

UNIVERSITY OF VICTORIA

Remittance Cost and GDP

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Abstract

According to the World Bank, in 2013, remittances totalled \$542 billion, of which \$404 billion went to developing countries (Remittance Prices Worldwide, 2014). The cost of remittance varies drastically between corridors. This paper examines remittance costs and relates them to growth in GDP, finding a significant, negative correlation between remittance cost and GDP growth in sending countries and receiving countries. Little complementarity is found. This paper rejects the fixed cost hypothesis in remittance markets and finds price discrimination. Moreover, this paper shows that as GDP grows in the sending or the receiving country, the corridor cost of remitting falls, but the cost of remitting \$200 US falls further than the cost of \$500 US which is indicative of increased price discrimination.

Key Words: Remittance Cost, GDP, Price Discrimination

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I. Introduction

Remittance is the act of sending money to someone at a distance. A typical example is when migrant workers send funds to their families back home. According to the World Bank, in 2013, remittances totalled \$542 billion, of which \$404 billion went to developing countries (Remittance Prices Worldwide, 2014). However, remittances have been shown to vary significantly in cost among corridors.¹ Costs also vary widely between firms and between methods of transfer. Furthermore, these costs can be substantial. For example, the total cost of a remittance transaction can range anywhere from less than two percent to greater than twenty percent. This leads to the subject of why different people pay different amounts, even when sending money through the same corridor.

This paper offers a first exploratory look into the cost of remittance using new longitudinal data. Using the Remittance Price Worldwide Database (RPW), this paper demonstrates how change in Gross Domestic Product (GDP) over time relates to remittance cost. This paper shows a negative relationship between GDP and cost as well as the differences between GDP growth in sending and receiving countries. Finally, this paper establishes new stylist facts regarding price discrimination among remittance costs and relates it to GDP.

Using the RPW dataset, established by the World Bank, gives access to information on 226 country corridors worldwide, consisting of thirty-two remittance sending and eighty-nine receiving countries, accounting for \$244.46 billion in remittance flows. Due to the fact that the data is constructed by corridor, as Beck and Peria (2011) point out, a bilateral analysis of cost is allowed, as opposed to simply looking at aggregated costs at the receiving and sending country

¹ A corridor refers to a specific pairing of a sending and receiving country for remittance transactions.

level. Two cost amounts are covered in the data, the local currency equivalent of remitting \$200 and \$500 US. These two amounts allow a comparison of prices in order to reject the fixed cost hypothesis and evaluate price discrimination. This paper also employs data from the World Bank on GDP per capita, allowing for an evaluation of the relationship between remittance cost and growth in GDP as well as relating GDP to price discrimination.

This research will be particularly interesting to policy makers who may be looking to soften the cost of remittance. In the L'Aquila 2009 G8 summit, as well at the 2011 G20 Summit, leaders pledged to lower remittance costs, involving their member countries, by five percent within five years (Beck and Peria, 2011).² Many of the primary benefactors of reducing remittance costs are low income migrant workers (Remittance Prices Worldwide, 2014). Therefore a reduction in the cost of remittance would result in more money kept in their pockets and thus the pockets of their families. Although thus far unsuccessful, if the cost of sending remittance could be lowered by five percent the recipients in developing countries would receive over an additional sixteen billion dollars each year (Remittance Prices Worldwide, 2014). There is also evidence that decreased costs increase remittance (Kosse and Vermeulen, 2013).

In order to adequately introduce the background information, this paper starts with a discussion of the data and some general descriptive statistics followed by a brief literature review. Then, there is a discussion about the fixed effects of sending countries versus receiving countries. This is followed by a discussion on GDP per Capita, where an economically and statistically significant, negative relation between growth in GDP and remittance cost is established. This section also includes a discussion on complementarity within corridors and how

² See final declaration of the 2011 G20 Summit, available at: <http://www.g20.utoronto.ca/2011/2011-cannesdeclaration-111104-en.html>.

it relates to GDP. Following that, Section VII discusses the current state of price discrimination within remittance costs and establishes several new stylist facts. Moreover, this section will evaluate how price discrimination relates to growth in GDP. The final section concludes.

II. Remittance Data

Known as the Remittance Price Worldwide (RPW) database, the main set of data this paper focuses on comes from The World Bank. The first iteration of this database was released in September 2008 and it was updated every six months until the beginning of 2013. Since 2013, it has been updated every quarter with the most recent addition being released September 2014.³ This paper will concentrate on the iteration of the database from 2011 quarter one up to 2014 quarter three.

In most cases, the data is captured from the main sending location/area for the corridor in question to the capital city or most popular city in the receiving market. Data is collected by RPW employees posing as costumers and contacting individual firms within each corridor. In order to control for fluctuations in exchange rate and other changes in fee structures, data is collected on the same day within each corridor (Remittance Prices Worldwide, 2014).

