

INVENTORES: OVERCOMING BARRIERS TO THE EXCHANGE OF MONEY,
GOODS, AND INFORMATION IN CUBA

by

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DEDICATION

To my family – those that I've had since birth, those I found in Cuba, my academic family, and the family I am just beginning with Jeff.

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TABLE OF CONTENTS

	Page
Abstract.....	vii
The Role of Entrepreneurs in Facilitating Remittances in Cuba	1
Introduction.....	1
The History of Remittances in Cuba.....	4
The Role of Entrepreneurs in Facilitating Remittance Flows.....	8
An Analysis of Entrepreneurship in the Provision of Remittances for Private Aid in Cuba	11
Entrepreneurship among Providers of Remittance Services	15
Entrepreneurship among Remittance Senders.....	16
Entrepreneurship among Remittance Recipients.....	17
Conclusion.....	21
Beyond Relief: Understanding the Cuban Diaspora’s Remittance Sending Behavior	24
Introduction.....	24
Surveying Cuban Americans on Remittances.....	27
Challenges to Remittance Sending in Cuba	29
Funding Families Through Transnational Ties.....	38
Remittances as Economic Circuits.....	41
Policy Dynamics	46
Conclusion.....	50
Net Positive: Overcoming Challenges to the Exchange of Digital Information and Devices in Cuba	52
Introduction.....	52
Research Methods	53
History of Limited Internet Access in Cuba.....	55
Technology as a Net Positive.....	62
From Rationing to Reluctant Liberalization.....	65
E-Entrepreneurship.....	69
The Network Behind the Net.....	74
Policy Implications.....	80

Conclusion.....	82
References.....	85

ABSTRACT

INVENTORES: OVERCOMING BARRIERS TO THE EXCHANGE OF MONEY, GOODS, AND INFORMATION IN CUBA

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Despite political and economic volatility and limitations on travel, exchange, and employment, the Cuban people have demonstrated resilience. This dissertation examines the mechanisms—entrepreneurship, transnational ties, and information flows – that contribute to their resilience. As one Cuban stated, “Cubans are inventors; we always come up with solutions and we always come up strong.” By analyzing historical accounts and literature, in-person interviews conducted in Havana in 2016 and 2019, and survey data from 2020, this dissertation shows how Cubans leverage transnational remittance networks and find entrepreneurial ways to exchange money, goods, and information. Chapter 1 applies the theories of entrepreneurship, as developed by Joseph Schumpeter and Israel Kirzner, to understand the creative ways Cubans receive and use remittance money sent from the United States to provide private aid. This chapter examines remittance activities between the U.S. and Cuba since 1993 and finds that remittance

senders, recipients, and aid providers act as entrepreneurs by leveraging local, context-specific knowledge and social connections to identify needs and invent new, creative ways to provide aid.

Chapter 2 further analyzes the behavior of remittance-senders through the lens of economic circuits, as developed by Viviana Zelizer, and coproduction, as developed by Elinor Ostrom. Analysis of survey data and interviews reveal that the transnational ties that make up circuits act as a mechanism not just for economic relief, but for social, economic, and institutional exchange in Cuba. Further, it finds that US policy changes in 2019 affected between 12 and 36 percent of remittance senders by restricting either the desired amount they wished to send or limiting the intended recipient pool.

Chapter 3 examines the role of popularly remitted items, such as cell phones and computers, that facilitate the flow of digital information and communication between Cubans and Americans. It finds that remittance networks promote access to information and ideas from abroad has a net positive effect on social and economic outcomes and can lead to persistent institutional change.

THE ROLE OF ENTREPRENEURS IN FACILITATING REMITTANCES IN CUBA

We are not in war here in Cuba, but remittances are like a humanitarian help. Cuba is a place of disasters. We don't have earthquakes or volcanoes, but we have a chaotic economic system that makes us living in a constant state of alert due to any upcoming crisis. We can have two or three months of higher income for something that happened, but we always worry that in any moment the situation can turn around and then you have to figure things out.

– Alejandro¹

Introduction

In times of crises—whether economic or political, natural or man-made—individuals seek to help those in need. Such aid may be given directly to family and friends or through charities and government-led initiatives, and may be targeted to those in need in one's own community, in their current or home country, or across the globe. The characteristics and consequences of the crisis, and the individual needs of those impacted by crisis, is context-specific and plagued with uncertainty. In this complex environment, aid is likely to be most effective when (1) the local needs and circumstances are understood by the aid providers, (2) the aid is provided directly to those in need (rather than being filtered and altered through middlemen, political

¹ Quotation from a Cuban citizen from interviews conducted in the summer of 2016 (see note 3 for more information on the interviews).

processes, etc.) and (3) the aid, and systems used to provide it, is flexible in order to adapt to changing needs and circumstances.² We argue that remittances—a form of private aid of money or in-kind goods sent from workers to their home countries—serve as an effective source of aid that is more likely to be provided by individual’s with knowledge of the needs and circumstances to those directly in need, and is adaptable when circumstances change. Indeed, remittances now outpace public aid flows (Kpodar and Le Goff 2011), and remittances account for 23.6 percent of global foreign aid spending (Hudson Institute 2016).

The decentralized method of providing remittances works because both the providers and receivers can act entrepreneurially about how to best deliver and use the aid. Specifically, we examine the use of remittances in Cuba and find that entrepreneurs, by relying on creativity and alertness to opportunities, overcome the costs—such as transaction fees, logistical difficulties, and regulatory barriers—associated with delivering aid to intended recipients.

Cuban President Fidel Castro legalized possession of the US dollar in 1993, after the dissolution of the Soviet Union in 1989 and the subsequent economic recession (known as the “special period”). At the time of the dissolution of the Soviet Union, trade between Cuba and Soviet countries amounted to 85 percent of the island’s commerce (Eckstein 2009). In the 4 years following the dissolution, Cuba’s economy contracted by

² See Coyne (2013) for a systematic approach to the limitations of humanitarian aid. For a discussion on how local knowledge and buy-in from individuals on the ground is important for the effectiveness of development reforms and aid (and the barriers that impede reforms), see Boettke, Coyne, and Leeson (2008). On the role of decentralized and bottom-up solutions to disaster recovery, see Storr and Haeffele-Balch (2012).

over 30 percent even after receiving new aid assistance from Venezuela and China (ibid.). Castro allowed remittance transfers from the U.S. as a way to acquire hard currency to finance investment and imports and serve as a supplemental source of development capital (ibid.). For several years after the collapse of the Soviet Union, the U.S. tried to restrict aid to put pressure on the regime, capping the amount annual remittances and limiting it to immediate family. However, rising economic need, demand for remittance services by the diaspora, and decreased political pressure paved the way for the U.S. to grant Western Union, a money transfer service, a license to do business in Cuba (Western Union 2016a). At that time, the amount of remittances allowed by U.S. policy was capped at \$300 in any three-month period and was restricted to immediate family only (OFAC 2009). The 2009 amendment to the Cuban Assets Control Regulations permitted unlimited remittances at whatever amount and frequency to “close relatives.” The amendment also removed travel restrictions for family members, expanded the list of goods Cuban-Americans can send to their families—most notably to include personal hygiene items, clothing, and fishing gear—and permitted American telecommunications companies to operate in Cuba. In 2011, another amendment to the regulations allowed U.S. citizens to send remittances to nonfamily members in Cuba (Sullivan 2016). These changes resulted in increased remittance flows and lower charges for wiring money (Western Union 2016a).

Using remittance practices between the U.S. and Cuba as a case study, this chapter will highlight the critical role of entrepreneurs in identifying need for remittances, connecting suppliers of remittance aid with demanders, and sustaining social

networks in the aftermath of economic crises. The chapter utilizes qualitative interviews with 17 Cuban nationals completed in 2016 to demonstrate the key role entrepreneurs play in facilitating remittances flows as a form of private aid.³ These interviews, used in conjunction with data on remittances and previous literature, helps to provide insight into the individual circumstances and narratives of the entrepreneurs that drive these flows. Given that the role of local entrepreneurs in post-disaster aid is underplayed on the global scene and local efforts are often crowded out by a more bureaucratic provision of aid through NGO's or federal governments, this approach provides insight into the consequences of favoring certain forms of aid over others.

The History of Remittances in Cuba

Remittances are direct transfers between donors and recipients and constitute one of the most robust poverty reduction efforts for poor countries (Adelman 2009). These peer-to-peer transfers are a key source of private aid for countries recovering from crises and have significant economic and social effects in the countries where they are received. For example, in El Salvador, remittances make up a large part of the country's income, accounting for 20.4 percent of GDP in 2017 (World Bank 2017). In Haiti, Nepal, Tajikistan, Tonga, and Krgyzstan, the remittances account for roughly one third of GDP. An estimated \$564 billion in remittances was sent by migrants to their home countries in 2016, down slightly from \$581 billion in 2015 (World Bank 2018).

³ In-person interviews with 17 Cuba citizens and residents of Havana were conducted in the summer of 2016. The average age of interviewees was 53 and included 7 males and 10 females. The interviews averaged 54 minutes. Interviews were conducted using hub-and-spoke methodology in which the first round of interviewees introduced us to the second round of interviewees, which helped us establish trust while still interviewing a diverse selection of individuals. To protect their identity, pseudonyms are used for all individuals that are quoted in this chapter.

A Hudson Institute index of 39 donor countries found that private aid was five times greater than government aid for donations to the developing world from 1992 to 2014 (Hudson Institute 2016). It is important to note that in the 1950s and 1960s the dichotomy was flipped—with public flows amounting for the majority of U.S. engagement with poor countries (Adelman 2009). By 2014, remittances constituted the second largest financial flow (\$224 billion) to developing countries, behind private capital flows of \$513 billion.⁴ Notably, these numbers included only official remittance flows, not informal transfers. Moreover, while the index did include countries representing 82 percent of the world’s population and 89 percent of the world’s GDP, it did not include Cuba. Likewise, the IMF, World Bank and Inter-American Development Bank lack remittance statistics for Cuba. Cuba remains an understudied area due to the lack of official data on flows, an inability to capture informal transfers, and a variety of unique policy constraints and institutional constraints.

The most accurate assessment was calculated by the Havana Consulting Group of Miami, Florida, based on its own estimates and statistics released by the Oficina Nacional de Estadísticas e Información in Havana. Cubans received \$6.85 billion in total remittances in 2015, up from \$2.6 billion in 2012 (Morales 2016). In addition, in-kind remittances in 2015 were estimated at more than \$3.5 billion (*ibid.*). In-kind remittances in Cuba commonly include medicine, appliances, clothes, electronics, and cell phone

⁴ Private capital flows are defined as capital investment from non-government sources. The Hudson Institute study also measures private philanthropy spending, which includes donations to foundations and non-profit organizations, volunteering and corporate giving. By contrast, remittances are defined as monetary flows sent from individuals abroad to recipients in their home countries. For the purposes of this chapter, we also include the discussion of in-kind remittances, or physical goods sent from abroad to an individual’s home country.

minutes. Annual remittances per person now amount to over three times the annual amount paid to state employees in Cuba (Morales 2013).

Technological advancement, such as Western Union's mobile money transfer service, has lowered the cost of sending remittances worldwide. The average cost of sending remittances—estimated at 7.7 percent for \$200 worldwide—declined to 6 percent in Latin America and the Caribbean region due to technological advancement such as online and mobile transfer options. Nevertheless, mobile transfer remains inaccessible in Cuba. The cost of sending remittances from the U.S. to Cuba is the second highest in Latin America at 12.43 percent of the total amount sent (Orozco 2010). This includes a 10 percent tax, instituted in 2004, as a response to the strengthening of U.S. sanctions. Despite these taxes, remittance flows are a major source of income for Cubans. Remittances reached more than 62 percent of Cuban households in 2016 (Western Union 2016b). The average amount sent from the U.S. to Cuba in 2010 was \$150 (Orozco 2010).

The literature on global remittance flows suggests that remittances reduce poverty through direct aid to those in need as well as reduce inequality, increase investment and growth, and help countries adjust to external shocks (see Fajnzylber and López 2008). In a cross-cultural econometric approach for 69 countries, researchers identified that remittances improve primary and secondary school attainment, increase life expectancy, and reduce infant mortality (Zhunio, Vishwasrao, and Chang 2012). In Latin America as a whole, studies conducted using surveys and econometric models showed how remittances increase growth and lower poverty levels, yet only modestly (Acosta,

Fajnzylber, and López 2007; Acosta, Calderón, Fajnzylber, and López 2008). Remittance flows strengthen economic and societal relations, generate demand for migrant tourism, increase business competition, and are associated with diversification of export economies in Central America (Eckstein 2002; Orozco 2010).

Interviews with Cuban citizens revealed that remittances in Cuba are primarily used for immediate consumption such as purchasing food such as chicken, cooking oil, coffee, salt, or powdered milk. Cubans also reported using money remittances for medicines, clothing, home, and car repair, special events, and fixing appliances such as fans or refrigerators. This suggests that Cubans use remittances to, first, reduce immediate need by purchasing perishable food items (living at subsistence levels) and then, second, to repair or invest in more nonperishable goods that can improve the livelihood. The interviews also show that as Cubans are able to alleviate their most pressing needs through the assistance of remittances, they then may turn investing resources into more long-term plans. The goal of remittances is often to provide immediate relief to those in need, provided by those who can easily understand and deliver on their needs.

Further, remittances in Cuba operate in a unique societal and institutional environment in which there is an innate tension between the interests of the state and the interests of the Cuban people in receiving remittances (Eckstein 2010a). The Cuban government benefits by taxing remittance flows and gaining access to hard currency (Eckstein 2004). Yet by encouraging remittance flows, the Cuban government unintentionally set into motion liberalizing dynamics that authorities can no longer

control (Eckstein 2002).⁵ She argues that cross-border social and economic ties not only raise the standard of living of Cubans, but expose them to a different set of values that can undermine state control (Eckstein 2010a, 1054). Eckstein cautions, however, that while remittances likely reduce the control of the Cuban state on its citizens, remittances also exacerbate urban-rural inequalities and race-based income inequality between whites and non-whites (ibid., 1053).

The individuals who coordinate the sending of remittances, those that provide services through which to send them, and aid recipients themselves play an entrepreneurial role in overcoming constraints associated with transferring money and in-kind remittances. Further, access to these resources allow for poverty reductions as well as a broadening of the network and ideas that Cubans have access to and, potentially, can lead to liberalizing reforms.

