Remittances from Saudi Arabia:
A Community Phenomenon

ASHA GUL and MAHREEN MAHMUD

1. INTRODUCTION

Remittances are increasingly becoming an essential source of foreign exchange in developing countries, in some cases, even more than official development assistance. Recent estimates from the World Bank indicate that global remittances are expected to exceed $590 billion, with almost 75 percent of these remittances flowing to the developing countries. Pakistan became the fifth largest remittance-recipient nation in the developing world in 2011,[1] registering a strong growth of 25.8 percent, relative to a 10.1 percent growth in remittances to South Asia. According to an IMF research paper, workers' remittances contribute almost 4 percent to the country's GDP, and are equivalent to almost 22 percent of annual exports of goods and services.[2]

Remittances to Pakistan have shown a strong rising trend; from being less than $2 billion dollars in 1997 to reaching almost $10 billion in 2010. In fact, the total remittances sent home by overseas Pakistani workers have more than quadrupled in the last eight years to more than $13.186 billion,[3] the highest-ever amount received in a year by the country in the last fiscal year, which ended in June 2012. Interestingly, the almost 1.5 million Pakistani expatriates residing in Saudi Arabia send more remittances to Pakistan than from expatriates working and residing in other countries.[4] The magnitude

[1]After India ($58 billion), China ($57 billion), Mexico ($24 billion), and the Philippines ($23 billion).

[2]Kock and Sun (2011) Remittances to Pakistan—Why Have They Gone Up and Why Aren't They Coming Down? (IMF Working Paper).

[3]http://www.defence.pk/forums/economy-development/207711-saudi-arabia-now-largest-source-remitt ances-pakistan.html.

[4]Share of remittance flows to Pakistan: Saudi Arabia (27.5 percent), UAE (18.2 percent), US (14.4 percent), UK (9.9 percent).

of the flows as well as the unique nature of the migrants to Saudi Arabia make the question of what determines remittance flows from Saudi Arabia a lot more interesting.

The literature on remittances broadly categorises the determinants of the level of remittances into microeconomic and macroeconomic factors. The microeconomic strand of literature discusses several individual (migrant) and household characteristics which have been greatly analysed, in conjunction with the theoretical[5] determinants of remittances. The set of individual characteristics include migrant's income, age, gender, education level, risk level, marital status, along with duration of migration, cost of migration, and intent to return. On the other hand, the household characteristics that are likely to affect remittances sent back home include household income, household wealth, dependency ratio, age of the household head, education of the household head, number of other migrants in the household, and negative household shocks.[6] On the macroeconomic front, the factors that are more likely to influence a country's remittance receipts include the country's migrant stock, wages in home and host country, economic situation in host and home country, exchange rate, interest rate gap between home and host country, political risks, and financial sector stability in home country.

Lately, an important development in the theoretical and empirical literature on remittances has been an emphasis on the role of community variables in affecting the level of remittances received. Unlike the individual and household migration models, the community-level migrations models are less theoretically well-specified and empirically under-researched. However, for policy purposes, it is particularly useful to be able to identify the impacts of community variables as it is at the community level that most development policies and programmes are designed and implemented.[7] Some studies have simply noted significant regional differences in the likelihood that households receive remittances by including regional dummies [Massey and Basem (1992); Funkhouser (1995)], while some studies have estimated the specific effect of the receiving community's development level, for example, results indicate that households in rural communities are more likely to receive remittances than similar households in towns and cities. Kurien (2008), based on extensive ethnographic fieldwork on remittances in three village communities in Kerala, India, observes striking differences in remittance flows and remittance expenditure in the three villages, which all experienced large-scale migration to the Gulf region.[8] Piracha and Siraogi (2011) analyse the role of

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[5]The theories of remittances broadly include the pure altruism [Becker (1974)]; pure self-interest; tempered altruism or enlightened self-interest [Lucas and Stark (1985)]; exchange motives [Cox (1987)]; co-insurance theory (based on the New Economics of Labour Migration); implicit family loam arrangement [Poirine (1997)].