The Database focuses on 226 country corridors worldwide, consisting of thirty-two remittance sending and eighty-nine receiving countries; however, some of the corridors are not transparent meaning that the exchange rates are not provided, and therefore costs may be higher if the data was complete. As a result, most of the findings and statistics in this paper have excluded these non-transparent corridors. Once these are eliminated, the dataset is left with 27,162 observations from thirty-one sending countries and eighty-four receiving countries for a

³ At the time research for this paper began.

total of 222 corridors. Table 1 is a list of all the sending and receiving countries in the database. It is important to note that some of the receiving countries are only paired with a single sending country. Furthermore, the sending countries are typically developed countries, while the recipients tend to be underdeveloped/developing. As well, the database only demonstrates corridors in one direction, not both.

Within each corridor, at each time period, there is data from several firms. Firm data is collected from 8-10 major service providers for each corridor where available. In corridors with fewer market participants, efforts are made to survey as many providers as possible. As a result, in some corridors, such as Spain to China (quarter one, 2009), only two firms are included, while in other corridors, such as The United States to Mexico, there are as many as eighteen firms. One issue is that 8-10 major services may not be an accurate representation of the average cost given the disparity among costs even within the same corridor. However, the companies are surveyed in an effort to maximize the coverage of remittance market share (Remittance Prices Worldwide, 2014).

The main focus of the dataset is the cost of remittance. For each firm two costs are reported, the US cost equivalent of sending \$200 and \$500 (Freund and Spatafora (2008) found that typically remittance transactions are close to \$200).⁴ These costs are composed of two components. The first is a transfer fee component. This is the most visible component and it varies greatly among market participants. The second component is an exchange rate fee. For the majority of remittance providers, transactions are paid out in the local currency of the recipient which requires an exchange rate operation (Remittance Prices Worldwide, 2014). The database

⁴ Henceforth, whenever the amounts \$200 and \$500 are referred to, they are the US equivalent unless otherwise stated.

reports both the interbank exchange rate and the exchange rate provided by the remittance firms, when transparent. Therefore, the exchange rate portion of the total cost is the premium charged by remittance service providers above the interbank exchange rate.

The database consists of three types of firms: banks, Money Transfer Operators (MTO's), and post offices. Along with each firm's quoted cost, the database indicates the firm's product offered, firm type, date the information was collected, coverage, pickup method, and transaction speed. The coverage indicates the extensiveness of the network in the receiving country, the pickup method indicates how the money can be picked up in the receiving country, and the speed indicates the number of days or hours before the funds are available to the recipient (Remittance Prices Worldwide, 2014).

III. General Statistics

The cost of remitting \$200 has dropped from 8.14 percent in 2014 quarter two, to 7.90 percent in 2014 quarter three, an all-time low in the dataset. Across the full sample the cost for sending \$200 has dropped by 1.10 percent and, similarly, the cost of sending \$500 has dropped by 0.57 percent. These statistics as well as the median costs, 25th percentile, and 75th percentile can be seen in Table 2.

As seen in Figure 1 and 2, there are large discrepancies between total costs in different corridors, even when sending to or from the same country. In fact, even within the same corridor there can be large variations in cost across firms. Figure 1 shows the cost associated with sending \$200 to Pakistan from seven different sending countries and Figure 2 show the cost of sending \$200 from Canada to twelve different receiving countries. I choose Pakistan for Figure 1 because it adequately displays the cost discrepancies among corridors; the cost of sending \$200

from Singapore is greater than seventeen percent, while sending from the United Arab Emirates is less than two percent. This significant heterogeneity in costs underlines the importance of analysing remittance costs.

IV. Literature Review

Remittance is a popular subject in development economics, but insight into the nature of remittance costs is an uncommon trait among the existing research. There are, however, several studies worth mentioning that pertain to this paper's main findings.

Beck and Peria (2011) examine several factors correlated with remittance costs by using the RPW data from 2009 quarter one. They find that corridors with larger numbers of migrants, more competition among providers, lower barriers to access in banking sectors, and broader regulations are found to exhibit lower costs. They demonstrate remittance costs are higher in richer corridors and in corridors with greater bank participation in the remittance market. However, their data is purely cross-sectional and has limited inference on causality. Furthermore, they fail to address cases of endogeneity within their findings. However, their findings are important to mention because many of the factors they attribute to a relationship with remittance cost are correlated to GDP and this paper can help shed light on their results. For example, Page and Richard (2005) show a strong relationship between migration and GDP per Capita.

Freund and Spatafora (2008) find that recorded remittance depends positively on the stock of migrants and negatively on the cost of remittance as well as exchange rate restrictions. They also demonstrate costs are lower when financial systems are more developed and exchange rates less volatile. One of their main contributions is showing that migrants refrain from remitting nearly as much or turn to informal methods when faced with high costs. They find that

a one percent decrease in remittance costs raises the recorded cost of remittance by fourteen to twenty-three percent.⁵ Considering the drastic effect remittance costs have, evaluating the factors that influence them is important. Kosse and Vermeulen (2013) also demonstrate how remittance cost affects migrant's remittance choices and the impact these costs have on informal versus formal remittance methods.

Both Freund and Spatafora (2008) & Kosse and Vermeulen (2013) show that when formal remittance costs decrease there is a large shift in consumers from informal to formal methods of remittance. This is important due to the risks involved with informal remittance channels such as theft and loss (Kosse and Vermeulen, 2013). These finding further demonstrate the importance of analyzing the formal remittance sector and its costs.