The Role of Entrepreneurs in Facilitating Remittance Flows

In times of crisis, the environment is characterized by uncertainty and change. For instance, after a hurricane or major storm there is widespread physical damage and, in many cases, utilities and telecommunication is hampered. Survivors must try to locate others, determine if their homes and jobs still exist, and plan to return and rebuild or to start fresh somewhere new. Their decisions will be impacted by the formal response from government and charity, the decisions of their family, neighbors, and coworkers, as well

⁵ A competing hypothesis suggests that foreign aid has an “amplification effect” on the country’s existing political-institutional orientation, and would thus make dictatorships more dictatorial (Dutta, Leeson, and Williamson 2013). In the context of foreign aid flows from rich to poor countries in the Middle East, Ahmed (2012, 2013) found that an increase in remittances was associated with an increase in corruption of political institutions as well as longer duration of autocratic regimes.

as the opportunities available both at home or elsewhere. In the case of prolonged economic and political crises, such as the contemporary experience in Cuba, daily life is impacted by the lack of resources, access to broader networks, and the changing political landscape. Time, energy, and resources are spent finding creative ways to stretch income, food supplies, and other goods. Uncertainty about the future hinders innovation.

In these circumstances, coordination is costly and difficult. Those seeking to help, whether from within or abroad, must be able to (1) identify the issues and needs of the effected population, (2) provide targeted solutions to those in need, and (3) be able to adjust when their first attempts fail or circumstances change.⁶ Entrepreneurs play a critical role in the provision, distribution, and use of remittances as private aid because they are more likely to achieve the criteria of knowledge, application, and adaptability. They act as the “man on the spot,” who sees issues on the ground and who also may recognize opportunities to fix them, especially in situations characterized by uncertainty and imperfect knowledge (see Hayek 1974; Kirzner 1997, 1999). Furthermore, entrepreneurs are bold visionaries who disrupt the status quo by providing a new service, creating a new market or employing a new method of acquiring or providing resources (Schumpeter 1962).

In crisis, when uncertainty abounds and information is lacking, the entrepreneur can push recovery or progress forward by acting on possibilities that others may not foresee. Indeed, Storr, Haeffele-Balch, and Grube (2015) find that entrepreneurs (who

⁶ For a similar framework applied to U.S. disaster management, see Sobel and Leeson (2007), and applied to community-based disaster recovery, see Storr and Haeffele-Balch (2012) and Storr, Haeffele-Balch, and Grube (2015).

can be individuals on or connected to those on the ground) play a critical role in disaster recovery by finding and providing resources, creating or leveraging existing social networks, and connecting aid suppliers with demanders. Entrepreneurs in this sense are individuals, from all aspects of life (not just economic but social, ideological, and political entrepreneurs as well) that employ local knowledge and creativity to facilitate aid.

The role of entrepreneurs in the provision of aid has been well documented in the context of Hurricane Katrina in the U.S. Local church leaders and small business owners anticipated the needs of their community members by providing food, shelter, health services, and other resources and by connecting people together to overcome challenges—either by assisting in rescue missions, traveling to visit evacuees, or providing a space where residents can swap information, collaborate their efforts, and learn each other’s mistakes (Storr, Haeffele-Balch, and Grube 2015). Even large-scale retailers empowered their local managers to act entrepreneurially. For instance, managers of local Wal-Mart stores in Louisiana opened their doors for residents to take any remaining supplies free of charge and delivered water to a local retirement home (Horwitz 2009). Further, government officials even acted entrepreneurially to provide for their community. For instance, Doris Voitier, a school superintendent knew that families would not be able to return to St. Bernard Parish unless there was schooling for their children and promised to reopen her schools as quickly as possible. Despite pushback and red-tape from the Federal Emergency Management Agency (FEMA) and other federal agencies, she purchased equipment and supplies needed to reopen the schools (essentially

asking for forgiveness instead of permission) (Chamlee-Wright 2010; Storr, Haeffele-Balch, and Grube 2015). Furthermore, entrepreneurs leveraged social networks to “serve as informal insurance and promote mutual assistance after a disaster” as well as coordinate invaluable diffuse information and resources (Aldrich 2012, 149–150).

In the context of coordinating aid, three types of knowledge are critical—identifying the extent of the crisis, determining what aid is needed, and evaluating ongoing aid efforts (Sobel and Leeson 2007; Haeffele-Balch and Storr 2012). Entrepreneurs drive such coordination by making use of this dispersed and imperfect knowledge, resources, and networks in creative ways. In short, entrepreneurs are both change agents alert to opportunities to help those in need as well as innovators that challenge existing conventions and limitations on the ground.

An Analysis of Entrepreneurship in the Provision of Remittances for Private Aid in

Cuba

Entrepreneurs facilitate remittance flows in Cuba by anticipating the local needs of Cubans, connecting aid suppliers with aid demanders, and sustaining social networks. For example, remittance senders who understand the needs of Cubans will ensure remittances are more likely to be used and help those in need. Understanding that Cubans want money to purchase food, medicine, or essential items for themselves and their kids or that they need particular goods like cellphones will allow remittance senders to better address their needs than donating other new or used goods that may or may not be of use. Furthermore, entrepreneurs form informal networks of travelers to the island to ensure the delivery of in-kind remittances (rather risk them getting intercepted) or to evade the

tax on formal money remittances (lowering the cost of remittances and increasing the amount received by Cubans directly). Cubans also create or sustain their social networks with remittance senders, maintaining social ties and distribution channels.

These roles for entrepreneurs are crucial for assisting Cubans. Indeed, interviewees agreed that for a majority of recipients in Cuba, remittances fulfill basic economic needs in a country that is still in a state of economic crisis. For example, Nalda summarized that

The Cuban society, or better yet, Cuba's economy, is an economy that has been in crisis for many years. Even before 1993. ... When [mines and plantations] were nationalized starting in the year 1961, which was one of the greatest mistakes of the Revolution, nationalizing everything. What happened? The economy went into a crisis. The country did not develop. ... So, we started depending entirely on the former Soviet Union and of the former Eastern Bloc countries. ... And Cuba's production never increased. It was as if the Cuban state thought that we would never stop depending on those countries. Of course, they never thought that the socialist countries would stop being socialist. That never crossed Fidel's mind. So of course, since we were so dependent, when the socialist countries fell, we barely had any production because we had not developed any production. ... Then we started becoming dependent on Venezuela. But Venezuela is a country that is also in crisis. That dependency is not as big as it was before though. So, Cuba has been developing a little in some sectors, but it is still an economy that is in crisis.

The sense of pervasive and persistent economic need was ubiquitous. In the face of such necessity, it became apparent that remittances are a source of relief and comfort. All 17 interviewees recounted a period of time where food was scarce and many noted the role remittances still play in food security: “Without remittances, we would all starve” (Francisco).

Remittance recipients recounted feeling pride and gratitude as well as diminished stress and worry. However, the process of receiving remittances can be strenuous due to taxes, fees, delays, uncertainty, confiscation, a lack of banking infrastructure, and policies restricting the amount of remittances or the weight of items that can be sent.

Of the 11 interviewees (out of 17) who received remittances, 10 relied primarily on Western Union. Western Union remains the quickest and most popular method of direct money transfer, despite the Cuban government taxing the service. Esmeralda states that,

Western Union is very practical. Someone sends the money and two hours later, at the latest, you can retrieve your money in any Western Union office. There are a lot of offices. You get a number, and you just call the office, give them the number and your name. You receive the given amount in CUC. [The remittance sender] pays the difference [in taxes] when they deposit.

Money transfers from other countries besides the U.S. are not as simple because money is routed through the Cuban state-owned bank network, a process which can take several months and requires intermittently braving a long line to get information about the status of the transfer. For instance, Teresa noted that, “The lines at the bank are huge. Just to take out 4 pesos, it’ll take you a whole day.” And while Cuban banks do offer a stored-value debit card, it can take weeks to receive one and requires a minimum of 50 CUC to open one (for comparison, the average monthly pension in Cuba is 200 CUP, which is around 8 CUC or \$8). Furthermore, there are limits on withdrawal amounts. Francisco observes that,

Say I have my bank account and I have to travel tomorrow to the U.S., and I have 5,000 dollars and I need it, I won't get it. To get it out of the bank account, I need to get out 100 CUC per day. 100 in one location, 100 in another location, and so on. When you have to take it out you have to fill out a form stating what you're using it for ... So, it's a hassle to get money out of your account, especially if it's in big amounts. And the line kills you. You lose time and money—and it's your money.

Cubans can legally send in-kind remittances through DHL international shipping services, via Copa Airlines or through regular mail, and the United States Postal Service resumed service to Cuba in 2016. Three interviewees had received mail through traditional mail services. However, the Cuban customs process is notorious for lengthy delays, broken cargo, or packages with replaced items, lost, or stolen items. Francisco recalled waiting for a package with coffee and razors, and only the razors ultimately arrived. He also told us, “I had some friends that went to China to buy winter clothes. By the time they got it out of customs it was summer.” As Teresa recounted:

about three years ago, a relative of mine sent from England some products, and all of the products were replaced. At the end, what is sent from there is not what you receive here. Most of the products are changed here to the ones that they sell in the markets. For example, someone sent me an iron, and the iron that I got was the one that they have in the store here. The beers were Bucaneros, the ones that are made in Cuba.

Luggage coming from the U.S. to Cuba also faces weight restrictions and customs fees. Those traveling with large quantities of a single items such as a razors or cell phones may have items confiscated. Alberto explains the process:

A Cuban that has the possibility to travel and work, as you might have noticed, comes back with several suitcases for their family. When they get to customs they can't enter more than a certain amount of kilograms and they have to pay for each extra kilo that they bring. They

charge it at the airport in the U.S., and then they charge it again at the airport here. The things that you were able to bring end up costing you a whole lot of money, like if you would have bought them in the most expensive store in the world. But in a certain way, that also helps people here because you can't find things.

Given the lack of goods being produced or imported into Cuba, remittances (both money and in-kind goods) play a large role in sustaining daily life in Cuba. And the complexity of the situation and the process of aid provision highlights the need for enterprising individuals to help overcome these limitations, create new methods of providing remittances, and leverage social networks to act as agents of positive change. We find that entrepreneurship exists among the providers of remittance services as well as by individual remittance senders and receivers.

Entrepreneurship among Providers of Remittance Services

The most trusted method for the transport of in-kind remittances is private agencies that arrange trips from the U.S. to Cuba as well as the delivery of goods once they arrive in Cuba. Cubans who use this service to mitigate the danger of broken or stolen goods, customs fees, and delays. Six of our interviewees had received packages this way. The individuals who work for these agencies are sometimes called “Mulas” or mules because their primary role is to carry money and goods into Cuba. Francisco stated,

It is the safest way for you to receive a package. ... If you send a television through that agency, you receive it. A pair of shoes, you get them. I worked for that agency. With my car I helped deliver packages. And we were super-efficient. I would pick it up at the airport with a name and address, and I would distribute them throughout the whole city and some other areas. And nothing ever got lost, because we worked private enterprises. But according to the state, [using Mulas] is illegal.

Agency staff members exhibit Schumpeterian entrepreneurship by cultivating a disruptive new market for their services and distributing resources in a novel way. The agencies also aid in maintaining social ties and leverage social networks to facilitate the flow of money remittances and goods through their services. Landa noted that,

[Agencies] hire two or three people, buy them plane tickets for Cuba and the company sends things with them. Generally, it's people that don't have the money to come to Cuba and see their family, and through these companies they get a free flight to Cuba and [in return] they only have to use their luggage to bring packages to other people.

Such agencies have found ways to reduce the costs of individual remittance transfers and effectively utilize a broad network of remittance senders and receivers as well as people looking for cheaper ways to travel back home.

Entrepreneurship among Remittance Senders

Interviewees reported that remittance senders held jobs in construction, manufacturing, and food service in the U.S., working not just to improve their own lot in life but also to save money and send it back home. Often, senders rely on their local knowledge of their family's situation to anticipate their specific needs and help them when they face new challenges. Veronica noted that, "Remittances help you solve problems. Food problems, hygiene problems, housing problems, clothing problems, every kind of problem."

There are also certain types of goods that cannot be consistently found or purchased in Cuba, including car parts, bikes, most electronics, clothes and specialty or quality food items. Having connections outside of Cuba that can acquire and send these items improves the lives of Cubans.

Remittance senders have found various ways to expedite money transfers and in-kind deliveries. They often rely on loose social networks to find out when friends, relatives, or mere acquaintances are traveling to Cuba from the U.S. in order to send packages or money along with them. Ten of our interviewees relied on this method to receive remittances. Coordinating with travels allows for senders to avoid certain fees or avoid waiting to send to goods until they can travel back to Cuba themselves.

Remittance senders may also convert U.S. dollars into Euros because Euros face a more favorable exchange rate in Cuba. And, rather than sending money (which can incur taxes and fees) they find other ways to provide funds that still provide value. For example, they purchase cell phone minutes for Cubans through online services in the U.S. Cell phone ownership was legalized in Cuba in 2007, and about 70 percent of the cell phones in use on the island are paid for by Cubans living abroad (Morales 2013). While cell phone minutes are less fluid than cash, they provide access to networks and resources that would be restricted otherwise.

Remittance senders are experts at identifying and determining what aid is needed within their social network, as well as finding creative ways to send remittances to ensure delivery to those directly in need.

Entrepreneurship among Remittance Recipients

A dominant narrative among interviewees was the idea of the Cuban as a survivor and an inventor. “Cubans are inventors,” said Oleda, “we always come up with solutions. We are always creating and we always come up strong.” Cubans find creative ways to create or utilize existing social ties abroad in order to facilitate remittance flows. Families

create an extended network by sending a family member abroad to be able to work and send money back home. Carlos notes that,

[Sending a family member abroad] has become a kind of family business. Sometimes they sacrifice the youngest member of the family and make them leave the family home. They send them in boats or through marriages or with a job offer and they stay. That is a way [for families] to survive economically.

While this establishes a stream of resources, interviewees also noted that splitting up families is a large cost to pay in order to survive as a family.

Cubans also have had to be inventive about how they exchange remitted dollars for their local currency. Before the dollar was legalized, Cubans leveraged social networks to find foreigners to exchange the money for them. More recently, in order to avoid the high taxes associated with exchanging dollars, Cubans have devised other solutions. For instance, Javier recalls that,

We could exchange dollars, as many of us did, with someone who was about to travel to the U.S. and needed dollars. They would give us a lower rate. The majority of Cubans do that. When we exchange our dollars in a bank it's because we have no other option left.

