industry standpoint, access to a customer's social media could provide greater insight into customer behavioral patterns, making it easier to track fraud and suspicious behaviors (LexisNexis, 2013). Although government usage of this data would likely be subject to ethical discourse, the ability to financially connect various individuals across borders could yield the ability to quickly identify threats (Schiener, 2015). It is noteworthy that India is in the process of utilizing similar aspects of biometric technology to help solve identification issues, lending further validity to the argument of alternative forms of authentication (Muralidharan, Niehaus, Sukhtankar 2016).

4.4 The Model Applied to United States Regulatory Compliance Efficiencies

A final example of a United States – Mexico Remittance Corridor issue where this model could be applied is in the area of regulation. One of the most common industry grievances in the United States is the amalgam of government actors with a hand in the regulation of the remittance market (Watterson, 2013). FinCEN of the Treasury Department, the Consumer Financial Protection Bureau, the Internal Revenue Service and various state agencies can all lay claim to overseeing different aspects of United States remittance transactions (Watterson, 2013). The need to establish one centralized body with liaisons in each agency has also been echoed by legal scholars, consumer rights advocates and elected officials (Cohen 2010, Watterson, 2013, Natter, 2014). The establishment of a single government agency would be helpful to the financial sector because it could potentially function as the sole representative of government, streamlining issues. That a remittance provider needs 46 differing licenses to operate nationally, is indicative of a need for centralization (Watterson, 2013). From the standpoint of a remittance consumer, the process of

filing a grievance or reporting suspected fraud would also be easier if it involved one clearly demarcated overarching agency.

CHAPTER 5:

TECHNOLOGY; A GAME CHANGER OR A CHANGE IN THE PROBLEM?

One of the most critical benefits of technological permeation into the remittance market is that the multiplicity of platforms and options offered will make remittances cheaper for all parties involved in a transaction. Swedish phone maker Ericsson predicts that by the year 2020, 6.1 billion smartphones will be in use, globally (Qureshi, 2015). The concept that such technology could be utilized as a means of expanding financial services to the underserved has long been considered by governments, the World Bank and the industry alike (World Bank, 2016). Regardless of whether the technology utilized is a system like M-Pesa, Bitcoin or even the deployment of all-encompassing kiosks, all modes of technology aim to create an ecosystem that circumvents the obstacles associated with the current banking systems, sovereign borders and currency exchanges.

5.1 The Differences between Electronic Banking and Electronic Payments

While technology could be utilized as a method of sending and receiving remittances, it is import to note the stark legal and logistic hurdles that differentiate electronic banking and electronic payments. Janine Firpo of the World Bank describes electronic payments as a means of digitalizing cash money, equating it with a pre-paid credit card, in that money can be stored but the storage is not intended to be permanent (Firpo, 2009). Venmo, currently in the United States and Japan, is an example of a free service that allows users to send micropayments to one another by linking their credit card or bank account to the service (Minor, 2015). Users are incentivized to transfer the funds they receive through limitations on storage capacity. PayPal, Amazon Money and Google Wallet, all possess the necessary 48 state banking licenses, and are examples of

electronic money transferring services, but it is the nature of the service provided that determines the legal framework governing the operation (Wack, 2016). Electronic or mobile banking is designed to provide access to a preexisting bank account and the services associated with it (Nicolleti, 2014). In addition to its more permanent nature, a crucial factor differentiating digital banking from digital payments is that digital bank accounts can usually be considered for loan collateral (Ambrosius, Fritz, Stiegler, 2014). In the case of the United States and Mexico, mobile banking is generally governed by the banking laws already present in the banks' respective nation of operation. As demonstrated in the portion of the paper that addresses examples of regulation in action, it is clear that the laws of both nations find themselves challenged in trying to define, and later determine, where a mobile remittance is actually taking place. Despite the many regulatory hurdles associated with fintech, financial inclusion experts such as Dilip Ratha of the World Bank and Penny Crossman tout the mobile device as a potential answer to providing the unbanked with financial services (Crosman, 2015).

5.2 The Triumph of Kenya's M-Pesa as a Model of Collaboration

One of the world's great success stories of technology helping to fuse the interests of the government, financial sector and consumer is Kenya's M-Pesa. M-Pesa is the rare example of a service that merges cash transfers and mobile banking. The system was launched in 2007 as a joint venture between the Kenyan Government and telecommunication service providers Safaricom and Vodacom (Mugambi, Lang, 2014). The service capitalizes on Kenya's mobile phone permeation rate of 71% to offer a convenient platform for Kenyans at home and abroad to receive money via text messages for a nominal transaction fee. M-Pesa works by turning Kenyan shillings into an electronic credit that can be traded for the exact value in the same currency or transferred to another

user, business or bill collector (Buku, 2013). What differentiates M-Pesa from similar services is that once the money is received, a government approved bank account is immediately established in the name of the recipient (Morawczynski, 2009). Professors Allen Mugambi and Samuel Lang refer to M-Pesa as a system of mobile money rather than a form of banking or a method of making payments (Mugambi, Lang, 2014). This differentiation can be made because payments transpire from business to business, customer to business and customer to customer.

The M-Pesa model centers on accommodating high volumes of transactions at low fees. M-Pesa's service fees are imposed on a sliding scale, determined by the value of a transaction, but max out at 110 Kenyan shillings, which is the rough equivalent of one United States Dollar (USD) (M-Pesa, 2016). The service also allows users to utilize automatic teller machines (ATMs) that max out at less than two USDs to withdraw an amount equivalent to just over 100 USDs. (M-Pesa, 2016). Industry based news service *Total Telecom Online* reported that as of 2016, M-Pesa had 25.3 million active users and a national population of approximately 44 million (Total Telecom Online, 2016). In 2013, 43% of Kenya's gross domestic product flowed through M-Pesa, and in 2015 the venture posted profits of approximately 336 million USD (Ndour, 2016).

Since its 2007 launch, M-Pesa has experimented with new methods of extending financial inclusion. One of the most popular new services offered allows users to obtain loans, sent directly to their mobile device (World Market Intelligence, 2015). In conjunction with the bank created for this program, M-Pesa utilizes a customer's GSM data, social media and history of financial transactions to generate a credit score which determines the parameters of the loan (World Market Intelligence, 2015). While the maximum loan is just under \$10,000 USD, the average customer's interest rate is 2% and the average loan is paid back within 30 days (Mungai, 2016). Since the program's inception in June of 2015, it has loaned out over \$101,175,252 USD (Mungai, 2016).

Upon the timely repayment of a loan, the user's credit score is improved, resulting in greater borrowing privileges (Mungai, 2016.). Programs like this begin by providing remittances and continue on to leverage brand recognition, utilizing preexisting data to diversify the services they offer. As the brand expands, it builds a greater level of trust amongst its customers and is able to offer a wider array of services, promoting financial inclusion.

Even though M-Pesa handles more transactions daily than Western Union does annually, many experts dispute its international exportability (Buku, 2013). Kenyan attorney Mercy Buku points out that aside from being blessed with a cellphone savvy youth bulge, the venture relied on the brand recognition of the already established Safaricom (Baku, 2013). Buku also notes that customer due diligence (CDD) restrictions were eased until the venture matured, allowing the venture to include a broader range of clientele (Baku, 2013). Economists David Evans and Alexis Pirchio evaluated the progress of mobile money operations in 22 developing nations, including Mexico. Their research found that in the eight nations where mobile money flourished, the common denominator was lighter banking regulations (Evans, Pirchio, 2014). Since Vodafone owns 40% of M-Pesa's parent company, the service has expanded to Afghanistan, Albania, Egypt, India, Mozambique, Romania, South Africa and Tanzania, under the Vodafone brand, with varying degrees of success (World Market Intelligence, 2015).

Because M-Pesa was developed with the Kenyan government, the operation was less likely to face many legal hurdles and pushback from established institutions usually associated with an expanding new financial service. Although the M-Pesa model is clearly a uniquely Kenyan solution, it could function as an example of the potential impact governments, the private sector and private citizens can have in making remittances safer for themselves by finding economic, political and social spaces where their interests converge.

CHAPTER 6:

REMITTANCES IN MEXICO AND THE CASE OF MiFon

6.1 The Culture of Financial Access in Mexico

Mexico's banking sector lies at the root of many of the difficulties its citizen's experience when attempting to send money home. 2016 World Bank data reflects that only 44% of Mexicans own a bank account, meaning that unbanked Mexicans constitute 2% of the global unbanked population (World Bank, 2016). While acknowledging that Mexico has made great strides toward financial inclusion, researchers dispute this number, asserting that middle and upper class Mexicans utilize multiple accounts, which may affect the accuracy of the data (Burgess, 2013). A 2015 study by Mexico's Encuesta Nacional de Inclusión Financiera (ENIF) presents statistics that illustrate many of Mexico's nuances and irregularities in terms of financial access. One of the clearest explanations for discrepancies in banking access lies in the fact that only 14% of the 42.6 million unbanked work in the formal economy (González, 2015). Although progress has been made, there is still a stark urban-rural divide, with only 28% of those living in rural communities being banked (González, 2015).

Another economic characteristic that differentiates Mexico from the rest of its OECD counterparts, is the degree to which hard currency dominates the economy. This is hallmarked by the fact that 90% of all transactions still utilize cash as a means of payment (Burgess, 2013). A 2013 study by MasterCard estimates that approximately 1.5% of global gross domestic product was lost due to the shortcomings associated with an overreliance on cash (Hugh, 2013). In Mexico, the cost of cash is estimated to be 2.3 billion pesos (\$115,920,000 USD) and over 48 million hours of productivity, lost to either transit times or the wait to process transactions (Del Angel, 2016). It

is estimated that simply getting to a bank to withdraw cash costs the average Mexican 16.9 pesos, before transaction fees are even applied (Del Angel, 2016). In spite of this, according to a report issued by Mexico's Central Bank, 5% of the nation's wealth is in cash, currently in circulation (Burgess, 2013). This statistic is more reminiscent of a developing nation than an OECD member state, because such money cannot be invested. A working paper from Tufts University finds this culture is reinforced by Mexico's huge informal economy, the lack of financial inclusion for small businesses, and a tumultuous history with formal financial institutions that culminated in an overall lack of trust (Burgess, 2013). The Tufts research also found many individuals and small business owners to be utilizing informal money guards as a means of protecting large amounts of cash (Burgess, 2013). These kinds of solutions demonstrate the degree to which alternative services are needed and show how a cash based economy inconveniences its citizens and renders them vulnerable.

6.2 Government Response: Alternative forms of Cash and Participation in Intergovernmental Financial Access Initiatives

Alternative forms of cash and banking have been met with mixed results in Mexico. A 2014 report by MasterCard evaluating global readiness to utilize non cash payments gave Mexico a score of 35, placing it above India (29), Russia (27), Colombia (33), and Peru (33), but below South Africa (53), Brazil (43), Thailand (48) and Malaysia (56) (Thomas, 2014). These scores were assessed by evaluating access to financial services, existing regulations, technological infrastructure and retail payment landscapes (Thomas, 2014). One of the more successful attempts at quickly extending banking access points has come through the 2008 "Corresponsales," or correspondents program, which allowed third party agents to function as extensions of various banks (Nunez, 2014). Soon after its implementation, the bank branches were outnumbered by their

proxies, dramatically increasing the number of locations remittances could be sent and received (Burgess, 2013).

Another issue regarding financial inclusion is that only 13% of the country has access to a credit card, a number very low in comparison to other OECD nations (World Bank, 2013). This is likely due to a combination of high interest rates for consumers and costly service charges levied against businesses (Burgess, 2013). Credit and debit card law in Mexico has a long history of complex and minimal recourse in the face of fraudulent transactions, fostering a climate of confusion and mistrust amongst consumers (Burgess, 2013). This culminates in a “chicken and egg” paradigm since neither consumers nor businesses are incentivized to obtain credit cards since the other party does not possess them and there is not the necessary infrastructure. In developed economies, credit cards function as a means of providing rapid, smaller, short-term loans, essentially eliminating the need for bank or informal loans.

