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Experience of Nepali Families with Foreign Remittance: Evidence from the Nepal Living Standard Survey

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Abstract

The period since the 1990s witnessed a strong economic performance and labor demand in many countries in the Middle East, East Asia, and West, which coincided with the major political turmoil in Nepal causing enormous increase in emigration and foreign remittance. Using micro-data for 1996 and 2004, this paper examines foreign remittance to Nepal and its socioeconomic implications. While the increasing values of foreign remittance have some positive effects on reducing poverty and income inequality, findings suggest that most of the benefits may have favored the socioeconomically more advantaged sections of society. The paper discuses implications of these and other findings in the changing socioeconomic and policy contexts in Nepal.

Keywords: Foreign remittance; Income; Poverty; Inequality; Socioeconomic groups; Nepal

I. Background

Nepal has a long history of foreign employment with remittance playing an important role in the livelihood of many people. Nepalis fought bravely during the first and second World Wars helping the British and other allied forces to fulfill their national interests and supporting their families back-home in return. Employment in the vast public as well as private sectors of India has always been one of the major sources of financial support for families throughout Nepal. This possibility of foreign employment served as a source of hope for the mostly uneducated and unskilled young workers in Nepal at a time when the country's public and especially private sectors were highly underdeveloped. Although employment opportunities markedly increased during the last two decades in Nepal, these increases have not kept up with a massive increase in job-seekers especially aided by a combination of rapid population growth, sluggish economic growth, and limited agricultural potential.

The more recent turn of events with greater economic openness and increasing political instability caused by the decade-long Maoist insurgency has fueled joblessness among the uneducated and semi-educated public. Internationally, many countries in the Middle East and East Asia have witnessed massive surge in economic growth necessitating workers to man their factories, farms, and facilities in various capacities. Demand for low wage labor also increased in the West as the rising cost of living caused domestic labor to be relatively more expensive and migrant workers from countries like Nepal better job and employment prospect. Consequently, the flow of workers abroad (other than India) for employment soared to 184,000 in 2005 and 233,000 in 2007 from a mere 2,000 in 1995 (NIDS 2007, 2008).[1] For India, this number tops one million with the open worker mobility options making systematic record-keeping difficult and

unreliable (NIDS 2008; Seddon, Adhikari, and Gurung 2002).

Foreign employment has generated enormous remittance money, transforming the agricultural economy of Nepal into a remittance economy. The official data summarized in Figure 1 show, for example, that the real value of remittance to Nepal increased 76 folds during the 18 years since 1991 with the 2008 remittance reaching over NPR 139 billion (equivalent to US$2 billion). This change reflects a 40 times increase in the ratio of remittance to the Gross Domestic Product (GDP) during this period, up from less than one half of one percent during the early 1990s to over 18 percent by 2008. This substantiates the role that the foreign employment is playing in the macroeconomic system of Nepal with substantial portions of families receiving remittance—close to 18 percent in 2004 compared to 11 percent in 1996 (CBS/Nepal 2004). Given the inability of these official sources of data to incorporate the number of workers employed abroad illegally as well as the money received using means other than banks or formal transfer channels, the actual ratio of remittance to GDP could increase many folds (Kollmair, Manandhar, Subedi, and Thieme 2006; NIDS 2007, 2008; Seddon 2005; Seddon et al. 2002).

(Figure 1)

These changes in foreign employment and remittance to Nepal have important implications for the economy as well as society. Remittance has played an increasingly pivotal role in narrowing down the trade deficit caused by shrinking exports and bloating imports. During the eight years ending in 2008 alone, for example, the real trade deficit for goods and services increased by almost 150 percent, indicating the necessity of alternative sources of foreign currency such as remittance to narrow the gap (Nepal Rastra Bank 2009; NIDS 2007, 2008). At the family level, this allowed families to increase incomes, consumption, savings, and asset formation, greatly affecting the overall economic activities and well-being (Thieme and Wyss

205; Wagle 2009a). The widely touted declining poverty figures (from 42 percent in 1996 to 31 percent in 2004) are attributed to the increasing remittance receipts (Central Bureau of Statistics 1997, 2004; NIDS 2008) with econometric analyses and simulations attributing 20 percent of these declines to remittances (Lokshin, Bontch-Osmolovski, and Glinskaya 2007). These direct effects of remittance compound with multiplier effects generating enormous impetus for the overall economic growth due to the interconnectedness of remittance with such other sectors as the real estate, construction, banking and investment, trade, healthcare, and education (Wagle 2009a).