This inventiveness also manifests in the entrepreneurial uses of remittance money. While interviewees revealed that a majority of remittances are used for consumption, recent legalization of some private enterprise in Cuba have opened up new avenues for investment facilitated by private remittance flows. “Before, they only sent the money for one to eat” said Francisco, age 51, “now they send it so you can open a business.” In 2013, the government authorized 201 legal occupations for *cuentapropistas* or entrepreneurs. This list includes taxi drivers, food vendors, café and restaurant owners,

and repair shop owners. Thus, remittances are also linked to the rise of the *cuentapropista*. Nalda observes that,

Most private businesses, are being set up with the money that people send to their families here. People who live in a foreign country and are doing financially well send money here so that their relatives can have their own business and income. It's not my situation, but I know of people that use remittances to help them start a business or set up a cafeteria, a clothing store.

Entrepreneurs anticipate needs, provide new services, and use resources in new ways. For example, Cuban restaurants—or *paladars*—dominate the food scene in Cuba. Cubans use excess space to run small eateries, reconfiguring apartments and other small spaces so as not to run afoul of regulations on business size or the numbers of customers that can be served. They also develop new informal supply chains with individuals abroad in order to get around Cuban import restrictions on food items.

Nevertheless, the challenges persist and so too does the demand for entrepreneurial solutions. As Nalda posits,

I think that the changes will come as long as there is a greater openness and as long as there are more people with new projects and new ideas that can spread. That is what I think. But we still need a lot of changes. ... A lot of people have lost faith and have left. They have tried to do things here, and Cuba always imposes a new law that doesn't let them move forward. ... Cubans ask if the private sector works, well, it does. Because when you have a business and you make it profitable with your efforts and by sacrificing things, and you see that it's slowly improving, then you'll take care of it. When things don't belong to someone, people don't take care of them.

Echoing Eckstein's findings about the ability of transnational ties to disrupting government control over Cuban citizens, Nalda's comment reveals that there is a sense that entrepreneurship will beget more entrepreneurial activity both in the provision of aid

as well as the development of local private businesses. Cubans take pride in their inventiveness, whether they use these skills to find new ways to send or use remittances, provide an informal service to circumvent constraints, or create or maintain ties to remittance senders. Increased access to global networks around Cuba may spur entrepreneurial activity within Cuba. As resources continue to enter the country and expand business opportunities, the liberalism that can come along with remittances may impact Cuban society as well.

Interviews with individuals on the ground demonstrate that entrepreneurs identify needs, provide targeted solutions, and adjust their methods when the aid environment changes. For example, recipients interviewed were in regular communication with their remittance senders often via cell phone (a service often paid for remotely by remittance senders), relaying their need for specific items or funding when appliances break or unexpected circumstances arise. Remittance senders and recipients have knowledge of local shortages in items, such as toilet paper or coffee cups, as well as items that are not available on the island. Individuals who are about to travel to Cuba will ask what family and friends need and fill their suitcases with the demanded products. Finally, remittance senders will leverage their social ties to send care packages with people who are about to travel to Cuba.

Additionally, Cubans invent targeted solutions to economic need. Agencies coordinate diffuse information and resources to provide a more trustworthy service than traditional mail to Cuba. Recipients and senders alike use their social networks to find ways to circumvent taxes and fees by sending money and goods directly with friends and

family or agencies traveling to Cuba. Cubans circumvented untrustworthy institutions, such as Cuban banks and customs, in order to ensure the delivery of goods and money.

Individuals also adapt to complex situations by adjusting their processes and practices over time. Before the dollar was legalized, Cubans found creative ways to exchange illicit dollars for local currency, such as leveraging their social networks to find a foreigner who could help exchange it for them. They also traded dollars with the local currency of other Cubans who were about to travel abroad. When Western Union entered Cuba, senders and recipients embraced the change as a fast and secure way to receive money. Nevertheless, Cubans continue to adapt to changes in taxes and fees by employing their inventiveness in using remittance agencies or other informal methods of remittance provision.

Coordinating remittance flows is costly and challenging. Entrepreneurs play a critical role by leveraging local knowledge, using social ties to connect aid recipients and senders with services, and facilitating adaption to new rules and regulations. Remittances reinforce this cycle of entrepreneurship that may serve to erode state control and facilitate the exchange of ideas as well as goods and money. While policy changes permitting the flow of more people and money remittances to Cuba have improved the process of remittance provision, there is still room for improvement.

Conclusion

Entrepreneurs play a central role in identifying local need for remittances, connecting potential remittance senders with recipients, and sustaining the networks that facilitate the provision of aid. Remittance senders, recipients, and service providers

exhibit entrepreneurial qualities such as alertness to economic opportunities, inventiveness, and adaptability. Entrepreneurs facilitate aid use local knowledge and social networks to establish services and navigate complex, dynamic environments characterized by institutional and policy-driven constraints on economic activity in the U.S. and Cuba.

This chapter helps highlight that while data and research on remittances in Cuba is lacking, the Cuban experience is similar to that of developing countries in the rest of the literature on the effects of private aid. Remittances help people survive and allow individuals to have access to things they otherwise would not have (whether immediate, perishable items or nonperishable goods meant for investment and a more sustained and improved quality of life). They also help grow private businesses and spread wealth. Remittances serve as a form of private aid to Cubans who live in a prolonged economic crisis. That said, further research is needed to study the direct and indirect effects of private aid on social ties, economic growth, liberalization in Cuba.

The economic development literature is dominated by discussion of aid provision by governments, public-private partnerships, and non-governmental organizations (NGOs). The goals of this sort of foreign aid are to influence broad, macro indicators such as increasing GDP with hopes that such efforts will trickle down to those in need and reduce poverty, improve health, and increase opportunities. However, such top-down approaches have not led to substantial improvements in growth or wellbeing. Remittances and other bottom-up approaches to aid are first concerned with providing immediate assistance to those in need. Such private aid is primarily focused on improving wellbeing,

with evidence of moderate impacts on growth (or a trickle up effect). This contrast in goals and effectiveness is worth exploring and has implications for how best to deliver aid and impact wellbeing of those in need.

This chapter demonstrates that it is valuable to pay attention to the social and economic effects associated with remittances and other forms of donor-recipient transfers, especially in areas where data and traditional aid may be lacking. The narratives explored in this chapter suggest that targeted private remittance flows, driven by entrepreneurs, are best equipped to accommodate local priorities and needs. More research in private and informal aid is needed to better understand the capabilities of assistance and long-term progress.

BEYOND RELIEF: UNDERSTANDING THE CUBAN DIASPORA'S REMITTANCE SENDING BEHAVIOR

Introduction

Cubans rely on remittances (private money and goods transferred across borders) for basic needs from food to clothing to digital communication. Remittances in Cuba act primarily as a form of aid and poverty reduction (Haefele and Hobson 2016). While 80 to 90 percent of remittances to Cuba come from the US, there are logistical and policy-based challenges to sending remittances to Cuba (Eckstein 2010b). For example, Cuba has the highest fees for formal remittance sending and US policy has historically limited travel to and from the island, as well as the amount of money that can be sent and to whom. As a result, it is estimated that 46.4 percent of remittance-senders to Cuba use informal channels as compared to the 13.3 percent average for remittance-senders to other countries in Latin America and the Caribbean (Orozco 2002). Indeed, more than 62 percent of Cuban households received remittances in 2016 (Western Union 2016b).

Remittances are typically sent from family and friends (who have emigrated to other countries for better work opportunities) to their relations back home. Remittance flows to developing countries account for a larger amount of international income than foreign direct investment (FDI) and traditional development aid (World Bank Group 2021). In 2020, global remittance flows were \$540 billion compared to \$259 in FDI and \$179 billion in overseas development assistance (ibid.).

Measuring the size and dollar value of remittance flows is a purely economic task. However, understanding why people send money and the meaning they attach to these

transnational relationships involves examining economic, social, and political factors. Two scholars that cross these interdisciplinary boundaries, Viviana Zelizer and Elinor Ostrom, provide useful frameworks for understanding the role of remittances. Viviana Zelizer (2011, 4) explores economic circuits, “distinctive, bounded arrangements of social relations that sustain economic activity,” that individuals engage in within markets and society. Also referred to as “circuits of commerce,” these arrangements include four components: (1) a well-defined boundary that distinguishes participants from nonparticipants (e.g., familial relations); (2) a distinctive set of transfers (e.g., monthly payments); (3) distinctive media (e.g., money); and (4) shared meaning (ibid., 315). For example, Zelizer studied rotating savings and credit associations as a form of economic circuit. Individuals without access to credit form groups and contribute to a common fund which is lent to each member in turn with interest gained for later recipients (ibid., 346).

Economic circuits are one mechanism through which collective action problems (issues where necessary cooperation fails to materialize) can be mitigated. In fact, circuits are similar to the common pool resource management identified by Elinor Ostrom (1990). Elinor Ostrom studied how individuals form informal groups to facilitate collective action in the absence of formal governance structures or rules. She examined the historical management of Swiss grazing pastures, Japanese forests, as well as irrigation systems in Spain, the Philippines, and California, and discovered that under certain conditions, people can and do organize to solve complex problems in the absence of formal, top-down governance. Ostrom argued that in these cases, policymakers should leave room for entrepreneurial action to supply governance solutions (ibid.).

Both economic circuits and informal arrangements managing common pool resources rely on specific conditions to function, including interdependence between participants; a credible, self-enforcing commitment to honoring the exchange; and mutual monitoring. Further, both Ostrom and Zelizer developed their theories by identifying arrangements that defy traditionally understood structures (such as firms or formal governments) and reveal the limits of models that rely on these structures, such as the tragedy of the commons and the logic of collective action. Ostrom's work challenged the assumption that either private property rights or centralized regulation is required to solve collective action problems; instead, circuits or self-governance arrangements can fill that function. Remittances are informal economic circuits. They involve transnational relationships with clearly defined boundaries, decisions about the amount and type of remittances are often made jointly, and cross-border communication facilitates monitoring, sanctioning, and conflict resolution. Lastly, the existence of transnational remittance circuits is dependent upon the recognition of the right to interact and exchange by higher-level authorities (in this case the US and Cuban governments) and the policies they enact. Informally arranged remittance circuits can facilitate aid when centralized governance falls short, and even when privatization of remittance flows is prohibited.

This chapter builds on the existing literature on remittances and remittance circuits and contextualizes it to the Cuban experience by using survey data from Cuban Americans who send remittances and interviews from Cubans who receive remittances. Zelizer (2015) focused on their informality as distinct from traditional economic transactions as well as their strong social element—the idea of sacrifice, duty, and love

ties up with gathering and sending remittances as well as the relational linkages that facilitate this activity. The Cuban experience adds another layer—a political one—which manifests in taxes on transactions as well as policy changes that limit formal remittance flows. We argue that these remittance circuits act as a mechanism not just for economic relief, but for social exchange based on shared meaning. In addition, we find that policy changes and political action at the national level in the US and Cuba can disrupt circuits but cannot terminate them because they are socially embedded and part of a self-governing system.

The chapter proceeds as follows. Section II details the methodology used in the chapter. Section III then reviews the history and challenges regarding remittance flows to Cuba, with a focus on institutional constraints. Section IV explains the history and nature of transnational ties and remittance flows in Cuba. Section V applies the theory of economic circuits to understand remittance-sending behavior from the US to Cuba. Section VI reviews the effect of recent policy changes and suggests a way forward for policymakers. And Section VII concludes.

Surveying Cuban Americans on Remittances

Remittances are difficult to quantify and track. Not only are they decentralized (in that there are many senders and recipients) but they often constitute private and informal flows within families and other close relations (Inchauste and Stein 2013, 47). Indeed, remittances are often sent through informal channels – carried by individuals going to see their family back home or sent via “mulas” (mules), traders that provide shuttling services for goods and money. An in-depth interviews and anonymous surveying can

capture a snapshot of remittance-sending behavior in a way that government agencies and services such as Western Union cannot, because of their limited view of private and informal flows. Toward this end, we use a Qualtrics survey that targeted first, second, and third generation Cuban Americans living in the United States about their experiences with remittances. Respondents took the online survey, which lasted approximately 12 minutes, in late February 2020. A total of 122 respondents completed the survey and 114 are used in the analysis, after controlling for nonsensical or incomplete responses. Most respondents took the survey on their smart phones, and 10 respondents chose the Spanish version of the survey.

The survey population included 40 percent first generation, 42 percent second generation, and 18 percent third generation Cuban Americans. 98 percent of respondents have family members who still reside in Cuba. Half of the respondents live in Florida and 59 percent were female. The median age was 40, 13 years younger than the median age of Cuban immigrants (Blizzard and Batalova 2020). 53 percent self-defined as white, nine percent self-identified as Black, and the remainder identified as Cuban, Cuban American, Hispanic, mixed race, or other. This is not dramatically different from the race breakdown in Cuba, which is 64 percent white and nine percent Black (ONEI 2018). 72 percent had a college degree or higher level of education. Our respondents are more highly educated than the general population of Cuban migrants in the US with 24 percent holding a college degree (Blizzard and Batalova 2020). In addition, the survey required a certain level of technological savviness.

Estimates of the exact amount of remittances sent to Cuba are hard to come by given the lack of official data and difficulties in measuring informal exchanges. The average remittance amount sent from the US to Cuba in 2010 was \$150 (Orozco 2010). Among those sending remittances in our survey from 2020, the average dollar amount sent each time was roughly \$300. Of the 112 respondents to the survey, 77 percent either currently send remittances or used to send remittances, affirming the significance of the phenomenon. In addition, 79 percent reported that family or close friends in the US send remittances to Cubans living in Cuba.

The survey was designed to complement in-depth interviews conducted in January 2016 in Havana, Cuba. 17 interviews were conducted with Cubans about remittance behavior – how much they received, how they received it, what they received and what they identified as the societal and economic effects of remittances. The 2020 Qualtrics survey was modeled to ask remittance-senders similar questions to understand the phenomenon from both sides. Trends and quotes from the interviews are used in conjunction with survey data to explore the informal remittance circuits between Cuba and the US.

Challenges to Remittance Sending in Cuba

To better understand remittance-sending behavior as a mode of informal financing, it is critical to situate our analysis against the specific backdrop of the cultural, historical, and institutional setting in which the behavior came about. Large remittance flows to Cuba are somewhat of a contemporary phenomenon. Before 1980, 672,000 migrants fled Cuba, including officials of the Batista government, members of the

previous elite, professionals, and members of the middle class (Eckstein 2002, 803). Now, the Cuban migrant population in the US totals over 1.3 million (Batalova and Blizzard 2020). The US is the top destination for Cuban migration followed by Spain with over 140 thousand Cuban migrants. This increased population as well as the growing economic need of those still living in Cuba in the 1980s and 1990s created the conditions for remittance flows.