[6]A comprehensive summary of empirical literature on determinants of remittances can be found in Hagen-Zanker and Siegel (2007).

[7]Katz (2000) Individual, Household and Community-Level Determinants of Migration in Ecuador: Are there gender differences? Annual Meeting of the Population Association of America, Los Angeles, CA.

[8]The author finds that whereas in the Muslim village, emphasis was given to distributing remittances to a large circle of community members, migrants in the Hindu village tended to spend large sums of money on life-cycle rituals. In the Christian village, remittance expenditure was largely confined to the immediate family, with an emphasis on saving the money earned for dowries and education. These differences should also be partly attributed to differences in migration selectivity, with Muslim migrants mostly working in the informal sector of Gulf countries and Hindu and, particularly, Christian villagers taking up formal positions as technicians, clerical workers and semi-professionals.

two important community variables, trust in different financial institutions[9] and network effects,[10] as determinants of remittances to Moldova. Their results indicate that the household's trust in the financial institutions in the home country increases the incidence of remittances by 20 percent, while households with networks at the destination country are 7.5 percent more likely to receive remittances than those without one.

There are several studies on remittances in Pakistan focusing on the determinants and impacts of workers' remittances, with a relatively greater focus on migrants and remittances from the Gulf States. Pasha and Altaf (1987), in an exploratory study of Pakistani migrants in Saudi Arabia, found the investment motive to be influential in the migrant's decision to remit, while Nishat and Bilgrami (1993) found migrant's income, education, number of dependents, urban location, and choice of profession on return as significant determinants of worker's remittances from the Gulf. Illahi and Jaffery (1999) employed a standard life-cycle approach and found the informal loan repayment theory important for returning Pakistani migrants. One of the most recent macroeconomic evidence on remittance flows to Pakistan is provided by Kock and Sun (2011). Their study analyses forces that have driven the substantial increase in remittance flows to Pakistan in recent years. Their main conclusions are that the growth in remittances is largely due to an increase in migration and an increase in the skill-levels of those migrating. In addition, the study finds that agricultural output and the relative yield on investments in host and home countries are other important determinants of remittances to Pakistan.

On the microeconomic front, the recent evidence on the motivations to remit has been gathered by Anwar and Mughal (2012). Using household survey data for 2005-06 and 2007-08, the authors examine the economic, demographic and geographical characteristics of remittance-receiving households in Pakistan. The authors find that gender of the household head, household size, family income, and urban/rural settings are the major determinants of remittances, while education and family wealth are the minor determinants of remittances in Pakistan. However, a major shortcoming of this study is that it does not include any migrant characteristics which are most likely to affect the remittances sent back home.

Therefore, a major contribution of this study is that it attempts to provide a more holistic view of the determinants of remittances from Saudi Arabia to Pakistan by analysing the characteristics of the migrant, household, and the community in a combined framework. Unlike many studies that already exist, this study is based on a comprehensive migration and remittances survey and thus benefits from detailed information about the migrant and his household which is seldom available in general household surveys. Furthermore, this study is the first[11] study on Pakistan that attempts to analyse the role of community-level variables in determining the level of remittances.

The organisation of the paper is as follows: Section 2 describes in detail the data set being used providing important summary statistics; Section 3 explains the methodology employed and the variables used while Section 4 illustrates the findings of the study. Finally, Section 5 concludes with a discussion on possible policy implications of the findings from this study.

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[9]This variable is expected to be a proxy for an efficient economic environment in the country which is likely to have a positive impact on remittance flows.

[10]It is a dummy variable equal to one if the household ahs social contacts in the host country and zero otherwise.

[11]According to the best knowledge of the authors.

2. DATA

This study employs a unique data set collected in the Household Survey of Overseas Migrants and Remittances (HSOMR) conducted in 2009.[12] The HSOMR was funded by the International Organisation for Migration (IOM), designed in coordination with the Ministry of Labour, endorsed by the Ministry of Foreign Affairs, and conducted by the Pakistan Institute of Development Economics (PIDE). This survey is based upon 548 households, with at least one family member working in Saudi Arabia.[13] It is restricted to the households of *male* migrants who went to Saudi Arabia between 1994 and July 2006. The sample includes only those households which had migrants working in Saudi Arabia for at least 3 years but no more than 15 years.

