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Do remittances promote financial development?

Reena Aggarwal [a], Asli Demirgüç-Kunt [b], Maria Soledad Martínez Pería [b,*]

[a] McDonough School of Business, Georgetown University, United States
[b] The World Bank, United States

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ABSTRACT

Workers' remittances to developing countries have become the second largest type of flows after foreign direct investment. This paper uses data on remittance flows to 109 developing countries during 1975–2007 to study the link between remittances and financial sector development. In particular, we examine the association between remittances and the aggregate level of deposits and credit intermediated by the local banking sector. This is an important question considering the extensive literature that has documented the growth-enhancing and poverty-reducing effects of financial development. We provide evidence of a positive, significant, and robust link between remittances and financial development in developing countries.

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1. Introduction

Remittances, funds received from migrants working abroad, to developing countries have grown dramatically in recent years from U.S. $3.3 billion in 1975 to U.S. $289.4 billion in 2007 (World Bank, 2009). They have become the second largest source of external finance for developing countries after foreign direct investment (FDI) and represent about twice the amount of official aid received, both in absolute terms and as a proportion of GDP (Figs. 1 and 2).

As researchers and policymakers have come to notice the increasing volume and stable nature of remittances to developing countries, a growing number of studies have analyzed their development impact along various dimensions, including: poverty, inequality, growth, education, infant mortality, and entrepreneurship.[1] However, surprisingly little attention has been paid to the question of whether remittances promote financial development across remittance-recipient countries.[2] Yet, this issue is important because financial development has been shown to foster growth and reduce poverty.[3] Furthermore, this question is relevant since some

* Corresponding author.
E-mail addresses: aggarwal@georgetown.edu (R. Aggarwal), ademirguckunt@worldbank.org (A. Demirgüç-Kunt), mmartinezperia@worldbank.org (M.S.M. Pería).

[1] The literature on the impact of remittances on poverty includes: Adams (2004, 2006), Adams and Page (2005), Taylor et al. (2005), Acosta et al. (2007), and Anyanwu and Erhijakpor (2010). Studies investigating the effect of remittances on growth include: Caceres and Saca (2006), Mundaca (2008), and Giuliano and Ruiz-Arranz (2009). Cox-Edwards and Ureta (2003), Hanson and Woodruff (2003), Lopez Cordova (2005), Yang (2008), Acosta et al. (2007), Calero et al. (2009), Adams and Cuecuecha (2010), Amuedo-Dorantes and Pozo (2011), and Bredl (2011) analyze the impact of remittances on education. Studies on the impact of remittances on health or mortality include Kanaiaupuni and Donato (1999), Hildebrandt and McKenzie (2005), Lopez Cordova (2005), Amuedo-Dorantes et al. (2007) and Antón (2010). Massey and Parrado (1998), Woodruff and Zenteno (2007), and Woodruff (2007) study the impact of remittances on microenterprises.

[2] Using municipality-level data for Mexico in 2000, Demirguc-Kunt and et al. (2011) show that remittances have a positive impact on the number of branches, number of accounts, and value of deposits and credit to GDP.

[3] See King and Levine (1993), Beck et al. (2000a,b), and Beck et al. (2007).

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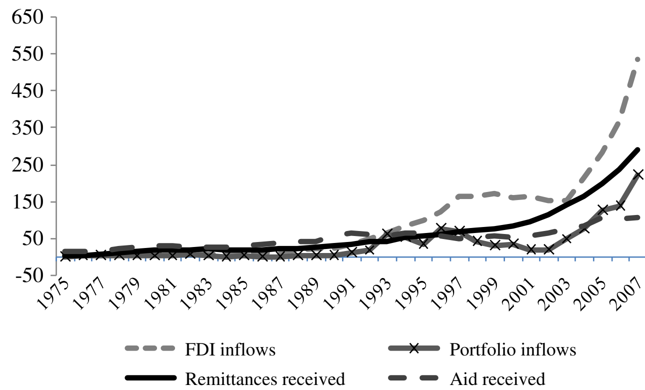

Fig. 1. Inflows to developing countries (billions of USD), 1975–2007.

