

Can Remittances Help Promote Consumption Stability?¹

Remittance flows are projected to continue their upward climb over the medium term (Figure 4.15). The relative importance of remittances as a source of external resources is also expected to increase further, as growth in private capital flows to developing countries may moderate when interest rates begin rising in advanced economies, or if growth in developing economies remains weak.

Remittances are associated with significant development impacts such as accelerated poverty alleviation, improved access to education and health services, and enhanced financial development, as well as multiplier effects through higher household expenditures.² A small set of studies has also investigated the behavior of remittances over the business cycle, but knowledge on the issue has so far been limited.³ This essay examines cyclical characteristics of remittances and explores the counterbalancing and consumption-smoothing potential of remittances. Specifically, the essay focuses on three questions:

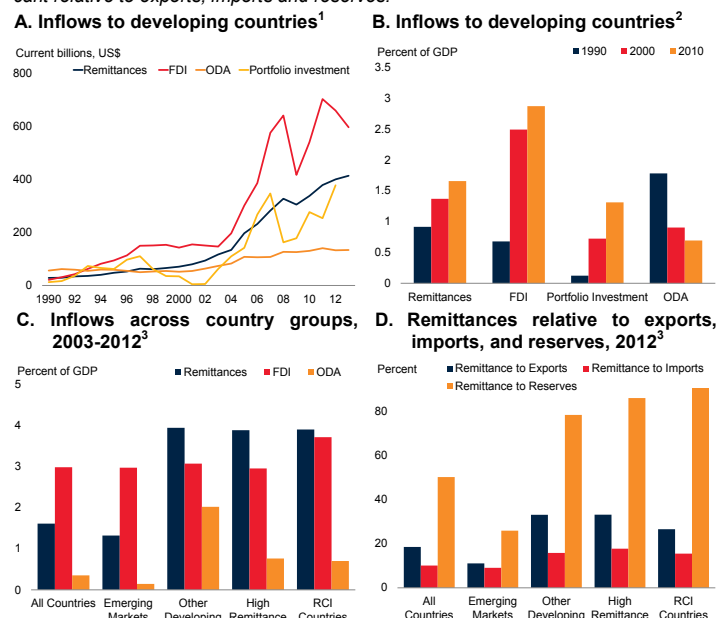
- How do remittance flows behave over the business cycle, especially compared to other financial inflows?
- Can remittances act as a counterbalance during episodes of sudden stops in capital flows?
- Do remittances support consumption stability over time?

Magnitude, Drivers, and Cyclical Features

Magnitude. Remittances to developing countries (low- and middle-income economies) have been significant both as a share of GDP and compared to FDI and official development assistance (ODA).⁴ Since 2000, total

FIGURE 4.15 Magnitude of remittances and other flows

Remittances to developing countries have risen steadily over time and are now larger than FDI and ODA for developing and high remittance countries, and significant relative to exports, imports and reserves.



Sources: World Development Indicators, IMF Balance of Payments data, and World Bank estimates.

1. Remittances are based on IMF Balance of Payments Accounts; FDI is foreign direct investment, net inflows; Portfolio Investment is private debt and portfolio equity; ODA is net official development assistance and official aid received.

2. Values represent total flows as percentage of total GDP of low-income and middle-income countries in World Development Indicators.

3. All Countries includes all countries in the sample. High Remittance refers to a set of countries for which remittances have been above 1% during the period under consideration. RCI refers to a set of countries for which remittances have been above 1% and either FDI or equity flows have been above 3.5% and 1%, respectively, during the 2003-2012 time period. FDI measures foreign direct investment and ODA covers official development assistance and aid.

³Some of these studies report mixed results about the cyclical features of remittances partly because they employ different samples and methodologies. Chami et al, (2008), Constantinescu and Schiff (2014) and Frankel (2011) find that remittances are countercyclical and less volatile than capital flows while Freund and Spatafora (2008) and Sayan (2006) report that remittances are procyclical.