The survey covers nine high-migration districts of the four provinces of Pakistan and Azad Jammu and Kashmir: Rawalpindi, Gujranwala, Lahore and Dera Ghazi Khan from Punjab; Karachi and Larkana from Sindh; Peshawar from Khyber Pakhtunkhwa; Quetta from Balochistan; and Kotli from Azad Jammu and Kashmir. About 48 percent of the sampled households are from urban areas while 52 percent are from rural areas. A detailed breakup of households from every region in each of the district sampled is shown in Appendix A.

A typical migrant to Saudi Arabia in 2009 sent, on average, Rs 228, 191 (in cash and kind) annually back home while staying abroad for almost 7-8 years. Moreover, a brief demographic profile of the migrant reveals that a migrant is almost 26 years when he migrates and is usually the son of the head of the household. Also, almost two-thirds of the sampled migrants have eight or more years of education, with three-quarters of these migrants already working in Pakistan before migration. This indicates that Saudi Arabia represents a better and lucrative source of job opportunities for young Pakistanis.

Table 1

Profile of a Migrant to Saudi Arabia

Average remittances received per household during the year preceding survey	Rs 184, 613
Average remittances received per household since migrant went to Saudi Arabia	Rs 1,047,084
Average value of remittances in kind	Rs 43,578
Average duration of stay abroad	7.6 years
Average age of migrant at time of migration	26.3 years

A disaggregated analysis (Table 2) of average remittances provides important insight, especially because no study for Pakistan has attempted to shed light on this aspect. The average remittance varies significantly across the nine districts with a stark difference between Peshawar, receiving the lowest remittances, on average, and Lahore, receiving the highest remittances, on average. This raises important policy questions as to

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[12]A report has been prepared on this data by Arif (2009) which provides interesting descriptive statistics on the data collected in this survey.

[13]Only 41 out of the 542 households (7.6 percent) are receiving remittances from migrants other than the Saudi migrant.

Table 2

Average Remittances Across Districts

District	# HH	Avg Remittances (Rs)	Rural (Rs)	Urban (Rs)
Peshawar	71	80,985.92 (36,787.22)	73,974.36 (23,596.93)	89,531.25 (47287.03)
Gujranwala	64	121,640.60 (59,275.08)	116,547.60 (46,675.95)	131,363.60 (78,333.56)
Larkana	56	125,178.60 (104,668.2)	123,571.40 (114,542)	130,000.00 (70,724.19)
D. G. Khan	50	135,800.00 (105,484.1)	134,750.00 (115,492)	140,000.00 (52,493.39)
Karachi	77	165,454.50 (215,951.4)	103,636.40 (43,479.36)	175,757.60 (231,261.2)
Kotli	54	213,796.30 (210,280.4)	223,157.90 (230,617.3)	191,562.50 (155,881.6)
Rawalpindi	72	232,961.40 (124,859.4)	241,102.40 (136,506.9)	215,617.40 (95,887.17)
Quetta	29	283,172.40 (175,607.3)	258,888.90 (101,050)	294,100.00 (201,843.8)
Lahore	69	339,927.50 (198,258)	325,454.50 (232,136.3)	342,672.40 (193,364.1)

(standard deviations in parenthesis).

why some districts are able to attract higher remittances relative to others, especially because given the magnitude of remittances and the several direct and indirect effects remittances have on the recipient community, this difference in remittances may possibly be a factor influencing differences in development across these districts. Therefore, an important objective of this study is to ascertain the potential reasons that could explain this difference in remittances across these districts.

3. METHODOLOGY

The study estimates a simple log-linear model of the following specification to analyse factors that determine the amount of remittances Pakistani migrants to Saudi Arabia send back home

$$lnremittances_i = \alpha M_i + \beta H_j + \sum D_k + \varepsilon \qquad \ldots \qquad \ldots \qquad \ldots \qquad \ldots \qquad (1)$$

where M is a vector of migrant characteristics, H is a vector of household characteristics, D is a dummy of districts, and ε is the error term.