In a strict economic sense, remittance guarantees a win-win situation in the recipient society with added revenues and benefits to the government, economy, community, and families. It can help improve the economic well-being of recipient families and reduce poverty (Adams 2005; Adams, Cuecuecha, and Page 2008; Gustafsson and Makonnen 1993; Du, Park, and Wang 2005). It can also reduce economic inequality, to the extent that the increased benefits accrue to those in the lower stratum of income distribution (Gonzalez-Konig and Wodon 2005; Fajnzylber and López 2007). At the same time, however, it can also increase economic inequality forcing the families unable to receive such incomes to economic, social, and psychological deprivation. If the financial and social investment in cultivating paths to migration succeeds, it maximizes the potential for return stimulating further migration (Bhandari 2004; Bohra and Massey 2009; Graner 2001; Thieme and Wyss 2005), causing a disadvantage to those unable to make such investments. Polarization in consumption, asset formation, and human capital developments can adversely affect the well-being of current as well as future generations. In Nepal, this polarization is already evident between urban and rural areas as well as within major urban areas like Kathmandu where rampant influx of people has caused skyrocketing real estate prices and

booming construction and other related industries (Wagle 2009b).

This paper examines changes in foreign employment and remittance to Nepal during the mid-1990s and early-to-mid 2000s. The intent is to identify the role of foreign remittance in income, poverty, and inequality and tease out their nuanced implications for various socioeconomic groups in meaningfully participating in this growing economic activity. Since foreign remittance, just like any other economic activity, can create winners and losers, who has benefitted and who has not can offer important insight for future policymaking. Given that the presence and amount of foreign remittance depends on one's social and economic footing, this analysis incorporates the roles of socioeconomic characteristics of the receiving families as well as those of the migrant workers. While foreign remittance soared further during the period after the 2000s, the period of 1996 and 2004 is chosen due to data availability reasons. Since nationally representative, micro data needed for comprehensive studies like this can only come from household surveys such as the Nepal Living Standard Survey (NLSS), our ability to examine more current trends will be constrained by the data. Yet, the period covered here has seen a major surge in foreign employment and remittance, allowing to identify the implications for income, poverty, and inequality. Also, while the samples for the NLSS data are quite sizable with around four 4,000 families from close to 300 Primary Sampling Unites (PSUs) nationwide, the validity of this analysis and findings will depend on the ability of the survey to accurately elicit foreign remittance and other monetary and nonmonetary attributes of families.

This paper is organized as follows. The next section examines changes in the magnitudes of foreign remittance together with their impacts on income, poverty, and inequality. The key concpetual and operational issues are discussed in section three. The modeling and estimation issues pertinent to identifying the relationships of foreign remittance with various socioeconomic

characteristics of the families and migrant workers are discussed and their results reported in section four. Section five discusses the findings paying particular attention to the changing socioeconomic contexts in Nepal and the final section concludes with some observations for policy and further research.

II. Changes in Foreign Remittance, Income, Poverty, and Inequality

Foreign employment and increasing remittance coming with it are affecting a large portion of the population in Nepal. But it is important to understand the context of remittance itself. First, only a portion of the population with foreign employment remits money to their families back-home. Migrant workers accompanied by their families outside of the country do not count as they do not typically remit money. Second, the NLSS data utilized here include within country transfer as remittance as long as this involves sending money to someone residing in a different part of the country. But this analysis uses remittance in the strictest sense of receiving transfer money from workers in other countries including India.

Used in this sense, the number of families receiving remittance as well as the amount of money received as remittance increased markedly during 1996 and 2004, the years in which the first and second rounds of NLSS were conducted.[2] As Table 1 indicates, the period saw the proportion of families receiving foreign remittance increase from 11 percent to 18 percent. While the 2004 wave of the survey had larger sample size, the number of families receiving foreign remittance increased beyond that. Put differently, whereas the sample size increased by 18 percent, the number of families with foreign remittance almost doubled.

(Table 1)

Table 1 also reports that the average value of foreign remittance almost doubled during the

period. It is typical for incomes to increase over time. What is atypical, however, is the size of the increase even after accounting for inflation indicating that on average families could expect to double their remittance receipts if they continued to receive remittance at both the beginning and end of the period. On a per capita basis, this increase represented greater than 100 percent, a sign that families receiving remittance tended to be increasingly smaller. Whereas the total income of the families receiving foreign remittance increased by over one half in real terms, the share of remittance to total the family income[3] also increased 13 percentage points. Furthermore, increase in the remittance income was so large that the average remittance received by families in the entire population would be up over 200 percent during the period. The average family income including all sources increased 37 percent and the ratio of remittance to family income increased eight percentage points suggesting that foreign remittance played a major role in stabilizing if not increasing the family as well as per capita income in Nepal.

Increasing income can be expected to reduce both poverty and inequality if the increases are spread out benefiting the poor and lower income strata of the population. What happened during the period in Nepal also supports this scenario with remittance helping to lower poverty headcount ratios. Table 2 shows that foreign remittance alone reduced poverty headcount ratios by over two percent in 1996 and four percent in 2004.[4] There is also a wide variation of this negative effect of remittance on poverty across the urban and rural areas as well as the development regions. This also altered over time suggesting that the relatively large advantage enjoyed by the Far Western region was taken over by the smaller advantages in favor of different urban areas including Kathmandu and the Western region. What is surprising, however, is the drastic decline in the effect to almost zero in Far West where the proportion of families receiving remittance more than doubled.[5] Yet, the overall size of the poverty reducing effect increased

during the period with many families counting on remittance as an important source of income to avoid poverty. The observation of positive effects of remittance on reducing poverty is consistent with findings elsewhere (Adams 2005; Adams et al. 2008; Gustafsson and Makonnen 1993; Du et al. 2005). In Nepal, consumption poverty estimates from the NLSS data also show similar effects— Lokshin et al. (2007), for example, claim these poverty reducing effects of remittance to be about one fifth of 11 percent (or little over two percent). But this, together with the observation that remittance increased very rapidly during the period making up over 14 percent of the family income in the entire population, causes one to be skeptical about the benefits of remittance accruing to the low income groups.

