

Migrant Remittances and Exchange Rate Regimes in the Developing World

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Abstract

This article argues that the international financial consequences of immigration exert a substantial influence on the choice of exchange rate regimes in the developing world. Over the past two decades, migrant remittances have emerged as a significant source of external finance for developing countries, often exceeding conventional sources of capital such as foreign direct investment and bank lending. Remittances are unlike nearly all other capital flows in that they are stable and move countercyclically relative to the recipient country's economy. As a result, they mitigate the costs of forgone domestic monetary policy autonomy and also serve as an international risk-sharing mechanism for developing countries. The observable implication of these arguments is that remittances increase the likelihood that policymakers adopt fixed exchange rates. An analysis of data on *de facto* exchange rate regimes and a newly available dataset on remittances for up to 74 developing countries from 1982 to 2006 provides strong support for these arguments; the results are robust to instrumental variable analysis and the inclusion of multiple economic and political variables.

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Governments in developing countries have long realized that migrant remittances are a significant source of external finance. Remittances—which arise when migrants send money back home to their families—are an important lifeline for some of the poorest countries in the world, but also constitute a sizable share of GDP for emerging-market countries. In countries such as El Salvador, Haiti, Honduras, and Jordan, inflows of remittances exceed 15 percent of GDP. In 2004, a total of 42 developing countries had remittances inflows greater than 5 percent of GDP.¹ The World Bank estimates that total recorded flows of remittances reached \$318 billion in 2007; this is a staggering sum that dwarfs other external financial sources, such as official development assistance, bank lending, and private investment. Annual flows of remittances even exceed foreign direct investment (FDI) for the majority of developing countries.

Remittances pose a challenge to our understanding of the influence of global finance on national policy choices in the developing world. Indeed, as a form of capital inflow, remittances have many unusual characteristics. Most strikingly, they are “unrequited”: they do not result in claims on assets, debt service obligations, or other contractual obligations (Brown 2006; Kapur 2005). In contrast to purchases of financial or productive assets, which can be liquidated and repatriated, remittances cannot be withdrawn from a country *ex post*. They therefore cannot be lumped together with other capital flows that arguably cause household insecurity or income volatility, such as foreign direct investment and portfolio flows (e.g., Garrett 1998; Scheve and Slaughter 2004), or with financial capital that can be withdrawn by investors as a form of punishment for unfriendly government policies (Mosley 2000, 2003; Jensen 2006; Li and Resnick 2003). Moreover, migrants tend to increase their remittances when their

¹ Data from World Bank, various years.

countries of origin experience economic difficulties. As a result, remittances smooth the incomes of families and shield policymakers from the vagaries of the global economy. In short, financial transfers from migrants are a form of insurance for developing countries against exogenous shocks (Kapur 2005; Lopez-Cordova and Olmedo 2005; Lucas and Stark 1985; Rapoport and Docquier 2005; Yang and Choi 2007).

What are the implications for national policymaking when cross-border financial transfers *within families* emerge as a prominent force in the global economy? The prominence of remittances has potentially profound implications for a variety of national policy choices. This article focuses on exchange rate policy, which is arguably the most important macroeconomic policy domain for governments in developing countries (Cooper 1999). Indeed, the exchange rate is the most important price in an open economy, as it affects the price of all other goods and services.. As with most economic policy choices, exchange rate policy entails important trade-offs (Bernhard and Leblang 1999; Broz 2002; Cohen 1993; Frieden 1991; Leblang 1999; Walter 2008). Policymakers choose fixed rates to facilitate international trade and investment and provide an anchor for monetary policy, but they lose the ability to adjust monetary policy to changing domestic circumstances—an ability commonly dubbed “domestic monetary policy autonomy.” Policymakers select floating rates to retain the ability to adjust interest rates in reaction to exogenous shocks or economic downturns, but they incur costs in terms of increased uncertainty in international economic relationships and greater difficulty in anchoring expectations about inflation.

This article argues that remittances enter the political calculus of exchange rate policymaking, along with political institutions, interest groups, and other political

economy considerations. Remittances mitigate the political costs of lost monetary policy autonomy because they react countercyclically to economic downturns and otherwise insulate policymakers from the ups and downs of the economic cycle. In essence, remittances have the capacity to substitute (albeit imperfectly) for domestic monetary policy autonomy in the developing world. Therefore, I expect inflows of remittances to be positively associated with the implementation of fixed exchange rates. I develop this argument using conventional macroeconomic models in unconventional ways. Using Robert Mundell's (1961) optimum currency area framework, I argue that migrant remittances serve a similar function as centralized fiscal transfers (or other supraregional risk-sharing mechanisms) in allowing the domestic economy to adjust to a fixed exchange rate.

The article proceeds as follows. I begin with an overview of remittances in the global economy, including trends, causes, and consequences. I also summarize the ample evidence of the countercyclicality of remittance flows. I then provide an empirical test of the hypothesis that remittances, along with interest group pressures, political institutions, and macroeconomic conditions, are important determinants of exchange rate regimes in the developing world. Using newly available World Bank data on annual remittances from 1982-2006 for up to 74 developing countries, I demonstrate that countries for which remittances constitute a substantial share of GDP are more likely to adopt fixed exchange rates. This finding is of particular significance given the recent ideological shift against fixed rates: it appears that remittances encourage policymakers to go against the tide. The findings are robust to multiple model specifications, including *de facto* and *de jure* measures of exchange rate policy. I also account for possible endogeneity by using

migrant flows to wealthy countries as an instrumental variable for remittances. The article concludes with a discussion of the broader implications of remittances for the political economy of national policymaking in a global economy.

REMITTANCES: DEFINITIONS, TRENDS, AND CONSEQUENCES

International financial transfers from migrants to family members in their home countries are known as remittances. A typical remittance transaction contains two parts: first, the migrant contracts with an agent—either a money service business such as Western Union, a bank, or an informal agent—and transmits the money to the agent via cash, check, credit card, or other debit instruction; and second, the agent instructs its own affiliate in the receiving country to deliver the remittance to the beneficiary (Ratha 2005a).

Remittances have experienced strong growth over the past two decades. Recorded remittances to developing countries increased from \$31.2 billion in 1990 to \$160 billion in 2004, and to over \$300 billion in 2007. The rate of growth was fastest for “lower middle income countries” (with approximate GDP per capita between \$1,000 and \$3,500), a category that includes countries such as El Salvador, Indonesia, and Tunisia. The growth in remittances is particularly striking in comparison to portfolio investment (private debt and equity), which declined by 20 percent between 1995 and 2004, and official development assistance, which increased by a modest 34 percent over the same period. The result of these trends is that remittances are second only to FDI as a source of external capital flows in the developing world (Figure 1). And indeed, remittances were

larger than the total of all public and private capital inflows—including FDI, foreign aid, and private debt and equity investment—for 36 countries in 2004. Even in Mexico, which is known for attracting investment from U.S. corporations, inflows of remittances have been nearly equal to FDI inflows since 2003.²

Figure 1 about here

Migrants in the United States remitted nearly \$39 billion to their countries of origin in 2004, making it the largest source country for remittances (World Bank 2006). The other significant source countries include many of the large continental European economies (Germany, France, Switzerland, and Italy) as well as four Middle Eastern countries (Saudi Arabia, Israel, Kuwait, and Oman) (Kapur 2005).

It is a misconception that remittances flow only to very poor countries. Perhaps surprisingly, in 2004, France, Spain, and Belgium were among the ten largest recipients of remittances. Among developing countries, more than 70 percent of total remittances accrue to those in the “middle-income” bracket, including China, Honduras, and Peru. Nevertheless, for poor countries such as Mongolia, Nepal, and the Gambia, remittances frequently constitute more than 10 percent of GDP and thus are a critical lifeline for the resident population (see Figure 2).