V. Sending Versus Receiving

In order to look at the degree to which prices are explained by the sending or the receiving countries, this paper examines the adjusted R^2 values when sending, receiving, time, and corridor dummies are regressed onto the cost of remitting \$200 and \$500 respectively. The results can be seen in Table 3.

The first thing to notice is the fact that time appears to explain very little of cost variation. When looking at the cost of remitting \$200, the sending country appears to explain more of the cost; however, when looking at \$500, receiving countries explain more of the cost. Overall, the sending effects explain more of the costs then receiving effects, but intriguingly costs are not strictly explained by sending or receiving countries. There are many possible explanations for

⁵ Recorded remittance are shown to increase; however, there is evidence that total remittance only increases slightly or remains the same, and the increase in recorded remittance is due to a shift from informal methods to formal, recordable methods.

this not directly explored by this paper, such as: technology factors in sending countries or demand elasticities in receiving countries. It is noteworthy that when including corridor dummies only as much as 41 percent of the cost variation is explained both at the \$200 and the \$500 level. This may reflect the large degree of noise in the data and the large discrepancies between costs.

VI. GDP Per Capita

This paper examines the relationship between economic growth and remittance costs; more specifically, the correlation between costs and growth in the sending country versus the receiving country and the possibility of a complimentary effect between the two. There are several papers that establish a connection between remittance and economic growth,⁶ but there has been little research into the connection between growth and the cost of remittance.

As a rough estimate for economic growth, this paper looks at the change in GDP per capita over the sample. Beck and Peria (2011) found a significant correlation between GDP per capita and remittance cost during their cross section analysis. In order to estimate the effects of growth, this paper uses a dataset on GDP per capita from the World Bank which includes the World Bank national accounts data along with the OECD national accounts data. This database contains GDP per capita for the years 1960 up to 2013. Once matched to the RPW, one is left with 17,439 observations covering twenty-nine sending countries and seventy-two receiving countries for a total of 192 corridors. Across the sample, the average GDP per capita growth was 268.02 dollars for sending countries and 197.65 dollars for receiving countries. It is important to note that although the averages are small and positive there are large discrepancies between both the sending and receiving countries. Therefore, both the 25th and 75th percentiles along with the

⁶ See Aggarwal, Demirguc-Kunt and Martinez Peria (2006), Barajas et al (2009), and Ratha (2005).

average growth per sending and receiving countries are included in Table 4. Over this sample period, from 2011 quarter one to 2013 quarter four, the cost of remitting \$200 has decreased from 9.02 percent to 8.58 percent. This paper examines how much this change in cost is related to GDP per capita.

In order to estimate the correlation between growth in GDP per capita and remittance costs I use equation (3) below:

$$C_{ijt} = \beta_0 + \beta_1 * \text{sendgdp}_{it} + \beta_2 * \text{recgdp}_{jt} + \beta_3 * \text{sendgdp}_{it} * \text{recgdp}_{jt} + \mu_{ijt} \quad (3)$$

Where i = sending country and j = receiving country

And " C_{ij} " equals the cost of sending \$200 US from sending country i to receiving country j (expressed as a percent of the amount sent), " sendgdp " equals the GDP per capita in sending country i, and " recgdp " equals the GDP per capita in receiving country j.

On one hand an increase in GDP per capita can be associated with a higher standard of living, and therefore associated costs for goods and services will be higher, so remittance costs may be higher as well. However, economic development and growth can be associated with greater efficiencies and lower cost of financial institution (Harrison, Sussman, and Zeira, 1999) and, hence, lowered remittance cost. Economies of scale, prevalent in remittance markets (Ratha and Riedberg, 2005), may reduce remittance costs further (Beck and Peria, 2011). Moreover, a complementarity effect between sending and receiving countries is expected. That is to say, an additional multiplicative effect when growth occurs in both the sending and receiving countries. A typical example of complementarity is the credit card industry, where an increase in both consumers and vendors usage of credit cards increases demand for credit cards by more than the sum of the two individual effects.

The results from equation (3) can be seen in Table 5. From Table 5, Equations (1) looks at only the effect of GDP per capita in sending countries and then Equation (2) looks at the effects when including receiving GDP per capita. Equations (4) and (5) are the same as Equations (1) and (2) except they use the Log of GDP per capita.

Table 5 shows that there is a significant and negative correlation between growth of GDP per capita in sending countries and the cost of remittance. Furthermore, there is a smaller, negative correlation between growth in GDP per capita and receiving country. One possible explanation is that Ratha (2005) shows when growth of GDP decreases, the demand for remittance in these corridors increases, and thus price would increase. Siegel and Zanker (2002) support this by showing remittance demand increases when there are negative shocks to GDP in a country. As well, we can see that the complementarity effect has a sign that is difficult to rationalize, but it is both statistically and economically insignificant. A similar set of results can be seen in Table 6 for the cost of remitting \$500.

The coefficient on GDP per capita for the sending country, from Equation (3) in Table 5, is -0.00012. This implies that for a one percent increase of GDP per capita in the sending countries, the cost of remittance decreases by approximately 3.22 percent. This is a relatively large relationship and may be attributed to the great dispersion of growth among the sample. The average growth for sending countries, as mentioned above, is relatively small at \$268 per capita or 0.75 percent, but from Table 4 we can see that the country at the 25th percentile, France, had a negative GDP per capita growth over the period of \$-1306.35 or -10.39 percent, and the country at the 75th percentile, Norway, had an increase in GDP per capita of \$1727.41 or 3.38 percent.