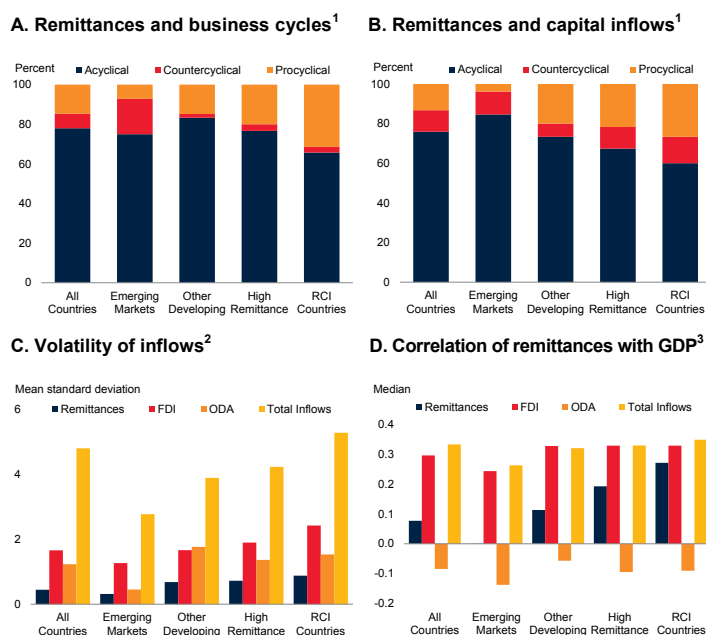
⁴The dataset used for the analysis in this essay covers the period 1980-2012 and includes 109 countries, including emerging markets, developing economies, and countries that receive a large volume of remittances, Remittance and Capital Flow Intensive (RCI) countries. Specifically, the RCI group includes countries that have experienced, on average, ratios of remittances to GDP higher than 1 percent and either FDI inflows greater than 3.5 percent of GDP or equity inflows greater than 1 percent of GDP, on average, between 2003 and 2012 (the cut-offs correspond to median values for the full sample). Official remittance data (in U.S. dollars) is from the IMF's Balance of Payments Statistics. The overall size of remittances is likely to be even larger, since migrants also send money through informal channels. Freund and Spatafora (2005) conjecture that informal remittances amount to 35-75 percent of official remittances to developing countries.

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²Adams and Page (2005) and Acosta, et al., (2008) show that remittances are associated with lower poverty and inequality. Aggarwal, Demirgüç-Kunt, and Peria (2011) report that remittances help enhance financial development by increasing deposits and credit intermediated by local banks. Giuliano and Ruiz-Arranz (2009) find that remittances can substitute for a lack of financial development. The empirical literature on the impact of remittances on growth, however, remains inconclusive (Chami et al, 2008; Clemens and McKenzie, 2014). Drawbacks associated with migration may include the risk of "brain drain," which may dampen productivity of the migrant-sending countries and affect their tax base. On the positive side, however, migrants may find better opportunities to enhance earnings and skills in host countries than in their home countries, and can facilitate stronger international trade and commercial links over the long run.

FIGURE 4.16 Remittances, business cycles, and capital inflows

Remittances are acyclical in most countries, uncorrelated with capital inflows, and less volatile and less correlated with economic fundamentals than other inflows.



Source: World Bank estimates.

1. Remittances are considered: (i) procyclical if the correlation between the cyclical components of remittances and output is positive and statistically different from zero, (ii) countercyclical if it is negative and statistically different from zero and (iii) acyclical if the correlation is not statistically different from zero.

2. Volatility is defined as the standard deviation of the detrended ratio of the relevant inflow to GDP.

3. Cyclicity is defined as the correlation between the detrended real series of GDP and foreign direct investment, official development assistance (ODA), and total inflows (the sum of FDI, portfolio investment including equity and debt, financial derivatives, and other investments). RCI refers to a set of countries for which remittances were above 1% and either FDI or equity flows have been above 3.5% and 1%, respectively, during 2003-12. High remittance refers to a set of countries for which remittances have been above 1% during the period under consideration. Each time series is decomposed into trend and cyclical components using Hodrick-Prescott (HP) filter and the sample period is 1980-2012.

⁵For example, during 2013 remittances as a percentage of GDP were high for Kyrgyz Republic (32), Nepal (29), Moldova (25), Haiti (21) and many other countries (all numbers in parenthesis refer to percentage of GDP). They were also large as percentage of goods exports for Tajikistan (308), Nepal (646), and Haiti (201). Remittances as a percentage of reserves were high for Tajikistan (542), Pakistan (191), El Salvador (144), the Arab Republic of Egypt (108), Honduras (104), and Kyrgyz Republic (102), among others. Developing countries have also become sources of remittances in recent years; for example, Kazakhstan is an important source of remittance flows to Azerbaijan, the Russian Federation, Tajikistan, and Ukraine.