The literature on migration generally characterises migration as a two-step process whereby individuals first decide whether to migrate or not; and then, conditional on migrating, where to migrate. Similarly, remittances are also analysed as a two-stage model whereby the first stage concerns the migrant's decision to send home remittances or not, while the second stage involves, conditional on sending remittances, the decision about how much to send. The unique aspect of this data set is that the sample includes only those households that have already made the decision to send a family member to Saudi Arabia, and those Saudi migrants have decided to send back remittances. Therefore the need to model the four stages separately does not arise and the dependent variable used is the log of the amount of remittances sent back by the migrant in the last year[14] (the logarithm being used to smooth the values).

Moreover, the specified equation is estimated using Ordinary Least Squares (OLS). The literature on migration indicates that migration studies are generally plagued by sample-selection bias which arises because migrants (households) are likely to possess different characteristics than non-migrants (households). Hence, migrants are a non-random draw from the population. However, since the sample for this study comprises only migrant households receiving remittances, the issue of sample selection bias does not arise.

[14]Last year is 2008 as the HSOMR survey was conducted in 2009.

The vector of migrant characteristics include the age of the migrant (in years), the education of the migrant,[15] the duration of migration, and the marital status of the migrant. The *age* and *education* of the migrant serve as a proxy for the earning capacity of the migrant. Migrants with higher age and higher education are likely to possess greater human capital which is likely to translate into higher income. According to the pure altruism theory [Becker (1974)] higher migrant income results in greater remittances sent back home. The self-interest theory of remittances also predicts a positive relationship between migrant's income and remittances, though with a different explanation. The pure self-interest motive argues that a migrant sends remittances with the aspiration to inherit, to demonstrate laudable behaviour as an investment for the future or with the intent to return home. In addition, the education of the migrant also serves as a proxy for the investment the migrant's parents have made in the migrant (both in terms of cost and effort). Therefore, the implicit family loan theory [Poirine (1997)] hypothesises that migrants with higher level of education send higher remittances to repay parents' investments in their education.

The *marital status* of the migrant captures the family ties of the migrant.[16] Therefore an altruistic migrant is likely to send back higher remittances if he has a spouse and/or children back home. The *duration* of the migrant abroad can be expected to have either a positive or a negative effect on remittances. Intuitively, the longer the stay abroad, the more settled the migrant is likely to get with greater stability in job and incomes leading to higher remittances for the family back home (altruistic motives). However, longer durations are also likely to reduce ties with family back home, especially if the migrant's spouse and children join the migrant once he settles down abroad, resulting in lower remittances (the remittance-decay hypothesis).

The vector of household characteristics includes a dummy variable for urban/ rural region, the dependency ratio,[17] working members in the household.[18] The *region dummy* is included to capture differences in remittances that may be arising due to differences in unobservable factors prevalent in rural versus urban areas of the sampled districts. The *dependency ratio* and *working members* measure the responsibility falling upon the shoulders of the migrant member, especially if he is the most important earning member of the household. Therefore, altruism dictates that the migrant member is likely to send higher remittances if there are greater dependents at home and lower remittances if there are greater working members back home who are contributing to the household income. In order to capture the differences in average remittances across districts (Table 2) eight district dummies are included, with Lahore as the omitted (base) district.

As the study aims to delve into the possible reasons for the difference in remittances across districts, equation 1 is revised as

$$lnremittances_i = \alpha M_i + \beta H_j + \mu C_k + \varepsilon \qquad \dots \qquad \dots \qquad \dots \qquad \dots \qquad (2)$$

[15]Measured as the highest class completed.

[16]Although there is no particular question in the questionnaire that particularly asks whether the migrant's family has migrated along or joined the migrant in Saudi Arabia, but it can be inferred from the question about the current status of each household member that only the migrant has left for Saudi Arabia.