Figure 2 about here

Causes and Consequences

² World Bank (2006) states (p.88) that remittances currently exceed FDI in Mexico. In 2003 and 2004, total FDI as a percentage of GDP was 2.4 percent and 2.8 percent, respectively, whereas remittances were 2.3 percent and 2.7 percent, respectively. Other data from World Bank (2006) and *World Development Indicators* (multiple years).

Remittances are the international financial consequence of immigration, which has been steadily increasing in recent times. The total stock of migrants—estimated at 175 million in 2000—increases by approximately six million annually, which is appreciably faster than the growth of world population (ILO 2004). Between 1970 and 2000, the number of migrants in North America increased from 13 million to 41 million, or approximately 3.7 percent annually; for Europe, the number of migrants increased from 19 million to 33 million over the same period. Approximately 50 percent of all migrants are considered economically active—that is, they are gainfully employed in the host country—whereas the other half consist of students studying abroad, those accompanying economically active family members, and refugees (IOM 2005).

Although migration has been steadily increasing, it is certainly not a new phenomenon, and it alone cannot explain the steady increase in the flow of remittances. Other factors, such as technological developments in financial infrastructure, have reduced the costs of transmitting funds across countries. Money transfer businesses—especially Western Union—have experienced tremendous growth: there are now more than seven times as many Western Union agents worldwide (over 310,000 locations in 200 countries) than McDonalds and Starbucks locations combined.³ Capital account liberalization, including the relaxation of restrictions on foreign exchange deposits, has no doubt facilitated the international reach of these businesses (IMF 2005). Domestic financial institutions have also matured as countries have liberalized capital flows and embraced (in varying degrees) the global economy. Banks throughout the developing world have adopted modern risk-management techniques and improved their lending

³ Data compiled from corporate websites: www.mcdonalds.com, www.starbucks.com, and www.westernunion.com.

portfolios, and in the process they have reeled in many more citizens as customers. Kapur (2005) notes that banks in developed countries also facilitate the flow of remittances by competing with money transfer agents for migrants' business. Migrants in developed and emerging-market countries now have several options for sending money back home. The transaction costs of remitting funds will continue to decline as developing-country financial infrastructure improves and new transfer agents enter the market.

To understand the consequences of remittances, it is helpful first to understand the motivation of remitters. Rapoport and Docquier (2005, 10) note that migration should be viewed as “an informal familial arrangement, with benefits in the realms of risk diversification, consumption smoothing, and intergenerational financing of investments.” This definition captures the altruistic as well as self-interested motivations for remittances. Altruism within the context of family relationships is perhaps the most obvious motivation: migrants wish to support their family members who remain behind, and their transfers of funds do not lead to promises of future compensation. Family members use remittances primarily to finance consumption, including food, shelter, health care, and basic necessities (Brown 2006; Chami, Fullenkamp, and Jahjah 2005; Durrand and Massey 1992; Glytsos 1993). Migrants might also send money back home for self-interested reasons, such as to maintain or expand existing investments (businesses, land, etc.) that they left behind, or to repay loans. Some scholars have argued that ostensibly self-interested motivations can be subsumed under the rubrics of “enlightened selfishness” or “impure altruism” because remittances are transmitted

between individuals with strong familial (i.e., non-financial) ties (Lucas and Stark 1985; Andreoni 1989).

There is a substantial literature on the poverty-reducing impact of remittances, which is largely beyond the scope of this article.⁴ However, the “multiplier effects” of remittances deserve special mention here. Inflows of remittances generally contribute more than their initial value to the receiving economy (Orozco 2004; Ratha 2005b). One study of the Mexican economy found that each remitted dollar generates four dollars in demand for goods and services (Durrand, Parrado, and Massey 1986). An important implication of the multiplier effect is that households that do not receive remittances still benefit indirectly from remittances to other households. For example, construction workers, timber producers, and day laborers benefit if remittances are used for home building (Kapur 2005). Even remittances to rural and remote areas have a broader economic impact, as the secondary beneficiaries of these capital inflows include goods and labor markets in urban areas (Zarate-Hoyos 2004).

Countercyclical Remittance Inflows

Remittances are transfers between families that tend to flow countercyclically relative to the recipient country’s economy (World Bank 2006; Frankel 2009). Migrants send more money home when their families experience economic difficulties. Moreover, adverse circumstances often trigger more migration, which then results in greater remittance inflows. As Stuart Brown (2006, 60) notes, remittances serve as “transnational intra-family or intra-community safety nets, cushioning societies from the disruption

⁴ See Brown (2006) and Rapoport and Docquier (2005) for surveys of the literature.

attending more volatile financial flows.” Migrants tend to send a small percentage of their incomes back to their families, but they do so on a regular basis.⁵ If the receiving household experiences economic hardship, the migrant can increase her remittances by, say, 5 or 10 percent without causing herself inordinate financial harm. In the aggregate, such financial flows offer a powerful buffer against economic contractions in the receiving country, especially compared to other capital flows (with the exception of foreign aid) which are likely to decline in response to adversity.

Several empirical studies, including Chami *et al* (2005), Frankel (2009), IMF (2005), and Kapur (2005), find a strong relationship between economic contractions and subsequent increases in remittances for developing countries. Indeed, Kapur (2005) finds that the average share of remittances in private consumption for 14 developing countries more than tripled in the three years after an economic downturn.⁶ An IMF study (IMF 2005) reports that countries such as Mexico, Indonesia, and Thailand experienced a significant increase in remittances in the two years immediately after their respective financial crises in the 1990s; similarly, Bangladesh, Dominican Republic, Haiti, and Honduras experienced increases after natural disasters. The same study reports that home-country output has a statistically significant and negative impact on remittances for a panel of 87 countries.

Among the most compelling studies of the countercyclicality of remittances are Yang (2007) and Yang and Choi (2007). Yang (2007) finds that remittances increase substantially in the wake of hurricanes in a panel of more than 70 developing countries between 1970 and 2002. Clarke and Wallsten (2003) find similar results for the

⁵ Migrants remit approximately 8 to 15 percent of their incomes to their countries of origin. See Orozco 2004.

⁶ Kapur (2005, 343) defines a downturn as a decline in GDP of 2 percent or greater.

responsiveness of remittances to hurricane Gilbert in Jamaica in 1988. Given these articles' focus on natural disasters as the trigger for remittances, there is no concern over endogeneity. Yang and Choi (2007) are also sensitive to endogeneity in examining how remittances respond to household income shocks in the Philippines. Using rainfall shocks as an instrumental variable, they find that 60 percent of household income contractions are replaced by remittance inflows.

Remittances are unusual in their tendency to mitigate economic volatility (Frankel 2009). A large-sample study conducted by the IMF found that remittances substantially reduce the volatility of output, consumption, and investment (IMF 2005). On the other hand, in periods of stable economic growth, remittances are far less volatile than other capital flows; even foreign aid was more volatile than remittances from 1980 to 2003 (IMF 2005). Moreover, notwithstanding current reports of a temporary downturn in remittances from the U.S. to Mexico, a recent IMF study demonstrates that remittances to Latin America are relatively insensitive to the U.S. business cycle, thereby underlining their role as a stable source of external finance (Roache and Gradzke 2007). It is therefore becoming increasingly common for scholars to tout the "insurance" function of remittances for the developing world (Kapur 2005; Lopez-Cordova and Olmedo 2005; Yang and Choi 2007).

Many scholars believe that countries require some form of insulation from global financial markets, such as welfare state spending, a larger government, or some other form of redistribution (Garrett 1998; Katzenstein 1985; Rodrik 1998; Ruggie 1982; Scheve and Slaughter 2007). If, however, remittances can serve as a form of insulation

rather than a source of insecurity or volatility, then political economy models should pay careful attention to the unique influences of remittances on policymaking.

