The Determinants of Worker's Remittances in Pakistan

MOHAMMED NISHAT and NIGHAT BILGRAMI

1. INTRODUCTION

Remittances are basically a self-enforcing contractual arrangement betwe the individual migrant and the family. This idea of working abroad looks like tha may be a Pareto-superior strategy for the household when a member migra elsewhere either as a means of risk sharing or as an investment in excess to higl earning streams. Remittances may then be seen as a device for redistributing gai with relative shares determined in an implicit arrangement struck between 1 migrant and the remaining family. The migrant adheres to the contractu arrangements as long as it is in his interest to do so. This interest may be eith altruistic or more self-seeking, such as concern for inheritance or the right to retu home ulitmately in dignity.

Inspite of the potential importance of workers' remittances no comprehensi theory of remittances exists. Only a few studies which home appeared [Lucas a Stark (1985); Straubhaar (1988)], have not been couched in terms of a testat hypothesis derived from a theoretical framework. Most empirical studies ha concentrated on a description of the consequences of remittances where the balan of payments effect has been the primary concern. Like most of labour-exporti countries, the inflow of remittances in Pakistan showed a significant impact overall economy as the multiplier effect on the economy has been 2.54 tim [Nishat and Bilgrami (1991)] but at the household level it indicated a significa uplift in the standard of living of these migrants. However, the pattern of utilisati of these remittances has not been very encouraging as most of these remittanc have been diverted to unproductive investments [ILO/ARTEP (1986)]. Neverthele this problem of motivating these migrants for more remittances is a mac perspective for our economy as in most cases less than 50 percent of income reported as remittances [Nishat and Bilgrami (1991a)]. No attempt has been ma to determine the factors which explain the migrant's propensity to remit a part of l income which he does not need immediately for current specific expenditure.

There is a need to understand and test hypotheses with respect to motivati to remit, ranging from pure altruism to migrant's self-interest. Of course, t behaviour of a Pakistani migrant towards remitting may also be related to otl

Mohammed Nishat is Senior Research Economist and Nighat Bilgrami is Research Economist at Applied Economics Research Centre, University of Karachi, Karachi.

the migrant with a higher level of skills will earn more. However, it seems ambiguous because the migrant with a higher level of skills attains a higher income and having possibly a family status job would remit comparatively less. The same could be captured through a dummy variable for various levels of skills of the migrant.

In addition, migrants from urban areas are comparatively more educated and have better opportunity for attaining skills which would definitely increase the income of the migrants. Similarly, the migrants at their later age have increasing liability and likely to match the contractual agreement with the family and inclined to remit more.

The other phenomena which is related to their return home is a conscious and deliberate part of their future planning [Pasha and Altaf (1987)]. This might motivate a migrant to remit more. Similarly for self-interest the migrant remits for investment in fixed capital such as land, house or physical assets (accumulated wealth which might enhance the prestige and could be termed as social assets). However, once a certain level of these social levels are attained it may affect the tendency to remit. In our model the dummy variables are included to differentiate the behaviour of the migrant with different socio-economic backgrounds such as income, education etc.

To test the above theoretical discussion empirically the following remittance equation model will attempt to explain the determinants of remittances;

$$REM = \beta_0 + \beta_1 INC + \beta_2 EXO + \beta_3 NDEP + \beta_4 FS + \beta_5 PTY + \beta_6 AGE + \beta_7 RES + \beta_8 CHRP + \beta_9 EDU + \beta_{10} D_1 + \beta_{11} D_2 + \beta_{12} D_3 + \beta_{13} D_4 + e_t$$

where

REM = monthly cash remittances in rupees.
INC = monthly income in rupees.
EXO = experience overseas in years.
$NDEP$ = number of dependents.
FS = family status
    1 = If family residing in Gulf
    0 = Otherwise.
PTY = value of property in rupees.
AGE = age of the migrant in years.
RES = area dummy for residence in Pakistan.
    1 = If residing in Urban areas
    0 = Otherwise.
$CHRP$ = choice of profession on return.
    1 = If business
    0 = Otherwise.
EDU = years of schooling.
D_1 = dummy variable

1 = Skilled worker

0 = Otherwise.