In 2011 Mexico created the Encuesta Nacional de Inclusion Financiera (ENIF) or National Council for Financial Inclusion, to study and centralize government and private sector efforts to reach the unbanked (Tovar, Pavón, 2014). This initiative was likely undertaken because Mexico’s 2010 financial access rate of 25% was worse than that of Egypt (40%), Argentina (33%), Colombia (30.42%) and Brazil (55.86%) (Demirguc-Kunt, Klapper, 2013). In 2013 Mexico announced a telecommunication reform by attaching the label of “public service of general interest,” which created a new institution to promote greater competition (Tovar, Pavón, 2014). Many laws aimed at breaking up powerful monopolies in Mexico often find their implementation delayed by an “Amparo.” This process requires greater scrutiny of a law on the grounds that it violates basic rights (García, 2015). Legal scholar Francisco Avalos notes that although a law in Mexico has already been announced, delays in its implementation are not uncommon (Avalos, 2013).

Mexico's government has been an active participant in a multitude of intergovernmental organizations to promote financial access. Aside from chairing the G20's Global Partnership for Financial Inclusion, Mexico is part of the World Bank's 2020 Universal Financial Access Initiative and is thus obligated to: (1) Expand digital payment methods; (2) Diversify points of financial access; and (3) Build regulatory environment and strengthen infrastructure (World Bank, 2016). In 2009 Mexico's Central Bank announced Circular 26/2009, a measure aimed at easing the process of obtaining an account while laying the framework to govern digital banking (Tovar, Pavón, 2014). In a 2011 attempt to increase financial inclusion, Mexico introduced a four level regulatory system with barriers to access correlating with account value and capabilities (Chatain, 2011). Level one of this system requires no official customer identification to open an account. The account permits a balance of up to \$370 USD, and limits transactions to \$280 USD, with a national debit card being the only point of access (Chatain, 2011). Level two has a monthly transaction maximum of \$1,110 USD, but requires basic information including name, birthdate and valid address. This account can be opened online and allows for electronic transfers to other accounts or businesses (Chatain, 2011). Level three maxes out at \$3,700 USD worth of transactions, but requires complete customer information to activate (Chatain, 2011). The only thing that differentiates this account from a standard account, known as level four, is the that a hard copy of an identification is not required (Chatain, 2011).

Many experts see the four tier system as having tremendous potential for financial inclusion but warn against the overzealousness often associated with initial data analysis of such reforms. In recent years, the global community has lauded the increase in Mexican financial inclusion, hallmarked by a rise in the opening of formal bank accounts (ENIF, 2015). A potential driver of this is the Mexican government's increasing usage of electronic payments as a means of

compensating employees and disseminating payments from financially assistive programs like “Prospera” (Better Than Cash Alliance, 2016). Since accessing any of this money requires the utilization of a bank account, the government has made a concerted effort to push the public towards formal financial institutions. A 2016 survey by professors Ambrosius and Cuecuecha reveals a much more nuanced situation, with many people opening bank accounts but either not using them, or not having access to all features commonly associated with banking (Ambrosius, Cuecuecha, 2016). This survey also noted common characteristics like the immediate extraction of entire deposits and the lack of access to formal lines of credit (Ambrosius, Cuecuecha, 2016).

Mexico’s experience with mobile banking initiatives has been relatively similar to most nations in the world. In 2008 Citi Group’s Banomex, Inbursa and Telcel introduced a mobile banking system aimed at bringing banking related services to mobile phones. Dr. Sandra Suarez notes that some applications do utilize Short Message Service (SMS) messages as a means to transfer money, but because such services are only open to existing customers, they are not a means of financial inclusion (Suarez, 2016). By 2013 most banks in Mexico offered cellphone accessible money transfer systems to account holders. While Mexico has had various mobile money schemes including iAcepta, iZettle and Transfer, only the MiFon, short for Mi Fondo Personal, aimed to emulate Kenya’s M-Pesa through its utilization of technology and the cooperation of a multitude of actors to meet the needs of the unbanked (Tovar, Pavón, 2014).

6.3 The Case of MiFon

In an attempt to utilize reforms and bring banking to rural Oaxaca, Mexico's Telecomm-Telegrafos, Banorte, MasterCard and Rev Worldwide of Austin, Texas launched Mi Fondo Personal (MiFon) in 2012. This pilot program aimed to utilize cellular phones in rural Oaxaca as a means of connecting communities to banking and financial services (Technology Business Journal, 2012). The MiFon program utilized corporate alliances between the Banorte Bank, mobile payment firm Rev Worldwide, and credit card issuer MasterCard to link the user to a bank account with mobile transfer capabilities over the Telecomm-Telegrafos network (Technology Business Journal, 2012). With the ability to transfer money peer to peer (P2P), the idea mimicked Kenyan firm M-Pesa's utilization of SMS messages to reach unbanked populations and slowly integrate them into the formal banking sector (Alonso, 2013).

The MiFon program focused on the creation of a less cash dependent ecosystem in the rural Oaxacan communities of Santiago Nuyoo, neighboring Santa María Yucuhiti, Tierra Azul, and Zaragoza by distributing 315 program enabled phones between 896 participating inhabitants of these municipalities (Ortíz, 2012). By utilizing the Telecomm-Telegrafos' spectrum producing satellites, clients of the service would be connected to a level two Banorte bank account, allowing for a maximum balance of \$1,110 USD (Ortíz, 2012). After receiving platform training, around 80% of users opened bank accounts and subsequently became integrated into the formal banking sector within the program's first few months (Godfrey, 2015). By bringing banking to these customers, residents of towns like Santiago Nuyoo could avoid the 10 hour round trip to Oaxaca de Juarez as well as the transit fees and missed work associated with it (Munoz, Galicia, Poulton. 2009). A seamless ability to send and receive funds on a phone could eliminate the need to consistently access MTOs, as well as the safety hazard of carrying large sums of cash (Coon,

2014). Since Santiago Nuyoo had no ATMs or credit card terminals, the supplementary physical debit card by MasterCard allowed customers to make purchases outside of the town (Burgess, 2013).

MiFon's inception resembled the triangular model in the myriad of actors and pieces that needed to fall into place for the program to commence. Mexico's Central Bank needed to ease restrictions for opening new accounts and banking through mobile units (CGAP, 2010). MasterCard, Banorte, Rev Worldwide and Telecomm-Telegrafos' cellular network all needed to collaborate to create an ecosystem that integrated everyone's offerings. Since Mexican investment in cellular networks is two thirds lower than the OECD average, the government created Telecomm-Telegrafos to provide service to municipalities deemed unprofitable for the major carriers (Tovar, Pavón, 2014). While the choice of Telecomm-Telegrafos might seem logical to outsiders, it was likely indicative of the unwillingness of larger companies to participate in such a program. This theory is further supported by the declination of a banking license by Movistar, a Latin American subsidiary of Spanish Telefonica (Suarez, 2016). This was likely because Mexico's second largest cellular provider had no desire to directly compete with the banking sector, especially within the perimeters of strict banking laws. Although the firm had previously lobbied for the ability to offer clients a financial service, the case of Movistar is a clear example of how difficult it would have been for any of these actors to pursue a program of alternative monetary services, without having partnerships (Suarez, 2016).

In Mexico, MiFon found itself entering a market saturated with other isolated mobile financial platforms. While the key banks all offered mobile financial services to customers, a host of other players occupied niche markets. An example of this is Quibo, a collaboration between Visa, Banamex, Blue Label Telecomm and Grupo Bimbo, a mobile payments ecosystem

exclusively for members of Grupo Bimbo's supply chain to make and receive payments from one another (Del Angel, 2016). The previously mentioned iAcepta and iZettle are competing platforms geared towards small retailers by allowing smartphones to accept credit card payments (Tovar, Pavón, 2014). Even though the government was indirectly a partner in MiFon, it failed to establish a regulatory climate that would foster collaboration and the eventual integration of multiple platforms.

The selection of rural Santiago Nuyoo as MiFon's host site was made because of the enthusiasm demonstrated by the local government in infrastructural investment, rather than because of a perceived strategic or geographic advantage (Burgess, 2013). Notably, some of MiFon's initial investment came from Chinese benefactors (Burgess, 2013). From a very speculative stand point, this may have represented a missed opportunity, because an attempt to lure local investors might have yielded access to greater political capital, while expanding the network of domestic interest. Although MiFon experienced modest initial success, it ultimately resulted in failure. Professor Sandra Suarez argues that the Mexican banking sector utilized its close relationship with the regulatory regime to constrict the program's potential for growth (Suarez, 2016). In a study of mobile money schemes in 22 nations, Evans and Pirchio note that ventures either see exponential growth relatively quickly, or they witness collapse (Evans, Pirchio, 2014). In the eight clear cases of failure, including that of Mexico, a pre-established bank was at the center of the scheme (Evans, Pirchio, 2014). In contrast, none of the eight clear cases of success had a bank at the center (Evans, Pirchio, 2014). Inasmuch as it is illegal in Mexico to provide money transfer services without a banking license, MiFon was an unequal partnership because Banorte, as a credentialed bank, bore the brunt of the compliance risk (Evans, Pirchio, 2014).

A critical flaw with an initiative like MiFon is that programs geared towards financial inclusion are rarely profitable in the beginning. This is largely a result of the clientele being poor and preferring large amounts of low value transactions (Tovar, Pavón, 2014). Unlike M-Pesa's favorable regulatory regime (Buku, 2013), Banorte had to bear both the burden of compliance and the lack of profit. When large players such as Banorte or MasterCard involved themselves in these processes, more profitable business ventures and partnerships between the two and other actors likely took precedence. This is also evidenced by Suarez's argument that cellular providers attempted to position themselves as the champion of the unbanked, while simultaneously attempting to collaborate with banks to reach existing customers (Suarez, 2016). It is ironic that the same financial institutions that failed to provide services to a large sector of society, should have spearheaded MiFon, the program that seeks to incorporate these groups.

6.4 The Contrasting Realities of MiFon and M-Pesa

On paper, Kenya's M-Pesa and Mexico's MiFon bear striking similarities in that both involve a coalition of government and private sector actors that unify to promote the mobile money endgame in underserved communities. There are a multitude of reasons M-Pesa was successful while MiFon floundered, but most seem related to geography, in either the political or physical sense. In Kenya, most migration is concentrated in rural populations heading to either Mombasa or Nairobi, both in the south east of the nation (Oucho, 2014). In contrast, the patterns of migration in Mexico are much more diverse, with more internal options, as well as travel to the United States. It is much less challenging to launch a pilot program in a limited geographic area (Quintana, Salgado, 2016). Mercy Buku also points out that in Kenya, the village symbolizes a demarcation

of ethnicity and an extension of familial ties connected to ancestral burial grounds (Buku, 2013). This cultural characteristic means that even if people permanently relocate, they still maintain strong senses of obligation to their villages of origin which often manifest in resilient remitting patterns (Buku, 2013).

Another geographical consideration affecting Kenya are the security concerns that stem from its border with Somalia, its sizable domestic Muslim population and a history of long established Hawala networks (Samora, 2013). Many intelligence agencies and security analysts linked financing for the 2002 Mombasa Attacks and the 2013 Westgate Mall Attack to the informal Muslim remittance networks known as Hawala (Samora, 2013). Since security experts and policymakers believed M-Pesa could serve as a competitive counterweight to Hawala, regulatory officials were further incentivized to postpone the stringent enforcement of banking measures until the program matured (Buku, 2013).

