SUBBAIAH SINGALA* and ASHITA ALLAMRAJU**

The Economics of Migrant Workers’ Remittances to India*

Introduction

India has been reporting a remarkable rise in its economic growth in the recent past. Prior to the global economic crisis, factors related to the external economy—such as liberalization of the economy, globalization and increased FDI (foreign direct investment)—were cited as the major drivers of this growth process. However post-crisis, internal factors, such as domestic consumption, strength of the regulatory and other institutions, and the country’s demographic profile, are being appreciated for their role in the sustained growth of the economy.

From a policy perspective, a factor that has probably not received its due attention is the issue of migrant workers’ remittances from abroad. Inward remittances by Indian migrants may have helped the country from a possible economic catastrophe during 1998–2000 when economic sanctions were imposed on India, following the 1998 nuclear test. Despite this, there are very few empirical studies that have analyzed remittance behaviour and its linkages with macro-economic variables. For instance, Mujumdar, Venkatachalam and Raghavachari (1980) examined the positive impact of inward remittances on the high savings phase of the household sector in the late 1970s. Krishnamurty and Saibaba (1981) analyzed the determinants of the savings rate in India and concluded that about two-thirds of the increase in the household savings rate and about one-half of the increase in the domestic savings rate observed during the period 1976/77–78/79 over 1973/74–75/76 were due to factors other than those included in the explanation of

* Professor, Money and Banking Area, Centre for Economics and Finance (CEF), Administrative Staff College of India (ASCI), Hyderabad (subbaiah.singala@gmail.com).
** Associate Professor, Economics Area, CEF, ASCI, Hyderabad (e-mail: ashita@asci.org.in).
* Guidance, comments and suggestions received on earlier drafts of the paper from Dr. S. K. Rao, Director General, ASCI; Dr. K. Krishnamurty, Hon. Visiting Professor, ASCI; and Prof. Paramita Dasgupta, Director, CEF, ASCI, are thankfully acknowledged. Errors and omissions, if any, are the sole responsibility of the authors.
the savings rate, viz., per capital real income and its growth, share of agriculture in GDP (nominal), rate of inflation and time trend. They identified the spectacular increase in foreign exchange remittances from Indian nationals abroad, particularly from the Middle East, as one of the special factors contributing to the growth in domestic savings during that period. As Jadhav (2003) has noted, there is a scarcity of empirical studies linking remittances, savings, investment and growth in a macro-economic framework. However, the role of net inward remittances in the explanation of savings and, in turn, in investment and growth was examined in the context of a large-sized, structural macro-econometric model for India developed by the IEG-DSE (1999) team, led by Krishnamurty and Pandit, and Krishnamurty, Pandit and Mahanty (2004).

Remittances: Global Perspective

Migrant remittances constitute a major source of global development finance. Documented remittance flows continue to increase at a rapid rate, with estimates putting global annual flows at US$ 414 billion for 2009 (see Fig.1).

Fig. 1: Formal Global Inward Remittances


---

1 Private remittances were not included for rigorous econometric testing due to the inadequacy of the data for the study period (1951–52 to 1978–79).
2 This study ends in the mid-1990s. More studies along these lines are needed, covering the period thereafter, i.e., the inflow of remittances from the late-'90s to the late 2000s.
4 World Bank (2010).
Increasing global migration patterns have a significant impact on remittance flows. Because of increasing global migration, caused by persistent income inequalities between the origin and destination countries, the rise in temporary and south-south migration, and other factors related to globalization, remittances are expected to grow well into the foreseeable future, notwithstanding the temporary drop during 2008–09, following the global financial crisis.

**Remittance Profile of India**

India is the destination of nearly 40 per cent of the inflow of worker remittances to South Asia and nearly 10 per cent of the global remittances (figures worked out from the Migration Policy Institute (MPI) data hub, available at http://www.migrationinformation.org/datahub/remittances/World.pdf). Rough estimates put the size of Indian migrants at around 30 million (OIFC, 2009: 1). The buoyancy of remittances has helped to substantially reduce the country’s current account deficit. The inward remittances to India have been steadily increasing (see Fig. 2) and were close to US$ 45 billion in 2008. Beginning 1991, when economic and financial reforms were initiated, the inward remittances have been recording a steady increase, suggesting a possible linkage between inward remittances and migrants’ perception of the Indian economy and its future.