The coefficient on GDP per capita for the receiving country, from Equation (3) in Table 5, is -0.0000856. This implies that for a one percent increase in GDP per capita of the receiving countries, the cost of remittance decreases by approximately 1.69%. This is also a large relationship, though not as large as the sending GDP per capita coefficient.

The coefficient for the complementarity effect, the GDP per capita of the sending country multiplied by the GDP per capita of the receiving country, is almost zero and is not significant, statistically or otherwise. This shows that, surprisingly, there is not much of a complementarity effect. This has important implications for policy makers interested in lowering remittance costs because it implies that there is no extra effect from GDP growth on both ends of a corridor. Growth in the sending and receiving country has a large additive effect on the cost of remittance, both at the \$200 and the \$500 level, but growth in both the sending and receiving country does not have any advantageous multiplicative effect.

VII. Price Discrimination

One of this paper's goals is to look at the price differences among the cost of remittance in order to determine if this is a fixed cost business or if there is a form of price discrimination, then to determine how growth in GDP per capita affects the price difference between remitting \$500 and \$200. Figure 3 illustrates the difference between cost of remittance at the \$200 level and the \$500 over time.

Across the entire sample, the average for cost of sending \$200 is 8.73 percent (or \$17.46), while the average cost of sending \$500 is only 5.37 percent (\$26.85). As an example, that means that remitting \$1000 in five \$200 increments costs an average of \$87.30, while sending \$1000 in two \$500 increments only costs an average of \$53.70.

Intuition would suggest that it should not cost the firm anything extra to send \$200 instead of \$500. From here on, I will be assuming firms take on no extra cost when sending \$500 instead of \$200. Ratha and Reidberg (2005) support this assumption in their analysis of the electronic payment systems used by remitting markets. Furthermore, I assume that price differences cannot be explained by different market structure. Thus, if all firms offer both options (\$200 and \$500) price differences must be due to price discrimination. Furthermore, the remittance market has found to be a highly fixed cost business (Ratha and Reidberg, 2005). If this market is a fixed cost story, the following should hold:

$$FC = \$200 * C200 = \$500 * C500$$

Where **C200** is equal to the cost of sending \$200 US and **C500** is the cost of remitting \$500 US. Because **C200** equals 8.73 percent and **C500** equals 5.37 percent we can solve this equation as:

$$C500/C200 = 2/5$$

$$5.37\%/8.73\% \neq 2/5$$

Therefore, firms are not simply charging prices equal to cost and there may be a form of price discrimination occurring in the remittance market. The actual price difference (**C200 – C500**) is approximately 3.37% with an average price ratio (**C500/C200**) of 0.64, as can be seen in Table 7. One possible explanation for an average price ratio above the fixed cost condition is that in many remittance corridors, firms have large market power (Ratha and Reidberg, 2005).

Any price ratio above the fixed cost story of 0.4 (2/5) represents a form of price discrimination. What this demonstrates is that firms are capturing some of the savings consumers normally benefit when remitting larger sums. The incentive for consumers to remit larger

amounts, under perfect competition, comes from the fact that they only have to pay the fixed cost once as opposed to paying multiple times if they send several smaller amounts. When a firm charges a price ratio above 0.4 they are increasing the cost of remitting \$500 above the fixed cost story in order to capture some of these savings, or consumer surplus, for themselves. As long as the price ratio does not exceed 1.0, consumers will still have a cost incentive to remit \$500 instead of \$200.

Although, the average price ratio is 0.64, it varies greatly between corridors. This means there is not uniformity among how corridors price discriminate. As an example, the price ratio for 31 different sending countries can be seen in Figure 4. Keep in mind that the line at 0.4 represents the fixed cost story. Figure 4 shows that the degree of discrimination varies from country to country. Countries that are closest to the fixed cost condition of 0.4, such as Japan, allow for the greatest nominal savings by remitting \$500 instead of \$200 because the remitter is only charged the fixed cost and a relatively small mark up for remitting increasing amounts. Countries, such as the Dominican Republic, which have a ratio close to one charge almost the same per unit amount for remitting \$500 as they do for \$200, this results in very little nominal savings when remitting larger amounts. This means that the consumer benefits very little from sending large amounts from these countries. We do not see any country above one on average because that would imply no market for remitting \$500. Any country below the fixed cost condition would either indicate that they are not covering their fixed costs at the \$500 amount or they charge a per unit price such that the nominal amount paid in dollars for remitting \$200 exceeds the nominal amount charged for sending \$500. The closer the sending countries price ratio is to zero, the greater the per unit saving to consumers for remitting \$500 instead of \$200. This is an important implication due to the nature of remittance fees. Many migrant workers

send money back home to their families who depend on this remittance in order to survive.

Altruism is a large determinant of migrant's choice to remit (Lucas and Stark 1985). Poirine (2007) shows how many migrants have taken informal loans from family and friends that need to be repaid regularly. These families may not be able to wait until their distant family member or friend can send a larger amount, even if that means they would receive more money in the long run.