At first, the regime resisted inflows of remittance money. In the 1970s, Prime Minister Fidel Castro made dollar-possession illegal. During the Soviet era, Cuban officials criticized those who fled Cuba and punished those with ties to the diaspora, denying them access to job promotions and membership in the Communist party (Eckstein 2009, 1049). After the collapse of the Soviet Union in the late 1980s, Cuban remittance policy dramatically changed course as economic need increased and the ability to leverage remittances for official interests became apparent. Indeed, Castro legalized the dollar in 1993 and initiated a policy change with the US to allow some Cubans to emigrate. Rather than continue to refer to members of the Cuban diaspora as “worms,” “social degenerates,” and “traitors,” the Cuban government began referring to them as the Cuban community abroad (Eckstein 2013, 1050).

Over time, the Cuban government devised ways to extract money from remittance-senders. Apart from a ten percent tax on formal money transfers to Cuba, the government also created special dollar-only stores in Cuba and required merchants to place 240 percent markups on items sold (*ibid.*, 1051). The government keeps 96 percent of the markup. The Cuban government also created an additional currency in 2004,

known as the Cuban Convertible Peso (CUC), and required individuals to trade in CUC instead of dollars. In government-run exchange booths (known as CADECAs), there is a 20 percent surcharge on converting US dollars to CUC. To circumvent these charges, travelers to Cuba from often exchange dollars for Euros before arriving in Cuba since Euros only have a 10 percent conversion surcharge. In 1999, the Cuban government partnered with remittance-sending services Western Union and TransCard, requiring a high service charge for the purposes of padding government revenue (Orozco 2002). For example, to send \$200 to be converted into local currency, remittance-senders to Cuba faced an average of \$25.58 in fees in 2002. The cost of sending remittances still exceeds nine percent whereas the average cost in Latin America and the Caribbean is 5.6 percent (World Bank Group 2021). Lastly, Cuba charges an exit fee for individuals visiting the island, imposes fees on airlines operating flights to Cuba, and requires all travelers to Cuba to purchase Cuban health insurance. These restrictions allow the Cuban government to collect revenue from remittances and travel, benefiting from the private aid that is directed at Cuban citizens.

Until the Obama administration lessened restrictions on remittances and travel in 2009, however, the US restricted remittances in order to limit the Cuban government's access to US dollars and to pressure the socialist Cuban government to reform. The US government capped remittances during the Soviet era at around \$1,200 annually, to only be sent to immediate family and requiring senders to sign affidavits. Eckstein (2003) notes that during that same time period, other US immigrants from Latin America remitted double that amount, suggesting that the caps were successful at suppressing

remittances to Cuba. Nevertheless, even before the dollar was legalized, Cubans used private couriers (known as mulas), traveled to the island with money and demanded items, asked friends traveling abroad to deliver items, used neighborhood-based mini-banks, and other informal methods of getting remittances to family and friends. In 2002, it was estimated that 65 percent of remittance dollars to Cuba were transferred informally (ibid., 226).

The absence of income-generating opportunities and the stark poverty of the 1990s in Cuba incited many to reach out to family abroad and reignite social ties to facilitate relief.

Viewed this way, remittances serve a variety of roles in Cuba. For instance, data from interviews conducted in Havana in 2016 revealed that targeted private remittance flows act as a bottom-up approach to providing aid (Haeffele and Hobson 2019). Remittance senders are entrepreneurs that leverage their knowledge of recipients' needs and wants and then use their local knowledge and social networks to navigate an institutional arena dominated by policy-driven constraints (ibid., 289). Likewise, remittance receivers are entrepreneurial in how they access and use remittances to make ends meet. For example, interviews revealed that Cubans think of themselves as inventors and entrepreneurs, finding creative ways to leverage transnational ties to feed their family, start a business, get resources to fix a broken appliance, or acquire hard-to-get items such as computers. We found that Cubans spend remittances primarily on food and other basic necessities (ibid.).

Interviewees cited the following challenges to sending and receiving remittances: distrust of banks, restrictive public policy by both the US and Cuban, lack of banking infrastructure in Cuba, restrictions on private ownership and the type and scale of private enterprise, and limited access to capital, and widespread savings or investment (ibid.). Whereas Cubans perceive that remittances are good for individuals and families, they disagree as to the long-term social and economic effects. Some interviewees observed that remittances further incentivized unemployment among the Cuban youth. Others saw remittances as a much-needed source of capital for entrepreneurs, spurring job opportunities. Individuals with successful businesses relied on outside capital (particularly remittance money) and in-kind goods, such as tires, imported food items for restaurants, or other equipment not sold in Cuba (ibid.). In fact, a 2014 survey estimated that remittances fund 32 percent of new businesses in Cuba (Pérez 2015).

Our 2020 survey results confirmed findings from the 2016 interviews. In particular, electronic devices, clothes and specialty food items or medicine are popularly remitted items. The specificity of items (i.e., Nike shoes, chocolates, and coffee machines) mentioned in the survey results confirmed that local knowledge of the recipients and their challenges informs what is sent and when. For example, an international phone conversation about a broken refrigerator can prompt a remittance-sender to send a larger amount as a one-off payment. As one interviewee, Veronica, stated “Remittances help you solve problems: Food problems, hygiene problems, housing problems, clothing problems, every kind of problem.”⁷ Likewise, Laura recalled, “my son

⁷ All interviewees have been given pseudonyms to protect their identity.

sent me some money so that I could have several sheets, towels, and to make some repairs in this apartment.”

Historically, remittances in Central America are associated with higher levels of productive investment and consumption, smoother consumption over time, and lower levels of poverty in the recipient’s country (Inchauste and Stein 2013, 7). Eckstein (2003, 225) notes that Cuban migrants also financed small businesses in Cuba even before such businesses were legalized. Through remittances, migrants and recipients gain resources to be able to influence political decisions in the home country (Inchauste and Stein 2013, 7). Furthermore, remittances in Cuba may serve as a liberalizing force, exposing recipients to different ideas and values (Eckstein 2009). There is also evidence that remittances serve as insurance in times of crisis (ibid.,13).

Citing the potential to help the Cuban people, support of the emergent Cuban private sector, the power of spreading American values through people-to-people engagement, and the failure of past US policy to result in changes, the Obama administration relaxed existing policies (Obama 2014). The administration eliminated restrictions on the amount or frequency of remittances and restrictions on the frequency and duration of family visits to Cuba, including removing the 44lb limitation on accompanied luggage (Sullivan 2021). Additionally, the administration authorized travel by general license for the 12 categories of travel set forth in the Cuban Assets Control Regulation and eliminated per diem limits for travelers.

In 2019, however, the Trump administration introduced new regulations restricting remittance flows. The administration cited an intent to hold the Cuban regime

accountable for its oppression of its own people and its support of other dictatorships, notably Venezuela. The new regulations limited remittance money to Cuba to a maximum of \$1,000 per individual recipient in any consecutive three months as well as prohibit “donative remittances,” or transfers of money to non-family members in Cuba (31 C.F.R. § 515, 2019). In addition, the Department of the Treasury’s Office of Foreign Asset Controls prohibited the sending of remittances to close relatives of officials of the Communist party. The regulations also eliminated “U-turn transactions,” wherein US banks would process Cuba-related transactions through third parties abroad (Torres 2019). The survey focused on at the effects of the Trump administration’s remittance policies regarding donative remittance limits. However, in November 2020, eight months after the survey was conducted, new sanctions targeting state-owned enterprises in Cuba prevented Western Union from continuing to work with Cuba’s financial institution. As a result, Western Union suspended all remittance transfers to Cuba, removing the sole formal channel for remittance-sending. While it is unclear when and to what extent these policies will be reversed, the Biden administration pledged to allow Western Union to resume activity, remove restrictions on travel, investment and remittances, renew diplomatic ties, and restore wiring services such as Western Union but has not yet done so (Bartenstein 2020).

Constraints on formal banking and legal employment opportunities incite individuals to seek informal ways of acquiring income and capital. Cubans tend not to use banks because of low interest rates, fear of government appropriation, and because they prefer authorities not to know how much money they have or how it was obtained

(Eckstein 2003, 239). Instead, Cubans rely on informal microbanks, private loans, and remittances for capital. Chamlee-Wright's (2005) analysis of informal savings clubs in Zimbabwe shows how particular historical and cultural circumstances led to informal modes of acquiring capital. Political repression of minorities, a history of regime instability, and rural geography prevented female merchants from being able to access formal lines of capital from banks (ibid.). Informal and formal remittance flows would look inefficient from the perspective of a development agency or US bank, but in reality, they are the best available option given the current institutional environment.

When reflecting on challenges to remittance-sending, 57 percent of respondents to our survey mentioned Cuban policies, such as taxes on remittance money, banking restrictions, fees for using wired services, and US sanctions or government limits on the amount that can be sent. 24 percent of respondents cited the system of government—"Communism" or "socialism"—as a challenge. Another main worry was that remittances help perpetuate Communism through tariffs paid to the government or by providing money and services to the Cuban people, reducing demand that the Cuban government support its own citizens. Others mentioned the potential for theft at the airport or customs, inefficiency of the system itself (time delays), weight limits for luggage on airplanes, the cost of flights, uncertainty regarding what is considered contraband, and the security of the delivery of items and goods in general. A few respondents also mentioned difficulties in communicating with recipients due to lack of reliable internet options in Cuba.

21 percent of respondents viewed remittance flows as harmful to Cubans living in Cuba, citing concerns with inequality, induced laziness, propping up an oppressive government, and dangers with paving over the economic consequences of bad Communist policies. The concerns reported in the survey echo Eckstein's (2002, 831; 2010a) findings that remittance flows result in new inequalities and resentment between those who do and do not receive remittances in Cuba. These inequalities are often race-based, as whites have more transnational ties than Blacks due to emigration patterns. Whereas it used to be taboo to show one's wealth, a new materialism has emerged in contrast to revolutionary egalitarian values (Eckstein 2003, 235). Individuals wear Nike and FILA clothing to show their status. Further, family dynamics can grow complicated because migrants have symbolic "status" and make more money in less socially respected jobs than Cubans back home in high-skilled, white-collar jobs (ibid., 237). In fact, low-skilled jobs abroad are now seen as more prestigious than high-skilled jobs in Cuba. Envy and pride can complicate transnational relationships.

Lingering community sentiment hostile to cross-border ties further complicates transnational relationships. There are still prominent "hard-line" and "radical exiles," including political figures, that oppose any connection with the island. Some silence others in the community by restricting them from public forums (Eckstein 2003, 232). In 2000, a report by Florida International University found that while 74 percent of the diaspora had close relatives in Cuba, only 40 percent said they or their relatives in the US sent money back home (FIU 2000). By contrast, in our 2020 survey, 77 percent of respondents with close relatives in Cuba reported sending remittances and 80 percent of

respondents noted that their family or close friends send remittances. These findings suggest that community sentiments may be less of a barrier than they once were. This presents an opportunity for the Biden administration to renew diplomatic ties and revise regulatory barriers.

Remittance-sending from the US to Cuba happens in a difficult political, social, and institutional environment. Nevertheless, Cuban migrants find ways to leverage transnational ties to provide financial assistance to family and friends in Cuba.

Funding Families Through Transnational Ties

Migrants from Cuba bring social capital and transnational ties with them when they travel to the US. However, the extent to which they choose to leverage those networks to remit money depends on historical context. Unlike the first generation of Cuban emigres who left between 1959 and 1979 for political reasons, more recent emigrants left mainly for economic reasons (Eckstein 2002). To put this migration in its historical context, most individuals before 1979 fled political oppression. In 1980, Castro lifted export restrictions and allowed Cubans to choose to leave via the port in Mariel. This second wave of migration (1980-2000) was demographically different and poorer than the first wave of political refugees. Whereas many in the first wave sought a clean separation and remain antipathic toward the Castro regime, this second cohort “is enmeshed in transnational ties that, paradoxically, are unwittingly doing more to transform Cuba than the first wave isolationism” (ibid., 799). More recent migrants favor transnational engagement and are motivated by improving the lives of family members in Cuba (ibid., 810). For many in that former generation, politics and principles trumped

concerns about family. By contrast, later migrants worked harder to expand and maintain their transnational ties. The Cuban Family Reunification Parole (CFRP) program facilitated family members joining them in the US. Beginning in 2007, the CFRP program permitted US, permanent residents, or program invitees to apply for parole for family members who are Cuban nationals living in Cuba (or program invitees). The program has been suspended since late 2016, however, due to security concerns preventing the US Embassy in Cuba from operating.

Religious activity in both the US and Cuba has also strengthened transnational ties. After Pope John Paul II's visit to the island in 1998, priests in the US reignited ties with Cuban churches and Cuban priests also visited the US (ibid., 816). Christianity's revitalization in Cuba provided grounds for individuals in the US to connect with family members back home on religious grounds. According to Eckstein (ibid., 816), "religious-based activity reduced moral barriers to travel." The Pope's visit changed attitudes toward Cuba because it demonstrated it was okay to visit and help Cubans. Other emigres were motivated to visit the island by nostalgia. Older Cubans wanted to visit their homeland, and children of first-generation Cuban Americans wanted to meet family members they had only heard about. In the early 1990s, 40 percent of Miami-based Cuban Americans supported negotiations with Castro to promote family visits to Cuba; by the end of the 1990s, over 70 percent of Cuban Americans endorsed travel (ibid., 817)

Transnational ties are a form of social capital. In short, "social capital consists of relations among persons" (Coleman 1988, S116). Social capital is an asset, "one that can be called on in a crisis, enjoyed for its own sake, and leveraged for material gain"

(Woolcock and Narayan 2011, 226). Cubans leverage transnational social capital to maintain the trust necessary for economic relief in time of need. Remittance circuits act as “bridging structures that facilitate the coexistence of intimate and interpersonal social ties” (ibid., 313). Transnational social ties are based on bonding social capital as well—close friends and family members that emigrate. Bonding social capital reflects strong ties between like-minded individuals (Woolcock 2001). According to Eckstein (2010b, 1649), remittances in Cuba act as a “transnationally grounded, kinship-based social capital-linked economic resource” and the act of sending remittances is institutionally and culturally embedded.

Woolcock and Narayan (2011) argue that bonding social capital helps people survive and bridging social capital is critical to advancement. Positive development outcomes occur when people draw on social capital within their communities, between local communities and civil society groups, between civil society groups and macro-level institutions, and within corporate sector institutions (ibid., 186). Specifically, social capital allows people to “acquire the skills and resources to participate in networks that transcend their community, thereby passively joining the economic mainstream” (ibid., 232).