D_2 = slope dummy i.e., D_1 multiplied by *INC*.

D_3 = slope dummy i.e., Dummy *RES* multiplied by *INC*.

D_4 = slope dummy i.e., *EDU* multiplied by *INC*.

3. DATA AND SUMMARY STATISTICS

The   major source of information was the Overseas Pakistani Foundation (OPF) where most of the migrants were registered during 1990-91 on their return from the Gulf. A detailed questionnaire about these migrants provided information on socio-economic and other relevant variables.

Out of a total of more than 35,000 migrants, a sample of 7061 were randomly selected for analysis.

The summary statistics appear in Table 1. The same presents the average

Table 1

Summary Statistics Levels of Remittances
(Means of Individual Level Variable)

Variable		Level of Remittances (Rs)
INC		7144.60
EXO		10583.33
NDEP		9328.99
FS	(With Family Status)	11155.15
	(Without Family Status)	8070.63
PTY	(Owned a House)	8648.61
	(No House)	8315.97
AGE		8982.66
RES	(Residing in Urban Areas)	9113.99
	(Residing in Rural Areas)	7904.26
EDU		
	No Education	7808.80
	Primary	6877.66
	Middle	7584.80
	Matric	9394.94
	Inter	'1443.51
	Graduate	!0907.48
CHRP	(Choice of Business on Return)	9118.12
	(Otherwise)	7974.83
D1	(Dummy for Skilled Worker)	8768.81
	(Otherwise i.e. Unskilled)	6447.37

level of remittances with respect to explanatory variables included in the Model. The level of remittances for income, experience abroad, number of dependents and age variable given at the average level of these variables. The summary statistics also depict that for those who have a family status job, the level of remittances is higher than the individual who did not have a family status job.

Similarly the migrants who belong to urban areas seems to remit more than the migrant from a rural setup. Likewise for skilled migrants the average level of remittances is higher as compared to unskilled labour. Comparing the education level it reveals that the average level of remittances increases upto a certain level of education, in this case intermediate, then afterwards the remittance level declines. However, the uneducated workers seem to remit more than a worker with primary and middle level education. The statistics also indicate that on average the migrant worker who has planned for their own business on return remit more.

4. EMPIRICAL RESULTS

As presented in Table 2, the OLS estimation of the model has shown significant results for most of the variables explaining the behaviour of migrants towards remittances and all the coefficients indicate the correct signs.

Looking at the individual variable income seems to be one of the most important factors for an individual to decide the component of remittances to his home country. In our model the income coefficient directly gives the elasticity to remit with respect to income as 0.362, which indicates that if migrants income increases by 10 percent, they will increase their remittances by 3.6 percent. It seems that this level of remittances might be sufficient for their family requirements in Pakistan. The rest of the income might either be remitted in kind or saved overseas for a one-time big investment or expenditure.[1]

The other important variable which reflects the amount of remittances is related to his duration of stay abroad. This variable has a positive impact and indicates that the individuals with a longer stay remit a higher amount. The coefficient does not indicate a higher value because the increase in income may not be that significant every year and in fact we also do not know the incremental component of their income every year. However, an additional year of their stay would result in an increase of almost 0.0006 percent in remittances.

Based on the pure altruism theory, these migrants support their families which include their immediate relations who are taken as dependent's here. The coefficients of the number of dependents indicates a positive significant impact on the level of remittances. As expected an increase in the additional dependent member the individual remits almost 0.007 percent more.

Though not many migrants get a family status job, but keeping family with them increases their liabilities abroad and hence reduces the remittances. In

---

[1]The cash remittance was reported as monthly average but remittances in kind was not reported.