Mexico does not have the same security incentive to bring small transactions into the formal economy. In contrast to Kenya, Mexico's regulatory regime is geared towards combating the laundering of large sums of cash, typically associated with illicit narcotics trade (Cassara, 2016). The Financial Action Task Force argues that by attaching narcotics proceeds in the form of United States Dollars to legitimate trade deals, Mexican Cartels have been able to launder billions (Cassara, 2016). The June 2010 Mexican banking reform, aimed at limiting deposits of United States dollars, and the subsequent 2014 amendment demonstrate how the same regulatory bodies can be nimble when addressing larger transactions but show less pragmatism in regard to remittances or programs like MiFon (United States Department of State, 2015). In confining the majority of MiFon to Santiago Nuyoo, the program had limited opportunity for exposure or

expansion, which has proven necessary to all successful mobile money schemes (Evans, Pirchio, 2014).

From its inception, M-Pesa demonstrated an expansionist approach by aggressively seeking new partners to simultaneously expand services and bolster its ATM points of access (Buku, 2013). M-Pesa also sought to create a niche market by focusing on smaller value transactions, while partnering with banks to minimize the likelihood of competition with established financial institutions (Mungai, 2016). Less than 18 months after its launch, M-Pesa established a partnership with Western Union, integrating its ecosystem with the world remittance market (Gatekeepers, 2009). By cutting out middlemen, Western Union transactions are made simpler and cheaper. In comparison with MiFon, M-Pesa had an advantage in establishing partnerships because it was seen as a product of the well-established Safaricom, rather than an entirely new business venture (Buku, 2013). MiFon was piloted as a collaborative effort and, consequently, missed out on directly leveraging the name recognition of MasterCard or Banorte. The ability to rapidly establish partnerships would have greatly helped MiFon by demonstrating both expansionist capacities and staying power to potential customers and partners alike.

CHAPTER 7:

SECURITY CONCERNS: LEGAL FRAMEWORK AND EXAMPLES OF REGULATION IN PRACTICE

Security concerns associated with money laundering dictate the policy governing the United States – Mexico Remittance Corridor. Two of the most important modern examples of fears regarding money laundering spilling into the remittance sector are the 2013 case against Liberty Reserve of Costa Rica and the 2014 freeze of remittances to Somalia. These two instances are particularly important because they provide two very different examples of how fears regarding money laundering became associated with remittances. Both cases also demonstrate the ability of the United States government to utilize domestic banking regulations to impact financial institutions overseas.

7.1 The Unintended Consequences of Know Your Customer (KYC): Somalia 2014

The experiences of the East African nation of Somalia clearly illustrate the nexus between remittances, international banking and human security. On June 20, 2014, the Merchants Bank of California ceased processing American remittances to Somalia, following both Wells Fargo and US Bank (Koren, 2014). Years of civil war led to the physical collapse of the nation's banking sector, allowing remittances to eclipse foreign investment as a key source of economic aid (Africa Research Bulletin, 2015). From 2010 onward, banks and service providers alike terminated operations in Somalia for fear of the regulatory reprisals if remittances were found to be funding United States designated terrorist group, Al Shabab. An op-ed piece in the New York Times by Minnesota Congressman, Keith Ellison, argues that the stoppage of remittances, upon which more

than 40% of Somalians depend, represents a greater threat to international security than a few thousand dollars coming into the possession of Al Shabab (Ellison, 2015). While the scope and scale of the Mexican Remittance Market make it unlikely that a similar occurrence could take place there, the Somalian case illustrates some of the greatest problems with the unintended counterproductive status-quo of remittance regulation.

The conduct of the Merchant's Bank of California in Somalia demonstrates the fragility of the remittance market by showing that the bank's perception that the risks associated with possible regulatory action far outweigh the value of being the key actor in a market that processes 1.3 billion USD (WorldBank, 2015). The assets of Merchant's Bank were estimated to be around 90 million USD, at the time of the Somalian incident. Nonetheless, the bank found its capacity to comply with the KYC clause overwhelmed when bigger actors such as Wells Fargo pulled out of the market (Todoroki, 2014). This example also evidences one of the potential pitfalls of utilizing the banking sector as a source of remittances: those remittances quickly stopped being processed as soon as they were seen as a threat to the bank's more profitable ventures. In the case of Mexico, 70% of the largest banks are foreign owned and in the current regulatory climate, could suddenly have less interest in helping the Mexican unbanked and underbanked populations if they continue to be seen as high risk low reward clients (Suarez, 2016).

7.2 Technology and Unregulated Money Transfers? The Case of Liberty Reserve

A different example to that presented in Somalia came about in 2013 when the Financial Crimes Enforcement Network (FinCEN) of the United States Treasury issued subsequent indictments for the seven key operators of the Costa Rican internet based Liberty Reserve (Heymarket Media, 2013). In a press release, FinCEN described the legal operation as "landmark"

in that it was the first use of the Patriot Act's Section 311 to implicate a "virtual currency provider" (FinCEN, 2013). Launched in 2001, Liberty Reserve created their own online digital currency as a means of providing anonymous transfers to 2.5 million registered users (Trautman, 2014). The system required only a name, e-mail address and date of birth, all of which could be easily falsified (Trautman, 2014). The service charged a 1% transaction fee and an additional 75 cents to anonymize the transaction (Heymarket Media, 2013). Liberty Reserve rapidly became a magnet for nefarious transactions involving narcotics, cybercrime and money laundering (FinCEN, 2013).

Although Liberty Reserve did process remittances, logistical hurdles made them an unlikely remittance service provider. Each transaction made with Liberty reserve required a third party "exchanger" who generally took approximately 5% in fees to change Liberty Reserve Currency into more common coinages (Trautman, 2014). While such expenditures stemming from the premium placed on anonymity might be sensible for larger transactions, this system yielded a lot less utility for the small transactions associated with migrant remittances (WorldBank, 2016). The examples of Liberty reserve and Somalia serve to illustrate the degree to which financial institutions and governments address the threat of money laundering

.

7.3 A Survey of the Current Regulatory Climate

Some of the most critical standards governing the United States – Mexico Remittance Corridor stem from the Financial Action Task Force (FATF). Established in 1989, at the Group of Seven Summit (G7), the Paris based organization aims to provide international standards to combat money laundering (Todoroki, 2014). Since its sixteen member inception the group has since grown to 36 member states including China, India, The European Union, Russia, the United States and

Mexico (Jackson, 2014). The diversity of its full members has allowed the organization to become arguably the most important international body in global finance regulation. The influence of the FATF impacted the remittance industry in 2005 when the agency recommended a lowered global wire transfer audit threshold from 3,000 USD to 1,000 USD (Jackson, 2014). While taking part in the FATF is not legally binding, member states are subjected to a series of yearly peer reviews that can result in sanctions ranging from investigations to blacklisting, all with serious implications to the health of a nation's financial sector (Jackson, 2014). After the attacks of September 11, it was the FATF that was instrumental in pushing banks to implement the stringent KYC standards that are responsible for one of the biggest challenges in the global remittance industry (Todoroki, 2014).

Since the vast majority of transactions in the United States – Mexico Remittance Corridor begin in the United States, it is important to first evaluate the history of American standards governing the industry. The main legal framework encompassing remittances in the United States, derives from the 1970 Bank Secrecy Act (BSA). The act deviated from previous government policy by shifting much of the responsibility for policing money laundering from government agencies to the banking sector and money processors (Watterson, 2013). The BSA also established standard record keeping criteria and reporting mechanisms to assist law enforcement with criminal, tax and regulatory investigations (FDIC, 2013). The BSA applies to banks, securities and commodities firms, money service businesses, precious metal dealers, casinos, insurance companies, loan agencies and pawn brokers (FDIC, 2013). Although the act was originally aimed at the larger transactions carried on by banks, it has been the various amendments and revisions that have had the greatest impact on the governance of the remittance market.

In 1978 Congress enacted the Electronic Transfer Fund Act, aimed at providing a clear set of standards, defining the entitlements of consumers and service providers of wire transfers (Ellis, 1983). The idea of consumer protection was later updated by The Dodd-Frank Act of 2010 and the Durbin Amendment it encompassed. This legislation limited the charges that could be imposed on consumers for electronic debit transactions by service providers with assets over \$10 billion (Mahoney, 2013). This is significant for remittances because it further solidified the ability of a customer to transfer money within the same banking ecosystem, free of service charges. The measure also helped to foster the idea of an “immaculate” transaction which allows a receiver to recover 100% of the wealth the transferor intended.

In 1990 the Bureau of the United States Treasury (BSA) created The Financial Crimes Enforcement Network (FinCEN) to oversee compliance. 1818S of 1986 served to amend parts of the money laundering features of the act, becoming the only aspect of banking policy that is fully dictated by the government (FDIC, 2013). Additionally, the FDIC maintains that repeated violations of the BSA will result in a loss of deposit insurance. Institutions falling under the BSA are required to develop an in house plan and protocol, presentable to government agencies, as to how they plan on complying (FDIC, 2013). The aspect of the BSA most dramatically impacted by the 2001 Patriot Act is the clause regarding customer identification. Companies falling under the BSA must “form a reasonable belief of customer identity,” (FDIC, 2013), a process that is more difficult for remittance processors, who often deal with marginalized, underbanked populations (Watterson, 2013). Since 2009, FinCEN has been granted a larger budget than it originally requested (FinCEN President’s Budget, 2016).

7.3 Know Your Customer; Origins and Critique

One of the most important sets of international regulatory standards covering remittances is referred to as Know Your Customer (KYC). While never fully codified by themselves, they comprise pieces of banking laws from the 1970 BSA, The Electronic Transfer Fund Act of 1978, The Patriot Act of 2001 and The Dodd-Frank Act of 2010 (Bilali, 2011). The KYC is considered a “due diligence” measure in that banks can utilize it to protect themselves from being accused of aiding financial fraud. The KYC requires that the bank identify the customer with reliable documentation and subsequently look for irregularities in transaction patterns (Hesterman, 2013). Since the attacks of September 11, 2001 and the financial crisis of 2008, KYC has become commonplace in most nations including The United Kingdom, South Africa, France, Mexico, and India (Bilali, 2011).

In recent years, a diverse array of service providers with differing grievances have expressed criticism of these regulations for a multitude of reasons (Economist, 2015). My own conversations with industry professionals and a review of over fifteen papers indicate that the main criticism is that remittance providers are being forced to comply with costly regulations usually associated with banks engaging in large transactions. Other grievances are that there is no single governing body overseeing the remittance market and the formal sector’s ability to remain competitive is hampered due to the spiraling costs associated with “overregulation” (Crossman, 2016).

A 2006 World Bank study of American remittance service providers cited adherence to the multitude of laws to be their main expense (Andreassen, 2006). 50% of such firms reported the utilization of private contractors to ensure legal compliance (Andreassen, 2006). To some extent,

the hiring of outside firms to assist in regulation compliance negates the government concept that banks would be better able to monitor the transactions of their clientele than outside actors (Watterson, 2013). MTOs that only handle remittances have their ability to compete with startups and banks hampered by such laws because they have no side businesses to subsidize such costs, meaning this burden is likely passed onto the customer (Watterson, 2013). Banks that offer remittances generally do so at lower prices than MTOs but require customers to be bank members, creating the unintended consequence of labeling the most underserved, vulnerable customers as “high risk,” thereby forcing them to pay some of the highest premiums to send money (World Bank 2016).