THE POLITICAL ECONOMY OF EXCHANGE RATE REGIMES

The analytical heart of the literature on the political economy of exchange rates is the Mundell-Fleming model and its famous implication that countries must choose to forgo one of three policy goals: exchange rate stability, full capital mobility, or domestic monetary policy autonomy (Mundell 1960; Fleming 1962). In today's world of highly integrated financial markets, a discrepancy between the domestic and world interest rates causes capital to flow in the direction of the higher return. If the exchange rate is allowed to float, it will adjust accordingly—appreciating with capital inflows and depreciating with capital outflows. However, if the exchange rate is fixed, then the interest-rate differential is quickly arbitrated away by the capital flows. The result is that the combination of mobile capital and a fixed exchange rate renders monetary policy ineffective as a policy tool.

The Mundell-Fleming conditions imply that governments face a trade-off between credibility and flexibility (Bernhard, Broz, and Clark 2002; Frankel 1999; Bearce 2007). Credibility arises from the fixed exchange rate, which decreases transaction costs for investors, traders, and other groups with ties to the global economy (Frieden 2002). Reducing or eliminating exchange rate volatility can facilitate international borrowing and stabilize the real value of debts denominated in foreign currencies (Calvo and Reinhart 2002; Walter 2008). A fixed rate also leads to monetary stability by tying the

hands of monetary policymakers (Giavazzi and Pagano 1988). Businesses and the public-at-large moderate their wage and price expectations because they believe the primary goal of monetary policy is to maintain the exchange rate parity (Canavan and Tommasi 1997; Keefer and Stasavage 2002). Countries with high inflation are therefore especially interested in the credibility-enhancing features of a fixed exchange rate. However, at the most fundamental level, a fixed exchange rate requires the government to subordinate domestic concerns—whether political or economic—in favor of international concerns (Frieden 2006; Simmons 1994). Often this implies that the government must sacrifice short-term economic growth and employment levels to preserve the exchange rate. Moreover, rigidly fixed exchange rates may be prone to speculative attack, thereby undermining the currency stability they were designed to provide.⁷

On the other hand, flexibility is associated with floating exchange rates, which provide monetary policymakers with the capacity to adjust interest rates to changing domestic economic circumstances. Under flexible rates, policymakers can ease monetary policy to offset an economic downturn, thereby stabilizing employment and output. Moreover, the exchange rate can adjust to counteract current account imbalances. This flexibility comes at the cost of lower monetary policy credibility, because in the absence of a transparent target for the exchange rate, the public is unsure of policymakers' commitment to maintaining stable prices.

A political economy model of exchange rate regime determination can be assembled largely around these trade-offs. The basic model starts with the presumption that political leaders respond to domestic (and sometimes international) political

⁷ See Obstfeld and Rogoff 1995. For an opposing view, see Frankel 1995. On other trade-offs in exchange rate policymaking, see Plumper and Troeger 2008.

pressures from interest groups, and that these pressures are broadly mediated through and constrained by political institutions. Because actual lobbying efforts in favor of or against exchange rate policy are rare, I follow existing work in asserting a link between sectoral size (or the magnitude of a particular economic activity such as exports) and political influence over economic policy outcomes (e.g., Brooks 2004; Chwieroth 2007; Copelovitch forthcoming; Frieden *et al* 2001).⁸

The institutional influences on exchange rate policy can be culled from the emerging literature on exchange rate regime determination. Existing scholarship argues that the degree of democracy is positively associated with floating exchange rates, because leaders in democratic countries face pressures from constituents to use monetary policy for domestic adjustment purposes (Bernhard and Leblang 1999; Leblang 1999). Broz (2002) further argues that democracies, which benefit from greater political transparency than non-democracies, can guard the credibility of their monetary policymaking process without tying their hands with a fixed exchange rate. Other scholars examine the relative political costs of enduring the often painful domestic adjustments required to maintain a fixed exchange rate, which are arguably lower in stable governments and those with small numbers of veto players (Edwards 1999; Simmons 1994; Keefer and Stasavage 2002). Finally, focusing on developed democracies, studies such as Clark (2002), Clark and Hallerberg (2000), and Hallerberg (2002) examine the trade-off between fiscal and monetary policy discretion within the Mundell-Fleming framework. They note that fixed exchange rates enhance the power of fiscal policy when capital is fully mobile. Governments are therefore more likely to

⁸ See Bearce (2003) for an argument about the importance of agents (namely, political parties) for monetary policy outcomes in the OECD.

adopt fixed exchange rates when fiscal policy, rather than monetary policy, is the most effective tool for electoral gain, as in OECD multiparty coalition states where targeted spending can be rewarded by voters (Hallerberg 2002).

Groups in society that benefit from stable currency relations with other countries, such as exporters and certain investors, can be expected to use their political influence to press for exchange-rate stability (Frieden 1991). However, a clear mapping of sectoral interests is not always possible for a large sample of countries. Frieden and his colleagues argue that exporters and import-competers both value currency depreciation and therefore oppose a rigidly fixed exchange rate, whereas foreign investors and creditors value the stability of a fixed rate (Blomberg, Frieden, and Stein 2005; Frieden 2002; Frieden, Ghezzi, and Stein 2001). However, when international trade occurs between developing countries with limited capacities to hedge exchange risk, manufacturers and other exporters might prefer the currency stability and lower transaction costs afforded by a fixed exchange rate. Likewise, there are no clear partisan divides over exchange rate policy in a contemporary cross-national context. While right governments have traditionally been in favor of price stability and the interests of the financial community while left governments have favored full employment and income equality, today the mapping of those interests onto exchange rate policy is not straightforward. Left governments, for example, might be torn between an autonomous monetary policy to respond to economic downturns (under a floating exchange rate) and a possible expansion of export-sector employment (under a fixed exchange rate). Likewise, right governments might prefer floating exchange rates if alternative mechanisms are available

for ensuring stable prices, or if there are additional benefits to financial interests that result from a floating currency.⁹

Remittances and Exchange Rate Regime Choice

An important consideration in the political economy of exchange rate regimes is the influence of capital mobility. The disparate studies discussed above conceive of capital mobility as the sensitivity of capital flows to domestic interest rates, in line with the Mundell-Fleming model. Scholars generally measure capital mobility as a policy choice: if governments impose no restrictions on capital flows, then capital is assumed to be responsive to differential rates of return (e.g., Oatley 1999). In empirical studies of exchange rate regimes, an index of financial policy openness from Quinn (1997) or Chinn and Ito (2006), or a simple dichotomous variable based on capital controls surveys from the IMF, are frequently the only included measures of a country's relationship with international financial markets. The standard argument is that financial closure allows governments to reap the benefits of fixed exchange rates without sacrificing domestic monetary policy autonomy (Bernhard and Leblang 1999; Leblang 1997, 1999; Broz 2002). Financial openness, on the other hand, makes the adoption of fixed exchange rates less attractive and therefore less likely.¹⁰

For developing countries, the international financial consequences of immigration must also enter the equation. Introducing remittances into the political economy model

⁹ The UK's Conservative Party's opposition to joining EMU is just one example. For an opposing view as applied to developed countries, see Bearce 2003.

¹⁰ In addition, economists argue that the speculative pressures enabled by capital mobility increase the difficulty of maintaining fixed rates; see Agenor 2001; Eichengreen 1999; and Obstfeld and Rogoff 1995.

of exchange rates does not imply an abandonment of the Mundell-Fleming conditions. Indeed, mobile capital will respond to differential rates of return even in countries that are heavily dependent on remittances. However, I argue that such countries will be less concerned about forgoing domestic monetary policy autonomy. Consider the impact of an increase in remittances during a recession in the receiving country. Households use the funds to bolster their consumption of food and basic necessities, and to maintain existing small businesses and other investments. Such spending and investment has a multiplier effect on the economy, triggering additional investment and consumer spending. In short, remittances—when sufficiently large in relation to the economy—constitute an automatic stabilizer that performs a similar function to countercyclical monetary policy. As such, remittances stand apart from other capital flows in that they do *not* exacerbate the trade-off between fixed exchange rates and domestic monetary policy autonomy. To be clear, remittances are not a panacea for economic instability: they are unlikely to *prevent* recessions or to respond with enough force to allow a country to sustain a fixed rate in the face of a massive speculative attack. The argument is simply that remittance inflows make it less costly for countries to adopt fixed rates.