Table 2

Estimated Remittance Equation

Variable \ Dependent Variable	LREM
C	5.1368 (0.4056)*
LINC	0.3647 (0.0425)*
EXO	0.0006 (0.0002)*
NDEP	0.0074 (0.0023)*
FS	0.0058 (0.0062)
PTY	−0.0154 (0.0053)*
AGE	0.0007 (0.0017)
RES	1.9713 (0.3904)*
CHRP	0.0679 (0.0271)*
EDU	−0.1467 (0.0410)*
D_1	−0.5763 (0.3641)
D_2	0.0553 (0.0375)***
D_3	−0.2056 (0.0404)*
D_4	0.0151 (0.0042)*

R^2 = 0.090　　　　SER = 1.0717

R^{-2} = 0.088　　　　F = 46.689

* Significant at 95 percent level.
*** Significant at 85 percent level.
  Figures in parenthesis are standard errors.

contrast, the family status coefficient indicates a positive impact on the level of remittances. However, the coefficient is insignificant and hence not different from zero.

The other variables related to their self-interest which is measured through the value of their property in the home country. The coefficient indicates that the value of property accumulated has a negative and significant impact on remittances. The sign of the coefficient is explaining the obvious behaviour that once these migrants accumulate a required level of property the remittances might decline.

The other phenomena which relates to the increasing liability of migrants which comes through age, motivates the individual to remit more. The coefficient of age variable indicates a positive impact on the level of remittances. However, the coefficient is insignificant and hence not different from zero.

As mentioned earlier that outmigration is equally popular among urban and rural workers, but the workers living in urban areas remit more than the workers living in rural areas. The coefficient of the urban/rural variable supports this hypothesis significantly as the workers living in urban areas remit more by 1.971 percent as compared to workers from rural areas.

The variable which highlights some intention about future planning of these migrants on return, is captured through their choice of business or otherwise. The coefficient of this variable indicates a positive and significant impact on their level of remittances, in case preference is indicated in favour of business. The value of the coefficient indicates that if the migrant is interested in business on his return he would remit 6.11 percent more than those who are interested in jobs or otherwise.

The coefficient of the education variable indicates a negative and significant impact on remittances. It indicates that the behaviour of a migrant with more schooling is likely to remit less by more than 14 percent as compared to migrant with less education. Similarly the dummy variable for skill indicates a significant negative impact on remittances. The coefficient indicates that a skilled worker remits 5.5 percent less than the semi-skilled and unskilled worker.

As mentioned earlier the impact of income is highly significant on remittances. The level of income of the migrants who belong to urban areas, skilled and or educated as compared to otherwise. These migrants are also likely to behave differently towards remittances. The same is captured through slope dummy variables. The results indicate a significant impact in all three cases. It indicates that for the skilled migrant if the income increases he will remit more where the new income coefficient is 0.4200. Similarly, for migrants with higher education if the income increases they will remit comparatively more as the income slope dummy is now 0.3798. However, this slope dummy for urban residence indicates that if the income of these workers increases they would remit less as the coefficient is now 0.1591.

5. CONCLUDING REMARKS

This study identifies the determinants of remittances of migrants from the Gulf. The study also distinguishes the motivational behaviour of these migrants towards remittances based on pure altruism and self-interest theories. The results are very supportive in explaining both theories what a typical migrant enjoys remitting on the basis of pure altruism and pure self-interest together.

The altruism behaviour variable such as his supporting of family significantly explains remittances. The other variables of self-interest which relate to individuals sacrifice such as his education, income, level of skills, living without family explain the level of remittances correctly and in most cases significantly. Also, the variables related to individual's self-interest such as accumulation of property explained his behaviour correctly and significantly. Similarly their future planning for business motivates them to remit more. The findings also show the responsiveness of income increases towards remittances of migrants who are skilled, comparatively educated and belong to urban areas.

As a concluding remark the results suggest that if we have to ensure a higher level of remittances, we should export our unskilled and less educated workers. The same would help us to reduce our unemployment problem. In addition, this category of workers are normally willing to accept a lower wage, which would help Pakistan to compete in the labour markets abroad. As a policy matter, government should provide attractive investment opportunities to attract more remittances which would help these migrants after completing their contractual arrangements with the employers and their families.

REFERENCES

ILO/ARTEP (1986) Preliminary Estimates of Demand for Pakistani Labour and Worker's Remittances from Selected Middle East Countries (Saudi Arabia, UAE, Kuwait, Oman and Qatar). Interim Report, New Delhi.