![Fig. 2: Private Transfers to India](source)


**Inward Remittances: Definition and Magnitude**

Remittances commonly refer to the flow of private unrequited transfer of money from migrants’ earnings outside their country of origin, back into
their home country. Migrant remittances have recently surged to the forefront of development agendas worldwide, forming a very important component of a nation’s balance of payments, especially for developing countries like India (see Fig. 3). India’s trade deficit has almost been matched by the net invisibles since Independence. Private remittances constitute a significant portion of the net invisibles.

![Fig. 3: Invisibles and Current Account Deficit](image)

**Source:** RBI (2009: 251–57).

Remittances from overseas Indians comprise the inflows towards family maintenance and the funds domestically withdrawn from the non-resident Indian (NRI) rupee deposits—the non-resident external rupee account (NRERA) and non-resident ordinary (NRO) account deposit schemes. Such remittances are treated as private unrequited transfers, which are included in the current account of the balance of payments and influence the disposable income of the country. The total value of remittances has been steadily increasing over the past decade (see Fig. 4). The reason for such increase in inward remittances is the entry of banks and other specialized agencies into the remittance business, thus reducing the reliance of migrant workers on informal channels of remittances (which usually go unreported). The emergence of global players, and their partnerships with Indian banks and post offices, of web-based remittances, and the increase in awareness among migrant workers may have contributed to the decrease in transaction costs, the increased use of formal channels of remittances and better reporting of data.
Since the beginning of the liberalization era in the early 1990s, these transfers have become an important component of India’s overall balance of payments. NRI deposits (see Fig. 5) have become a stable source of financing the current account deficit. With a share of nearly 10 per cent in the global remittances, India has been at the top of the list of major recipients of inward remittances.

Migrants and Remittances Profile

Prior to the IT & BPO revolution that began in 1999, many migrant workers of Indian origin were based in the Middle East, whose employment was largely temporary in nature. Immigrants to the US, Canada and the UK also contributed to the remittances, but they differed from their counterparts in the Middle East as the former were more permanently attached to the place of migration. From 1997 onwards, IT and related short-term work assignments bagged by Indian citizens across the globe have contributed to an increase in the remittances. According to RBI (2006: 18), the approximate geographical corridor-wise break-up of remittance inflows was as under:

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle Eastern region</td>
<td>35</td>
</tr>
<tr>
<td>North America</td>
<td>30–35</td>
</tr>
<tr>
<td>Europe</td>
<td>20</td>
</tr>
<tr>
<td>Others</td>
<td>10</td>
</tr>
</tbody>
</table>

A recent survey by RBI (2010) shows the source of remittances flows as given in Fig. 6. Clearly, the share of the remittances from the Middle East has declined significantly.

Fig. 6: Sources of Remittances Inflows into India

More detailed granular data on the source country of the remittances is not available.

**Motivation for the Remittances**

Understanding the motivation for the transfers of money is necessary for analyzing the wider economic consequences of remittances, for at least two reasons. First, the amount that a migrant transfers to family members remaining at home at any given time depends, among other things, on the migrant’s underlying motivation to go abroad and remit funds in the first place. The size and timing of remittance flows, in turn, determine their effects on economic activity in the receiving country. Second, the intended purpose of remittances affects the end uses of these funds; the uses to which recipients put them is also an important determinant of their economic impact on the recipient economy.