Another interesting result of KYC, is that the implications of compliance have essentially been hierarchized. MTOs and startups find themselves at the very bottom of the chain because they are dependent on bank accounts for their operations (World Bank Group, 2015). Between 2010 and 2014, an estimated 46% of MTOs had at least one bank account closed (World Bank Group, 2015.). Banks do this as a means of protecting themselves from the heavy fines or sanctions levied against them by government bodies for nefarious transactions (Stanley, 2016). That MTOs can be punished by both banks and governments demonstrates a critical way in which the current compliance climate can inadvertently make barriers to entry too high for startups, hampering competition and innovation.

Another widely voiced critique of the United States remittance market is that a service provider is subjected to a multitude of differing government agencies. The International Revenue Service, Consumer Financial Protection Bureau, FinCEN and 46 individual state regulation agencies can either push for law changes or issue compliance guidelines (Watterson, 2013). The legal complexities are further exacerbated by the international nature of such transactions. A clear

example of the issues that can arise from opaque legislation can be seen in the series of legal battles that transpired from 2006-2009 between service provider Western Union and the State of Arizona. As referenced in the case, the complications of remittance laws also impact various branches of government as they attempt to determine who has jurisdiction over a moving transaction.

7.4 Arizona v. Western Union

According to a series of published papers written by then Attorney General Terry Goddard, the conflict arose when state law enforcement discovered that for every dollar remitted from Arizona, one hundred were arriving (Goddard, 2012). Given Arizona's economic growth as a state, law enforcement believed this to be the opposite direction which remittances should be sent and quickly suspected such payments were associated with human trafficking (Goddard, 2012). In September of 2006 Arizona's Office of the Attorney General filed a seizure warrant aimed at Western Union, resulting in the asset forfeiture of suspected illegal transactions (Bagnuola, 2011). Although a judge issued the warrant the day of the application, this marked the beginning of what was to be a long legal battle between Western Union and The State of Arizona.

During their series of legal skirmishes, Terry Goddard obtained a warrant to seize wire transfers sent from "corridor states" in Mexico, which netted around \$200,000 before Western Union successfully repelled the effort (Goddard, 2012). A turning point came with *State v. Western Union Co.*, when the state tried to continue asset confiscation by invoking the 1905 *Harris v. Balk* decision to categorize Western Union as a money lender (Bagnuola, 2011). This resulted in a brief loss for the state due to a technicality because the court ruled the service was a courier (Bagnuola, 2011). After the various legal battles continued, the court eventually ruled in favor of the state of

Arizona and Western Union acquiesced by agreeing to pay \$94 million to Arizona, California, New Mexico and Texas (Holstege, 2010). Of this sum, \$50 million was used to establish The Southwest Border Anti-Money Laundering Alliance and \$19 million was used to reconstruct Western Union's internal security apparatus (Holstege, 2010).

This outcome was significant for a multitude of reasons, including that it marked crucial turning points in how United States law enforcement sought to police remittances. The very fact that remittances function in an ecosystem that can be sent or received anywhere an agent or partner is located, makes it particularly difficult to determine which locality should maintain jurisdiction over a prosecution (Bagnuola, 2011). This becomes even more complicated when a multimillion dollar lawsuit is at stake. These cases also demonstrate the degree to which the industry is subject to the legal scrutiny of a multitude of actors. That one state could so successfully pursue civil action against Western Union due to the behavior of its third party agents, over whom they may not have had control, set new legal precedents. Voices within the industry cited this case as a clear demonstration of the vulnerability of companies against an ever expanding patchwork of government agencies (Watterson, 2013). Many industry experts argue that the growing regulation costs associated with this outcome will likely trickle down to customers (Watterson, 2013).

7.5 The Dodd-Frank Act's Impact on the United States – Mexico Remittance Corridor

A modern utilization of "catch all" legislation can be seen in the Dodd-Frank Act of 2010. Although the crux of the regulation is aimed at governing the financial sector, section 1073 was enacted to make the remittance fee structure less opaque by requiring service providers to calculate and disclose transaction costs (Watterson, 2013). Since fees are determined by a multitude of ever-

changing factors including exchange rates, transfer fees and security charges, an estimation of the final cost is allowed in some instances (Richard, 2012). The bill also provides consumer protections, including the establishment of error resolution standards and the ability to cancel a payment within three days (Hyde, 2012). Additionally, the law places a renewed obligation on service providers to be more accountable for the acts of third party agents operating on their behalf (Richard, 2012).

Voices in the industry have responded to these new regulations apprehensively, stating that such laws could have unintended consequences that hurt the consumer and the industry in the long-term. The responsibility of service providers for correcting customer errors arises out of the assumption that all transactions occur in-house and do not rely on a chain of third parties. New liabilities contribute to new expenses and it is possible that service providers will simply abandon markets where the new legislation eats away at already slim profits (Natter, 2014). From an industry standpoint, the service provider is often unable to anticipate the changing paths and associated fees a remittance might accrue while en route, making it impossible to disclose a total cost (Natter, 2014). Although a remittance usually arrives at its specified destination, the middlemen, on the route, may be subject to change (Natter, 2014). Legal scholar and former Chief Counsel of The Controller of Currency, Raymond Natter, argues that the law has an ethnocentric undertone in assuming transactions occur with the consistency and absence of friction that they do in the United States (Natter, 2014). It can also be argued that because these fees do not apply to reloadable debit cards, this industry could garner an unintended advantage over the remittance companies, for whom the disclosure requirement makes the transaction less profitable (Schatt, 2014).

CHAPTER 8:

TECHNOLOGY BASED POSSIBILITIES AND ALTERNATIVES TO TRADITIONAL REMITTANCES

While technology presents tremendous opportunities to improve and revitalize existing remittance systems, it has an equal ability to provide new options to sidestep or bypass the status-quo and the regulatory framework reinforcing it. For this section I have classified such technologies as either hardware based, software based or currency based. The goal of this section is to address a few potential game changers that are either mere possibilities or are still developing.

8.1 The Potential of Crypto Currency in Global Remittances and Mexico

Bitcoin, crypto currency and block chain based value exchanges have long been touted as solutions for the remittance industry. Bitcoin has already proven itself to be a disruptive force in the world's third largest remittance market, the Philippines (Tien-tsin, 2015). Bitcoin has a competitive advantage with transaction costs because its peer to peer system eliminates the need for a third party (Trautman, 2014). Founded in 2014, Satoshi Citadel Enterprises states its mission is "to increase Bitcoin adaptation in the Philippines" (SCI, 2014). The company has since launched ReBit, a venture that aims to use Bitcoin and cellphones to offer free remittances (SCI, 2014). ReBit advances a five step remittance process beginning with online registration. A user then converts any currency into Bitcoin through a third party open exchange which is usually free for most transactions (Frisby, 2015). Once the transaction is complete, the money is transferred into a bank account or a Bitcoin specific digital wallet on a smartphone (SCI, 2014). Since the transaction is taking place in cyberspace and only crosses virtual borders rather than physical ones, it operates

more quickly and cheaply (Frisby, 2015). Another advantage of Bitcoin is its ability to perform cheaper currency exchanges. Since Bitcoin operates in cyberspace, companies like London's Currencycloud can process 10 billion USD in international payments at wholesale currency exchange rates (Passy, 2016).

Dominic Frisby details how the nature of Bitcoin makes it perfect for anonymity on all levels (Frisby, 2015). The technology uses block-chain datasets, which breakup all transactions, sending bits and pieces to various servers and computers globally. While there is a ledger, various tactics can be undertaken to inhibit the process of tracking such transactions (Vijay, 2015). The staying power of Bitcoin is further enhanced by the fact that the founders of the crypto currency are multibillionaires who see themselves as activists, and continue to set up well-funded foundations to further advance the permeation of Bitcoin (Frisby, 2015). Hedge funds are also another party with an interest in the success of Bitcoins, as such investments have yielded immediate results (Jacobious, 2014).

The status of Bitcoin in Mexico remains opaque due to a lack of legislation addressing it (Hendrickson, 2016). In Mexico, it is legal to own, mine and trade in Bitcoin so long as one is registered to do so with a bank (Hendrickson, 2016). It is unclear how the Mexican government plans on enforcing this requirement. One of the key obstacles limiting Bitcoin's potential in Mexico is that there are very few widely available methods of transferring Bitcoin into cash and vice-versa. Since Bitcoin itself is not widely accepted as a method of payment, a prospective Mexican user needing to make non-cyber purchases would likely be forced to seek a third party to exchange Bitcoin for Pesos. This logistical hurdle could negate the benefits of Bitcoin's peer to peer system, adding a layer of complexity to any transfer. Although Bitcoin yields significant potential as a remittance tool, it would, ironically, likely need to gain acceptance from the very

banking establishment it was setup to provide an alternative to, in order for the currency to actually reach the unbanked (Plassaras, 2013).

Although the true potential and limitations of such technology are still very much playing out, many security analysts see decentralized crypto-currencies as a likely next frontier for both formal and informal remittances (Vijay, 2015). Bitcoin is still in its infancy and requires technological knowledge, trust and time that many migrants cannot yet afford, but it is still important to note the excitement and energy behind the movement. Abra, a Bitcoin based remittance service, was quickly able to secure \$12 million in investments, demonstrating clear enthusiasm for the industry (Tepper, 2015). Technological innovation has the ability to utilize Bitcoin as a means of making remittances cheaper, safer and more efficient or as a way of making them more informal and anonymous. The current state of Bitcoin serves as an example of how the dissatisfaction with government and financial institutions led the individual to develop an alternative. How the government and financial institutions respond to cryptocurrencies remains to be seen, but it provides yet another opportunity for collaborations between the three actors to insure that everyone's interests are met.

8.2 Kiosk Prepaid: The Potential of Hardware

Hardware also offers much potential as a disruptive force in the United States – Mexico Remittance Corridor. Las Vegas based Kiosk Prepaid utilizes its own line of advanced automatic teller machines to function as customizable centers of value exchange. The systems combine two large high resolution displays, touch screens, barcode scanners, a check scanner and a security camera to offer check cashing, money transfers, bill paying, cellular credit and the selling and

purchasing of gift cards (Kiosk Prepaid, 2016). From the prospective of the United States – Mexico Remittance Corridor, these machines offer great potential in bypassing borders and the annoyances of exchange rate fees by creating their own ecosystem of value transfer. A huge incentive for Mexican retailers is that the machine can ease congestion, since customers waiting in line to transfer value can be separated from faster transactions like in store purchases. This company is still very much in its infancy and for a customer to reap the full benefits of the machine's money transfer capabilities, both the sender and receiver would need to have access to a Kiosk Prepaid ATM. Worth noting is that Mexico operates one of the oldest, least advanced fleet of ATMs in the entire OECD, largely due to limited government incentive to modernize (Burgess, 2013).

8.3 The Alternative Financial Sector: Its Appeals and Shortfalls

An ongoing current solution to financial inclusion is the growing “alternative” financial sector. This category utilizes hardware such as reloadable debit cards and software like cellphone credit (saldo top-offs) or electronic gift cards (Cuevas-Mohr, 2015). The utilization of cellphone credit or digital store gift cards begins with the remittance sender purchasing transferable value in a service, and sending it to the receiver. The endgame of such a transaction is to purchase something for which the remittance receiver would have used the cash, while maximizing value by cutting out the transaction fees charged by a middle man or MTO. Unlike some cash remittances, the transfer is instant and delivered directly to the mobile device of the recipient (Cuevas-Mohr, 2015).

Perhaps the most popular option in the alternative financial sector is the prepaid debit card or payroll card. First marketed to college students in 2000, Visa has since been joined by both

MasterCard and American Express in the ever expanding array of prepaid debit cards (Hesterman, 2013). This field is comprised of open and closed loop cards. Open loop often rely on a partnership between a bank and credit card issuer, giving the individual a means of extracting and receiving value which can be reloaded and used throughout the ecosystem of the major credit card brand. Closed loop cards have limited functions and are essentially gift cards because spending is limited to one ecosystem. Examples of this are telephonic credits and gift cards (Hesterman, 2013). The prepaid debit card has even been utilized by the United States government to issue payments to its unbanked citizens for tax refunds and child support payments (Sims, Sossei, 2013).