According to our survey respondents, remittances primarily serve to improve recipient’s way of life through financial assistance. Recipients can access goods and income that otherwise would not be available to them. Over 70 percent of those with transnational ties to Cuba see remittances as beneficial to those that receive them. Of those that send remittances, 49 percent saw remittances as a way to express love and

commitment to family or friends; 49 percent noted they send remittances because their family and friends depend on it; 25 percent saw it as a way of giving back to family and friends who have helped them in the past; 13 percent saw it as a gift; and 4 percent saw it as a way to express their commitment to the Cuban government.⁸

Remittances as Economic Circuits

Transnational social ties act as conduits for the exchange for in-kind and monetary remittances. Economic circuits, a concept developed by economic sociologist Viviana Zelizer (2011), constitute a social arrangement that facilitates economic ends. And it is shared meaning combined with negotiation and maintenance of interactions over time which separates circuits from purely impersonal exchange and other types of social arrangements, such as hierarchies or networks. Because circuits consider non-market benefits of arrangements such as solidarity, security, self-esteem and care, circuits are apt to explain why immigrants send considerable volumes of money and goods across borders often at great expense to themselves.

Circuits of commerce are defined by economic arrangements built around social interaction. They can be dyadic—such as between a migrant and their best friend back home; but more often, circuits involve multiple members of a family from grandparents to cousins. Circuits of commerce have the following characteristics: (a) individuals rely on social relationships to undertake shared economic activities; (b) individuals share similar local monetary or non-monetary accounting systems; (c) individuals rely on

⁸ Note that respondents could choose multiple answers.

shared understandings and norms to govern behavior; and (d) boundaries exist that differentiate nonmembers from members of the circuit (Zelizer 2011, 304).

First, in the example of transnational remittances from the US to Cuba, individuals rely on bounded relationships based on social ties with family and friends to receive remittances. 53 percent of survey respondents sent remittances to at least one close family member (parent, partner, sibling, or child), an additional 46 percent sent remittances to more distant family members (aunts/uncles, cousins, grandparents, or nieces/nephews), and 16 percent sent them to friends in addition to family. In general, love itself drives exchange in ways we do not often acknowledge; over half of consumer purchases are made for family and friends (McCloskey 2006, 56–57). Interviews conducted in Havana revealed an 80-year-old woman who was saving remittance money up to buy her granddaughter a dress. Survey respondents noted motivations such as love, commitment, reciprocation, and sense of duty to friends and family. “Sending remittances is something my mother would have wanted me to do,” noted one respondent. Another said that remittances are beneficial because they provide a means through which to help your family and provides the means to travel to see family. Cell phones and memorabilia were among the popular items sent. Cell phones help Cubans further connect to the diaspora. All respondents who sent remittances noted that they communicate with remittance recipients at least once a year. 58 percent of those who send remittances communicate with recipients daily or weekly.

Second, remittances are often not pure money transfers. Instead, remittances constitute a distinctive medium of exchange that takes a variety of forms: cell phone

minutes, food, clothing, medicine, and other gifts, as well as currency. Of the 69 respondents who traveled to Cuba, 67 brought items with them for family and friends. And 31 percent of the respondents in our sample noted that they pay for cell phone minutes for someone in Cuba.

Third, remittance flows depend on shared understandings between relatives or close friends. Members of remittance circuits rely on an understanding of economic need, the motivation for sending (aid, gift, reciprocation), shared expectations of how the transaction will take place, and what level of communication is necessary to sustain the relationship. As previously stated, 49 percent noted they were motivated by a sense of love or duty and 49 percent noted a shared understanding of economic need as a motivation. Oleda noted that her daughter “left [Cuba] because it was the only option she had to help out financially.” Additionally, her sister left behind her daughter and grandson in Cuba because “she had to work.” Obligations are often perceived to be mutual in remittance circuits. In general, remittance-senders expect communication from recipients. Oleda admits that,

My daughter has her own necessities and her own expenses [in the US]. I don't want to pressure her. So I only tell her a few of all of my problems so that she doesn't worry. From the money she sends me, I tell her what I fixed so that she feels happy, so that she knows that the money she is sending is being used for something.

Recipients reciprocate by managing migrant's affairs in Cuba, by expressing affection and gratitude, and by providing a place to stay when migrants visit. Interviews conducted with remittance recipients in Havana in 2016 uncovered norms specific to circuits. For example, some recipients would only call when they needed something,

others would call but never ask for anything directly, and still others had expectations of a certain amount per week based on explicit arrangements. “I don’t ask my sister for anything” said Sofia, “but she sends money anyway.”

Finally, the boundaries of membership in circuits are confined to family or close friends. Remittance senders define the boundary of membership by choosing to whom to send remittances, and recipients define the boundary by maintaining the relationship through communication. While remittance-senders have more control over transactions, both have input. In this way, exchange takes the form of a conversation where both sides express dynamic needs, constraints, and meaning. When obligations are not met or social ties are not maintained, members can become excluded. 17 percent of those who do not send remittances or no longer send remittances reported it was because they do not feel close to family and friends to Cuba; another 50 percent did not have the financial resources to help. Geographic distance can make the heart grow fonder, and it can also make the heart grow distant. Parents with adult children who migrated to the US felt torn between pride at their economic success and sadness for their separation. “It’s painful and very hard having your loved ones far away. But life goes on, you have to keep living. I already have a life, and now my daughter has her own,” reflected Oleda.

Similar to economic circuits, the governance systems Elinor Ostrom (1990) studied have the following features: clear boundaries, rules specific to the context, joint decision-making, effective monitoring, sanctioning behavior, conflict resolution mechanisms, and the right to self-govern. Remittance circuits reflect these features as well. Boundaries are delineated by social ties. Shared meaning facilitates implicit or

explicit ground rules that govern exchange (e.g., the expectation of reciprocation or a verbal agreement to send a specific amount regularly). One commonly reported expectation was that money should be used first for necessities such as food. Oleda noted that her daughter in the US “send[s] me money regularly for food and extra when I need to fix something; she will tell me to fix the fan if its broken.” Another common ground rule was for Cubans to avoid asking for money directly, especially if the remittance sender had their own family or was still getting settled in the US. All remittance-senders in our survey noted they communicate at least once a year with a majority communicating daily or weekly. Regular communication allows for monitoring, sanctioning, and conflict resolution and leads to joint decision-making regarding what is sent and when. Oleda reflected that sometimes her daughter gets mad when she talks about broken appliances because she thinks I am demanding money. In such instances, Oleda reassured her daughter that there is no pressure to send money. Lastly, when policy barriers inhibit remittance circuits, reliance on informal means of remittance sending allow circuit members to still govern their own affairs.

According to Zelizer (2011, 351), one downside of circuits is that they can foster exclusivity and inequality between those within the circuit and those without: “Circuits create an institutional structure that reinforces credit, trust, and reciprocity within its perimeter but organizes exclusion and inequality in relation to outsiders.” Concerns about inequality are consistent with Eckstein’s (2010b) findings as well as our own.

“Remittances have unleashed social differences that already existed because you can tell that some people live better through what they buy and wear,” reflected one interviewee,

Nalda. Of the 25 survey respondents who thought remittances had harmful effects in Cuba, two mentioned that it can make recipients lazy or spoiled. Nevertheless, the best way to mitigate this harm is not to continue to restrict remittance circuits, but rather to open up more avenues for exchange by removing restrictions.

Policy Dynamics

Transnational ties do not exist in an institutional vacuum. Past and current policy dynamics affect whether individuals choose to send remittances. In particular, there is a tension between state revenue and the interest of the individual in economic security (Eckstein 2009, 1047). A majority of remittance senders have to balance their dislike of aiding the Cuban government with their commitment to helping a friend or family member get by financially. The results of our survey confirm these findings. Of those who did not send remittances to Cuba, 31 percent indicated it was because they view remittances as an unjustified expression of commitment to the Cuban government. Of the 11 survey recipients who used to send remittances but no longer do, three noted recent US policy changes as the reason they ceased.

The recent policy changes restricting donative remittances and capping the annual amount were announced in April 2019 and went into effect on October 9, 2019. Our survey ran in late February 2020. Out of the 65 respondents who send remittance money to Cuba, eight reported sending donative remittances to friends via wiring services such as Western Union or Cuba Max. This behavior would cease under the new remittance policies. Two others reported sending money to friends by handing it off to people they know who are visiting Cuba. Of those who currently send remittances, 36 percent report

that the new prohibition on donative remittance will affect or is currently affecting their ability to send remittances. Respondents reported dismay that they would no longer be able to provide for friends in Cuba. As one remarked, “Now I cannot send gifts to my best friend.” Others reported frustration about having to recalculate how they send money to ensure that their friends can still get resources through other means.

In addition, 34 percent reported that the recent US cap on annual remittances is currently affecting or will affect their ability to send the desired amount of remittances to their family members. One respondent noted that now they will be forced to find other ways to send money to Cuba. Another noted that it would prevent them from sending the larger amounts they send for birthdays or special events. In order to ensure they are not running afoul of the annual limit, some respondents reported that will now send annually rather than month by month. Others were fearful that if their family faced an emergency or crisis, they would be unable to provide the needed dollar amount in full.

We estimate that the Trump administration’s policy changes regarding remittance caps and donative remittances affects between 12 and 36 percent of remittance senders by restricting either the amount of money they wish to send or by limiting those to whom they can send money. It is worth noting that in November 2020, several months after our survey ran, the Trump administration implemented sanctions prohibiting US companies from working with companies controlled by the military, which includes all state-owned enterprises in the Cuban government. Because Western Union was working through Fincimex, the sole financial institution in Cuba, which is also a state-owned enterprise, it had to suspend services (Reuters 2020). As a result, the sole legal channel for remittance-

sending from the US to Cuba remains blocked. It is likely that some remittance-senders have found other informal and entrepreneurial ways to maintain economic circuits and get resources to their family, whether that be through paid couriers, friends traveling to the island, or by visiting the island themselves.

When the Trump administration introduced new regulations on remittances, it also noted it was committed to “continuing to support the long-suffering people of Cuba” (Torres 2019). Toward that end, the US Department of Treasury introduced exceptions to the remittance rules by noting that the Cuban diaspora could send remittances (even donative remittances) to those that are self-employed as well as small business owners. Despite its intent to support the Cuban people, the Trump administration’s actions diminished their main source of aid by limiting donative remittances and capping the annual amount. Furthermore, by banning cruises to Cuba, the Trump administration undermined the entrepreneurial sector of paladars (private eateries) and private taxis, the same people it had purported to help when it granted exemptions to remittance policies.

Remittance-based transnational ties can also reinforce liberalizing dynamics. Remittances reduce Cuban’s dependence on the state, creating a paradoxical state dependency on these flows (Eckstein 2002, 829). In fact, the activities of the remittance-sending diaspora have historically shifted Cuban policies. Most notably, the Cuban government legalized the dollar due to economic pressures created by a remittance-funded black market (ibid.). In 1994, the Cuban government created a special office for migrant relations in the Ministry of Foreign Relations. The Cuban government also created a multiple-entry visas for migrants returning to visit Cuba, allowed them to stay

with relatives, and allowed those who worked abroad on a temporary basis to retain their Cuban citizenship (*ibid.*, 830). As a result, visits rose from 7,000 in 1990 to over 500,000 in 2018 (US-Cuba Trade and Economic Council 2019).

Circuits are often the target of public policies that seek to reinforce the separation between the economic and social spheres in favor of arrangements that fit the status quo (Zelizer 2011, 312). In the case of remittances, status quo arrangements take the form of government-directed international aid, national welfare programs, approved remittance channels, and US bans on transactions with Cuba for political reasons. Circuits are dynamic, varied, complex, and thus unintelligible to policymakers. The US government's attempts to diminish remittance flows or the Cuban government's attempts to skim revenue from remittances harms individuals and puts undue pressure on social ties.

In general, policies that intervene with the flow of money and items can “force the trade of a country into a channel much less advantageous than that in which it would naturally run of its own accord” (Smith [1776], 506). Informal remittance channels are often expensive and do not allow for legal reconciliation in the event of robbery. Our survey findings reflect that government taxes on formal remittance flows continue to be a major reason that migrants do not remit (57 percent noted the concern). Reducing remittance restrictions via US or Cuban policy will encourage new circuits to form and strengthen existing circuits. Reducing remittance fees and facilitating migrant's access to a variety of financial services will increase remittance flows and improve development outcomes (Inchauste and Stein 2013, 8). By expanding the number of social interactions,

not just economic ones, individuals are able to engage in more advantageous forms of exchange, including becoming migrants themselves.

Ostrom's (1990) work on self-governing systems indicates that government regulation would be appropriate if self-organization of participants was not possible due to a lack of trust, high discount rates, or a lack of effective sanctions or enforcement mechanisms. Yet circuits are characterized by mutual trust, the capacity to communicate, as well norms and shared understandings that act as enforcement mechanisms. Polycentricity, a type of adaptive self-organizing system that is not directed by a central authority, is a framework through which to discuss the improvement of institutions (Ostrom 2005). Remittance circuits are part of a polycentric governance system, the health of which depends upon how much control is exerted from governments in the form of restrictive policy. In order to effectively govern their affairs, citizens must be able to form and leverage diverse communities of relationships (Aligica, Boettke and Tarko 2019). Polycentric systems exhibit resilience because they are not dependent upon the functioning of a single node such as a central government. Thus, remittance circuits can provide aid and reinforce transnational relationships when centralized governance falls short. Reducing policy barriers to remittance-sending and travel will make remittance circuits, and the transnational ties that undergird them, more robust.

Conclusion

Since the 1990s, a revitalization of transnational ties drove an expansion of remittance flows, fueled by US and Cuban policy changes. Qualitative research conducted with Cubans in Havana in 2016 and through a survey of Cuban Americans in

2020 indicate that these flows are best understood in terms of transnational circuits of commerce. Cuban remittance circuits depend on social ties, unique media of exchange such as in-kind items, shared meanings of love and duty, and a well-defined familial boundary between recipients and non-recipients (Zelizer 2011). Remittance circuits act as mechanism not just for economic relief, but also social exchange. Because circuits share key features with self-governing or polycentric systems (Ostrom 1990, 2005), they can facilitate aid provision in Cuba despite restrictive policies. As such, reducing existing policy barriers to US-Cuban remittance flows will allow remittance circuits to flourish. The Biden administration has the opportunity to amend US sanctions policy to allow Western Union to continue operations and relax restrictions on donative remittances.