Although exchange-rate models as applied by political economists are limited by their stylized view of capital mobility, Mundell's optimum currency area (OCA) criteria in fact provide a useful, if inadvertent, perspective on the importance of remittances (Mundell 1961). The OCA framework, elaborated by McKinnon (1963) and others, argues that countries that choose to share a common currency should respond similarly to economic shocks, such as sudden changes in the prices of commodities. The logic is straightforward: a single currency implies a single monetary policy. The same logic

applies to countries with fixed exchange rates: a country that fixes its currency to the U.S. dollar essentially imports U.S. monetary policy. If economic conditions vary substantially across different regions of the currency area, a single monetary policy will prove woefully inadequate in stabilizing the economy. However, because asymmetric shocks are always possible even in the most economically homogeneous of currency unions, countries must somehow adjust their own domestic economies to fit the prevailing monetary policy. The OCA literature has focused on two adjustment mechanisms: first, labor mobility within the union should be high enough to allow workers in adversely affected regions to relocate to more favorable employment environments; and second, the currency union itself should have a system of “risk sharing”—usually defined as fiscal transfers—to respond to local shocks, just as the U.S. federal government sends emergency funds to States in times of crisis.

The OCA criteria are rarely realized in practice, especially for developing countries that anchor their currencies to the Euro, the U.S. dollar, or other developed-country currencies. Shocks to developed and developing economies are likely to be asymmetric, and labor mobility is rarely high enough to be an effective short-term stabilizer. On the issue of risk sharing, however, many developing countries depend on remittances to offset economic downturns. Remittances are not “fiscal transfers” *per se*, as no central government has the power to direct them to countries in need. Yet they do enable countries to cede some of the risks of forgone monetary policy autonomy to migrants, who in turn remit funds to their families in countercyclical fashion.

The previous discussion sets the stage for an empirical analysis of exchange rate policy in the developing world. The existing literature has emphasized the political and

economic factors that determine how policymakers reconcile the trade-off between credibility and flexibility, but has neglected the role of remittances in tilting the balance in favor of fixed exchange rates. To be clear, remittances are not dispositive for policymakers: they ease the political costs of tying their hands with a fixed rate, but other political economy factors will weigh heavily in a policymaker's decision calculus. A complete political economy model must therefore incorporate a range of political and institutional variables that determine how policymakers address the trade-offs of exchange rate regime choice, while incorporating the role of remittances as a determinant of the severity of those trade-offs.

EMPIRICAL ANALYSIS

To assess the political economy of exchange rate regimes in the developing world, I assembled a time-series cross-sectional dataset with annual observations on up to 74 developing countries from 1982-2006.¹¹ The hypothesis to be tested is that remittance inflows increase the probability that a country will choose to fix its exchange rate, controlling for a variety of political, economic, and institutional mechanisms. The dependent variable is the *de facto* exchange rate regime, coded as a four-category ordinal variable based on data from Reinhart and Rogoff (2004). Higher values indicate greater degrees of exchange rate flexibility.¹² Unlike *de jure* classifications based on official

¹¹ The sample is unbalanced, and the limited availability of data on some of the covariates decreases the sample size as noted in the tables. The sample excludes countries that were members of the OECD by 1973.

¹² The categories are: 1 = fixed, including traditional peg, currency board, no separate legal tender, and pre-announced horizontal band of less than +/- 2 percent; 2 = crawling peg or band; 3 = managed floating, including crawling bands wider than +/- 2 percent; and 4 = free floating. See Reinhart and Rogoff 2004. I

government policy, these *de facto* measures of exchange rate regimes are derived from a combination of foreign reserve activity, parallel market exchange rates, and extensive country chronologies (Reinhart and Rogoff 2004). They therefore capture the actual operation of the exchange rate regime over time. In the robustness section, I employ an alternative measure of the dependent variable based on the IMF's *de jure* classification.

The percentage of countries in the world with *de facto* fixed exchange rates has remained relatively stable since 1980, hovering around 45 percent. However, there has been a steady decline in the number of countries with *de jure* fixed exchange rates, arguably reflecting a shifting “climate of ideas” in favor of floating exchange rates in the developing world (Collins 1996). Between 1980 and 1995, the percentage of countries with fixed exchange rates fell dramatically from 70 percent to less than 30 percent (Figure 3). The adoption of the Euro starting in 1999 reversed the overall trend, but for developing countries fixed rates remain far less popular today than in the 1970s and 1980s. This downward trend will be addressed in the empirical analysis of *de jure* policy in the robustness section.

Figure 3 about here

Data on the key explanatory variable, inward remittances as a share of GDP, are newly available from the World Bank's World Development Indicators (multiple years).¹³ I use these data with a degree of caution. World Bank researchers are able to estimate only the officially recorded inward remittances for each country-year, not the flows through unofficial channels, such as the *hawala* system and other informal value transfer systems. As discussed earlier, recorded flows have risen substantially in recent

discard country-years in currency crisis (i.e., “freely falling” currencies) and those with “dual markets” with missing parallel market data.

¹³ The measure includes funds classified as “workers’ remittances.”

times, and a portion of this increase may be attributable to a shift from unofficial to official transmission channels, rather than an increase in remittances *per se*. The World Bank attempts to mitigate this problem by using estimates from its own country desks or from national central banks when official balance-of-payments statistics are missing or of questionable construction. Nevertheless, unofficial flows remain outside the scope of the dataset. I return to this issue in the robustness section below.

A cursory overview of the data suggests that remittances are highly correlated with exchange rate regime outcomes. Using the sample in Model 1 (described below), the mean level of remittances for countries with fixed exchange rates is 7.9 percent of GDP, whereas the mean for countries with floating rates is 3.5 percent of GDP.¹⁴

I first construct a model (Model 1) that adds remittances along with key policy indicators, macroeconomic conditions, and national institutional characteristics. The size of the economy (GDP, logged) and exports as a share of GDP (lagged one period) capture the basic OCA criteria that smaller and more open economies are more likely to benefit from a fixed exchange rate. Exports are also an interest group indicator with the expectation that firms that are dependent on external demand for their revenues are likely to prefer the stability of a fixed rate. Also included in the model is the “KAOPEN” index of capital account openness from Chinn and Ito (2006). It is based on the binary coding of restrictions in the IMF’s *Annual Report on Exchange Arrangements and Exchange Restrictions*, and focuses on four dimensions of restrictions: the existence of multiple exchange rates, restrictions on the current and capital accounts (where the latter are measured as the proportion of the last five years without controls), and requirements to

¹⁴ Calculations using *de facto* exchange rate = 1 (for fixed) and 4 (for floating).

surrender export proceeds.¹⁵ The index has a mean of zero and ranges from -2.66 (full capital controls) to 2.66 (complete liberalization). Based on prior scholarship, capital account openness should be negatively associated with the adoption of fixed rates. However, the OCA framework suggests that countries with more open capital accounts should be more likely to adopt fixed exchange rates, as high levels of financial integration can generate strong domestic support for stable cross-border financial relationships.

Model 1 includes a measure of democracy based on the Polity IV database (Gurr, Jagers, and Moore 2006). The variable ranges from -10 (most autocratic) to 10 (most democratic). Following Broz (2002) and Leblang (1999), I expect this variable to be positively associated with floating. The rate of inflation (lagged one period) is included with the expectation that high-inflation countries choose a fixed rate as an anchor for monetary policy.¹⁶ The level of foreign currency reserves (as a ratio of months of imports) reflects the resources available to the central bank to intervene in foreign exchange markets. Also included are the current account balance as a share of GDP and terms-of-trade volatility.¹⁷ Policymakers in countries with current account imbalances and volatile trading patterns face incentives to allow the currency to float. Finally, the model includes the level of economic development (GDP per capita) and a dummy variable that takes the value of 1 after 1998 for any country that has joined the European Union during the sample period. This coding scheme accounts for the external pressure to

¹⁵ For a detailed description of this measure, see Chinn and Ito 2006.