While the diversity amongst cards is vast, the twin card model is of particular interest to migrant communities. Upon the initial purchase of the product, customers get matching debit cards, allowing one person to put money into an account which can be accessed by the individual holding the second card, so long as both parties have access to the global network of Automatic Teller Machines (ATM) (Hesterman, 2013). While this might appear to be a means of providing banking infrastructure to the unbanked, its capacity as a remittance sending mechanism is somewhat limited. Such a system's functionality is entirely contingent on the receiving party having access to an ATM and is not likely to be considered when applying for a loan. The ATM network can also be difficult to navigate due to its opaque service fee structure. Unclear service charges could potentially foster a climate where money is almost immediately extracted from the card, thus rendering it an unsuitable substitute for bank participation.

The field of the prepaid card is a rapidly expanding one comprised of a diverse set of benefits, services and security measures. From a security prospective, the card option is safer than cash because it can be made to require a pin code for transaction authorization and, in some cases, can be canceled if stolen. While this model is fairly new, it is important to note that many of these

cards have spending caveats but a study by Sims and Sossei of the Journal of Government Financial Management found that, on average, these fees are much cheaper than those imposed by check cashing agencies (Sims, Sossei, 2013). Prepaid debit cards can be utilized as a means of receiving a payroll direct deposit or wire transfers and many do not require customer identification to activate (Federal Reserve Bank of New York, 2004).

One of the greatest downsides to the prepaid debit card industry is the opaqueness of the regulatory framework governing it. There is currently no requirement that reloadable debit cards be insured under the Federal Deposit Insurance Corporation (FDIC), rendering such customers exposed to bank errors and defaults particularly vulnerable (A. Cohen, 2010). Much of the law governing the prepaid card industry falls under the Electronic Funds Transfer Act of 1978 and Regulation E. Laws regarding customer protections. Fraudulent transactions applying to other forms of electronic transfers are generally not pertinent to reloadable debit cards (A. Cohen, 2010). The before mentioned fact that the United States Government has a vested interest in the success of the industry, makes it particularly difficult to push for greater customer protections because regulation would likely be seen as stunting the business (Sims, Sossei, 2013).

The United States is not the only government with a stake in the success of the reloadable debit card model as a means of transferring payments to the unbanked. In 2016 Mexico joined the United Nations based Better Than Cash Alliance, coinciding with an announcement that the government had saved 1.7 billion USD by switching from cash to electronic payments for programs such as Prospera (Better Than Cash, 2016). Since the Mexican Government's membership in the Better Than Cash Alliance remains fluid, it is difficult to determine the impact this will have in swaying the government towards championing a less cash dependent economy.

The behavioral dynamics of the individual, governments and the private sector will likely be extremely important in dictating the outcome.

CHAPTER 9:

POTENTIAL FLAWS IN THE MODEL

9.1 Regulatory Shocks, Outside Actors and Economic Jolts

In addition to political and economic remittance behaviors that could create spaces for cooperation amongst actors, there are also a plethora of ways such a model could prove unsuccessful. I focus on a multitude of examples demonstrating how this model could be disrupted. While I argue the equal importance of each actor, I place the government at the top of the triangle due to its unique ability to craft policy that greatly influences the behaviors of the other actors. A swift legal reform in either the United States or Mexico's banking or telecommunications sectors could quickly alter the composition of remittances. Examples of instances where the behavior of either government led to remittance industry shocks include: the introduction of the Marticular Consular de Alta Seguridad, Mexico's policies towards the MiFon experiment and the attempts to tax remittances leaving the United States (Economist Intelligence Unit, 2016).

In 2002 the Mexican government undertook the task of granting its citizens in the United States access to various formal institutions by providing identification cards called the Marticular Consular de Alta Seguridad (CID) (Hernández-Coss, 2005). This move reshaped the remittance industry because it allowed millions, who had previously been shut out, access to methods of sending money (Hernández-Coss, 2005). Former World Bank economist, Raul Hernández-Coss stated that this move rapidly expanded formal channels of remitting at the expense of the informal (Hernández-Coss, 2005). A shock to the remittance industry could occur in the opposite direction if President Elect Donald Trump follows through with his commitment to tax remittances

(Economist Intelligence Unit, 2016). The informal remittance sector could very well see a spike in usage as senders revolt against both the rhetoric and practice of taxing remittances.

Another way a model of cooperation could break down is through the disruptive behavior of an outside actor. Such actors could include criminal organizations willing to operate in smaller monetary denominations by exploiting loopholes to launder currency, ultimately leading to stricter remittance laws. Outside actors could also include an established service provider like China's 300 million user, Alipay, attempting a foray into Latin American markets by way of cheap remittances (Choi, Sun 2016). If a large outside service were to provide consumers with subsidized remittances, it could quickly destabilize the private sector. Another example of an outside actor being a disruptive force could be the introduction of an anonymous, affordable and efficient means of sending and receiving money across borders. This would likely involve the utilization of technology because of growing access on both sides of the border and because the collaborative governance of cyberspace remains an ongoing process (Post, 2008). Any service that does not perform the same degree of regulatory compliance, puts itself at a huge advantage over competitors because the costs associated with "due diligence" is generally a service provider's greatest expense (Crossman, 2016).

The mutually reinforcing triangle could deteriorate might be due to changes in the economic realities of either nation. If the economy or the technology sector of the United States were to suddenly face capital shortfalls, migration levels would likely taper off dramatically due to a lack of jobs (Acosta, 2015). The same tapering of migration could be a reality if the economy of Mexico saw a sudden jolt of increased strength, as reflected in von Scheven's dissertation (von Scheven, 2015). This would likely lead to more internal Mexican migration, still necessitating money transfers, but these transfers could be addressed entirely by Mexican laws (Cuecuecha,

2011). The fourth way such a model could decay is through an actor pursuing their own immediate interest, destabilizing the balance. For the government, this would be the implementation of a remittance tax; for the individual, quickly and collectively using a cheaper anonymous service; and for the private sector, raising transaction fees or changing the way remittances are sent/received. The triangular model is constructed in a way that the behaviors of any individual actor have an ability to undermine the idea of collaboration.

9.2 Unrepresentative Categories, Technological Shortfalls and Irrational Actors

An additional scenario considers that the model assumes the actions and interests of the previously mentioned three actors are representative of their entire category. Within Mexico, however, remittances are experienced differently in states with a history of receiving them, such as Jalisco, where there are strong traditions of the utilization of hometown associations to complete projects, and Oaxaca, where huge influxes in remittances are beginning to be seen (Lynn-Lopez, 2016). This is true amongst remittance service providers as well, in that some, such as Western Union, have long traditions of profit and thus less leeway than M-Pesa or TransferWise to pursue more altruistic objectives. Dan Schatt, former head of PayPal Business Innovations argues, in his book, *Virtual Banking: A Guide to Innovation and Partnering*, that collaboration, as opposed to viewing new actors as potential competitors, will save much of the industry from obsolescence (Schatt, 2014). A great example of this in action can be seen at Hugo Cuevas-Mohr's quarterly remittance summits, which provide a growing forum to promote new partnerships and industry unity. These two examples show that there is a growing call for extended collaboration within the industry.

There are dangers associated with greater technological permeation in the remittance market. Systems and servers processing digital payments require high initial investments in hardware as well as consistent professional security and maintenance upkeep, especially as they grow (Bourreau, Verdier, 2010). Garnering the necessary trust to establish a technology based payment system can be especially challenging in sectors of society that demonstrate cultural preferences for cash (Wurster, 2014). Within the United States – Mexico Corridor, many customers have lived through peso devaluations and economic trauma. As a result, these people can be much more suspicious of financial institutions and might resist technology in favor of the social rapport they have established with their local third party MTO agent. Technology can generate vast swaths of data that must be ethically stored and synthesized in ways that do not put an already vulnerable clientele at even greater security risks (Schneier, 2015). Whether relating to logistics, intellectual or security flaws in a technologically based platform of sending and receiving money, system imperfections could prove to be a force that breaks the triangle approach by deterring users.

Another clear flaw in the triangle model is that it assumes all actors abide by the standard laws of economics and that they all behave rationally. One assumes that governments address remittances pragmatically. When politicians like Donald Trump and Louisiana Senator David Vitter politicize remittances to garner publicity, they can be seen as disregarding the long-term security benefits that would derive from reducing the number of informal remittances, by advocating policies that actually encourage them (Kuhlmann, 2016). From the perspective of the industry, this model likely only applies to companies that have a vested long-term interest in being competitive in the remittance market. If a company wanted to attract investment, it could raise prices to create a spike in quarterly profits. While pragmatic in the shortterm, such a strategy could

lead to an exodus of customers, damaging the long-term health of the company. Also, the before mentioned idea that companies would be able to leverage datamining as a means of offsetting lower remittance prices, depends on both regulation and the actor's desire and ability to synthesize such data.

CHAPTER 10:

CONCLUSION, POLICY RECCOMENDATIONS AND THE POTENTIAL FOR FURTHER RESEARCH

10.1 The Concept of Access

It is clear that the United States – Mexico Remittance Corridor is at a critical juncture due to a multitude of factors coming together to create a status-quo many believe to be unsustainable. Three of the most important contributing factors are the lack of access to financial institutions, the current regulatory environment and the permeation of technology. Professor Melvin Kranzberg's first law of technology states that "technology is neither good nor bad; nor neutral" and this clearly holds true for the United States – Mexico Remittance Corridor (Kranzberg, 1986). In this instance, technology has the potential to be a game changer. Mobile phones and the internet provide the individual with a new and convenient means to interact with institutions and the private sector. Perhaps the most promising aspect of technology is the access it provides, in every sense of the word. While this access can manifest itself in the form of new services, it also has potential implications for governments and the private sector.

Technology can provide the private sector with the means to interact with customers more conveniently and frequently, adding profitability to those once thought to be inaccessible (Alonso, 2013). This interaction can also be personalized, owing to the ability of the private sector to comb through the data generated every time a customer uses a service (Winn, 2013). Access also pertains to governments, in that the data generated by transactions can be utilized to counter multiple types of fraud and to control inflation. This new data can also provide governments with a viable tool to gauge the success of current socio-economic programs, while helping to plan for future ones.

Although access to technology provides the aforementioned actors with limitless possibilities, it also has the potential to be the source of disruption. As seen in the previously mentioned case of Liberty Reserve, technology has the ability to provide alternatives to current remittance systems, be they startup ventures or extralegal (Trautsohl, Johnsen 2012). While startup ventures often signify a healthy market by providing innovation, collaboration or competition, unregulated transfers of value are a direct threat to the ability of governments to combat money laundering and the private sector's capacity to generate profits. The data generated by transactions can also be a liability because of the need to consistently modify the systems and encryptions protecting it (Schiener, 2015). Research by professor Fred Kaplan points out that many American companies did not heavily invest in initial security measures until facing government pressure or falling victim to an attack themselves (Kaplan, 2016).

It is clear that technology has the potential to be a game changer in the United States – Mexico Remittance Corridor because it provides all actors with new and enhanced capabilities to interact. The shape such innovations take will likely be largely contingent on the dynamics between the individual, governments and service providers. While technology can be utilized to further interconnect these actors and potential grounds for cooperation, it can also be utilized to exploit the inefficiencies and constraints of governments and service providers. While each of the three mentioned actors has the potential to benefit tremendously from technical permeation, it would be wise to work towards a more sustainable market in collaboration with other actors, rather than at their expense.