NET POSITIVE: OVERCOMING CHALLENGES TO THE EXCHANGE OF DIGITAL INFORMATION AND DEVICES IN CUBA

Introduction

The first time Leonys tried to apply to graduate school abroad, he used part of his job's weekly quota of wifi to connect. When he went to press "submit" he got a warning noting that IP addresses in Cuba, among other countries like North Korea and Iran, are ineligible to access the page. Leonys had found the opportunity to apply when a friend sent him a web portal to study abroad programs in the US that had made it past the filters that normally block such content in Cuba. "I have the opportunity that's going to change your life," his friend had said.

The second time Leonys tried to apply, he used a friend's Virtual Private Network (VPN) to allow him to appear as if his IP address was in Spain. He completed most of the application and right before he was about to turn it in, Havana experienced an electricity blackout. One hour later, after some copying and pasting from a Microsoft Word document, he was able to submit his application. However, a lack of Cuban financial infrastructure meant he could not pay the application fee. Thankfully, the university waived the fee when he explained his situation. Leonys was admitted and started his new life abroad.

Not only does this story demonstrate the restrictive power of political, infrastructural, and economic barriers to internet access, it is also emblematic of the force of both social ties, cultural change, and technological advancement in overcoming those

barriers and granting Cubans more freedom over their future. It demonstrates the power of technological engagement over digital isolation.

By investigating the way Cubans acquire access to technological devices and the internet, this paper makes the following contributions. First, it clarifies the growing role of entrepreneurs in identifying digital needs and inventing new ways to connect with others, both within Cuba and abroad. Second, it reveals that domestic and transnational social ties are the glue that facilitates internet access, as well as the motivator for that connectivity. Third, it looks at the effect of access on the Cuban society and economy as technological developments challenge the status quo.

The paper is structured as follows. Section II covers the research methodology. Section III reviews the historical context for technological development in Cuba. Section IV reviews the theoretical underpinnings of the relationship between technological change, economic growth, and liberalization, and applies this theory to the Cuban context. Specifically, it examines tech-enabled liberalization in Cuba and shows how Cubans act entrepreneurially to acquire devices and internet access as well as the foundational social ties that allow them to do so. Section V suggests US policy changes that can further encourage liberalization. And section VI concludes.

Research Methods

Qualitative methods are unique in their ability to reveal the social, cultural, and economic context in which individuals interact with technology. As Venegas (2010, 5) argues, “Cuba’s digital landscape can be viewed as overlapping zones of expression and experience made prominent by living and working with digital technologies and with

constraints upon those technologies.” Interview data reflects the experiences, narratives, and perceptions of individuals as they navigate constraints. The semi-structured interview format allowed us to identify narratives, thematic patterns, mental models, social norms, and other socially embedded resources Cubans use to overcome barriers to getting valuable information and devices that facilitate the communication necessary for surviving and thriving.

This paper is based on qualitative interview data from two research trips to Havana, Cuba in June 2016, and January 2019.⁹ The two-person research team conducted over 35 semi-structured interviews in Spanish with Cuban citizens in various neighborhoods in Havana. Each interview took between 30 and 90 minutes and took place in a location of the interview subject’s choice.¹⁰ The first trip focused on the ways Cubans sent and received remittances as well as the perceived economic and societal effects of increased remittances in Cuba. The second trip focused on the role of one popular category of remittances – technological devices – and their perceived effects of increased access to the internet.¹¹ As part of the standard interview questions, subjects were asked to describe how they get access to digital devices and information about current events as well as domestic and international news. They were asked how they

⁹ We would like to thank Katarina Hall for being the co-investigator and co-interviewer on multiple research trips to Havana, and Karla Moran and Juan Londoño for assisting in translation and transcription.

¹⁰ We used a snowball method of identifying interviewees. The first two familiar subjects suggested further potential subjects and so on and so forth. We then coded and performed thematic analysis on the data to identify common trends and shared narratives.

¹¹ The interview subjects were diverse in gender (11 males and 8 females), race/ethnicity (53 percent identified as white, 30 percent identified as Black, and 15 percent identified “mulatto,” reflecting the demographic makeup of Cuba as a whole), and profession. They were generally younger, with an average age of 33.

communicate with friends and family, both inside and outside of Cuba, and the role technology plays in facilitating social ties. In addition, they were asked to reflect upon technology's role in outcomes in their own lives and in Cuba's society and economy. All quotations from interviews used in this paper appear with pseudonyms to protect the participants' privacy, including Leonys's previously mentioned story.

One notable limitation in our research method is the inability to capture the dynamism in technological developments in Cuba over time. The costs, methods, and legality of various means of access are constantly changing. The experience of interviewees living in and around Havana may not be indicative of others in the countryside or other cities. In addition, given our sample size and sampling method, it is likely that our sample is not representative of Cuban internet users or the socioeconomic breakdown in Cuba. Our sample is instead biased toward more highly educated, first-adopters of technology, and younger users living in urban Cuba.

History of Limited Internet Access in Cuba

Cuba's limited internet ecosystem is a product of historical context. The close relationship with the Soviets in the 1960s and 1970s incited Cuba to invest in technology as the means through which the socialist model of development could be realized (Venagas 2010, 50). The idea was that computers could be used to improve economic planning and increase resource efficiency.¹² As a result, in the 1970s, Cuba began to

¹² The idea that computing can improve socialist calculation is flawed. Centralized calculation in the absence of dynamic and distributed prices, market mechanism of profit and loss, and institutions that protect private property lacks the inputs necessary for adjusting prices adequately (see Boettke 2001; Lavoie 2015 [1985]).

develop its own minicomputers first assembled in 1978. The Cuban government introduced a network of Joven Club de Computación (youth computing clubs, hereafter “Joven Clubs”) in 1987 as a country-wide intranet aimed at improving digital literacy (ibid., 48).

The prospect of connecting to the wider internet presented the Cuban government with a new challenge: the need to centralize and control access in order to gain the national benefits of connectivity while preventing the use of the internet as a tool to fulminate antigovernment attitudes. In the 1990s, after the dissolution of the USSR, Cuba turned to information technologies as a means toward economic development. Their philosophy, codified in policy Decree 209 and intended as part of the state’s post-Soviet survival strategy, was that internet access should serve the interests of Cuba by benefiting the institutions central to the nation – such as national defense, cultural institutions, and the health and education sectors. Individual interests were not a priority. The UN Development Program (UNDP) funded start-up costs for institution-focused networks such as InfoMed, which allowed Cuban doctors limited access to the internet for medical research (Venagas 2010, 52). In 2001, Cuba created the Ministry of Information and Communication to promote internet development and promulgate laws and regulations.

In 2002, Cuba transformed an old radio base into the Universidad de Las Ciencias Informáticas (University of Computer Sciences, hereafter UCI) to focus on building a software development workforce. Cuba encouraged software industry self-reliance and the result was a line of government-sanctioned alternatives to popular global sites, like EcuRed as an alternative to Wikipedia, in addition to custom enterprise software built

with state industry in mind. It also developed CubaRed, an internal social network that serves as a less popular alternative to popular social media platforms, like Facebook. Another way Cuba tries to protect its national interest is by requiring UCI students to be engaged in pro-government online political activism. As Leonys asserts, "...the people positively replying to Elian Gonzalez, people who are replying to Diaz Canel [on Twitter] are students from the UCI, professors from the UCI who are part of this task force." As one of our interviewees, Gerardo, stated "Cuba is trying in this technological age to defend their interests through the social networks, through the creation of websites." State propaganda, previously manifested in billboards, national TV, radio and newspapers, took on a new form in the digital age.

Policies and infrastructural issues have stymied the development of internet access in Cuba. US policies, beginning with the embargo in 1961, prohibited Cuba from connecting to and relying on modern US internet infrastructure and from buying telecommunications infrastructure with US components.¹³ As Rolando stated, "a lot of internet cables go by, and Cuba is not connected." Corruption, delays, and low-quality parts challenged Cuba's project with Venezuela to lay an undersea internet cable, which finally became operational in 2013 (Brenner and Eisner 2018). Further, officials in the Cuban government have long feared the potential of internet access to promote political dissidence (LeoGrande and Kornbluh 2015, 374). On multiple occasions, the US has

¹³ From the 1840s to the 1950s, before Fidel Castro took over and before the embargo, US companies were instrumental in making Cuba's telecommunications infrastructure and television transmissions the most up to date of Latin American country. The subsequent development of internet technologies in Cuba occurred in a distinct geopolitical context. See Venagas (2010).

funded technological efforts to undermine the Cuban regime. US presidents pointed to movements in Tibet, Burma, and more recently places like Iran, Tunisia, and Egypt, as evidence that phone and internet access facilitate free expression, collective action, and political, social, and economic change (ibid., 374–5).

The US’s “cyber war” against Cuba began in 1995 when President Bill Clinton supplied a grant to Freedom House for the purchase of computer equipment for Cuban dissidents. President George W. Bush then funded subcontractors to set up clandestine wireless networks in Cuba. President Barack Obama’s public support of popular dissident blogger Yoani Sanchez’s, whose efforts to empower Cubans to express themselves through the use of technology, set the scene for Cuban retaliation. The political discomfort with increased access came to a head in 2009 when USAID subcontractor Alan Gross was jailed for trying to set up an internet system with military-grade encryption technology outside Cuban government controls. Additionally, in 2014, the Associated Press exposed a USAID program to create a Twitter-like campaign called “ZunZuneo” aimed at inciting a movement similar to the Arab Spring (Brenner and Eisner 2018, 344). As a result of the ongoing cyber war, in 2010 Fidel Castro referred to decentralized online communication as “a powerful weapon” and declared that the Cuban government was responsible for protecting its citizens from imperialistic content (Biddle 2013).

In 2013, less than four percent of Cubans had dial-up internet access in their homes and 25 percent used the internet, connecting mainly via smart phones acquired from abroad (ITU 2016). Notably, official statistics often count those who use the

intranet or those who use only email as internet users. By some estimates, up to 63 percent of Cubans are internet users and 55 percent are active on social media (Datareportal 2020). An email-only service for cell phones, called Nauta, was released in 2014, and in 2015, ETECSA (the sole government-owned telecommunications entity in Cuba) began installing what would eventually become over 500 public internet access points that allowed Cubans limited connection to digital content and online services. However, internet speeds are slow, and a majority of Cubans lack internet access in their homes. A majority of the participants we interviewed had access to internet at school or work that was capped to a number of hours each week. For example, Elena noted “In the Faculty of Journalism, when I studied, they gave you 200 megabytes per month to connect to the internet. When you ran out you had nothing but the library.” Cubans with certain jobs and those that can afford landline access have “NautaHogar” dial-up internet in their homes. Others use the country-wide intranet or private local area networks.

In 2008, cell phone and computer ownership was legalized in Cuba, and cell phone data plans were introduced in 2019. US policy changes allowed Netflix and AirBnB, among other technology companies, to begin operating in Cuba in 2015. AT&T, Sprint, Verizon and T-Mobile have roaming agreements with ETECSA. Apps such as Zapyra allow cell phone users to share content locally via mesh networking. Software such as Connectify, a virtual router and wifi repeater, enables Cuban entrepreneurs to form wifi hotspots in their homes and resell access to others. Cubans also use illegally-obtained NanoStations to extend public wifi from parks for use in the privacy of their homes.

Since 2008, the cheapest and most popular way for the general public to access digital content is via “El Paquete Semanal” (the weekly packet), subsequently referred to as “El Paquete,” a terabyte hard drive of timely content that is distributed throughout the city and resold by couriers or distributors in boutique shops where people visit with USB sticks and hard drives to upload content. The weekly packet contains the latest movies, tv shows, video games and news. Each local distributor focuses on a providing specific type of content such as computer games, soap operas, kids shows or Marvel movies, and they develop a large library of content to cater to the needs of their clientele. The Cuban government developed a competing product, “la mochila” (the backpack) which is distributed through the existing Joven Clubs throughout the island. A parallel service “El Paquetico” (the little packet) includes censored content critical of the regime and is distributed more selectively (Caerns 2021).

Technology played a role in country-wide, coordinated protests that began on July 11, 2021, the largest protests since 1994. Motivated by worsening economic conditions and frustration with the Cuban government, protesters organized using Facebook and Twitter. In response, the Cuban government blocked messaging services and social media websites, such as Facebook, Telegram, Instagram, and WhatsApp, for 3 days (Netblocks 2021). Over 1 million Cubans turned to Psiphon, an open-source service that leverages proxy servers to disguise internet traffic to circumvent censored websites, to stay connected (Ford 2021).

The Cuban government continues to restrict the spread of information by blocking certain websites and maintaining slow internet speeds and high costs. Internet speeds in a

public park in Central Havana during peak hours clocked in at 0.8 megabyte upload speed and 0.6 megabyte download speed; by contrast, the internet speed at George Mason University in Virginia in the same month was recorded as 84 megabytes upload speed and 29 megabytes download speed. Digital literacy is also a problem noted by several interviewees. Osvaldo reflects that, “When looking for information, we are not used to going online and putting in keywords, things that we were not taught... Abroad, one sees the students quickly look for things on any page. We did not have that opportunity to understand the internet, because it is recent.” Similarly, Ramon notes that, “The internet is there but people do not have skills to approach these technologies in a more productive way. That is a negative.”

Indeed, 52 percent of interviewees noted that their computer skills were primarily self-taught, and 32 percent had exposure through school or via courses at the youth computation clubs. Given the novelty of widespread internet use, norms for social media usage are still in development. A few respondents gave examples of friends who had posted embarrassing personal information online that resulted in social fallout. Additional barriers to the exchange of digital information on the island include concerns about fake news or misinformation, cybersecurity concerns, blocked websites (either blocked by Cuba or geo-gated by the website-owners themselves so as to comply with sanctions), and occasional crackdowns on digital content and enterprises. Interviewees communicated mistrust in the quality of information found on the internet. Roberto states,

We tend to say that people have information, but they don't have knowledge. They have more regular information, things that are posted, whether it is true or not. This can also have negative effects,

particularly, on those people who still don't have their character or their way of thinking defined.

Further, political and infrastructural barriers combined lead to content that is inaccessible in Cuba, except by VPN. Eduardo notes,

Really the challenge here is what little technology we have. That to look for something on the internet we spend a lot of time, because most of the pages are blocked...That is the first obstacle that we developers have. There are many things in the world that are being used and we cannot access them. What we do instead is look for alternatives.

One way to understand the nature of Cuba's imposed barriers to access is to view them in the context of rationing. Cuba still imposes rations on food and other commodities. Our deep dive into the methods of internet access reveal that the state-sanctioned tool of rationing has been extended to internet access. The following section analyzes how diminishing the above barriers to access can have net positive economic and social effects.