⁶The results are broadly similar when volatility is defined as the coefficient of variation (standard deviation of the series over the sample period normalized by the mean of the corresponding flow). These findings are also in line with previous studies in the literature, including Chami et al. (2008) and Constantinescu and Schiff (2014).

⁷Kaminsky, Reinhart, and Végh (2005) show that capital flows are highly procyclical. Contessi, De Pace, and Francis (2013) document that the components of inward capital flows are also procyclical for Group of Seven economies. Islamaj (2014) reports that capital flows may increase the volatility of output by increasing specialization of production.

remittances have averaged about 60 percent of the size of total FDI (Figure 4.15). A large and growing number of emerging and developing markets—the Remittance and Capital Flow Intensive countries (RCI)—have received substantial inflows of capital as well as remittances over the past decade. For developing economies, remittances amount, on average, to close to 80 percent of reserves. For a large number of countries, remittances constitute the single largest source of foreign exchange.⁵ The rising trend of remittances is likely to persist given the large and growing stock of international migrants worldwide (more than 232 million at present).

Motives and Drivers. There is considerable overlap between individuals' motives to remit and other longer term and institutional drivers of remittances. Factors that affect migration decisions, the economic and policy environment in the origin and recipient countries, and transactions costs associated with intermediation of remittances all influence the volume and frequency of remittances. Remittances are closely related to migration patterns at the macroeconomic level, driven by a host of factors, including economic opportunities in the migrants' host and home countries, existing migrant stocks and networks, cost of emigration, and barriers to immigration. Such economic factors in empirical studies are typically captured by home and world output growth, employment in home and host country, and other global variables like London Interbank Offered Rate (LIBOR) and oil prices. Institutional factors that would discourage remittance flows include policies like exchange rate restrictions and black market premia. The diversity of motivations and drivers makes it difficult to predict *a priori* the business cycle features of remittance flows and their implications for macroeconomic stability.

Cyclical Features. Foreign currency inflows can be classified as: (i) *procyclical* if the correlation between output and the cyclical component of flows is positive and statistically different from zero; (ii) *countercyclical* if it is negative and statistically different from zero; and (iii) *acyclical* if the correlation is not statistically different from zero. Figure 4.16 summarizes these correlations for various country groups, demonstrating that remittances are *acyclical* in approximately 80 percent of countries (this holds across country groups). Remittances are not strongly correlated with capital flows either. However, remittances appear to be a more stable source of external finance than other inflows, including ODA.⁶ They are also less correlated with the business cycle than FDI and total inflows.

Because capital flows such as FDI and debt flows are often procyclical, they can exacerbate output fluctuations and contribute to the volatility of consumption in developing countries when abruptly leaving the country.⁷ Although

remittances are not necessarily countercyclical, they have the potential to at least provide some stability for the balance of payments, and hence for economic activity more generally, when capital inflows decline.

Behavior of Remittances during Sudden Stops

A sudden stop, defined as a sharp decrease in gross capital inflows, is often associated with increased risk of macroeconomic volatility and financial crises in emerging markets and developing economies. The timing of sudden stops can be identified using a variety of methodologies. The methodology of Forbes and Warnock (2012) is followed here to identify sudden stops over the period 1990–2012, and a plethora of sudden stops in capital inflows is found to have coincided with the global financial crisis that began in 2008. In contrast, remittances showed slight above-trend growth during the financial crisis (Figure 4.17). The same pattern is observed during previous, less severe and less synchronized crisis episodes, with remittances generally displaying resilience, while capital inflows gyrate.⁸

While capital flows on average decline about 14.8 percent during the initial year of a sudden stop episode and continue to fall by another 10 percent the year after, remittances tend to increase by 6.6 percent during the first year and another 5.7 percent in the subsequent year. Moreover, remittances are resilient in emerging markets and RCI economies taken separately, even though the decline in capital inflows for these country groups is often sharper than for other groups. During the first year of a sudden stop, capital inflows to emerging markets fall 25.2 percent, on average, whereas remittances increase by 6.8 percent.