10.2 Policy Recommendations

In his 1998 book, *Bank Failures in the Major Trading Countries of the World*, economist Benton E. Gup warns of the possibility that digital value transfers could outpace government regulatory capabilities (Gup, 1998). Fast forward eighteen years, and aspects of this statement have clearly come to fruition. The *Lancet* medical journal estimates that, starting in 2015, there are over 244 million people living as migrants (Lancet, 2016). Many international organizations and scholars cite the often “illegalized” nature of such migrations to suggest that this number is likely larger than estimated (Barenboim, 2016). Climate change, security and economics are widely seen as the primary triggers of migration; and, the United States is recognized as the world’s primary destination country (Lancet, 2016). The coexistence of these factors raises the probability of even greater remitting potential, and a likely increase in government interest in the topic.

While the ideal solution to large migrations correlating to increased remittance levels would be the amendment of KYC regulations, the multipurpose nature of these standards and fact that the United States government lobbied so vehemently for them, make such a scenario highly unlikely. It would be wise for the United States government to focus efforts on reducing friction within the industry on a domestic level. This process could be aided by the establishment of an interagency council focused solely on person to person remittances. This remittance council could function as the main liaison between companies, banks and the various branches of government, while providing clearer information for consumers. An interagency group would theoretically be well positioned to generate recommendations for policymakers, while insuring that all government agencies are on the same page.

From an industry prospective, more efforts like those of the International Money Transfer Conferences (IMTC) and BayPay Forums are needed to establish a greater collaborative culture. Industry gatherings serve as incubators for innovation, since established players often find themselves face to face with fintech firms that seek to exploit current industry shortcomings. Another advantage of industry solidarity is that, united, service providers are better positioned to lobby governments to take action to improve the health of the industry by addressing such phenomena as bank de-risking.

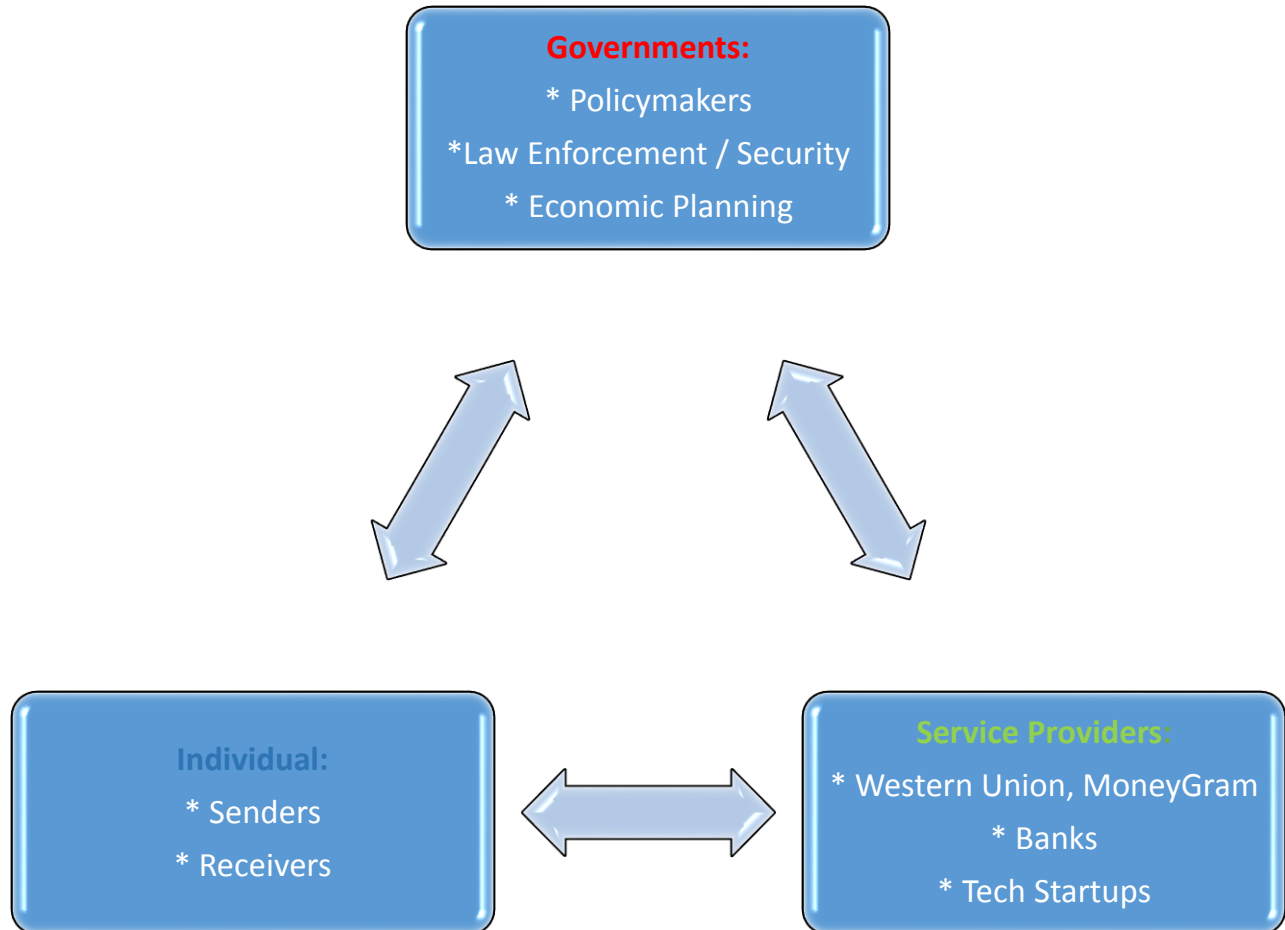
10.3 Recommended Topics for Further Research

The fluid nature of the United States – Mexico Remittance Corridor means that research voids pertaining to the topic are capable of shifting worth exploring would be a comparative study of new services currently offered in the corridor, focusing solely on comparative logistical components. Such questions as how a service works, how money is sent/received and scenarios in which a transaction could dissemble, would all be vital to policymakers, the customer and the private sector. Another critical research topic would be the comprehensive survey of linkages between small scale remittances and money laundering. Information regarding organized crime and terror networks utilizing low value remittances could help policymakers gain a better understanding of actual security realities. Within the scope of economics, it would be useful to have a comprehensive comparative study of a town receiving significant remittances, with a study of that town's susceptibility to economic shocks and inflation. This should be done in comparison with a locality that has just begun receiving large amounts of remittances. Such a study could be helpful to Mexican policymakers attempting to combat economic shocks to those that are most vulnerable to them.

One of the more intriguing topics emerging from the field of remittances is the phenomena of transfers of credit that can be redeemed for a product. Such transactions can occur in the form of cellular phone credit, “top-ups,” or retail gift cards, as opposed to money. These transactions are interesting because they take the act of purchasing non-cash value and transfer it across borders, essentially establishing a space of informal value transfer within the formal sphere. While the reliance on credit to large transnational retailers, like Walmart and Home Depot, tend to yield more utility for urban remittance receivers, the transfers function as a means of maximizing value by eluding the fees associated with traditional cash remittances. Credit transfers also yield a “safe space” for transnational value transfers, if the industries ever face new regulations. These transactions are unlikely to be included in world reports about remittances but would benefit from further research.

There has been much great work done about the United States – Mexico Remittance Corridor, spanning various disciplines and outlooks, including the micro and macro. The fluidity of this topical area necessitates that many of the older studies be replicated and updated so academia, policymakers and the industry can continue to maximize the benefit of these works.

DIAGRAM OF THE MODEL



WORKS CITED

- "Banorte and Rev Launch MiFon, First Out-of-the-Branch Mobile-Based Financial Services Program Aimed at Millions of Underserved Mexicans." *Technology Business Journal*, 2012., pp. 81.
- "Cell Phones Nearly Universal in Much of the World." *Pew Research Center RSS*. 03 Feb. 2013. Web. 13 Apr. 2016.
- "Costly Cash; Remittances." *The Economist*, vol. 416, no. 8954, 2015., pp. 20.
- "Fear trumps hope; The Republican nominee." *The Economist*, vol. 419, Economist Intelligence Unit N.A. Incorporated, 2016..
- "Vodafone M-Pesa Reaches 25m Users." *Total Telecom Online* (2016)Web.
- "*Company Profile: Satoshi Citadel Enterprises.*" *Business Source Complete*, Sep, 1st 2014. Web. 26 June 2016.
- Acosta Arcarazo, Diego, Anja Wiesbrock, and Ebooks Corporation. *Global migration: old assumptions, new dynamics*, Praeger, Santa Barbara, California, 2015.
- Ahmed, Junaid, and Inmaculada Martínez-Zarzoso. "Do Transfer Costs Matter for Foreign Remittances? A Gravity Model Approach." *Economics* 10.4 (2016):
- Alonso, Javier, "Mobile Banking in Mexico as a Mechanism for Financial Inclusion: Recent Developments and a Closer Look into the Potential Market" 32 (BBVA Research Working Paper No. 13/20, 2013), available at <http://www.rrojasdatabank.info/mobilebanking4.pdf>.
- Ambrosius, C., and A. Cuecuecha. "Remittances and the use of Formal and Informal Financial Services." *WORLD DEVELOPMENT* 77 (2016): 80-98. Web.
- Ambrosius, Christian, Barbara Fritz, and Ursula Stiegler. "Remittances for Financial Access: Lessons from Latin American Microfinance." *Development Policy Review* 32.6 (2014): 733-53. Web.
- Andreassen, Ole. 2006. "Remittance Service Providers in the United States: How Remittance Firms Operate and How They Perceive Their Business Environment." Forthcoming working paper. Washington,D.C. World Bank.
- Avalos, Francisco. *The Mexican Legal System: A Comprehensive Research Guide*, William S. Hein & Co, Buffalo, NY, 2013.

- Axelrod, Robert M., and Ebooks Corporation. *The Evolution of Cooperation*. Rev. ed. New York: Basic Books, 2006. Web.
- Aysa-Lastra, María, Lorenzo Cachón Rodríguez, and SpringerLink (Online service). *Immigrant Vulnerability and Resilience: Comparative Perspectives on Latin American Immigrants during the Great Recession*. 11.;11; Vol. Cham: Springer International Publishing, 2015. Web.
- Bagnuola, Anthony. "'Show me the money': State v. Western Union Financial Services and the jurisdictional significance of electronic debts." *St. John's Law Review*, vol. 85, no. 2, 2011., pp. 797.
- Barranco, RE, and ES Shihadeh. "Walking ATMs and the immigration spillover effect: The link between Latino immigration and robbery victimization." *SOCIAL SCIENCE RESEARCH*, vol. 52, ACADEMIC PRESS INC ELSEVIER SCIENCE, SAN DIEGO, 2015..doi:10.1016/j.ssresearch.2015.03.003
- Bauman, Zygmunt, 1925, and Leonidas Donskis. *Moral Blindness: The Loss of Sensitivity in Liquid Modernity*. Chichester: Polity Press, 2013. Web.
- Binford, Leigh. "Migrant Remittances and (Under)Development in Mexico." *Critique of Anthropology* 23.3 (2003): 305-36. Web.
- Bourreau, Marc, and Marianne Verdier. *Cooperation for Innovation in Payment Systems: The Case of Mobile Payments*. Working paper no. BP 4167, 34092 Montpellier Cedex 5. Working Paper, Research Papers in Economics Database. N.p., 2010. Web.
- Buku, Mercy W.; Meredith, Michael W. "Safaricom and M-PESA in Kenya: Financial Inclusion and Financial Integrity." *Washington Journal of Law, Technology & Arts* 8.3 (2013): 375-400.
- Burgess, Elisabeth, Benjamin Mazzotta, Anna V. Zuccolotto, Jose-Maria San Juan, Gabrielle Soltys, and David A. Navarrete. *Mexico Cash Outlook*. Working paper no. 13-02. The Fletcher School: The Institute for Business in the Global Context, Tufts University. Tufts University, Sept. 2013. Web.
- Chatain, Pierre-Laurent, 1961, et al. *Protecting Mobile Money Against Financial Crimes: Global Policy Challenges and Solutions*, World Bank, Washington, D.C, 2011.doi:10.1596/978-0-8213-8669-9.
- Cohen, Ari M. "Protecting the Underserved: Extending the Electronic Fund Transfer Act and Regulation E to Prepaid Debit Cards." *Brooklyn Journal of Corporate, Financial & Commercial Law*, vol. 5, no. 1, 2010, pp. 215.