The literature offers a number of approaches and studies identifying the main intention of a migrant to remit his/her earnings for family consumption or local use. However, one of the main messages culled out of the theoretical literature on the causes of remittances is that there exist plausible exchange motivations as well as altruistic motivations for remittances, with the two co-existing at the same time in many instances. In recent times, the increase in remittances is attributable to many reasons. According to policy experts, the factors responsible for the growth in remittances include the diminishing role of unofficial channels to remit wealth, the shifting emigration pattern to high skill-intensive operations, greater competition in the money transfer market, the extent of economic activity in the source country, and the resilient nature of the Indian economy, equipping it to withstand any kind of external shock in the background of strong macro-economic fundamentals and dynamic economic reforms. The resilience demonstrated by the country against the adverse impact of the global financial crisis may lead to greater remittances in future.

**Factors Influencing Remittance Flows into India**

This section focuses on the macro-economic determinants of remittances and attempts to find the elasticity of remittances to growth in the migrant

---

5 “Remittances from Indian Diaspora: A Report”, prepared by Overseas Indian Facilitation Centre, a public-private initiative between the Ministry of Overseas Indian Affairs (MOIA), Govt. of India, and Confederation of Indian Industry (CII), August 2009.
countries. The data for remittances was sourced from the Reserve Bank of India for the period 1970–2009. Since data on the regional sources of remittances was not available, aggregate worker remittances have been used for the estimations. The data on gross domestic product of the US and annual average oil prices was sourced from the website of the Federal Reserve, the central bank of the United States. The estimates are obtained through ordinary least squares, with heteroskedasticity-consistent standard errors.

The issue of whether remittances are used for consumption or investment has been widely debated in literature. A recent RBI survey (2010) attempted to find out the possible end-use of the funds remitted by overseas Indians to their families back home. The survey found that 61 per cent of the remittances received are utilized for family maintenance and a small proportion goes into investment (see Fig. 7).

Fig. 7: Average Utilization Pattern of Remittances to India


Therefore, it is reasonable to assume that remittances will depend, to a large degree, upon the economic activity in the source country: since this activity will determine the extent to which the earnings of workers in the migrant countries are remitted to the source country. A large share of workers’ remittances (65 per cent) to India comes from the Middle East and North
America, as has been specified elsewhere in the paper (see Fig. 6). The GDPs of these countries, however, are highly correlated. The correlation coefficient between the two is found to be as high as 0.98. Therefore, to avoid the problem of multi-collinearity, the present study uses oil prices as a proxy for economic activity in the Middle East countries. It is assumed that higher oil prices may result in higher income and more remittances from the oil producing countries.

Further, the gross domestic product of India and the exchange rate were also included as variables in the log linear regression specification. It was found that the GDP of India and the exchange rate were not significant variables in determining the remittances. Therefore, these two variables were dropped from the equation. The following specification is formalized in order to explain the behaviour of worker remittances to India.

**Period of study:** 1970 to 2009

\[
\ln NPT = -12.04 + 1.15 \ln USGDP + 0.73 \ln OilPrice - 0.11 \text{DumOilPrice} + 0.05 \text{DumUSGDP} -
\]
\[
0.58 \text{Dum90} - 0.49 \text{Dum74} + 0.41 \text{Dum77 – 79} \]

\[
\begin{array}{cccc}
(–7.86) & (8.98) & (10.92) & (–4.67) & (2.91) \\
(–5.76) & (–9.58) & (4.60) & \\
\end{array}
\]

Adjusted \( R^2 = 0.98 \)

\( \text{DW} = 1.6 \)

Where:

- \( NPT \) = Net private transfers in US dollar millions
- \( USGDP \) = Gross domestic product of United States in US dollar millions
- \( Oil \text{ Price} \) = Price of oil in US dollars
- \( \text{DumUSGDP} \) = Slope dummy with 1993–2009 = 1
- \( \text{DumOilPrice} \) = Slope dummy with 2000–2009 = 1
- \( \text{Dum90} \) = Additive dummy with 1990 = 1
- \( \text{Dum74} \) = Additive dummy with 1974 = 1
- \( \text{Dum77 – 79} \) = Additive dummy with 1977–79 = 1