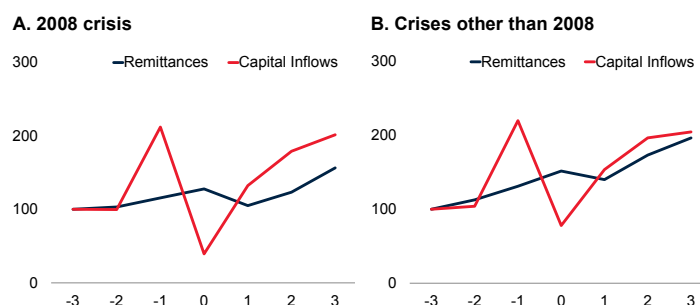
Also important to note is that countries differ substantially in terms of geographical dispersion of their migrant stocks: those with more geographically dispersed migrant stocks tend to receive relatively more stable remittance flows during sudden stops than those with more concentrated migrant stocks. Following sudden stops, remittances continued to increase at a faster pace in countries with more dispersed migrant stocks (Figure 4.18). These results broadly speak to a supporting role of remittances during periods of large capital flow reversals.

Promoting Consumption Stability

In principle, remittances, like capital flows can help buffer consumption from short-run fluctuations in income. The ability to reduce fluctuations in consumption is an important determinant of economic welfare. In the case of capital flows, short-term foreign

FIGURE 4.17 Remittances and capital inflows during sudden stops

Remittances have been resilient during sudden stops. On average, the decline in capital flows was greater in 2008 than during other sudden stops.
(Index numbers)

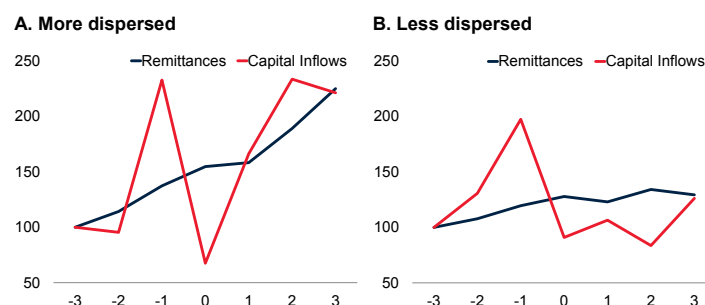


Source: World Bank calculations using data from World Development Indicators and World Bank's Global Capital Flows.

Notes: Values are averages of remittances and net capital inflows for emerging markets and developing economies that have experienced sudden stop episodes. Index numbers are calculated with a base of 100 for the period three years before the sudden stop year (-3). Capital inflows are net, that is, the difference between the amounts brought in by nonresidents and the amounts sent out by residents. The horizontal axis denotes years. Zero (0) refers to the year of the sudden stop episode.

FIGURE 4.18 Remittances and capital inflows in countries with more and less dispersed diasporas

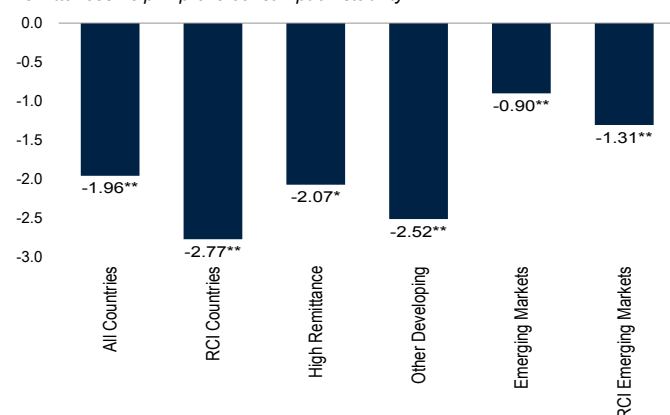
Countries with more dispersed migrant stocks showed greater remittance resilience during the sudden stops.
(Index numbers)



Source: World Bank calculations using data from World Development Indicators and World Bank's Global Capital Flows.

Notes: Values are averages of remittances and net capital inflows for emerging markets and developing economies that have experienced sudden stop episodes. Index numbers are calculated with a base of 100 for the period three years before the sudden stop year (-3). Capital inflows are net, that is, the difference between the amounts brought in by non-residents and the amounts sent out by residents. The horizontal axis denotes years. Zero (0) refers to the year of the sudden stop episode. More dispersed (less dispersed) refers to countries with migrant concentrations below (above) the sample median. Migrant concentration is defined as the percentage of migrants in the top destination to the total migrant population. Calculations are based on the 2013 bilateral migration matrix provided by the United Nations Population Division (UNPD).