¹⁶ The sample includes a handful of observations with inflation greater than 100 percent. Results are robust to including a high-inflation dummy, dropping these observations, or using the log of inflation.

¹⁷ Terms of trade volatility is measured as the standard deviation in the terms of trade in year t , $t-1$, and $t-2$.

maintain a stable parity with the Euro as a prerequisite to joining the EU and ultimately the Eurozone.¹⁸

Model 2 adds more refined interest-group and institutional indicators. First, it includes Henisz's (2002) political constraints measure. The construction of this variable begins by identifying the number of effective branches of government—including the executive, the legislative body or bodies, the judiciary, and any other sub-national units—with veto power over policy change. This initial measure is modified to reflect whether these veto points are controlled by different political parties, and the degree of preference heterogeneity within each branch. Higher values represent “stronger,” or less constrained, governments. The theoretical expectation for the impact of political constraints is ambiguous (von Hagen and Zhou 2006). Weak governments might choose a fixed rate to fend off political pressures for expansionary monetary policy, but on the other hand the maintenance of a fixed rate might require a strong (i.e., relatively unconstrained) government to subordinate domestic concerns in favor of stable monetary relations with other countries.

Also included in Model 2 are a measure of government instability and the share of manufacturing output in GDP. Government instability is measured as the percentage of the previous five years in which in which the country experienced an “adverse shift in the pattern of governance,” including a major shift toward authoritarianism, a revolution in the political elite, contested dissolution of federal states, or the collapse of central

¹⁸ Due to the limited availability of certain covariates, Hungary and Poland are the only two EU countries in the sample. Results on the key variables of interest are substantively unchanged if two official candidate countries (Croatia and Turkey) are coded the same as EU members, or if all EU countries are dropped from the sample.

authority (PITF 2001).¹⁹ It provides another indicator of the ability of the government to maintain a fixed exchange rate. However, as Edwards (1996) notes, greater instability increases the costs of abandoning a peg and therefore reduces the *ex ante* probability that a peg will be chosen; on the other hand, instability makes decision makers less concerned about the costs of renegeing on an exchange rate commitment in the future. The manufacturing indicator provides a more fine-grained interest group indicator alongside the more general measure of a country's export dependence. Frieden *et al* (2001) find that large manufacturing sectors are associated with floating exchange rates, but it is possible that this finding is limited to the high-inflation Latin American countries in which fixed exchange rates were historically associated with an anti-competitive appreciation of the real exchange rate.

Given the ordinal nature of the dependent variable, I estimate the models using ordered probit with standard errors clustered on country. A lagged dependent variable is included to account for the temporal sluggishness of exchange rate policy.²⁰ Summary statistics for all variables are presented in Table 1. Table 2 presents the regression results. The sample for Model 1 consists of 992 country-year observations with 73 developing countries; the sample size is reduced to 824 observations and 70 countries for Model 2 due to the limited availability of the additional covariates.²¹

¹⁹ The PITF database records the beginning and ending years of the adverse regime change. The variable "Political Crisis" can therefore range from 0 to 100 percent, depending on the status of the country in the prior five years.

²⁰ Results for Models 1 and 2 are substantively unchanged if year fixed effects are included.

²¹ For all models, I exclude the countries in the CFA Franc zones in Africa, as their inclusion as independent observations is questionable in light of the prominent role of French central bank in their monetary affairs. See, e.g., Stasavage 1997. Moreover, their inclusion in the sample could bias the results in favor of my argument, as they are coded as fixed exchange rate regimes with relatively high levels of remittances. Lesotho is also dropped from the sample because of its extraordinary leverage over the results as a fixed rate country with remittance inflows that often exceed 75 percent of GDP. Panama, a country that adopted the U.S. dollar more than 100 years ago, is also dropped to avoid biasing the results.

Table 1 and Table 2 here

The results from Models 1 and 2 support the hypothesis that inward remittances are associated with fixed exchange rate regimes in developing countries. The coefficient for remittances is negative and statistically significant. (Recall that lower values of the dependent variable imply greater degrees of exchange rate fixity.) This result is robust to the inclusion of political, institutional, and OCA-related macroeconomic variables. In both models, inflation is negatively signed and significant, reflecting policymakers' desire to provide a nominal anchor for monetary policy when the domestic price level is unstable. In addition, the coefficient for democracy is positive and significant, which supports the idea that democratically elected leaders are vulnerable to popular pressures to conduct an autonomous monetary policy under a floating exchange rate. Not surprisingly, the lagged dependent variable is highly significant, reflecting the temporal sluggishness of exchange rate policy.

The statistical significance of remittances increases with the additional covariates in Model 2. Capital account openness is negatively signed and significant, indicating an association between financial openness and fixed exchange rates. This is largely in line with Mundell-Fleming expectations; note, however, that simpler measures of capital controls have been shown to be positively associated with floating exchange rates in prior scholarship (Broz 2002; Leblang 1999). However, exports as a share of GDP is not significant, possibly due to the inclusion of manufacturing production as a share of GDP, which is significant and negatively signed. This finding is not consistent with Frieden *et al* (2001)'s findings for Latin America, but it is theoretically consistent with the notion that manufacturers in the developing world desire stable currency relations with their

foreign consumers. The level of reserves is also significant in Model 2, indicating an association between fixed exchange rates and ample supplies of foreign currency. The remaining covariates, including political constraints and government instability, are not significant.

Because the substantive interpretation of ordered probit coefficients is not straightforward, I provide simulations in Figure 4 using estimates from Model 2.²² The solid line demonstrates how the probability of fixing the exchange rate changes as remittances increase while the other variables are held at their means. The dotted lines represent 95 percent confidence intervals. I limit the range of remittances (the X axis) to 0 to 20 percent, although a few countries in the sample have remittances in excess of this level.²³ When remittances increase from 0 to 10 percent of GDP, the probability of fixing the exchange rate increases from 6 percent to 12 percent. For countries with remittances at the high end of the sample range, the probability of fixing exceeds 20 percent. These findings are substantial, especially considering that the model includes a lagged dependent variable which may suppress the impact of the other independent variables (Achen 2000).

Figure 4 here

Robustness

There are a number of additional variables whose inclusion in the model could be theoretically justified. The following variables were added to Model 2 as robustness checks; none altered the statistical significance of remittances. As expected, a measure of

²² Simulations conducted using CLARIFY (Tomz *et al* 2003).

²³ Lesotho receives remittances in excess of 80 percent in certain years; the results are robust to dropping Lesotho from the sample.

partisanship (coded as a left or center-right dummy variable) was not significant.²⁴ The inclusion of a measure of central bank independence reduced the sample size to just 35 countries, but it was in fact significant and negative.²⁵ It is possible that policymakers in developing countries are more likely to adopt fixed rates to “tie the hands” of central bankers who might not share their monetary policy preferences (O’Mahony 2008). Some scholars argue that countries that wish to stabilize the real value of their foreign debt service payments will prefer fixed exchange rates (e.g., Shambaugh 2004; von Hagen and Zhou 2006; Walter 2008). A measure of total external debt, however, was not significant. Finally, foreign aid could condition the choice of exchange rate regime if policymakers feel that it is a reliable source of foreign exchange, especially in times of economic downturn. To test this hypothesis, I included a measure of foreign aid as a percentage of GDP. Not surprisingly, it was not significant. Foreign aid is not a reliable capital inflow for most countries, and it is frequently tied to policy adjustments and other conditions. It is therefore not surprising that it does not have the same impact on exchange rate regime choices as remittances.