Over the sample period, the per unit cost of sending \$200 minus the per unit cost of sending \$500 has decreased by approximately 17 percent. Because both the price of remitting \$500 and \$200 has fallen over the time period, this indicates that the price of \$200 has fallen more, on a per unit basis, and therefore migrants who cannot wait to send larger amounts have benefited more from the price decrease than those who remit in larger quantities.

One question this paper answers is how much this decrease in the price difference can be related to a growth in GDP per capita. I estimate this using a similar formula as before:

$$C200_{ijt} - C500_{ijt} = \beta_0 + \beta_1 * sendgdp_{it} + \beta_2 * recgdp_{jt} + \beta_3 * sendgdp_{it} * recgdp_{jt} + \mu_{ijt} \quad (4)$$

Where i = sending country and j = receiving country

Where " $C200_{ij}$ " equals the cost of sending \$200 US from sending country i to receiving country j (expressed as a percent of the amount sent), and " $C500_{ij}$ " equals the cost of sending \$500 US from sending country i to receiving country j .⁷ The results of equation (4) can be seen in Table 8.

⁷ " $sendgdp$ " equals the GDP per capita of the sending country, and " $recgdp$ " equals the GDP per capita of the receiving country.

Table 8 shows that there is a negative correlation between the price difference and GDP per capita in the sending country as well the receiving country. However, once again there is a greater correlation with the sending country than with the receiving country. As well, there appears to be little complementarity effect. A coefficient of -0.0000496 implies that for a one percent increase in GDP per capita in the sending countries, the price difference between remitting \$200 and \$500 decreases by approximately 1.33 percent. A coefficient of -0.0000294 implies that for a one percent increase in GDP per capita in the receiving countries the price difference between remitting \$200 and \$500 decreases by approximately 0.58%.

Because you have already seen that both the cost of remitting \$200 and \$500 is correlated to growth in GDP, the results of Table 8 imply that the cost of remitting \$200 goes down further than the cost of remitting \$500 when GDP increases. Once again this is important due to the nature of remittance consumers. This implies that when GDP per capita grows, not only do remittance transactions become cheaper over all, but consumers with a demand for lower remittance transactions benefit more than those with a demand for higher remittance transactions. However, this also implies that the price ratio is increasing with growth in GDP per capita. Therefore, the degree of price discrimination may be increasing. This means, some of the benefits to consumers from a remittance cost decrease may be offset by an increase in price discrimination.

VIII. Conclusion

This Paper investigates the phenomena of wide discrepancies facing remittance costs. These discrepancies are first examined in the context of GDP growth and then the context of price discrimination.

Remittance costs are found to be highly and negatively correlated with growth of GDP per capita within the sending country as well as the receiving country. It is interesting to note complementarity is not found between GDP growth in sending and receiving countries. This indicates that policy-makers interested in reducing remittance costs do not have extra incentives for stimulating growth in both ends of a corridor.

This paper also examines and relates its findings towards the current state of price discrimination within remittance markets. Growth in GDP is found to be highly and negatively correlated with the price difference between remitting \$200 and \$500. When GDP grows the cost of remitting \$200 is found to decrease further than the cost of \$500. Therefore, consumers of \$200 transactions benefit more than consumers of \$500 transactions, which may be due to an increase in price discrimination.

While this paper offers interesting insight into an important topic, it is a very exploratory first look at remittance cost using new panel data. I hope further research will be able to explore more facets effecting remittance costs, while addressing limitations of the existing analysis.

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Table 1: List of sending and receiving countries in the RPW

Sending	Receiving
• Australia	• Angola
• Austria	• Albania
• Belgium	• Andorra
• Brazil	• Armenia
• Canada	• Azerbaijan
• Chile	• Bangladesh
• Costa Rica	• Bulgaria
• Czech Republic	• Bosnia and Herzegovina
• Dominican Republic	• Belarus
• France	• Bolivia, Plurinational State of
• Germany	• Brazil
• Ghana	• Botswana
• Italy	• China
• Japan	• Côte d'Ivoire
• Kenya	• Congo, the Democratic Republic
• Korea, Republic of	• Colombia
• Malaysia	• Dominican Republic
• Netherlands	• Algeria
• New Zealand	• Ecuador
• Norway	• Egypt
• Qatar	• Eritrea
• Russian Federation	• Estonia
• Saudi Arabia	• Ethiopia
• Senegal	• Fiji
• Singapore	• Georgia
• South Africa	• Ghana
• Spain	• Gambia
• Switzerland	• Guatemala
• Tanzania, United Republic of	• Guyana
• United Arab Emirates	• Honduras
• United Kingdom	• Croatia
• United States	• Haiti
	• Indonesia
	• India
	• Jamaica
	• Jordan

- Kazakhstan
- Kenya
- Kyrgyzstan
- Kiribati
- Korea, Republic of
- Lebanon
- Sri Lanka
- Lesotho
- Lithuania
- Latvia
- Morocco
- Moldova, Republic of
- Mexico
- Mali
- Mozambique
- Malawi
- Malaysia
- Nigeria
- Nicaragua
- Nepal
- Pakistan
- Panama
- Peru
- Philippines
- Papua New Guinea
- Poland
- Paraguay
- Romania
- Rwanda
- Senegal
- Solomon Islands
- Sierra Leone
- El Salvador
- Serbia
- Suriname
- Swaziland
- Thailand
- Tajikistan
- Tonga
- Tunisia
- Turkey
- Tuvalu
- Uganda