Technology as a Net Positive

Access to technological devices and the internet is one of the mechanisms through which cultural change and liberalizing dynamics can spread. As Larry Diamond (2010, 70) argued, technology has the capacity to “empower individuals, facilitate independent communication and mobilization, and strengthen an emergent civil society.” However, repressive regimes can also leverage these technologies to surveil citizens and spread propaganda.

The relationship between technological access and institutional change is not straightforward, and is dependent on the social, political, and historical context. While

Stein (2017) finds that access to information and communication technologies corresponds to more anti-government mass actions (such as protests), these actions may or may not lead to liberalization. Choi and Jee (2021) find that the internet can both facilitate democratization and authoritarian control as it can be used for empowerment of citizens or as a censoring and monitoring tool. However, in the authoritarian countries they evaluated (Cuba was not included), they find the internet suppresses democratization. In contrast, case study analysis of ICT in China suggests access might lead to democratization due to its ability to change an individual's relationship with knowledge and information, governments, and notions about work and social roles (Palmer and Perkins 2012). Palmer and Perkins (*ibid.*, 458) argue “the real potential of the spread of communication technologies rests not singly in their creation of global networks and modes of production, but in their transformation of local, more proximal, ways of living and knowing.” Social media has disruptive potential because it allows for independent, horizontal communication; however, this potential depends on whether weak digital social ties can evolve into the strong ties that make up organizations (Henken 2021b).

Economic performance is driven by underlying institutions – which comprise the rules of interaction within a society (Boettke and Fink 2011). Culture is one such institution, and transnational remittance networks are another. Institutional change “depends on the institutional status quo and the existing belief systems of people” and is most persistent when it evolves endogenously from the efforts of individuals within the system (*ibid.*, 501). Notably, Boettke and Fink (*ibid.*) find that institutional changes

attempted by foreign governments are least likely to stick (see also Boettke et al. 2008). Instead, the channels through which economic freedom travels are people centric. They include pressure from neighboring or politically influential nations, pressure from economic communities (such as the United Nations), and increased awareness of how other countries benefit from access (Leeson et al. 2010). In addition, changes in meta-institutions such as culture may drive changes in political and economic institutions. Internet-based communications facilitate the transfer of culture and ideas, and help citizens overcome the collective action problem of mobilizing, especially in repressive countries (Kuran 1995). Ideas, in particular liberal ideas of liberty and entrepreneurship, resulted in economic and social enrichment and widespread prosperity (McCloskey 2016). In China, technology facilitated exposure to ideas and awareness of alternative institutional arrangements and differing beliefs, which in turn lowered barriers into “institutional rearrangements” (Cheung 2005).

Neoclassical models and evolutionary models point to a positive relationship between technological innovation and long-term economic growth (see Solow 1956; Nelson and Winter 1982). Technology diffusion is positively associated with GDP growth convergence (catching up) for economically backward countries (Hafner 2011). Notably, Hafner (2011) finds that this process of convergence is not zero sum – industrialized countries also gain from increased technological knowledge and demand on manufacturing goods.

Economic and social change resulting from the spread of ideas would not be possible were it not for the roles of entrepreneurship and social networks in facilitating

digital access despite barriers. The following subsections demonstrate how these factors contribute to institutional change in the Cuban context.

From Rationing to Reluctant Liberalization

The story of the internet in Cuba is a tale of a closed society gradually opening up. Digital and web-based technologies support “citizenship from below” which demands and pursues autonomy from the state and contributes to the creation of a virtual public sphere that is outside the control of the Cuban government (Hoffman 2011). This virtual public sphere creates a space for broader institutional change from the bottom up. The nature of internet access in Cuba led to the creation of a new social space, “a transnational space of contention” where the future of Cuba is being debated and “new social and economic hierarchies” are formed (Geoffray 2013, 29). The internet formed the backbone of a new “living web of intricate interpersonal and collective communication, debate and exchange, which led to campaigns and direct actions” among previously disparate dissident blogger micro-communities (ibid., 28). As more Cubans become aware of others with views that challenged the regime, and are able to more easily communicate with them, continued exchange tends to undermine regime legitimacy and priorities including economic, political, and social control (Eckstein 2007).

According to Venegas (2010, 50), proximity to the United States “fueled the transformation of Cuban society, from plantation to consumerist economy, and then from socialism to what some wryly call ‘market-Leninism’” or market socialism. For Cuba, this means that regulated markets are allowed to operate as long as they are politically

justified, and they must always be subservient to state control. Nevertheless, since the mid-1990s, the Cuban government has relied on incremental liberalization of the private sector and public-private partnerships to increase tax revenues, ensure employment for those laid off from government jobs, and encourage trained Cubans to remain in Cuba (ibid., 51). Free-trade zones, tax laws, the tourism industry, and foreign investment have been politically recharacterized as necessary for the survival of the Cuban state (ibid., 21).

The Cuban people are a force of change in their own right. When the formal institutional setting does not allow them to pursue their needs, they turn to informal means that can undermine the state's goals (Eckstein 2003, 10). In this way, the activities of ordinary people have contributed to liberalization. They do this "in patterned ways informally, covertly, and illegally through so-called everyday forms of resistance," some of which are documented in the following section on e-entrepreneurship (ibid., 227). Remittance networks that support and are reinforced by the flow of technology to Cuba have laid the groundwork for a social, cultural, and economic transformation in Cuba by undermining state control over production and distribution and creating a new transnational society (Eckstein 2003, 2010). New media technologies democratized communication and expanded freedom, allowing netizens to transform Cuban society from within (Henken 2021b).

Technology also exposes instances of political corruption in Cuba. For example, internet access made Cubans aware that a news anchor for state-owned media had a lavish vacation in Mexico, perceived as an affront to the average Cuban who cannot

afford to travel abroad. In another instance, Mariela Castro (daughter of Raul Castro, current First Secretary of the Communist Party in Cuba) attracted criticism after she posted about her lobster dinner, another luxury unavailable to a vast majority of Cubans.

Interviewees also perceived a positive relationship between growth, productivity, and internet access. We identified a shared narrative that the internet is the future, and if Cubans do not take gain access and learn to utilize it, they will be left further in the past. Sonia declared that,

The internet is the advancement in the future of life, it is the future and if you do not think about the future, you do not develop, you do not advance, you do not have better lives, things are not better for you if you do not think that there is a better future.

And Sergio observed that,

Today everything is about the network of networks or the world towards a digital age. It is already in a digital age, and it is going to be digitized much more. There are the 3D printers. There are dedicated services like Google assistant, like Siri, like everything. Everything is mounted on a network where each day life becomes easier for human beings.

A survey of professionals with basic internet access in Cuba found that they believed increased access was critical for economic development (Pérez 2011). Our interviews corroborated this finding. Ramon classified the internet as “a tool of growth,” stating that “The internet is not only connectivity; it is also knowledge for your personal growth and work performance. It makes growth much easier.” Lianet noted the intertwined nature of productivity and technology, saying, “If I didn’t have internet, I couldn’t get the information that I need for my work, or things you have to know, so I can look them up. Without the internet, I wouldn’t know 90 percent of what I know now.”

The internet also facilitates access to a wider range of economic opportunities. As one interviewee, Elena, reflected, “Money is coming in through a tube.” She is referring to the underwater internet cable from Venezuela. Interviewees had found new avenues of employment such as a modeling opportunity through Instagram, a job locally representing an international online church, and jobs at small businesses that leverage the AirBnB platform. As Ramon reflected,

Here in this business of managing apartments, we do almost everything via the internet. Because it is Airbnb, you have to answer the messages on Airbnb. There you have access to the mail, [and are] in constant communication with the customers. The internet is the main vehicle of sales and of communication we have in the venture. So necessarily the internet is vital.

In short, access allows Cubans to have more control over their careers and their social networks. As Leonys notes,

Ruben got a scholarship in Spain, thanks to the wifi. This other girl got started in France thanks to you know, the new internet thing. Manuel, he got a scholarship in Mexico through with the wifi at his work. Yeah. Most of my friends have they have changed their lives thanks to the access to the internet.

Indeed, several interviewees drew a direct relationship between internet access and individual freedom. Roberto is a clear example. He states,

We want more independence. More freedom. We even want to migrate. And one of the best experiences is that people are not feeling so distant anymore because of IMO or WhatsApp... basically [of] all of the things related to the internet have revolutionized. And it was time to have it. It has made us a little bit freer.

The internet has allowed Cubans to transcend traditional policy barriers, such as the economic embargo, by allowing people to be digitally present with one another across national boundaries. As Sonia notes,

Thanks to the use of technology, we have managed to break the blockade without removing the blockade; because I can be in the United States talking to you, my friend, even if [policymakers] don't let you come here or let me go there... I can travel, I'm telling you, without paying a ticket, without having a visa, without having a passport.

Technology can facilitate economic and social freedom, but it cannot do so in a vacuum. Social, cultural, political, and economic institutions have to complement technological growth to yield prosperity. Institutions, the formal and informal rules of interaction and exchange, shape entrepreneurial opportunities (Boettke and Coyne 2009). How individuals respond to the resulting opportunity set determines whether the economic system will realize gains from social cooperation. The next section details how Cubans make the best of the entrepreneurial opportunities presented by increased access to the internet.

E-Entrepreneurship

Cubans are known for their inventiveness and resourcefulness in an environment of scarcity. Their ingenuity is part of their identity. Rolando showed us how he rewired an Xbox controller to connect to a USB port on his computer so he could play pirated games using an emulator he downloaded from a friend. Eduardo, a computer science engineer, had been saving up money and purchasing computer parts one-by-one on Revolico (a Cuban forum for person-to-person exchange of goods and services like Craigslist) to build a desktop computer to support his app development side business.

Microenterprise, like Eduardo's, "unleashed the ingenuity, inventiveness, initiative, and industriousness of the self-employed and the widespread development of entrepreneurial talents and experiences that may be of immense benefit to Cuba in the future" (Ritter and Henken 2014, 7).

The demand for increased access is evident in the costs Cubans are willing to bear in order to acquire devices and find adequate wifi. For example, 95 percent of interviewees viewed internet access as a necessity one could not live without. Eduardo claims, "Really, the technology ... it's something you need. And any information, any news... it's not the same that someone tells you the stories versus when you can actually verify them."

As Yanet noted, "people always look for ways to have internet; they find solutions. We invent a lot. Cubans are always inventing." For the last two decades, Cubans have attached numerous cables and routers to smuggled satellite dishes hidden on rooftops and balconies to form what is known as the "fourth network" (Venagas 2010, 155–156). Desperate for content other than the government-provided handful of TV stations, Cubans risked fines to have access to Miami television, even though those who connected downstream to the dish owner could not change the channel. Finding ways to get around censorship of media is not new. Leonys notes that, "There used to be banks of VHS movies. And then I remember it was the CDs and the DVDs...I was watching VHS movies until 2017."

Entrepreneurs are visionary agents of change that exhibit adaptability and alertness to economic opportunities to disrupt the status quo (Kirzner 1999; Schumpeter

1962). In times of crisis or extreme scarcity, entrepreneurs find ways to provide needed goods and services, restore or building social networks, and act as a focal point for collective action (Storr et al. 2015). Indeed, remittance senders, recipients, and aid providers act as entrepreneurs by leveraging local, context-specific knowledge and social connections to identify Cubans' needs and invent new, creative ways to provide aid (Haefele and Hobson 2019).

Fidel Castro had officially abolished formal entrepreneurship in 1968 (ibid.). Black market exchange was the norm until more widespread reforms were adopted in the 1990s as a response to increasing economic need in the wake of the collapse of the Soviet Union, Cuba's main benefactor. *Cuentapropismo* (self-employment) took on a new social significance as Fidel Castro legalized microenterprise in 1993, including up to 157 private occupations by 1997, dubbing it a "necessary evil" (Henken and Vignoli 2015). Raul Castro expanded the list in 2010. *Cuentapropismo* resulted a cultural shift toward embracing digital entrepreneurship; however, internet access is viewed in practical, economic, and social terms rather than political terms by a majority of Cubans (Caerns 2021).

The Cuban private sector remains heavily regulated, taxed, and stigmatized by the Cuban Government. Raids and closures of well-to-do businesses, license freezes for professions such as computer programmers, terminations of licenses for CD-DVD sellers, and regulatory changes restricting Cubans to a single license and capping salaries threaten the entrepreneurial order that now constitutes 13 percent of Cuba's labor force (ibid. 129–134). In 2013, the government ordered the closure of private 3D cinemas and

game rooms that had been operating under licenses intended for private restaurants or the operation of children's recreational equipment (Ritter and Henken 2014). Yet, Cuban entrepreneurs persist in finding ways to provide value and reap the benefits.

One way Cuban entrepreneurship manifests in the digital space is through El Paquete, the weekly distribution network of digital content. 95 percent of interviewees noted that they use El Paquete to access entertainment, business promotions, or news. As Roberto notes,

El Paquete is probably compiled by a person who has a full internet connection and downloads content, taking into account the preferences of the market. For example, women watch Mexican soap operas. Men watch action. Kids need games. So they form a package of 1 terabyte and they go door to door selling it. The price depends [on] the amount of content that you copy or storage that you take. This is what we call Cuban internet.

El Paquete's distribution system relies on entrepreneurial uses of human capital.

Leonys explains that,

We have a guy coming to our house every Monday or Tuesday. We pay him 2 CUC and he brings the hard drive. And then he copies whatever is in there to my computer, so that it's like a weekly subscription. The second way, which is what I used to do: You can go to a house and then you can go with your USB and you can buy the movie or what you want to watch or the last Game of Thrones episode...You just copy to your USB and you go home happy. And the guy is happy.

The market for electronic devices is also driven by entrepreneurs. In Cuba, goods, including electronic devices, are sold at a 240 percent markup. Cubans who are able to acquire and resell devices through remittance networks or opportunities to travel abroad leverage social networks to find a buyer or put listings on Revolico. Creative Cubans also find ways to resell internet access. They use the app Connectify to turn computers into

virtual routers and create mini-hotspots where multiple people can connect via the same ETECSA card for less money. These entrepreneurs are agents of arbitrage, taking advantage of price differences to undercut high government fees.