[17]Calculated as the ratio of household members less than 15 years (children) or more than 60 years of age(old} to total household members (including the migrant member).

[18]Other than the migrant member.

where *C* is a vector of community[19] (district) characteristics that are likely to affect the inflow of remittances from Saudi migrants. Unlike Equation 1, the OLS regression specified in Equation 2 does not include district dummies to avoid the issue of multicollinearity.[20]

As mentioned earlier, the role of community variables in determining remittances is largely under-researched and under-tested, particularly for Pakistan. Therefore, as a first attempt to unravel these interesting determinants of remittances, this study includes variables which are available in existing data sets. As the HSOMR was conducted as a purpose-based household survey, it does not provide sufficient information about the district characteristics. Therefore, the Pakistan Social and Living Standards Measurement Survey (PSLM) 2008-09 is used to construct community variables used in the OLS regression specified above. The PSLM is representative at the district level, covering both rural and urban areas, and is complete for all four provinces. However, the PSLM does not include districts from Kashmir, therefore Kotli district (Kashmir) is not included in the regressions involving community variables.[21]

The vector of community characteristics includes the districts' well-being index, and the district's employment rate. The *well-being index* (basic needs index)[22] has been constructed by Said, Musaddiq, and Mahmud (2011) for an investigation of the macro level determinants of poverty through poverty mapping of all districts of Pakistan. This index serves as a comprehensive measure of the average living standards of a district, which can be taken as a reasonable proxy for the development level of the districts. The expected sign of this variable is ambiguous. It is possible that districts with lower development levels attract higher remittances, in accordance with the altruism theory. However, it is also possible that districts with greater level of development provide their residents with better education and migration opportunities which enable them to attract higher remittances.

The *employment rate* is included to capture the demographic profile of the district. The employment rate measures the overall employment opportunity in the district and is calculated as a ratio of employed people to the total labour force. Higher employment rates are likely to indicate higher living standards of the average population in the district which could attract higher or lower remittances.

4. FINDINGS

The OLS regression specified in Equation 1 is illustrated in Table 3 where Column 1 shows the regression results of migrant and household characteristics as the only determinants of the (log of) remittances sent back home by the Saudi migrant, while Column 2 includes the district dummies.

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[19]It can plausibly be argued that community and district are *not* analogous, since community refers to a smaller group of people. However, due to data limitations, the difference between community and district is not accounted for.

[20]There is a strong correlation between the community variables and the district dummies.

[21]This reduces the sample of migrant households from 542 to 488.

[22]The details about the variables used by Said, Musadddiq, and Mahmud (2011) in the construction of the well being index can be found in Appendix B.

Table 3

OLS Regression Results of Equation 1

	(1) lnremittances	(2) lnremittances
Age of the Migrant	0.00495**	–0.000256
	(0.00205)	(0.00175)
Education of the Migrant	0.0237***	0.0175***
	(0.00549)	(0.00467)
Duration	0.0767*	0.0255
	(0.0392)	(0.0324)
Duration^2	–0.00425*	–0.000529
	(0.00222)	(0.00185)
Migrant Marital Status	–0.0478	0.0280
	(0.0713)	(0.0592)
Dependency Ratio	0.275*	0.0282
	(0.153)	(0.129)
Working Members	–0.0477**	–0.00102
	(0.0212)	(0.0180)
Urban	0.137**	–0.00459
	(0.0593)	(0.0538)
Peshawar		–1.317***
		(0.0973)
Rawalpindi		–0.355***
		(0.0982)
Kotli		–0.595***
		(0.111)
Gujranwala		–0.948***
		(0.0991)
Dera Ghazi Khan		–0.854***
		(0.110)
Larkana		–0.970***
		(0.104)
Karachi		–0.867***
		(0.0920)
Quetta		–0.102
		(0.125)
Constant	11.21***	12.24***
	(0.169)	(0.163)
Observations	542	542
R-squared	0.092	0.408

(In Column 2 the base category is Lahore district).

Standard errors in parenthesis, *** p<0.01, ** p<0.05, * p<0.1.