In addition, I tested the robustness of the findings to using the IMF’s *de jure* exchange rate regime classification as the dependent variable.²⁶ Since the beginning of the post-War period, the IMF has required member countries to make official announcements of their exchange rate regimes. Article IV, Section 2 of the IMF’s Articles of Agreement grants the IMF the responsibility for exercising “firm surveillance” over the exchange rate policies of members, which it has used to publish its

²⁴ Data from Beck *et al* 2001. Unfortunately, including partisanship substantially reduced the sample size; no variables were statistically significant.

²⁵ Central bank independence data come from Polillo and Guillen 2005 based on the Cukierman index.

²⁶ Data were generously provided by Carmen Reinhart. The 1-to-4 classification is roughly equivalent to the *de facto* measure. Data available at <http://terpconnect.umd.edu/~creinhar/Papers.html>

Annual Report on Exchange Rate Arrangements and Exchange Restrictions. If remittances mitigate the opportunity costs of fixing the exchange rate, then they might also affect government pronouncements about exchange rate regimes. The results are included in Table 2, Model 3. This model includes an annual measure of the percentage of countries in the world under fixed rates as a way of capturing the “climate of ideas” regarding exchange rate policy (Collins 1996; see also Broz 2002, Frieden *et al* 2001, and Simmons 1994). This measure also captures the trend away from *de jure* fixed exchange rates for developing countries (see Figure 3). As shown in Table 2, Model 3, the coefficient for remittances remains statistically significant and negatively signed.

Because the ordered probit model is limited in its ability to account for cross-country heterogeneity²⁷, I transformed the dependent variable into a binary measure and estimated a logit model with country fixed effects.²⁸ This conditional logit model accounts for unobserved cross-country variation, including *inter alia* the degree of correlation between the economic cycles of the remitting and receiving countries, the cultural motivations for remitting, and other time-invariant characteristics of countries.²⁹ It should be noted that exchange rate regimes and remittance levels *as a share of GDP* are relatively slow to change over time for many countries, and therefore the fixed effects model provides a particularly strenuous test. Nevertheless, the coefficient for remittances remains negative and significant, although the sample size is reduced to 28 countries (434

²⁷ Fixed-effects ordered probit models do not provide consistent estimates.

²⁸ The binary variable is calculated from the four categories discussed earlier: regimes coded as 1 or 2 take the value of 0 (fixed), and those coded 3 or 4 take the value of 1 (floating). As in the previous analyses, regimes coded as 5 or 6 are discarded.

²⁹ On the *insensitivity* of remittances to the sending country’s business cycle, see Roache and Gradzka 2007.

observations) due to the fixed effects estimator.³⁰ Results are included in Table 3, Model 4.³¹

Table 3 about here

Finally, as mentioned earlier, it is not controversial to state that remittances data suffer from measurement error. The goal of the empirical models discussed above is to subject the data to rigorous analysis, and to ensure that any inherent biases in favor of the argument are adequately addressed. Nevertheless, it is important to acknowledge the limitations of the analyses, as the remittances data only reflect the information that governments are able to record. This prompts the question: is a country's ability to track and record remittances associated with its exchange rate policy?

It is highly unlikely that better recording capacity is associated with the adoption of fixed exchange rates. Indeed, the opposite case is more likely to hold. A floating exchange rate requires that the central bank conducts an independent monetary policy, which is a highly information-intensive process. Under a floating exchange rate, central banks require detailed models of the economy, frequent financial updates from financial institutions, reliable indicators of the domestic price level and the money supply, and sufficient expertise (by way of governors, economists, and financial analysts) to make appropriate decisions about monetary policy. These are the types of characteristics that are likely to be associated with the ability to track inflows of remittances through the banking sector and through less formal channels. If this is true, the measurement error in

³⁰ Due to the fixed effects estimator, the sample necessarily excludes countries with no temporal variation in the dependent variable.

³¹ The EU dummy variable is not included in Models 4 or 5, as it makes no discernible impact on the results.

the preceding analyses should make it less likely, rather than more likely, to find a positive association between fixed exchange rates and remittance inflows.

Instrumental Variable Analysis

If migrants take into account exchange-rate instability when deciding whether or not to remit, then the models presented above may be biased due to endogeneity. To be clear, there is little reason to expect that fixed exchange rates themselves cause a greater inflow of remittances as a share of GDP. Nevertheless, to address the possibility of endogeneity, I employ an instrumental variable analysis using the five-year rolling average annual emigration to 15 advanced industrial countries, scaled by the sending country's population.³² This variable is a suitable instrument because it is clearly correlated with remittances (one would expect that countries with high levels of emigration to wealthy countries would experience high levels of remittances), but it satisfies the exclusion restriction—namely that there is no theoretical reason for it to be causally related to the country's exchange rate regime. Results from an instrumental variable probit model—with the same dichotomous dependent variable as in Model 4—are included in Table 3, Model 5.³³ Similar results are obtained by using a linear two-stage least squares model using the original ordered (1-4) dependent variable.³⁴ The coefficient for remittances in Model 5 is negative and statistically significant; also

³² Data from United Nations 2006. I thank Dean Yang and Jessica Hoel for graciously compiling and sharing the data. A five-year rolling average was also used in Esteves and Khoudour Casteras 2008. The 15 countries are Australia, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Netherlands, New Zealand, Norway, Spain, Sweden, United Kingdom, and United States. Data are available through 2004.

³³ The F-statistic on the instrument is approximately 20 in the first stage of the instrumental variable probit model.

³⁴ Results obtained using Stata's `xtivreg` command with random effects. In the first stage, the instrument is positive and significant at the 99 percent level, with an F-statistic in excess of 100.

significant are foreign exchange reserves and the current account balance, in line with expectations. GDP per capita is also significant, possibly reflecting the connection between the availability of human and financial resources and the ability of a government to run an autonomous monetary policy. The polity score and capital account openness, however, are not significant as in the previous models, and the other covariates are also not significant.

CONCLUSION

The rise of remittances has profound implications for the study of international financial relations. As families extend beyond national boundaries through migration, the resulting flow of funds is changing the character of financial market influence on government policymaking. Indeed, the evolution of financial globalization is taking an interesting turn in the developing world. While their developed-country counterparts react to the increasing integration of asset markets and the spread of the multinational corporation, developing countries are also adapting to the international financial consequences of immigration. Remittances from overseas migrants constitute a major source of capital for the majority of developing countries, and some countries rely almost exclusively on remittances for foreign exchange. Unlike nearly all other types of capital flows, remittances respond primarily to the needs of families and not the profit-seeking motives of investors.

This article introduced the flow of remittances into the study of the political economy of exchange rate regimes and challenged the notion of financial market

openness as an undifferentiated influence on economic policymaking. Prior scholarship views the free movement of capital as a constraint on policymakers that decreases the probability of selecting a fixed exchange rate. In contrast, this article has argued that remittances mitigate the costs of forgone domestic monetary policy autonomy and therefore increase the probability of choosing to fix the exchange rate. Several large-n empirical analyses presented in this article support this conclusion. As noted earlier, the newly available data on remittances from the World Bank have many drawbacks, most notably the fact that they only account for recorded flows. One should therefore assume that the empirical tests in this article are tentative, pending the availability of more accurate and comprehensive data on remittances.

The introductory section of this article alluded to the many policy areas in which remittances could have an important influence. For example, remittances could substitute for welfare-state spending by lessening the need for governmental subsidization of health care or government-sponsored employment programs. Governments that would otherwise feel compelled to insulate their citizens from the forces of the global economy—for example, by increasing the size of the government in line with Rodrik (1998) and Garrett (1998)—might scale back their spending priorities in response to remittance inflows. In addition, to the extent that remittances help to stave off balance-of-payments difficulties, developing countries with substantial remittance inflows might be less likely to engage the services of the International Monetary Fund and the World Bank. These speculations should form the basis for future research.