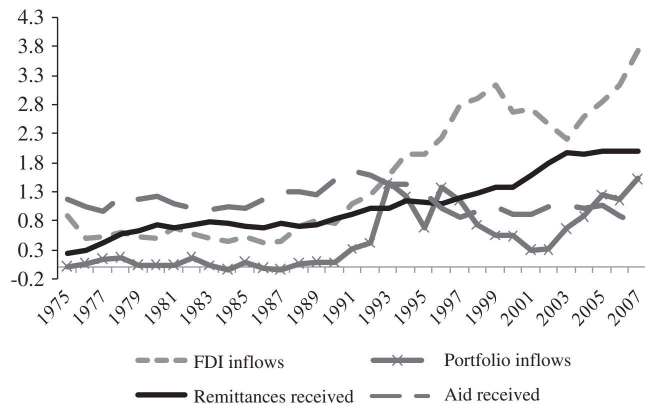

Fig. 2. Inflows to developing countries (% of GDP), 1975–2007.

argue that banking remittance recipients will help multiply the development impact of remittances.[4]

In this paper, we use balance of payments data on remittance flows received by 109 countries over the period 1975–2007 to study the link between remittances and financial sector development as measured by the share of deposits and, separately, credit to GDP. Whether and how remittances might affect financial, particularly banking, development is a priori unclear. On the one hand, because remittances are typically lumpy, recipients might have a need for financial products that allow for the safe storage of these funds (i.e., bank deposits) even if most of these funds are not received through banks. In the case of households that receive their remittances through banks, the potential to learn about and demand other bank products is even larger. At the same time, providing remittance transfer services allows banks to “get to know” and reach out to unbanked recipients or recipients with limited financial intermediation.[5]

On the other hand, because remittances can help relax individuals' financing constraints, they might lead to a lower demand for credit and have a dampening effect on credit market development. Also, a rise in remittances might not translate itself into an increase in credit to the private sector if these flows are instead channeled to finance the government or if banks are reluctant to lend and prefer to hold liquid assets. Finally, remittances might not increase bank deposits if they are immediately consumed or if remittance recipients distrust financial institutions and prefer other ways to save these funds.

An important complication in empirically studying the impact of remittances on financial development is the potential for endogeneity biases as a result of measurement error, reverse causation, and omitted variables. Officially recorded remittances are known to be measured with error.[6] In particular, balance of payments data on remittances tend to record more accurately remittances sent via banks and, in some cases, ignore those sent via non-bank institutions (e.g., money transfer operators) and informal channels (e.g., family and friends).[7] Estimates of unrecorded remittances range from 50 to 250% of official statistics on remittances.[8]

Reverse causality is also a concern when examining the link between remittances and financial development, since greater financial development might lead to larger measured remittances either because financial development enables remittance flows or because a larger percentage of remittances are measured when those remittances are channeled through formal financial institutions. In addition, financial development might lower the cost of transmitting remittances, leading to an increase in such flows. Finally, omitted factors can explain both the evolution of remittances and of financial development, also leading to biases in the estimated impact of remittances on financial development.

We try to address the concerns mentioned above, using several different empirical approaches. First, we conduct estimations including country and time fixed effects to account for unobserved country characteristics and for common shocks and trends across countries. Second, to mitigate the concern that the link between remittances and banking sector development might be tautological – because balance of payments data on remittances primarily capture flows intermediated by banks – we run our estimations on a sample (albeit smaller) of countries for which we know, based on a survey of central banks (see Irving et al., 2010), that official remittances data encompass flows transmitted through non-bank entities and/or informal mechanisms, as well as by banks.[9] Third, to try to address biases due to reverse causality, we run regressions lagging all regressors one period and we conduct dynamic system Generalized Method of Moments (GMM) estimations à la Arellano and Bover (1995), using lagged regressors as instruments. Finally, we perform instrumental variables (IV) estimations to try to address, in a more direct manner, the potential endogeneity of remittances arising from measurement error, omitted factors, and/or reverse causation. We use two sets of instruments based on characteristics of the top five remittance-sending countries (i.e., the countries where migrants sending remittances reside) for each country in our sample, namely: (a) measures of economic conditions in remittance-sending countries and (b) variables that

[4] See Hinojosa-Ojeda (2003), Terry and Wilson (2005), and World Bank (2006).

[5] For example, remittances might have a positive impact on credit market development if banks become more willing to extend credit to remittance recipients because the transfers they receive from abroad are perceived to be significant and stable (i.e., serve as collateral, at least informally).

[6] For a good discussion of the measurement problems associated with remittances data see Reinke (2007).

[7] Surveying central banks in 77 remittance-receiving countries, Irving et al. (2010) find that statistics produced by developing countries typically under-report remittances paid directly by non-banking institutions – such as money transfer companies, exchange bureaus, post offices, etc. While over 91% of the countries collect remittance data from commercial banks, 56% collect data from money transfer companies, 22% of countries gather statistics from exchange bureaus, and 26% do so from post offices.

[8] See Freund and Spatafora, 2008.

[9] Also, as a way to mitigate concerns about the quality of the remittance data, we obtain estimates over the last decade to account for the fact that recent remittances data are likely to be more accurate relative to statistics from the beginning of the sample, when less attention was given to the measurement of these kinds of flows. These results, which are similar to those for the complete sample period, are not reported in the paper, but are available upon request.

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