As expected, most of the individual and household characteristics come out to be significant, and possessing the hypothesised signs. On average, migrants with greater age and education are likely to send back home relatively higher remittances. A possible explanation for this is that migrants with greater age are likely to possess greater experience, while higher education is likely to imply greater skills which can serve as a

plausible proxy for the migrants' income. Consistent with the classical remittance theory of the altruism motive, greater experience and greater skills leading to higher migrant income is likely to motivate the migrant to remit a higher amount for family back home as the utility function of the migrant is greatly a function of the welfare of his family in the home country.

Interestingly, the duration variables provide evidence in favour of the remittance-decay hypothesis. The change in the sign and significance of the duration variables clearly indicates a non-linear relationship between the duration of the migrant's stay in Saudi Arabia and the amount of remittances he sends back home in Pakistan. Initially, remittances increase as the migrant possibly gets settled in Saudi Arabia and achieves income stability, but after a certain number of years have passed, the migrant lowers the amount of remittances he sends back home. A possible explanation for such a phenomenon to prevail could be that initially the migrant has to send back higher remittances to for example, pay back loans taken by the household to finance the migration[23] or restore the household's savings that have been used to send a member abroad. Arif (2009) in his report on the HSOMR finds that almost 30 percent of the migration cost is financed through loans with approximately 90 percent of these loans being taken from friends and relatives. Once the household is able to settle these loans, the migrant member may lower the remittances being sent. Another possible explanation could be that higher remittances are sent in the earlier years of migration to provide for the basic (consumption) needs of the family left behind. Arif (2009) finds that poverty is the most important push factor for migration to Saudi Arabia.[24] However, as the migrant's household achieves financial stability over time, the Saudi migrant needs to send back relatively lower remittances to maintain the family's standard of living. It is also possible that with increasing duration of the migrant's stay abroad, the intent to return increases, encouraging the migrant to save more than to send back home so that he could take along more fortune himself on his return back home. It must be noted here that this study focuses on a sample of migrants that stay in Saudi Arabia not less than 3 years and not more than 15 years, with an average migrant returning back home after almost 7-8 years.

An overview of the household characteristics shows that households with greater number of dependents and located in urban areas are likely to receive higher remittances, while households with more working members (besides the Saudi migrant) are likely to receive lower remittances.

While the regression in Column 1 provides evidence of the significant role of individual and household characteristics in determining the amount of remittances sent by the migrant from Saudi Arabia, the regression in Column 2 reveals a stark contrast. The inclusion of the district dummies greatly improves the explanatory power of the regression model,[25] but it significantly reduces the significance of most of the individual and household characteristics. This provides an interesting and important insight into the determinants of remittances sent by Saudi migrants. Consistent with the stark difference

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[23]This is an important proposition of the Loan Repayment Theory [Poirine (1997)].

[24]Almost 53.27 percent of the sampled households report poverty as the main reason for migration to Saudi Arabia.

[25]The R^2 increases from just 9.2 percent to almost 40 percent.

in average remittances received by the nine districts in the sample (as highlighted in Table 2), the strong significance of almost all district dummies implies that there are significant district differences which account more for the differences in the remittances sent by Saudi migrants, relative to differences in individual and household characteristics.

In an attempt to identify possible community characteristics which could be driving the stark differences in remittances across districts, an OLS regression is done which combines individual, household and community-level determinants of remittances in a single framework (results in Table 4). Interestingly, the district well-being index comes out to be strongly significant, implying that Saudi migrants send back relatively greater remittances if they hail from relatively more developed districts. In other words, a migrant from Lahore is more likely to send higher remittances than a migrant from, for example, Gujranwala, even if both migrants possess similar individual characteristics and belong to similar households. There are likely to be several possible explanations for such a phenomenon to prevail. Districts that are more developed have better endowments and opportunities like better quality education, varied skill acquisition opportunities, easier information availability, and/or greater networks which greatly facilitate migrants, and more educated, skilled, and/or informed migrants are more likely to send home higher remittances. However, there are no variables available in the data set that could capture, or even proxy for these factors limiting the scope of this analysis.