Additional entrepreneurial methods of accessing the internet include hacking into hotel wifi, creating private LAN networks with direct corded connections, or wireless mesh networks leveraging nanos spread throughout the city. For example, the nano-based mesh network hosts its own webpages on Revolico, as well as game servers for DOTA and World of Warcraft. This mesh network is the continuation of the legacy of “SNet,” the volunteer-led, street intranet network composed of haphazard routers and wires that were in operation in Havana from 2011 to 2019, at which point it was taken over by ETECSA and incorporated into the Joven Clubs. SNet had ground rules forbidding discussion of sensitive topics that could attract unwanted attention from the state. However, its popularity challenged the government’s centralized vision of internet control. Cubans leverage local knowledge to figure out what hotspots to try and the best time to use them in order to find faster internet (Dye et al. 2018).

Additionally, Cubans are entrepreneurial about how to use their limited internet time whether it be via the megabyte-limited cell phone internet data plan, or via a time-limited ETECSA card. Cubans toggle on and off their data access on their cell phone to ration megabytes, they write emails and posts offline and connect just to send and receive them, and they leverage apps that allow them to download notifications and changes to Facebook so they can jump offline to catch up (ibid.).

Intermittent internet access means that Cubans specialize in apps that can function offline. Popular apps include offline maps, Wikipedia, dictionaries, and local apps about restaurants and events. While waiting in line or at public events, Cubans trade updated apps, primarily via an app known as Zapyra, which creates a local wifi network to which anyone with the app can connect. The entrepreneurial actions taken to get access to technological devices and the internet are motivated and maintained primarily by social relationships.¹⁴ The next section explores this association.

The Network Behind the Net

Social ties have long facilitated cooperation among Cubans faced with economic need. In the 1970s, it was common for Cubans, regardless of how much they disliked their neighbors, to borrow, exchange, and share access to necessities like food, television, childcare, automobiles, refrigerators, and small appliances (Lewis et al. 1978, xxxvi). In this way, necessity breeds cooperation. Families and friends share devices and ETECSA cards. Cubans share passwords for Facebook, emails, or LinkedIn with other Cubans or contacts abroad to solicit help in keeping social media accounts up to date (Dye et al. 2018). Friends help each other get information. For example, when Rolando got stuck while coding a website, he reflected that, “I had to stop at that time because I didn’t have the internet. I write the problem down, I go to my work or call a friend of ours, or he himself, comes and fixes it for me or says ‘search this link it looks like someone already resolved it.’”

¹⁴ See Storr (2009) on how exchange and markets facilitate social ties.

Social media plays a critical role in facilitating transnational ties. 95 percent of interviewees said they use Facebook to get updates about friends and family abroad and communicate with them via Messenger. Dye et al. (2016) found that a majority of content posted by their Cuban study participants to Facebook constituted of pictures of friends and family and reposts of entertainment content. In the face of limited access, Cubans collaborate by conducting research for one another or posting photos for friends with less access (ibid.). Additionally, Dye et al. found that the internet in Cuba is primarily used for entertainment and relationship maintenance, with Facebook playing an important role in transnational communication and the proliferation of locally relevant information about people and businesses. In fact, “the potential to reconnect with loved ones motivates internet use” (ibid., 3873). Our findings confirmed this inference. For example, Caridad notes that,

Technology is a way to remain close regardless of the conditions, not only to send one email, because before there was email, we had to wait substantial time. And it was like one email telling all of what you did. But now they can see what you're doing. My brother in the park spoke with his father, and [internet] means more access to the life of the other person in a way that is casual.

Social media can also be a conduit for resilience in times of crisis. For example, access can facilitate reconfiguring social networks, self-organization for resource acquisition, redundancy (sharing limited access), making relevant resources accessible online, and validating information (Mark et al. 2009).

Social networks are the primary means through which Cubans get connected and stay connected. A few interviewees had learned how to use cell phones and computers from family or friends. For instance, Dora says that,

My brother taught me, my daughter taught me, my niece...at the beginning it was very funny because when I saw the person on the screen, I started talking really loudly and all the people in the park were listening to me. And my partner was laughing, you see? Because I was so excited to talk to him and shouted, and I realized that I remembered I was talking to the person and not the entire block. And I'm already adapting.

Additionally, 70 percent of the cost of cell phone minutes in use by Cubans are paid for by friends and family abroad (Morales 2013). Of the 17 interviewees we talked to with one or more computers, 11 have received computers as a gift through remittance networks and two more had bought them from friends on the island. Of the 18 respondents with cell phones, 7 had received them as a gift and 5 bought them from friends on the island. Remittance money and networks are the engine of access to devices and connectivity in Cuba. Remittance relationships act as a form of economic circuit, where transnational ties act as conduits that support exchange (Zelizer 2011).

In-person networks still play a central role in information dissemination. For information about news, events, and businesses, over half of our interviewees relied on word of mouth among other means. There is still a sense that the only way to truly know something is to get confirmation by word of mouth. This network operates in parallel to its digital equivalent. For example, the person in charge of selling Nauta internet access cards in wifi parks is also a central source of local news and gossip.

Yet, internet access is increasingly complementing and replacing TV, radio, and word of mouth as a means of accessing information. 68 percent of interviewees have used the internet to access news, 42 percent have used it to learn about domestic events, and 95 percent have used it to communicate with friends and family abroad. Of those 95 percent,

all mentioned using a Facebook product to stay in touch (i.e., Facebook, Messenger, WhatsApp). In addition to social media, video call, and messaging services, 79 percent use international phone calls to communicate with family and friends abroad.

When asked about the social impact of internet access in Cuba, 63 percent of interviewees saw access as a net social benefit, 5 percent view it as a net negative, and 31 percent noted its effect was mixed. Interviewees recognized the following benefits of internet connectivity: (1) internet access gives Cubans much-needed information about what is happening across the island and abroad that could affect their family, (2) Cubans can collaborate with people abroad to get technical help or work on a joint research project. (3) access helps you maintain social relationships and make new ones, and (4) access helps you feel more connected to distant friends and family.

Cheaper, faster, more reliable access to information keeps Cubans apprised of the activities and wellbeing of family and friends abroad as well as of current events, such as hurricanes that can impact them. As Sonia noted, “through mobile data, the evolution of the internet directly to the home, directly to the mobile, and that is helping us a lot. The development of everything, to know, to be updated, to be aware of the latest.” The immediate, live, and visual nature of internet communication allows social relationships to flourish. As Dora recalls,

I bought the cheapest data package of 600 megabytes for seven dollars, and I do well with that. I used it to watch a video of the church where my daughter sings in Florida, and I was able to see a piece of the service live, and it is truly more than a blessing.

Internet connectivity facilitates new relationships. Two interviewees became part of an international online church community, for example. Connectivity also supports existing transnational ties. As Yanet reflected,

Families leave, people leave and start making their lives in another country. Those that remain here have to find ways to communicate. If you go to the park, you will find out about everything. That someone received medicine. How a certain person is doing. Someone sending kisses. The fact that people can access the internet is very good.

Lastly, internet access facilitates the renewal of old ties, giving new life to relationships that can serve as the basis for economic remittance circuits going forward.

Sonia notes that,

[Internet access] has benefited me a lot, I have met people that I thought I would never see again because they are in Spain, in Italy. And I have found them. And I have become so happy, so happy you cannot imagine... I have a brother who left Cuba for Italy more than 30 years ago. I've never seen him again. And I found him on Facebook.

Others viewed these changes as a necessary evolution of the social status quo that allows Cubans to continue to be active members of the modern global community. Rather than waiting for a relative abroad to call their home phones in Cuba, Cubans can now leverage cell phone services and wifi to reach out to family and friends abroad.

In contrast, the negative social effects of internet access noted by interviewees include: (1) vanity and superficiality, (2) jealousy of the lifestyles of Cubans who have migrated abroad, (3) addiction to social media and dependency on social media to feel good, and (4) increased alienation, antisocial behavior, and the chilling of in-person relationships. Access to technological devices and internet connectivity changes the

nature of interaction. As Caridad said, now when she is with her friends, “we are sitting waiting for some notification rather than talking amongst each other.” Roberto agreed, noting that,

We are now even seeing the same phenomena that you see in developed countries where people sit down for dinner, and they don't even speak to each other. Or the dinner conversation, because we still have that tradition, is about what you have seen on your phone and not about how your day went.

Anonymity and distance can grant people a low-consequence way of being unkind, or even awful, to one another. One interviewee deleted her public Facebook profile after anonymous strangers sent unsolicited cruel messages. Those who view increased access negatively focused the loss of the social status quo. Elana, for instance, stated,

It is a global phenomenon right now that if there is no internet in one place, everything is lost in space, in time. If you don't have a Facebook account, you don't exist, do you understand? And not here. Here people communicate by SMS, call by phone, people talk. In other countries people do not speak. So, I think that is the most interesting thing about this country – it lacks the excessive use of technology. And believe me that when we lose that, we will lose much of what we are because of what sets us apart in the world – in Cuba there is no internet.

Cubans perceive the internet as both a lifeline and a vice, depending on how the technology is used. A lack of constant access means that every kilobyte requires one's full attention. Yanet observed that,

It is replacing social relations... If we go out now, for example a group of my friends goes out and they are using their phones... People, especially younger ones, are worried about music, headphones, speakers on the street, with Facebook, with getting online, and they are missing out on other things. It is a challenge... Since we don't have consistent access to it, when you get access, it is like if tomorrow is

going to end and you have to take advantage of it... I think that the addiction that exists here in Cuba is because you don't have unlimited access. We live by byte by byte... it is a necessity, and it is lacking. So people are worried about it. They might have it today, but they might not tomorrow. Here we are used to living like that.

Indeed, interviewees worried that digital relationships would displace physical, genuine relationships and make loneliness pervasive. As Teresa noted, with the internet “you are connected with the whole world, but you’re alone.”

While some view the internet as a vice and a source of relationship loss, a majority of Cubans perceived increased access as a boon to social relationships. Not only did internet connectivity help Cubans strengthen existing relationships, but it also provided the means to reignite old relationships and even form new ones. These relationships are foundational to the social networks that facilitate remittance flows, support e-entrepreneurs, serve the social and economic needs of Cubans, and provide the means for institutional change. The internet allows people not only to connect, but to share ideas, and coordinate. “A key part of the control in Cuba is keeping people afraid, keeping them isolated from one another... The internet has mitigated both of those, because they see other people who share their concerns” (Henken 2021a). Section V denotes policy changes that can result in a greater potential for institutional change and expand access to maximize the net benefit to Cubans.

Policy Implications

There is an African proverb that states, “When the elephants battle, the grass suffers.” In this analogy, the elephants are the United States and Cuban governments. The grass represents the Cuban people, who become caught up in the political posturing that

manifests as policy changes on both sides. For example, US policy changes that restricted dealings with Cuban entities connected with the military resulted in the suspension of Western Union's remittance transfers to Cuba (Reuters Staff 2020). Insights on the relationship between internet access and liberalization suggest that taking Congressional action to end the embargo would most directly improve the flow of electronic devices, information, people, and ideas, and lead to more prosperity for the Cuban people. As Eckstein (2010a, 154) points out, policy reform aimed at facilitating engagement and exchange would benefit the US too: "Cross-border people-to-people social and economic ties not only raise living standards of Cubans but also build networks across the Florida straits that defuse bilateral tensions and infuse US materialist values (along with demand for US goods)."

According to LeoGrande and Kornbluh (2015), further engagement and meaningful policy reform has been stagnant for several surmountable reasons: (1) Cuban resistance to making concessions to US demands, (2) timing, (3) domestic politics, (4) misunderstandings, and (5) US resistance to recognizing Cuban sovereignty.

Nevertheless, there have always been reasons and opportunities for both public and backchannel dialogue aimed at normalization. An incremental approach to normalization fails to overcome the political, economic, and historical barriers to change (ibid., 412–413). While notable policy changes under Presidents Clinton and Obama relaxed restrictions on travel and remittance-sending, the reliance on executive orders provides multiple opportunities for domestic political retaliation and is easily undone by later executive actions.

If ending the embargo continues to be politically infeasible, there are alternative paths to opening the technological floodgates. Other policy changes can include allowing more US businesses to operate in Cuba, loosening restrictions on remittances and travel, and adopting the political rhetoric of cooperation over antagonism. By contrast, reigniting the US-Cuba cyber war will not facilitate liberalization. Direct tech-enabled attempts at political manipulation will more likely result in a retrenchment of technological development and retaliatory crackdowns against Cuban dissidents or network operators. Further, top-down or interventionist efforts at liberalization are often not sustainable and can cause more harm than good (Coyne 2008). Instead, the success of an institutional change depends on whether there is endogenous (bottom-up) support among local agents before that change occurs (Boettke et al. 2008). Policymakers should foster a policy environment that allows Cubans to determine for themselves how they will use the vast information systems available to them for economic, political, and social change.

Conclusion

There are two perpetual forces at play in Cuban governance: adaption and continuity (Brenner and Eisner 2018). Internet access increases the tension between these constants by speeding up social and economic change and creating more demand for further social and economic change. The decades-long tension between openness and restriction, and national versus individual interests, continues to play out in the arena of information technology. Literature on liberalization shows that economic freedom spreads from freer countries to their less free trading partners when the policy environment is conducive to exchange (Leeson et al. 2010). Given the relationship our

research identified between increased internet access in Cuba and liberalization, we recommend policy reforms that increase engagement and exchange over isolation. Specifically, recommended reforms include repealing restrictions on remittance-sending from the US, allowing travel, and removing trade restrictions.

State actors are not the only entities that can facilitate internet access in Cuba. When Pennsylvania-based technology company Connectify Inc. learned that their services were becoming synonymous with internet access in Cuba (its hotspots are referred to affectionately as Connectifai by Cubans), they started a “Viva Hotspot” campaign allowing Cubans to access premium features for free (Gizis 2016). Low-bandwidth, or offline, versions of apps such as Facebook Lite, IMO, and Zapyra help to delimit access in the presence of persistent barriers. Individual remittance senders are also change agents, forming transnational economic circuits that serve to equip Cubans with electronic devices and subsidize access costs.

We encountered several themes worth exploring in future papers. First, most interviewees criticized other Cubans for their dependency on the internet and for leveraging access in unproductive ways. However, they reflected on their own internet use as virtuous and productive. A future study could explore the role this cognitive dissonance plays in cultural change and socializing internet access. Second, understanding how the COVID-19 pandemic affected internet usage and how Cubans leveraged technology in novel ways is worth further inquiry.

This paper shows how technology is a social, political, and economic force – reshaping social relations and culture, introducing liberalizing dynamics, and facilitating

economic opportunities. Over the last several years, Cubans have specialized in using technology to reignite and maintain transnational relationships despite limited internet access. Ending US policy restrictions on trade, technology, and travel is a means towards improving social and economic outcomes for the Cuban people while allowing for institutional change.

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