- Cohen, Jeffrey, Richard Jones, and Dennis Conway. "Why Remittances Shouldn't be Blamed for Rural Underdevelopment in Mexico: A Collective Response to Leigh Binford." *Critique of Anthropology* 25.1 (2005): 87-96. Web.
- Corporate case study: Mexican banks launch mobile-banking ventures*, Economist Intelligence Unit N.A. Incorporated, 2012.
- Crosman, Penny. "Why Remittances Cost So Much - and How to Make Them a Lot Cheaper." *American Banker*, vol. 1, SourceMedia, Inc, 2016.
- Crosman, Penny. *Dodd, Frank and Payments; Banks will need to track payments the way FedEx tracks packages when Dodd-Frank Section 1073 takes effect in February*, vol. 25, SourceMedia, Inc, New York, 2012..
- Cuecuecha, Alfredo, and Carla Pederzini. *Migration and Remittances from Mexico: Trends, Impacts, and New Challenges*, Lexington Books, Lanham, 2012.
- Cuevas-Mohr, Hugo. *Are Telcos, MTOs and Banks on a Collision Course Over Remittances?* Issue brief. Second ed. Miami: IMTC - Mohr World Consulting LLC, 2015. Print.
- Demirguc-Kunt, Asli, and Leora Klapper. "Measuring Financial Inclusion: Explaining Variation Across and Within Countries." *Brookings papers on economic activity*, no. 1, 2013.
- Del Angel, Gustavo A. *Cashless Payments and the Persistence of Cash : Open Questions About Mexico*. Working paper no. 16108. Hoover Institution, Stanford University. Sanford: Hoover Institution, 2016
- Ellis, Martin B., and Fred M. Greguras. *The Electronic Fund Transfer Act and Federal Reserve Board regulation E: a compliance guide for financial institutions*, Prentice-Hall, Englewood Cliffs, N.J, 1983..
- Ellison, Keith. *Don't Block Remittances to Somalia*, New York Times Company, New York, 2015..
- El-Sayed, Mohamed, et al. "Mobile data explosion: Monetizing the opportunity through dynamic policies and QoS pipes." *Bell Labs Technical Journal* 16.2 (2011): 79-99.
- Eugene P. Lyle, Jr. "The American Influence in Mexico." *Current Literature (1888-1912)*, vol. XXXV., American Periodicals Series III, New York, 1903..
- Evans, David S., and Alexis Pirchio. "An Empirical Examination of Why Mobile Money Schemes Ignite in Some Developing Countries but Flounder in Most." SSRN Electronic Journal SSRN Journal 723rd working paper (2014):

Farrell, Lisa. "A step in the right direction: regulation of debit card interchange fees in the Durbin Amendment." *Lewis & Clark Law Review*, vol. 15, Lewis & Clark Northwestern School of Law, 2011..

Financial Crimes Enforcement Network President's Budget 2016. Rep. United States Department of Treasury. Washington, D.C.: United States Department of Treasury, 2016. Print.

FinCEN. U.S. Department of the Treasury. *Treasury Identifies Virtual Currency Provider Liberty Reserve as a Financial Institution of Primary Money Laundering Concern under USA Patriot Act Section 311*. U.S. Department of the Treasury Press Center. U.S. Department of the Treasury, 28 May 2013. Web.

Firpo, Janine. "Banking the Unbanked: Issues in Designing Technology to Deliver Financial Services to the Poor.", 2009. Web.

Fisher, Roger, 1922-2012, William Ury, and Bruce Patton. *Getting to Yes: Negotiating Agreement without Giving in*, Penguin Books, New York, N.Y, 1991.

Frisby, Dominic. *Bitcoin: The Future of Money*. London: Unbound, 2015. Print.

García, Alfonso H. "El objeto de protección del nuevo juicio de amparo mexicano." *Revista Derecho del Estado*, vol. 34, 2015..

Ghosh, Tilottama, et al. "Estimation of Mexico's Informal Economy and Remittances using Nighttime Imagery." *Remote Sensing* 1.3 (2009): 418-44. Web.

Goddard, Terry. "How to Fix a Border." *Arizona State University Morrison Institute for Public Policy Working Paper* 2012: n. pag. Print.

Godfrey, Tony. "Telephonic Credit: The Next Generation of Branchless Banking in Mexico." *Law and Business Review of the Americas* 21.2 (2015): 207. Web.

González Aguadé, Jaime Mexico. *La Encuesta Nacional De Inclusión Financiera 2015*. La Comisión Nacional Bancaria Y De Valores. INEGI. Mexico City: 2015. Print.

Guillén, Alberto, et al. "Decision Support System to Determine Intention to use Mobile Payment Systems on Social Networks: A Methodological Analysis." *International Journal of Intelligent Systems* 31.2 (2016;2015;): 153-72. Web.

Gup, Benton E., and Inc ebrary. *Bank Failures in the Major Trading Countries of the World: Causes and Remedies*, Quorum, Westport, CT, 1998.

- Harrup, Anthony. "Remittances to Mexico Reach Seven-Year High; Mexicans Sent Home \$24.8 Billion in 2015, Overtaking Crude Oil as a Source of Dollar Inflows." *Wall Street Journal (Online)* 2016. Web
- Hendrickson, Joshua R., Thomas L. Hogan, and William J. Luther. "THE POLITICAL ECONOMY OF BITCOIN." *Economic Inquiry*, vol. 54, Wiley Periodicals, Inc, Boston, USA, 2016..doi:10.1111/ecin.12291.
- Hernández-Coss, Raúl, and Inc ebrary. Lessons from the U.S.-Mexico Remittances Corridor on Shifting from Informal to Formal Transfer Systems. no. 47.;no. 47; Vol. Washington, DC: World Bank, 2008. Web.
- Hesterman, Jennifer L. *The terrorist-criminal nexus: an alliance of international drug cartels, organized crime, and terror groups*, CRC Press, Boca Raton, 2013..
- Holstege, Sean. "Western Union \$94M Settlement Broadens Border States' Investigative Powers." *Western Union \$94M Settlement Broadens Border States' Investigative Powers*. AZ Central News, 12 Feb. 2010. Web. 11 May 2016.
- Horowitz, Sari. "Getting a Photo ID so You Can Vote Is Easy. Unless You're Poor, Black, Latino or Elderly." *Washington Post*. The Washington Post, 23 May 2016. Web. 14 Oct. 2016.
- Hyde, Lorraine. *CFPB announces plan to "Tweak" Reg E remittance rule*, vol. 19, LexisNexis, 2012..
- Integration and Remittance S : Recent Developments and Outlook * Special Topic: Financing for Development. Rep. no. Migration and Development Brief 24. Washington, D.C.: World Bank, 2015. Print.
- International authorities shut down Liberty Reserve, a go-to money transfer service used often by cyber criminals*, vol. 24, Haymarket Media Group, 2013..
- International Labor Organization: Regional Office for Latin America & The Caribbean. *Programme For Promotion of Formalization in Latin America & The Caribbean*. Geneva, Switzerland: International Labor Organization: Regional Office for Latin America & The Caribbean, 2014. *Ilo.org*. 2014. Web.
- Jacobious, Arleen. "Surprise! You invested in bitcoin; Some asset owners exposed through hedge, venture funds." *Pensions & Investments*, vol. 42, Crain Communications, Inc, Chicago, 2014..
- Kant, Immanuel, 1724-1804. Perpetual Peace. Los Angeles, Calif: U. S. library association, inc, 1932. Web.

- Kaplan, Fred M. *Dark Territory: The Secret History of Cyber War*, Simon & Schuster, New York, NY, 2016.
- Khodeir, Aliaa Nabil. "Migration Remittances Inflows and Macroeconomic Shocks: The Case of Egypt." *International Journal of Economics and Financial Issues* 5.4 (2015): 1001-10. Web.
- Koren, James Rufus. "Carson Lender had Big Role in Somalia Money: Small L.A. Bank Halts Remittances to War-Ravaged Nation." *Los Angeles Business Journal* 36.24 (2014): 11. Web.
- Kranzberg, Melvin. "Technology and History: "Kranzberg's Laws"." *Technology and Culture*, vol. 27, no. 3, 1986., pp. 544-560.
- Kuhlmann, Arkadi. "Remittance Market Boggled Down by Regulation, Cost." *American Banker*, vol. 1, SourceMedia, Inc, 2016..
- Lancet, The. "Healthy Migration Needs a Long-Term Plan." *The Lancet*, vol. 387, no. 10016, 2016., pp. 312-312doi:10.1016/S0140-6736(16)00153-7.
- Le Franc, Elsie, and Andrew Downes. "measuring Human Development in Countries with Invisible Economies: Challenges Posed by the Informal and Remittance Sectors in Jamaica." *Social and Economic Studies* 50.1 (2001): 169-98. Web.
- LexisNexis, "Social Media Is Changing the Face of Investigations." *LexisNexis*. LexisNexis Risk Solutions, 2013. Web. 17 Oct. 2016.
- Lopez, Mark Hugo, Ana Gonzalez-Barrera, and Eileen Patten. "Closing the Digital Divide: Latinos and Technology Adoption." *Pew Research Centers Hispanic Trends Project RSS*. N.p., 2013.
- Lopez, Sarah Lynn. *The Remittance Landscape: Spaces of Migration in Rural Mexico and Urban USA*. First ed. Chicago;London;: University of Chicago Press, 2015. Web.
- Mahoney, Christopher W. "Defending against the Electronic Funds Transfer Act suit: a case study." *Banking Law Journal*, vol. 130, A.S. Pratt & Sons, New York, 2013..
- Mariotto, Carlotta, and Marianne Verdier. "Innovation and Competition in Internet and Mobile Banking: An Industrial Organization Perspective ()." *Communications & Strategies*, no. 99, 2015., pp. 129.
- Maurer, Noel. "Mobile Money | Global Money An In-depth Look at Modern Day Money Transfers." *The Associate Professor Guidebook* (2016): George Washington University. Web.