- Ukraine
- Uzbekistan
- Viet Nam
- Vanuatu
- Samoa
- Yemen
- South Africa
- Zambia
- Zimbabwe
- Cabo Verde
- Hungary
- Liberia
- Somalia
- Togo
- Tanzania, United Republic of

Table 2: Descriptive statistics on the cost or remittance

	Avg.	Median	25th Percentile	75th Percentile
Total Cost 2011 Quarter 1 (\$200)	9.0%	7.21%	4.63%	11.56%
Total Cost 2014 Quarter 3 (\$200)	7.9%	6.49%	4.42%	10.0%
Total Cost 2011 Quarter 1 (\$500)	5.43%	4.74%	2.69%	7.27%
Total Cost 2014 Quarter 3 (\$500)	4.86%	4.21%	2.35%	6.65%

Table 3: The effect of dummies regressed onto the average cost of remittance

	Time	Sending	Receiving	Time + Sending + Receiving	Time + Corridor
Adj. R2 (\$200)	0.0041	0.3174	0.2446	0.3836	0.4169
Adj. R2 (\$500)	0.0046	0.2368	0.2722	0.3610	0.4048

No. of Obs. 27162

No. Corridors 222

Table 4: Average growth in GDP per capita over the sample (\$US)

	Sending Countries	Receiving Countries
Average	268.02 (0.75%)	197.65 (4.48%)
25 th percentile	-1306.35 (-10.39%)	-5.88243 (-0.4%)
75 th percentile	1727.41 (3.38%)	414.1417 (7.22%)

Table 5: The effect of GDP per capita on remittance cost (\$200 US)

	(1)	(2)	(3)	(4)	(5)
GDP/Capita	-0.0001251***	-0.000139***	-0.00012***		
Sending country	(0.0000276)	(0.0000276)	(0.0000283)		
GDP/Capita		-0.00001137	-0.0000856		
Receiving country		(0.000167)	(0.0001699)		
Complementarity			5.85e⁻¹⁰ (1.17e⁻⁹)		
Log GDP/Capita				-4.5811***	-4.1399***
Sending country				(1.061)	(1.0707)
Log GDP/ Capita					-2.6498***
Receiving country					(0.8730)
No. Obs.	17439	17439	17439	17439	17439
No. corridors	192	192	192	192	192
Adj. R ²	0.3739	0.3739	0.3739	0.3738	0.3741

Standard errors are in parentheses

*significant at 10% **significant at 5% ***Significant at 1%

Table 6: The effect of GDP per capita on remittance cost (\$500 US)

	(3)	(5)
GDP/Capita Sending country	-0.0000721*** (0.0000174)	
GDP/Capita Receiving country	-0.0000685 (0.0001042)	
Complementarity	5.4e⁻¹⁰ (7.19 e⁻¹⁰)	
Log GDP/Capita Sending country		-2.7385*** (0.6720)
Log GDP/ Capita Receiving country		-2.1605*** (0.5355)
No. Obs.	17439	17439
No. corridors	192	192
Adj. R ²	0.3467	0.3475

Standard errors are in parentheses

*significant at 10% **significant at 5% ***Significant at 1%

Table 7: Average price difference between \$200 and \$500

	Obs.	Mean	Std. Dev.
Price Difference	26945	3.3657%	3.5478
Price Ratio	26945	0.6413	1.035

Table 8: Effect of GDP per capita on price difference (C200 – C500)

	(4)	(5)
GDP/Capita Sending country	-0.0000496*** (0.000016)	
GDP/Capita Receiving country	-0.0000294 (0.0000961)	
Complementarity	-1.11e⁻¹⁰ (06.64 e⁻¹¹)	
Log GDP/Capita Sending country		-1.5874*** (0.6069)
Log GDP/Capita Receiving country		-0.5841 (0.4956)
No. Obs.	17439	17439
No. corridors	192	192
Adj. R ²	0.3463	0.3460