As a final note, this article contributes to a growing literature that seeks to unpack the components of financial globalization and gauge their varying (and often

contradictory) impacts on economic policymaking. The literature contains several careful studies that isolate the political and institutional determinants of specific types of capital flows, including foreign direct investment (e.g., Jensen 2003, 2006; Li and Resnick 2003), sovereign bonds (e.g., Mosley 2000, 2003; Sobel 1999), foreign exchange (Bernhard and Leblang 2002b; Freeman *et al* 2000; Moore and Mukherjee 2006), and equity investment (e.g., Bernhard and Leblang 2006). The disparate findings in these studies should encourage future scholarship to avoid generalizations about the impact of global finance on economic policymaking. The popular metaphor of global finance as a “golden straitjacket” (Friedman 2000) might be more appropriately revised as a tug of war with various capital flows pulling policymakers in different directions.

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Table 1: Summary Data

Variable	Mean	Standard Deviation	Minimum	Maximum
Exchange Rate Regime	2.126	0.778	1	4
Remittances (% GDP)	3.330	4.385	0	25.096
GDP (log)	23.780	1.779	19.398	28.170
GDP per capita (log)	7.040	1.011	4.751	9.454
Exports (% GDP)	31.768	19.115	5.255	124.413
Capital Account Openness	-0.173	1.323	-1.812	2.532
Reserves (months)	4.206	3.414	0.077	27.084
Democracy (Polity)	2.385	6.584	-10	10
Inflation	15.743	76.777	-8.238	2075.887
Current Acct Balance	-2.256	5.196	-29.094	31.982
Terms of Trade Volatility	6.029	6.223	0	41.059
Political Constraints	0.290	0.198	0	0.691
Political Instability	0.010	0.052	0	0.6
Manufacturing (% GDP)	17.539	7.034	3.058	40.678

Table 2: Ordered Probit Results (De Facto and De Jure Exchange Rate Regimes)

Dep. variable: Exchange Rate Regime (1=fixed; 4=floating)	Model 1 (De Facto)	Model 2 (De Facto)	Model 3 (De Jure)
Lagged Dependent Variable	1.524*** (0.149)	1.415*** (0.151)	1.331*** (0.106)
Remittances/GDP (lagged)	-0.025* (0.013)	-0.034** (0.015)	-0.040*** (0.015)
GDP (log)	-0.0172 (0.046)	0.054 (0.063)	-0.016 (0.052)
GDP per capita (log)	0.047 (0.083)	0.094 (0.105)	-0.048 (0.079)
Exports/GDP (lagged)	-0.005 (0.005)	-0.001 (0.006)	-0.012*** (0.003)
Capital Account Openness (KAOPEN)	-0.005 (0.045)	-0.097* (0.052)	-0.002 (0.042)
Reserves (in months of exports)	-0.020 (0.021)	-0.045** (0.019)	-0.057** (0.022)
Democracy (Polity Score)	0.021** (0.010)	0.028** (0.012)	0.020 (0.013)
Inflation (lagged)	-0.004*** (0.001)	-0.003*** (0.001)	0.002 (0.000)
Current Account Balance	0.006 (0.011)	0.123 (0.014)	0.018* (0.011)
EU (dummy)	0.361 (0.298)	0.253 (0.295)	0.218 (0.698)
Terms of Trade Volatility	0.009 (0.008)	-0.007 (0.009)	-0.004 (0.008)
Political Constraints		-0.369 (0.309)	0.152 (0.392)
Political Instability		1.232 (1.040)	0.671 (0.751)
Manufacturing/GDP		-0.037*** (0.014)	-0.011 (0.010)
Percent Fix (<i>De Jure</i> only)			-0.014*** (0.005)
Cut 1	1.531 (1.066)	2.593 (1.391)	0.134 (1.046)
Cut 2	3.919 (1.083)	4.931 (1.404)	0.337 (1.051)
Cut 3	6.524 (1.171)	7.481 (1.469)	2.622 (1.065)
Observations	992	824	899
Countries	73	70	74

Pseudo R-squared	0.452	0.441	0.500
Prob > chi-squared	0.00	0.00	0.00

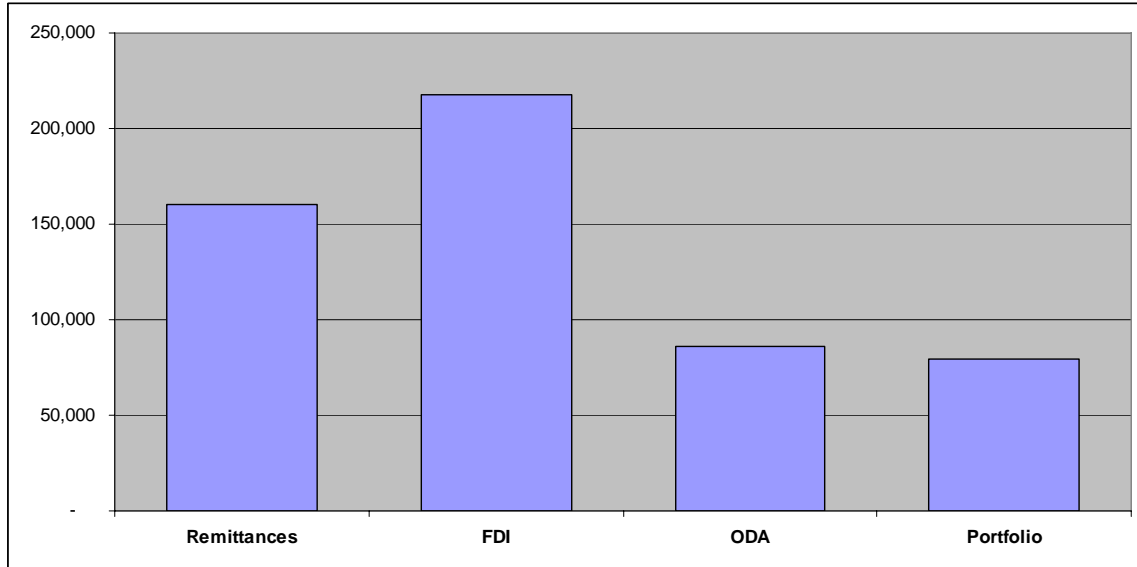
Note: Ordered probit coefficients; standard errors (clustered on country) in parentheses. *p<=.10; **p<=.05; ***p<=.01.

Table 3: Conditional Logit and Instrumental Variable Probit Results

Dep. variable: Exchange Rate Regime (0=fixed; 1=floating)	Model 4 (Fixed Effects Logit)	Model 5 (IV Probit)
Lagged Dependent Variable	5.835*** (0.798)	2.956*** (0.578)
Remittances/GDP (lagged)	-0.477** (0.200)	-0.151** (0.080)
GDP (log)	-3.319 (3.451)	-0.075 (0.123)
GDP per capita (log)	6.668 (4.374)	0.300** (0.145)
Exports/GDP (lagged)	-0.012 (0.033)	-0.007 (0.007)
Capital Account Openness (KAOPEN)	-0.074 (0.409)	-0.084 (0.086)
Reserves (in months of exports)	-0.378** (0.162)	-0.069** (0.033)
Democracy (Polity Score)	0.279** (0.119)	-0.006 (0.028)
Inflation (lagged)	-0.004 (0.036)	-0.000 (0.004)
Current Account Balance	0.117** (0.051)	0.041** (0.018)
Terms of Trade Volatility	0.049 (0.054)	-0.005 (0.013)
Political Constraints	-3.147 (2.258)	-0.116 (0.610)
Political Instability	21.246 (76.813)	0.914 (1.321)
Manufacturing/GDP	-0.204 (0.149)	-0.016 (0.021)
Observations	434	767
Countries	28	70
Log Likelihood	-48.139	-2217.710
Prob > chi-squared	0.00	0.00