- Mexico. Encuesta Nacional De Inclusión Financiera. Comisión Nacional Bancaria Y De Valores. *CNBV.gob.mx*. N.p., 2015. Web.
<<http://www.cnbv.gob.mx/Inclusi%c3%b3n/Documents/Encuesta%20Nacional%20de%20IF/Cuadr%c3%adptico%202016%20%28impresi%c3%b3n%20carta%29.pdf>>.
- Mexico: Mobile Phone Internet Penetration 2019 | Statistic." *Statista*. eMarketer, June 2015.
- Michalik, Vijay. "Dark Markets: Anonymity in Bitcoin." *Frost & Sullivan*. Frost & Sullivan, 25 Nov. 2015. Web.
- Minor, Jordan. "venmo." *PCmag.com* (2015)Web.
- Mohapatra, Sanket, Manabu Nose, and Dilip Ratha. "Impacts of sovereign rating on sub-sovereign bond ratings in emerging and developing economies." World Bank Policy Research Working Paper 7618 (2016).
- Morawczynski, Olga. "Exploring the Usage and Impact of "Transformational" Mobile Financial Services: The Case of M-PESA in Kenya." *Journal of Eastern African Studies* 3.3 (2009): 509. Web.
- Morgenthau, Hans J and Kenneth W. Thompson. *Principles & Problems of International Politics: Selected Readings*. 1st ed. New York: Knopf, 1950. Web.
- Morozov, Evgeny. *To save everything, click here: the folly of technological solutionism*, PublicAffairs, New York, 2013..
- Mugambi, Allan, Christopher Njunge, and Samuel C. Yang. "Mobile-Money Benefits and Usage: The Case of M-PESA." *IT Professional* 16.3 (2014): 16-21. Web.
- Mungai, Richard. "KCB-MPesa Loans Hit over Sh25 Million Daily." *The Star, Kenya*. The Star, Nairobi, Kenya, 19 Aug. 2016. Web. 17 Nov. 2016.
- Muñoz, Ricela, Guillermo Galicia, and Derek Poulton. "Note From Mexico: Piloting Prepaid Cards to Improve Rural Clients' Access to Financial Services." *USAID Microlinks*. FINCA International, 2009. Web. 11 Oct. 2016.
- Muralidharan, Karthik, Paul Niehaus, and Sandip Sukhtankar. "Building State Capacity: Evidence from Biometric Smartcards in India." *American Economic Review*, vol. 106, no. 10, 2016, pp. 2895-2929. doi:10.1257/aer.20141346.
- Narayan, Paresh K., Seema Narayan, and Sagarika Mishra. "Do Remittances Induce Inflation? Fresh Evidence from Developing Countries." *Southern Economic Journal*, vol. 77, Southern Economic Association, College of Business Administration, University of Tennessee at Chattanooga, Chattanooga

- Natter, Raymond. "New regulatory requirements for remittance transfer companies raise public policy concerns." *Banking & Financial Services Policy Report*, vol. 33, no. 4, 2014., pp. 1.
- Ndour, Mamour, et al. "Mlouma: to connect the agricultural products market players." *Emerald Emerging Markets Case Studies* 6.3 (2016): 1-18.
- José Li Ng, Juan, Alfredo Salgado, and Carlos Serrano. *Anuario De Migración Y Remesas México 2016*. Rep. Research, BBVA. BBVA Research, 2016. Web.
- Nunez, Marco. *Por Mano Ajena: Banorte Se Ha Establecido Con Fuerza En Su Mercado Local, Mexico, a Traves De Una Red Creciente De Corresponsales no Bancarios*, vol. 22, Miami Media, LLC, 2014.
- Ortíz Mendoza, Luis Miguel. *Telecomm Telegrafos*. Issue brief. MEMORIA DOCUMENTAL Inclusión Financiera, Informe De Rendición De Cuentas 2006-2012. Distrito Federal: Telecomm Telegrafos, 2012.
- Oucho, John O., Linda A. Oucho, and Vollan Ochieng' *Is Migration the Solution to Poverty Alleviation in Kenya? Rural - Urban Migration Experiences of Migrants from Western Kenya to Kisumu and Nairobi*. Working paper. University of Sussex. Brighton, UK: n.p., n.d. Print. Migrating out of Poverty.
- Passy, Jacob. "Currency Cloud Brings Cross-Currency Payment Service to U.S." *American Banker*, vol. 1, no. 61, 2015.
- Pedersen, David. *American Value: Migrants, Money, and Meaning in El Salvador and the United States*. Chicago;London;: The University of Chicago Press, 2013. Web.
- Plassaras, Nicholas A. "Regulating digital currencies: bringing Bitcoin within the reach of the IMF." *Chicago Journal of International Law*, vol. 14, no. 1, University of Chicago Law School, Chicago, 2013.
- Polakis, Iasonas, et al. *All Your Face are Belong to Us: Breaking Facebook's Social Authentication*, ACM, 2012. doi:10.1145/2420950.2421008.
- Post, David G. "GOVERNING CYBERSPACE: LAW." *Santa Clara Computer and High - Technology Law Journal*, vol. 24, Santa Clara University, Santa Clara, 2008

- Quintana, Luis, and Uberto Salgado. "Migración Interna Mexicana De 1990-2010: Un Enfoque Desde La Nueva Geografía Económica." *Problemas del Desarrollo*, vol. 47, no. 184, 2016., pp. 137-162doi:10.1016/j.rpd.2016.01.007.
- Qureshi, Rima. *Ericsson Mobility Report: On the Pulse of a Networked Society*. Rep. Networked Society, Ericsson. Stockholm: Ericsson, 2015. Print
- Ramirez, Fernando, and Regina De Angoitia. "Strategic Use of Mobile Telephony at the Bottom of the Pyramid: The Case of Mexico." *Information Technologies & International Development* Fall 5.3 (2009): Web.
- Ratha, Dilip. "Remittances: Funds for the Folks Back Home." *Imf.org*. The International Monetary Fund, 28 Mar. 2012. Web.
- Reinisch, Jonathon. "Swipe freeze: how the "Durbin Amendment" is preventing your mobile phone from replacing your wallet." *DePaul Law Review*, vol. 63, DePaul University, College of Law, 2013..
- Rep. No. GAO-16-60 (2016). Print. *International Remittances: Actions Needed to Address Unreliable Official U.S. Estimate*
- Richard, Colin C. "MOBILE REMITTANCES AND DODD-FRANK: REVIEWING THE EFFECTS OF THE CFPB REGULATIONS." *Pittsburgh Journal of Technology Law and Policy*, vol. 12, 2012., pp. 288-312.doi:10.5195/tlp.2012.99.
- Robson, James P., and Raymond Wiest. "Transnational Migration, Customary Governance, and the Future of Community: A Case Study from Oaxaca, Mexico." *Latin American Perspectives*, vol. 41, SAGE Publications, Sage CA: Los Angeles, CA, 2014..doi:10.1177/0094582X13506689.
- Rosser, Ezra. "Immigrant Remittances." *Connecticut Law Review* 41.1 (2008): 1. Web.
- Samora, Mwaura. "The Somali Question." *World Policy Journal*, vol. 30, no. 3, 2013., pp. 99-106doi:10.1177/0740277513506387.
- Schatt, Dan. *Virtual banking: a guide to innovation and partnering*, Wiley, Hoboken, New Jersey, 2014..
- Schneier, Bruce. *Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World*. First ed. New York, N.Y: W.W. Norton & Company, 2015. Web.
- Selbach, Lindsey, and Jeferson Lana. "The Western Union Case and the Social Function of the International Money Transfer." *International Business Research* 8.5 (2015): 101. Web.

- Sims, Helena G., and Steven E. Sossei. "Prepaid Debit Cards." *The Journal of Government Financial Management*, vol. 62, Association of Government Accountants, Alexandria, 2013..
- Stanley, Rebecca L., and Ross P. Buckley. "Protecting the West, Excluding the Rest: The Impact of the AML/CTF Regime on Financial Inclusion in the Pacific and Potential Responses." *Melbourne Journal of International Law*, vol. 17, no. 1, 2016., pp. 83-106.
- Stored Value Cards: An Alternative for the Unbanked?, FED. RESERVE BANK OF N.Y.
- Suarez, S. L. Poor people's money: The politics of mobile money in Mexico and Kenya. Telecommunications Policy (2016)
- Tepper, Fitz. "Abra Raises \$12M In Series A Funding For Its Bitcoin-Based Remittance Service." *TechCrunch [TechCrunch - BLOG]*, AOL Inc, New York, 2015.
- Tien-tsin Huang, CFA, and Puneet Jain. *WU/MGI: Remittrends- News Flow from the Month of January and 4Q Update*, JPMorgan Chase & Company, New York, 2015..
- Tien-tsin Huang, CFA, Puneet Jain, and Pankti Gandhi. *WU/MGI: RemitTrends - YTD News Flow*. New York: JPMorgan Chase & Company, 2016. Web.
- Todoroki, Emiko, and Ebooks Corporation. *Making Remittances Work: Balancing Financial Integrity and Inclusion*. US: World Bank Publications, 2014. Web.
- Tovar, Maria Labastida, Lilianne Isabel Pavón, Priscilla Tacujan, and Almendra Ortiz De Zárate. "Financial Inclusion, Mobile Banking, and Remittances in Mexico and the Philippines." *Journal of Political Risk* 2014th ser. 2.1 (2014): n. pag. [Http://www.jpolrisk.com/financial-inclusion-mobile-banking-and-remittances-in-mexico-and-the-philippines/](http://www.jpolrisk.com/financial-inclusion-mobile-banking-and-remittances-in-mexico-and-the-philippines/). 24 Jan. 2014. Web.
- Trautsohl, Joanna, and Jesper Johnsen. "International Anti-Money Laundering Regulation of Alternative Remittance Systems." *Journal of Money Laundering Control* 15.4 (2012): 407-20. Web.
- U.S. Congress. Government Accountability Office. *International Remittances: Congressional Publications*, 2016..
- U.S. Congress. MONEY REMITTANCES IMPROVEMENT ACT OF 2014. Congressional Record Daily Edition., 2014. Web.
- Update on Branchless Banking Policy and Regulation in Mexico January 2010*. Issue brief. The World Bank, Consultative Group to Assist the Poor. The World Bank, 2010. Web.

- von Scheven, Elsa B. *Mexican Internal and International Migration: Empirical Evidence from Related Theories*, ProQuest Dissertations Publishing, 2015..
- Group, World B. *Report on the G20 Survey in De-Risking Activities in the Remittance Market*, World Bank, Washington, DC, 2015.
- Watterson, Colin. "More Flies With Honey: Encouraging Formal Channel Remittances to Combat Money Laundering." *Texas Law Review* 91.3 (2013): 711-748. Business Source Complete. Web. 2 May 2016.
- Welty, Evan E. "Banking on Remittances: An Analysis of Mexican Migrants' Banking and Remittance Sending Behavior in the United States." ProQuest Dissertations Publishing, 2009. Web.
- World Market Intelligence. *Safaricom Limited (SCOM) : Company Profile and SWOT Analysis*, Progressive Media Group, London, 2015.
- Wurster, Andreea. "MOBILE PAYMENT - RISKS OF A NEW TECHNOLOGY." *FAIMA Business & Management Journal*, vol. 2, Niculescu Publishing House, Bucharest, 2014..

CURRICULUM VITA

Born and raised in San Francisco, California, Sam Wilner Simon graduated from Gateway High School. He received his B.A. in Political Science and Latin American Studies with a minor in Near Eastern Studies from the University of Arizona in Tucson. In 2016 he received his M.A. in Latin American and Border Studies from the University of Texas at El Paso, earning a 4.0 GPA. Upon graduation, Sam received the award for outstanding academic achievement. Sam presented original research and received funding to attend the following conferences; Power Across Texas Energy Innovation Challenge in Austin titled *The Evolution of Produced Waters in the Permian Basin for Economic Development*, the University of California Los Angeles Tri-National Labor Gathering entitled *Juarez Worker Strikes Briefing*, Critical Approaches to Irregular Migration Facilitation: Dismantling the Human Smuggler Narrative in Florence Italy, entitled “*Characterizing the U.S. State Side of the Trafficking Phenomenon*.” In addition, Sam also received a scholarship to attend the International Money Transfer Conference (IMTC). Sam also took part in an online session research series by the International Journal of Urban Studies and Regional Research from the University of Amsterdam in 2016. During Sam’s time at the University of Texas at El Paso, he also worked fulltime as a research assistant and teacher’s assistant.

Contact Information: Samwsimon@yahoo.com, swsimon@miners.utep.edu

This thesis was typed by Sam Wilner Simon