Standard errors are in parentheses

*significant at 10% **significant at 5% ***Significant at 1%

Figure 1

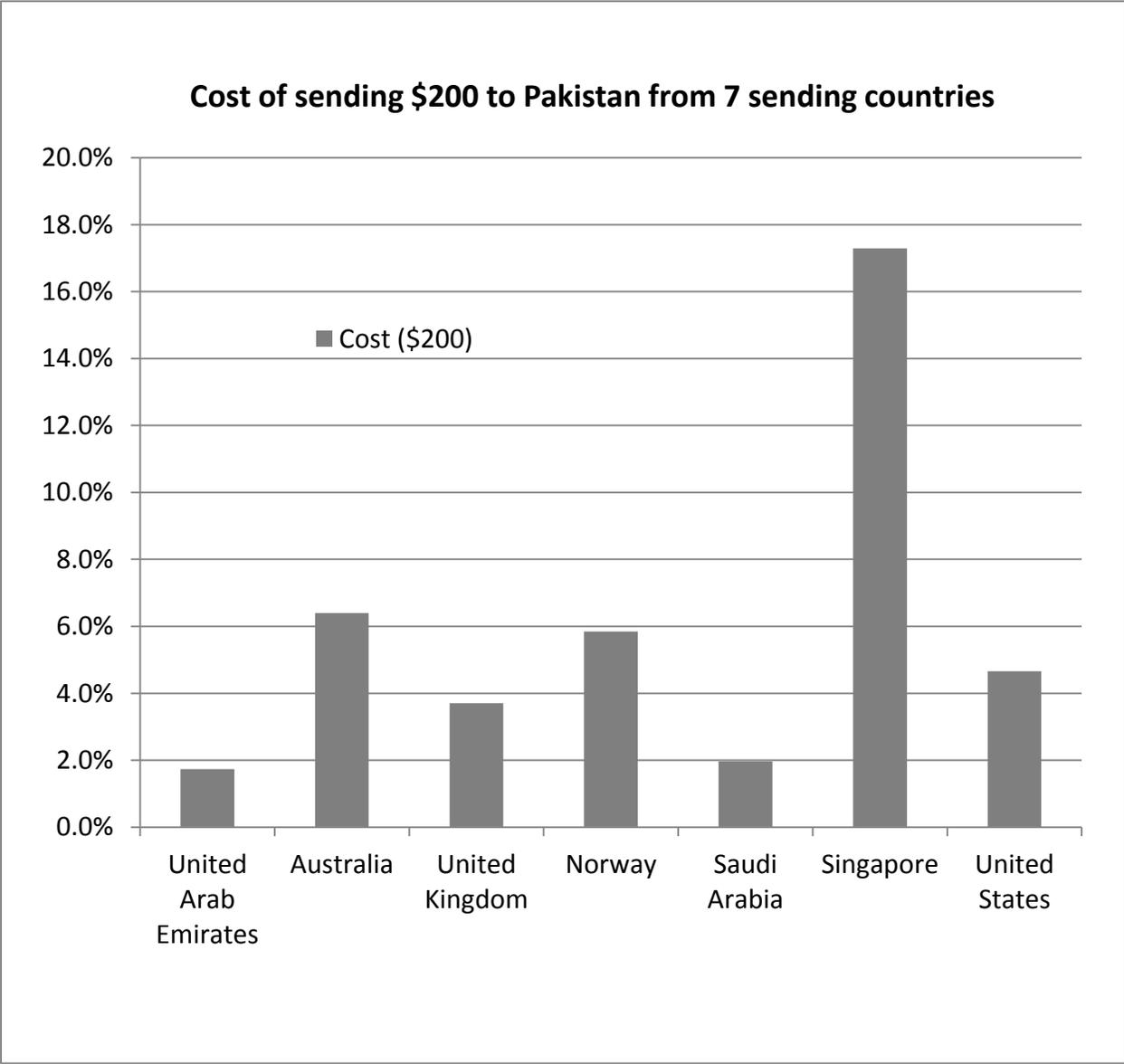


Figure 2