Table 4

OLS Regression Results of Equation 2

	ln Remittances
Age of the Migrant	−0.000911
	(0.00213)
Education of the Migrant	0.0259***
	(0.00534)
Duration	0.0824**
	(0.0374)
Duration^2	−0.00410*
	(0.00216)
Migrant Marital Status	0.0759
	(0.0694)
Dependency Ratio	0.208
	(0.151)
Working Members	−0.0279
	(0.0221)
Urban	0.0177
	(0.0599)
District Well-Being Index	0.0653***
	(0.0129)
Employment Rate	−1.691***
	(0.204)
Constant	12.50***
	(0.244)
Observations	488
R-squared	0.257

Standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Another interesting explanation for this community phenomenon to exist is the self-interest / investment motive of the migrant. According to the theory of pure self-interest (or enlightened self-interest),[26] a migrant sends back home greater remittances to wealthy household left behind with the aspiration to inherit or make investments for the future. Analogous to this, a migrant sends higher remittances to more developed districts for greater investments (in land, property, physical and financial assets) which are expected to provide greater returns in the future. An important caveat to note here is that migration to Saudi Arabia is not permanent as certain laws and regulations prevent permanent residency status of migrants. Therefore, Saudi migrants are likely to return back to their families in Pakistan after, on average, say 7-8 years of after achieving target incomes. So higher remittances are sent back over the migration duration to make profitable investments for the future when the migrant finally returns back home.

However, the importance of district development levels for remittance flows is also suggestive of the evidence in support of the phenomenon of the "*rich getting richer and the poor getting poorer*", which raises important political economy questions about equitable distribution of resources across districts and thereby, across provinces.

Moreover, the district employment rate emerges as strongly significant but with a negative sign. This indicates that Saudi migrants send back relatively lower remittances back home if employment rates are relatively higher in their home districts. The argument in this regard is similar to the case of households with greater earning members, besides the migrant. Greater employment opportunities (and more working members) are likely to result in suitable income back home, leaving a smaller gap to be filled in by the migrant's remittances to maintain a certain standard of living.

Although the findings greatly highlight the importance of community-level variables in determining the level of remittances sent by the migrant, across all regressions, the most important determinant of the remittances sent by the migrant is the *education of the migrant*. The literature on remittances provides mixed evidence on the relationship between education of the migrant (which is a plausible measure of the migrant's earning capacity) and the remittances sent back home. Faini (2007) and Adams (2008), for example, using cross-country data from several developing countries find that skilled (educated) migrants tend to remit less than unskilled migrants. However, Bollard, *et al.* (2009) argues using micro data from immigrant surveys in 11 OECD countries that education is strongly and positively related to the amount remitted. The OLS regressions in both Tables 4 and 5 shows that education of the migrant is most significant across all controls: individual, household and even community. This implies that investments in education can have additional productive gains in terms of greater remittances for the household and there is a large strand of literature that provides evidence of the positive impact of remittances both at the household and community level.

5. CONCLUSIONS AND IMPLICATIONS

The objective of this study was to analyse the individual, household and community-level determinants of remittances to Pakistan from expatriates residing in Saudi Arabia, especially since migrants based in Saudi Arabia send the highest remittances to Pakistan compared to migrants residing in other countries across the

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[26]Lucas and Stark (1985).

world. There are two important findings that result from the econometric analysis conducted in this study.

Firstly, the education of the migrant is the most important factor affecting the level of remittances sent back home. This reinforces the stronger emphasis of public policy on boosting education and skill levels of the country's labour force. A better educated and skilled labour force will not just directly boost economic growth by improving domestic labour productivity, but also indirectly via the substantial flows of remittances which are a major injection into the economy's circular flow of income capable of generating multiplier effects.

Secondly, community level variables play a strongly significant role in affecting the level of remittance flows. This implies that differential remittance flows across districts can be attributed to inequitable development across districts. This highlights the need for greater focus of national and provincial governments on promoting more equitable development across districts so that the less developed districts could benefit more fully from the benefits of remittances.