⁸Remittances have also been more stable than FDI flows during sudden stop episodes. For details about the behavior of FDI flows during sudden stops, see Levchenko and Mauro (2007).

FIGURE 4.19 Remittances and consumption stability*Remittances help improve consumption stability.*

Source: World Bank estimates.

Note: The figure shows panel ordinary least squares estimates for the effect of remittances on consumption stability (β_2). The symbols * and ** indicate statistical significance at the 10% and 5% levels, respectively. High Remittance refers to a set of countries for which remittances have been above 1% during the time period under consideration. RCI (Remittance and Capital Flow Intensive) countries refer to a set of countries for which remittances have been above 1% and either FDI or equity flows have been above 3.5% and 1%, respectively, during 2003-12.

borrowing, or sales of foreign liquid assets, can be used to finance consumption during bad times. Provided that fluctuations in income are not fully synchronized across countries, and financial markets are operating effectively, output uncertainty can be shared across borders through capital flows.

There has been a growing literature studying the effects of financial flows on consumption stability at the macro level. This literature finds only minimal impacts of equity flows on consumption smoothing in developing countries. Although the relative stability of remittances over the business cycle suggests that large-scale recipients may be less prone to consumption volatility, little is devoted in the literature to the stabilizing effects of remittances on consumption fluctuations. To estimate the quantitative effect, we follow a standard approach in the risk sharing literature and consider the impact of remittances on the comovement between domestic consumption and output.⁹ In particular, we regress country-specific consumption growth on country-specific output growth:

$$\Delta c_{it} - \Delta c_t^* = \beta_0 + \gamma_1 R_{it} + \beta_1 (\Delta y_{it} - \Delta y_t^*) + \beta_2 R_{it} (\Delta y_{it} - \Delta y_t^*) + \Delta \varepsilon_{it}$$

where Δc_{it} (Δc_t^*) is country (world) consumption growth at time t ; Δy_{it} (Δy_t^*) is country (world) GDP growth at time t ; and R_{it} is remittance inflow as a ratio to GDP at time t . The coefficient β_2 estimates the extent to which domestic consumption growth is dependent on output fluctuations. An interaction term between remittances

and output growth is added to the regression, and measures the extent to which remittance flows help de-link domestic consumption from domestic output growth. A negative β_2 suggests that remittances help lower the correlation between country-specific consumption and output growth.

Estimates of the interaction coefficient β_2 for different country groups are presented in Figure 4.19. Estimated β_2 is negative and statistically significant for all country groups. The coefficients for RCI countries and countries with large remittance inflows are even higher (in absolute value) than those for most other groups, suggesting that countries that receive a larger amount of remittances have, on average, a lower correlation between output and consumption growth.¹⁰ These findings imply relatively larger benefits of remittances for consumption stability in countries that have (a) sizable remittance receipts and (b) high exposure to interruptions in capital flows.¹¹

Through what channels can remittances help stabilize consumption fluctuations? First, remittances can help stabilize consumption intertemporally by supporting saving. Some studies based on microeconomic data document that remittances are an important resource to enable households to smooth consumption over time, as they help improve access to financial services and ease liquidity constraints.¹² Second, even if overall remittances do not increase substantially during economic downturns, a greater proportion of remittance receipts is likely to be

⁹The baseline regression model uses deviations from world aggregates because common risks cannot be eliminated completely, but can only be shared more efficiently. Seminal contributions include Obstfeld (1994) and Lewis (1996). Kose, Prasad, and Terrones (2009) provide a review of the literature.

¹⁰All regressions include time- and country-fixed effects. The results are robust to controlling for various de jure and de facto measures of financial integration. The findings hold when using system generalized method of moments (GMM) estimates, which, following the literature, use lagged values of consumption and output growth as instruments.

¹¹The stabilizing effect of remittances may also depend on the exchange rate system. During sudden stops and recessions, flexible exchange rates tend to depreciate. Given relative stability in terms of U.S. dollars, the value of remittances in local currencies then tends to increase, thereby acting as an automatic stabilizer for the purchasing power of consumers. In fact, the stabilizing effects of remittances on consumption tend to be much more pronounced under flexible exchange rate regimes.