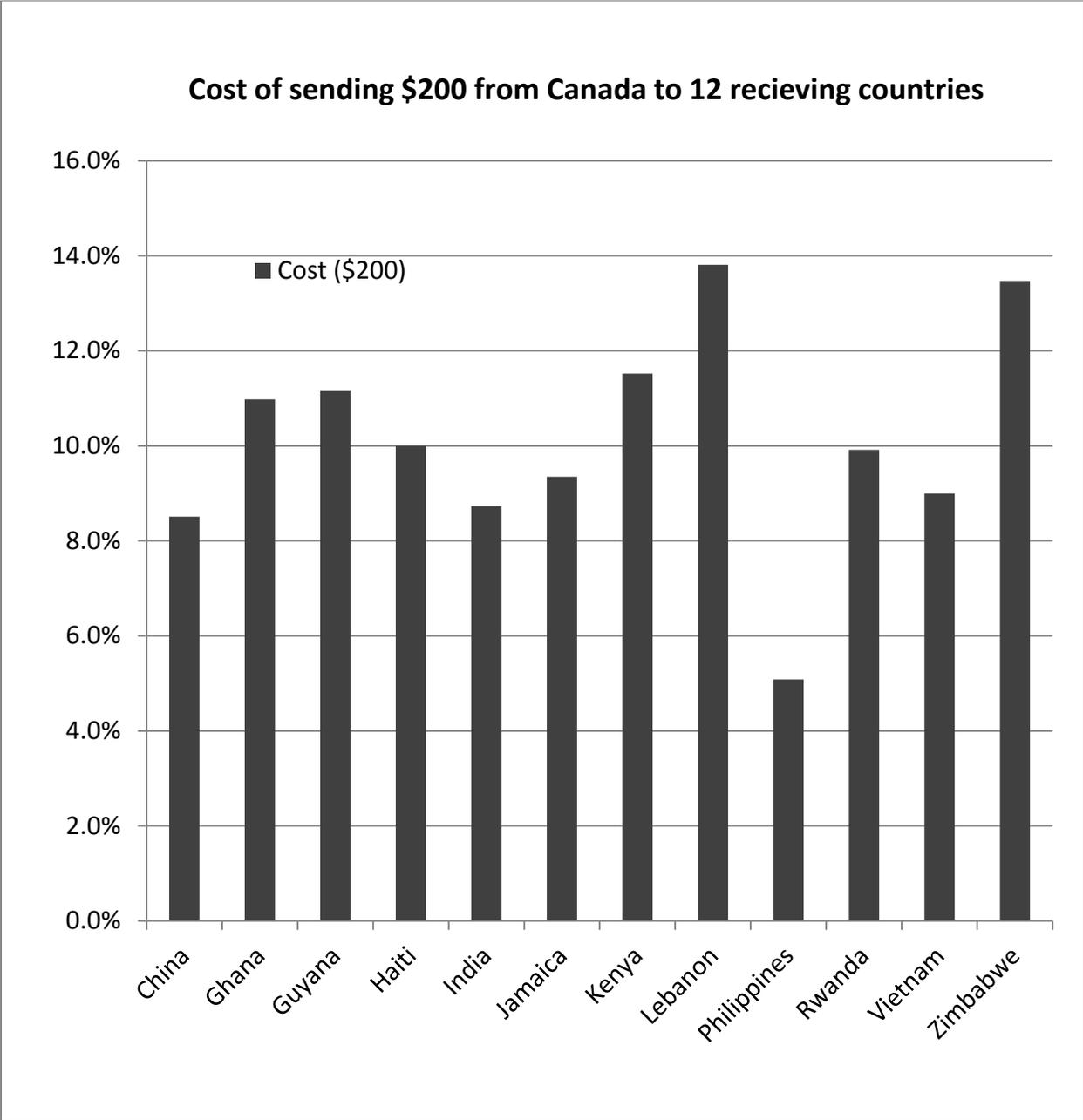


Figure 3: Average cost of remitting \$200 vs. \$500

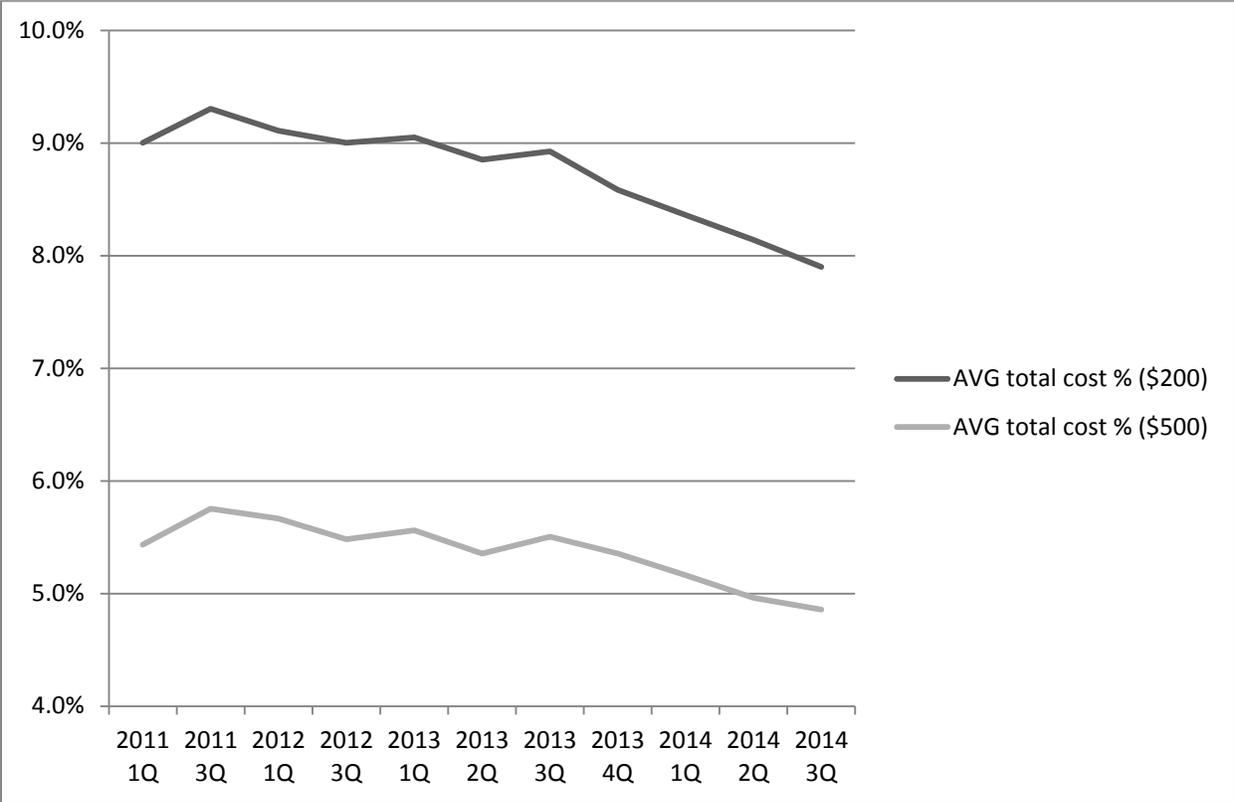


Figure 4: The average price ratio per sending country