Johnson, G., and W. E. Whiltelaw (1974) Urban-Rural Income Transfers in Kenya: An Estimated-Remittances Function. *Economic Development and Cultural Change* 22: 473–479.

Lucas, R., and O. Stark (1985) Motivations to Remit: Evidence from Botswana. *Journal of Political Economy* 93:5 October.

Nishat, M., and N. Bilgrami (1991) The Impact of Migrant Worker's Remittances on Pakistan Economy. *Pakistan Economic and Social Review.*

Nishat, M., and N. Bilgrami (1991a) Socio-economic Characteristics of Returning Migrants from Gulf–An Overview for Policy Interventions. Submitted for publication.

Pasha, H. A., and A. Altaf (1987) Return Migration in a Life-Cycle Setting–An Exploratory Study of Pakistani Migrant in Saudi Arabia. *Pakistan Journal of Applied Economics* 6:1 Summer.

Straubhaar, T. (1988) The Determinants of Worker's Remittances: The Case of Turkey. Weltwirtschaftliches Aschiv–*Review of World Economics* 122: 4.

Comments on
"The Determinants of Worker's Remittances in Pakistan"

The author should be commended for initiating research on the question of determinants of remittances, an area which has generally been neglected in the literature on the subject. The focus of research in this area has been mainly on the pattern of the utilisation of remittances and on the consequences of inflow of funds on the economy, particularly on the balance of payments.

The study uses the theoretical framework developed by Lucas and Stark to test various hypotheses explaining motivation to remit which range from pure altruism to self-seeking behaviour. The altruistic motive to remit is based on concern for those left behind while if self-interest is the main object reasons to remit include aspirations to inherit the family property or "the right to return home ultimately in dignity". A third explanation which is put forward in the paper views remittances as a form of repayment for the family's expenses on the education of the migrant. These various hypothesis are tested through estimating a regression equation with remittances as the dependent variable and various characteristics of the migrants including age, years of schooling, experience, earnings, value of property, area of residence as independent variables. The findings of this empirical exercise are seen to verify all the three hypotheses outlined above.

Before proceeding to a more detailed discussion of the paper it should be mentioned that the explanatory power of the model is extremely low as reflected in the fact that it barely explains 9 percent of the variation in remittances. Also the quality of the data used is questionable. The information was collected by the Overseas Pakistanis Foundation through questionnaires administered to migrants returning from Kuwait in the aftermath of the Gulf Crisis. The data was to be used to ascertain their claims with respect to losses incurred during the period and to that extent is likely to be biased particularly with respect to reporting of remittances and other indicators of income.

Other shortcomings of the paper relate firstly to the fact that the main hypothesis of the study is not adequately addressed in the regression specification used and secondly even within the limited empirical analysis the findings do not necessarily provide support to the theoretical arguments of the paper contrary to what is stated in the conclusions. For instance, to test the hypothesis that remittances based on self-interest are motivated by the aspiration to inherit, the appropriate variable would have been the value of family property and it would be expected that in such a situation remittances would have been positively associated with the size of the potential inheritance. The paper used the value of the migrant's own property as the independent variable which was shown to be negatively related to remittances.

Similarly to test the hypothesis that remittances are repayments for the family's initial sacrifice in educating the migrant it is necessary to differentiate between persons for whom the family has made such sacrifices and to see whether they remit more. According to this thesis remittances would be expected to be positively related to education. The study does not attempt to distinguish between migrants and the findings further show a negative association between education and remittances, however, the authors conclude that the results support the thesis. The inverse relationship between education and the propensity to remit, also noted in an earlier ILO-ARTEP study for Pakistan, could reflect the fact that the educated migrants are more aware of alternative, possibly more lucrative, uses of their money or are under less pressure to remit for family support.

On the basis of this negative association the authors go on to recommend the export of uneducated labour as a means of miximising the inflow of remittances. However, whether the total volume of remittances will increase with a greater share of uneducated workers among outmigrants will depend on the extent to which the higher propensity to remit is offset by the lower levels of income earned by this group.

Shahnaz Kazi

Pakistan Institute of
  Development Economics,
Islamabad.