¹²World Bank (2006), Adams and Cuecuecha (2013), Osili (2004), and Aga and Martinez-Peria (2014) document that remittances improve financial inclusion for the poor households by increasing access to savings, bank deposits, and bank credit. Giuliano and Ruiz-Arranz (2009) find that remittances help ease liquidity constraints faced by the poor. Our findings also complement others reported in the literature. For example, Craigwell, Jackman, and Moore (2010) find that remittances reduce the impact of negative output shocks. Bugamelli and Paterno (2011) and Acosta et al. (2008) also report that remittances are negatively correlated with output volatility. IMF (2005) also finds that remittances are associated with lower volatility of output, consumption, and investment.

used for consumption purposes during such periods.¹³ Given that remittances, unlike capital flows, are unrequited transfers that do not have to be paid back and target the portion of consumers that are more likely to be liquidity constrained, they may have substantial effects on consumption stability.

In addition, at the individual level, access to remittances enables consumers to maintain their consumption levels despite illness or some other calamity, which may be critical for people with very low levels of income. Some studies find that remittances support household consumption following natural disasters or other economic shocks. For example, Yang and Choi (2007), find that overseas remittances serve almost like insurance following rainfall shocks in the Philippines, while analysis of household survey data from Ethiopia shows that households that receive international remittances seem to rely more on cash reserves and less on selling household assets or livestock to cope with drought (Mohapatra, Joseph and Ratha, 2012).

Conclusion

The main findings are as follows:

- *Remittances are relatively stable, and acyclical.* In a substantial proportion of the countries, remittance receipts are not significantly related to the domestic business cycle. In contrast, debt flows and foreign direct investment are procyclical. Stability and acyclicity imply that remittances have the potential to make a critical contribution in supporting consumption in the face of economic adversity. This is particularly important in developing countries, where remittances are used to finance household consumption directly.
- *Remittances have also been stable during episodes of financial volatility when capital flows fell sharply.* This stabilizing effect tends to be greater for remittance-receiving countries with a more dispersed migrant population.
- *Remittances are associated with more stable domestic consumption growth.* Countries with large remittance receipts tend to display less correlation between output and consumption growth over the business cycle. Such consumption behavior often enhances welfare.

¹³While consumption stability obviously promotes welfare, the use of remittances for consumption instead of investment purposes may have consequences for long-term growth.

These findings provide additional evidence of the beneficial effects of remittances. While household members may not themselves base their decisions to work abroad mainly on a desire to send stable remittances back home, these benefits provide a rationale to implement policies in recipient countries to reduce impediments to remittances, like lowering the costs of sending remittances, avoiding the taxation of remittances, and doing away with multiple exchange rate regimes. These impediments often discourage remittances as well as drive them into informal channels. Specific policy areas to be considered are as follows:

- *Costs of Remittances.* While the average price of retail cross-border money transfers has been falling, it remains high. The average cost of sending about US \$200 fell from 9.8 percent in 2008 to 7.9 percent in the third quarter of 2014.¹⁴ It will be important to reduce such costs further by ensuring competition in money transfer services, establishing an appropriate regulatory regime for electronic transfers, and supporting improvements in retail payments services.
- *Taxes on Remittances.* Governments may be tempted to tax remittances in an effort to increase revenue. In general, this would discourage remittances and is likely to have a direct negative effect on household welfare. From the viewpoint of tax equity, one might note in addition that these transfers are made from after-tax income earned in source countries.
- *Exchange Rate Regime.* Exchange rate flexibility provides an automatic stabilizer to recipients of remittances, in that the domestic currency value of remittances increases when the U.S.-dollar value of the currency drops, as it usually does during an adverse event. Dual exchange rate systems, in contrast, may deter remittance inflows, by artificially lowering the local currency proceeds of remittances and creating uncertainty about the U.S.-dollar cost of the domestic currency. This undermines the automatic stabilizer role that remittances can play during periods of exchange rate depreciation.

¹⁴The average cost of sending \$200 to Sub-Saharan Africa is almost twice the cost of sending the same amount to Latin America or South Asia. These costs have a direct negative impact on the amount received, as well as the volume of remittance flows. Freund and Spatafora (2008) find that a 1 percentage point reduction in transaction costs raises recorded remittances by 14–23 percent. Evidence from micro studies confirms the negative impacts of costs for remittance flows (Ashraf et al., 2011; Ambler et al., 2014; Gibson et al., 2006).

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