These findings have important implications both for academicians and policy makers. On the academic front, the study highlights the data limitations that hamper a more comprehensive and holistic analysis of the migration and remittance phenomenon, particularly in Pakistan. More thorough migration/remittances-focused surveys, covering a larger sample of households and/or migrants to destinations other than just Saudi Arabia, would improve the external validity of the findings. In addition, inclusion of questions on community-characteristics like migration networks, information, opportunities etc., would enable better understanding of the importance of community variables in facilitating migration and remittances.

On the policy front, this study aptly fits in with the National Emigration Policy of Pakistan[27] which places special focus on key host countries like Saudi Arabia. The first finding of the study about the importance of *education* in fostering greater remittance flows strongly reinforces the focus of the Policy on expanding the skill composition of Pakistani workers especially migrants to Saudi Arabia as Saudi migrants are largely unskilled or semi-skilled. Also, with labour-hosting countries making stringent laws to lower the number of 'unwanted' expatriate workers, greater education and/or higher skills is becoming essential to sustain the rising remittance flows. However, in view of the second and the most important finding of this study about the importance of community variables, the Emigration Policy should be modified such that its objectives and policies should incorporate an element of regional disparities so that the migration and remittance phenomenon can also be engineered to alleviate inequalities across districts and promote greater district development.

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[27]The first ever National Emigration Policy of Pakistan has been announced in 2009 by the Ministry of Labour and Manpower.

Appendix A

Classification of Households in the Sample

# HH		Rural (Rs)	Urban (Rs)	Total
Punjab				
Lahore		11	58	69
Gujranwala		42	22	64
D.G.Khan		40	10	50
Rawalpindi		49	23	72
	Total	*142*	*113*	**255**
Sindh				
Larkana		42	14	56
Karachi		11	66	77
	Total	*53*	*80*	**133**
KPK				
Peshawar		39	32	71
	Total	*39*	*32*	**71**
Balochistan				
Quetta		9	20	29
	Total	*9*	*20*	**29**
Kashmir				
Kotli		38	16	54
	Total	*38*	*16*	**54**
		281	261	542

Appendix B

Variables Used in the Construction of the District Well Being Index

Variable	Value
Housing Characteristics/Physical Environment	
What type of toilet facility does the household have?	=1 if flush system, 0 otherwise (Averaged at district level)
What is the main source of drinking water for the household?	=1 if any other source, =2 if Tanker Trunk, water fetcher, =3 if river, stream or pond, =4 if open well =5 if covered well, =6 if water motor, =7 if hand pump, =8 if tap (outside home),=9 if tap (inside home)
What is the main source of fuel for cooking?	=1 if electricity, gas or oil, 0 otherwise (Averaged at district level)
What is the main source of fuel for lighting?	=1 if electricity or gas, 0 otherwise (Averaged at district level)
Does the household have access to telephone?	=1 if mobile or landline, 0 otherwise (Averaged at district level)
What is the material used in construction of the walls of the house?	=1 if burned bricks/blocks, 0 otherwise (Averaged at district level)
What is the material used in construction of the roof of the house?	=1 if RCC/BCC or cement, 0 otherwise (Averaged at district level)
Health Indicators	
Attended Births in the District	Number of births in the last 3 years attended by doctor, nurse or trained midwife/Total number of births in the last 3 years
Immunisation Rate of the District	Number of children aged 6 and below immunised/Total number of children aged 6 and below
Education Indicators	
Gross Primary Enrolment Rate of the District	Number of children enrolled in primary schools/Total number of children aged between 3 and 10 years
Gross Secondary Enrolment Rate of the District	Number of children enrolled in secondary schools/Total number of children aged between 9 and 15 years
Adult Literacy Rate (Female) of the District	Number of females aged 17 and above who can read and write in any language with understanding/Total Number of females aged 17 and above
Adult Literacy Rate (Male) of the District	Number of males aged 17 and above who can read and write in any language with understanding/Total Number of males aged 17 and above

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