\( \text{Dum90} \) \( – 79 \) The numbers in parentheses are the t-ratios. All coefficients are found to be significant at 1 per cent or 5 per cent. DW indicates that largely there is no auto-correlation of residuals and, hence, that there is no systematic variable that has been excluded from the equation.
It is pertinent to note that the United States became an important source of remittances only after 1993. A structural shift in the regional sources of remittance flows to India occurred in the 1990s, responding to the changing pattern of demand from predominantly unskilled/semi-skilled to highly skilled labour. Post-1990s, the source of remittances shifted to the information technology revolution, and labour outflow increasingly shifted from semi-skilled to the new stream of highly skilled migrants in the technology sectors. Hence, a slope dummy for the United States was introduced to see the difference in the elasticity of remittances pre- and post-1990. It was found that private remittances are extremely elastic to GDP in the United States. For the period 1970–92, the elasticity is 1.15 and increases marginally to 1.20 during the period 1993–2009. This implies that a 1 per cent change in GDP in the United States leads to a 1.20 per cent change in remittances on average in the period post-1990. Similarly, the elasticity of remittances to oil price is found to be 0.73 in the pre-2000 period and 0.63 post-2000. The estimates reveal that as the oil boom in the Middle East countries slowed down, the contribution of the region to worker remittances declined significantly.

Since the study covers the period 1970 onwards, with major events taking place during the period, recourse was taken to dummy variables to account for the “unusual” events. The year 1973–74 was marked by oil price shocks and also the stock market crash in the United States. Domestically, this year was marked by the nuclear test in Pokhran. Again, 1990 was marked by the Gulf War. Hence, dummies were introduced for these two periods to take into account these disturbances and the resultant fall in remittances. As mentioned earlier, the spurt in the early 1990s may also be due to the informal channels of money transfers being rendered less attractive with the realignment of the exchange rate, the opening up of the capital account; and the reduction in duty on the import of gold, which probably made illegal import of gold less remunerative.

**Cost of Remittances**

One of the critical factors in increasing the share of formal channels in remittances is lowering of transaction costs. According to World Bank estimates, the cost of remitting US$ 500 to India from the United States varied between US$ 2 to US$ 16, depending on the remitting channel.7 The

---

The overall cost of remittance, taking into account the cost at both ends, depends on the charges, exchange rates and any out-of-pocket expenses, such as wire cost and swift charges. A study by RBI (2006: 26) found that bank charges at foreign centres are in the range of US$ 15–20 flat per transaction. The cost in terms of exchange rate would vary from 0.25 per cent to 1 per cent depending on the amount. The study also found that the overall cost of remittances to India, particularly from major financial centres and the Gulf countries, after taking into account the costs at both ends, was generally at the lower end.

**Benchmarking with International Best Practices**

Another objective of increasing the share of formal channels in remittances is to ensure that various aspects of remittances are in accordance with certain best practices or principles. The Bank for International Settlements (BIS) and the World Bank have issued general principles for international remittance services in 2006, which are aimed at improving the following aspects:

- Transparency and consumer protection
- Payment system infrastructure
- Legal and regulatory environment
- Market structure and competition
- Governance and risk management
- Potential role of central banks

RBI (2006) has highlighted that the general principles enunciated by BIS are in place in India and are being observed. The RBI is directly and indirectly involved not only in monitoring the financial markets but also providing infrastructure support and a regulatory framework.

**Macro-economic Linkages and Future Challenges**

While remittances by migrant workers have afforded a sense of balance to the increasing trade deficit of the country, several macro-economic issues and regulatory concerns are highlighted by such flows. These are briefly discussed below:

**Capital flows and monetary challenges:** Migrants’ remittances along with the increasing capital inflows have been posing problems for the country in the areas of exchange rate and liquidity management. One of the challenges
in going forward will be how to canalize the flows into productive growth of the economy.

**Real estate investments and speculative element:** As the economy’s growth prospects improve, there could be a growing tendency among migrant workers to benefit from the increase in the value of real estate and other investments. This may have contributed to asset price inflation. There may also be efforts by migrants to benefit from the interest rate differentials, which are usually controlled by the Reserve Bank by making appropriate changes in the rates on NRI deposits.