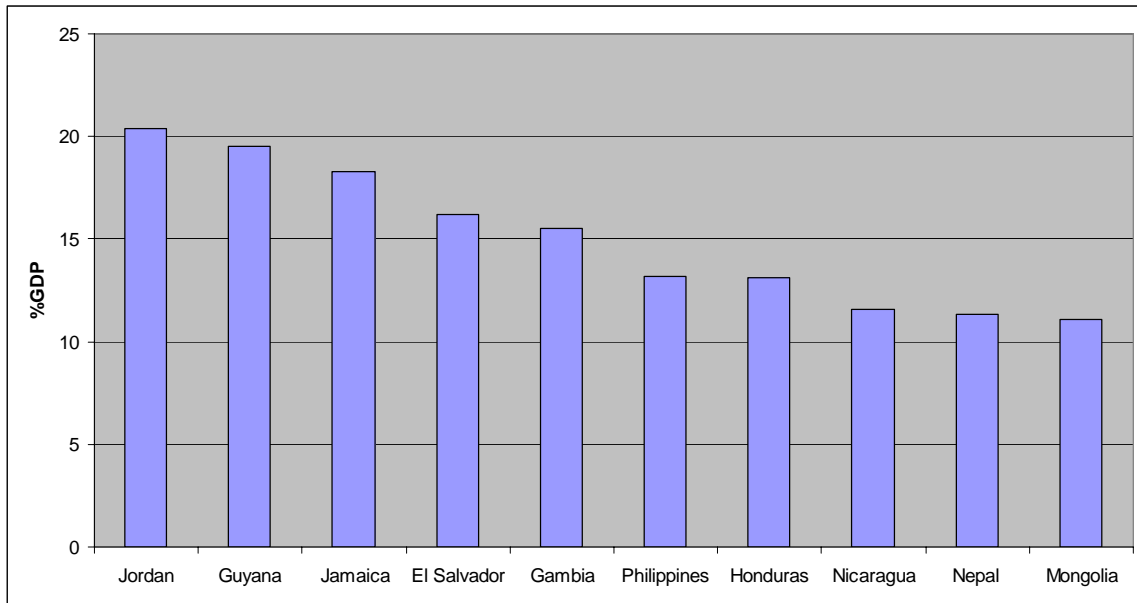
Note: Standard errors (clustered on country) in parentheses. Model 4 contains country fixed effects. Model 5 uses a measure of annual emigration to 15 advanced countries as an instrument for remittances; second stage results shown. *p<=.10; **p<=.05; ***p<=.01.

Figure 1: Capital Inflows (\$Millions) to Developing Countries (2004)



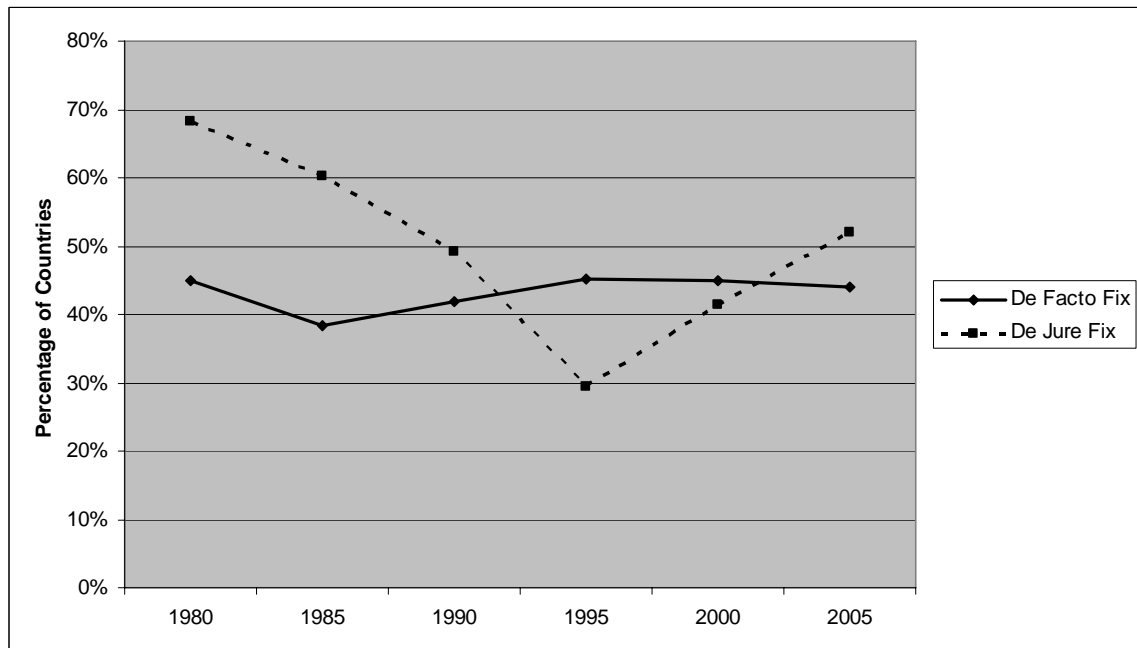
Source: World Bank (2006)

Figure 2: Remittance Inflows (%GDP), Selected Countries, 2004



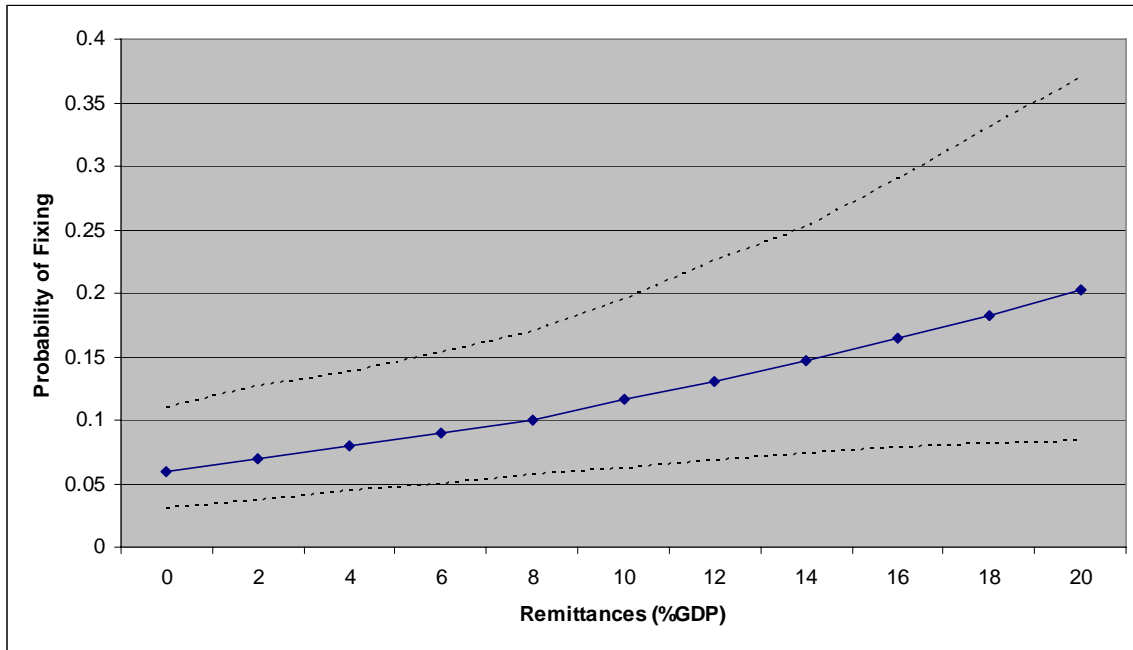
Source: World Bank, World Development Indicators.

Figure 3: Trends in *De Facto* and *De Jure* Fixed Exchange Rates, 1980-2005



Source: Reinhart and Rogoff (2004) and IMF (multiple years). Includes regimes coded as 1 (see text for discussion).

Figure 4: Predicted Probability of Fixing the Exchange Rate by Level of Remittances



Note: Results based on Model 2. All other variables held at their means. Dotted lines represent 95 percent confidence intervals. Simulations conducted using CLARIFY (Tomz *et al* 2003).