**Financial inclusion and literacy:** Going forward, further improvement in access to financial services through appropriate financial inclusion and literacy endeavours will enhance the development impact of remittances. In this context, it is important to strike a balance between appropriate levels of regulation aimed at minimizing financial abuse and promoting cost-efficient and accessible transfer services. Regulation is needed in the interest of transparency, but regulatory and supervisory policies should not inhibit transfers by driving up costs and reducing access to financial services and products.

**Database:** In order to better understand the relationship between migration remittances and development, there is a need for reliable and comprehensive statistics on both remittances and migration flows.

**Spending patterns:** Patterns of remittance spending at the household level will determine the long-term beneficial impact. Notably, the gender dimension could be an area needing further research, since men and women are observed to spend remittance income differently.

**Conclusions**

Based on the literature review, it is observed that private transfers into India on the current account have been very robust in the recent past, commensurate with the increase in the number of migrants from India and in harmony with the improved economic performance of the country. It is also observed that the policy framework has been robust in areas such as the increasing dependence of migrants on formal channels of remittances; the lowering of transaction costs to migrants; adherence to international best practices; and data dissemination.
The econometric analysis undertaken by the authors shows that not many macro-economic factors are important in explaining the behaviour of remittances around the trend over a period of time. The variables that are found to be significantly associated with the movements in remittances include indicators of economic activity in the source countries.

However, there is a need to undertake rigorous policy analysis of a number of other macro-economic issues. For instance, the impact of remittance flows on capital flows, interest rate structure, savings environment and asset price inflation require a detailed study. There is a need to develop a comprehensive database on remittance flows; to examine the spending and investment patterns of remittances into the country; and to improve financial literacy and inclusion to better use remittances as a development finance tool. Appropriate financial and policy innovation needs to be attempted to canalize the remittances to finance infrastructure development in the country, the cost of which is estimated at over US$ 1000 billion in the 12th Five Year Plan.8

It is also important to constantly monitor the long-term sustainability of remittances. For this purpose, the need for sound macro-economic policies, policy continuity and improvements in the investment climate of the country can be hardly over-emphasized. Reverting to the path of fiscal consolidation and eliminating revenue deficits is the most important short-term challenge in this important endeavour.

References


When gauging the desirability of migration for the migrant, a common error is to compare the migrant’s life in the receiving country to either the lives of residing citizens of the receiving country, or to some internationally-recognized benchmark on what constitutes a dignified life. The GCC countries are a popular destination for migrant workers primarily due to their high per capita incomes. The GCC countries also need to import labor for two primary reasons. First, their formal education systems are young; they need to import skilled labor to grow. Figure 3a shows total remittances to the five biggest source countries (Bangladesh, Egypt, India, Pakistan, Philippines) in 2010 for the GCC countries and for a selection of other top remitters. Trading Economics members can view, download and compare data from nearly 200 countries, including more than 20 million economic indicators, exchange rates, government bond yields, stock indexes and commodity prices. Features Questions? Remittances are classified as current private transfers from migrant workers resident in the host country for more than a year, irrespective of their immigration status, to recipients in their country of origin. Migrants' transfers are defined as the net worth of migrants who are expected to remain in the host country for more than one year that is transferred from one country to another at the time of migration. Compensation of employees is the income of migrants who have lived in the host country for less than a year. Remittances to developing nations are set to fall as migrant workers are hit hard by the virus crisis. The projected fall in remittances, which would be the sharpest in recent history, is largely due to a decline in the wages and employment of migrant workers, the World Bank said in a report on April 22. Remittances to low- and middle-income countries may fall by 19.7% to $445 billion, representing a loss of a crucial financing lifeline for many vulnerable households. Remittances to Bangladesh and other South Asian nations are forecast to decline by 22% to $109 billion in 2020, following the growth of 6.1% in 2019. Also read | Bangladesh releases Khaleda Zia from jail amid coronavirus outbreak.