Table 3 attempts to quantify the effects of foreign remittance on income inequality using Gini index of family income. Just like the case of poverty, data suggest that remittance helped reduce income inequality for both years surveyed. The degree of inequality reduced by foreign remittance is relatively small with the actual inequality reducing effects estimated at around two percent for 1996 and four percent for 2004. But the size of the effect varied considerably across the urban and rural areas as well as development regions with Kathmandu and the Eastern and Central regions experiencing the smallest gain in reducing inequality. Remittance played the greatest inequality reducing role in the Mid West and Far West, the two regions with the lowest per capita incomes. Although a smaller effect in the West is not in line with the case of poverty reducing effect that was found to be consistent given the changes in the proportion of recipient families, as the region had the highest proportion of families with remittance, the inequality reducing effect of foreign remittance appears to be lower when the overall level of income is relatively higher. These data are not consistent with the findings in other countries, where remittance helped decrease inequality in urban areas and regions that had higher incomes and

greater inequality (Adams et al. 2008; Barham and Boucher 1998; Gonzalez-Konig and Wodon 2005). But they are consistent with the case of most Latin American countries, where foreign remittance is likely to either reduce or at least not exacerbate inequality (Fajnzylber and López 2007).

III. Conceptual and Operational Issues

Foreign employment allows otherwise unemployed or underemployed workers to remit money and support their families back-home. It is not surprising to find negative effects of foreign remittance on poverty in Nepal (Central Bureau of Statistics 1997, 2004; Lokshin et al. 2005; NIDS 2008). Since many of the families with members in foreign employment come from low socioeconomic background, foreign remittance is also expected to lower inequality. This in and of itself does not constitute enough evidence to conclude that foreign remittance has played positive roles in reducing poverty and inequality, however. For one, this makes the assumption that the migrant workers have been at least as equally well off by foreign employment as they would be otherwise. This may not always be the case as a large number of unsuccessful returnees have indicated from India and the Middle East (Bhattarai 2005; NIDS 2007, 2008). Second, the assumption that the migrant workers would not contribute any income to their family had they been in the country is even more important. The relatively small amounts of reduction in poverty and inequality could even outgrow had the foreign remittance been replaced by domestic earnings generated from employment and other sources specific to the migrant worker. Yet, there is no direct way to incorporate opportunity costs in the calculus. This analysis, therefore, attempts to go beyond those poverty and inequality reducing effects and uncover the socioeconomic implications of foreign remittance for different groups of families in society.

More specifically, the question asked concerns what socioeconomic groups in Nepal have benefitted the most and what groups the least from foreign employment with implications for their economic well-being.

Because foreign employment is a means to generate remittance, the degree to which families in Nepal can benefit from remittance depends on the socioeconomic backgrounds, preparation, and efforts of the families themselves as well as of their migrant members. For families without foreign employment, the process of securing it is quite challenging, necessitating enormous information, preparation, and investment (Bhattarai 2005; NIDS 2007, 2008; Yamakana 2003). Once families are capable of securing foreign employment, moreover, the country or region of employment as well as the industry and quality of jobs become crucial with the final outcome on the value of money remitted depending on the level of information, access to social networks, and financial investment (Bohra and Massey 2009; Thieme and Wyss 2005; Yamakana 2003).

Under the 'sustainable livelihood strategy' framework, migration for employment occurs both internally and internationally when families faced by vulnerable financial situations attempt to diversity their income sources and maximize income and enhance sustainable livelihoods (Ellis 2003; Rakodi and Lloyed-Jones 2002; Thieme and Wyss 2005). To draw from the new economics of labor migration (Stark 1991; Stark and Bloom 1985), whether or not to seek migration is a decision that depends on the calculation of risks and benefits by the families and individual members involved. In Nepal, many studies have documented the increasingly widespread internal migration from rural to urban areas especially in the wake of political instability and the lack of security and opportunities in rural areas during the late 1990s and early 2000s (Bhandari 2004; Bohra and Massey 2005). Foreign employment is even a bigger step with prospective migrants having to pass through a lengthy legal process including selection of

candidates and visa requirements making the outcome less than certain in many cases. But the suggestion that individuals and families make collective decisions using the available information as well as their economic and social endowments highlights the role of investment in successfully pursuing foreign employment as well as in doing so in a desired region, country, industry, and type of job. In societies like Nepal where enormous 'push' factors such as lack of employment or other resource endowments exist generating greater interest in migration for employment, the finding that individuals from relatively more deprived families are more likely to migrate for jobs is quite reasonable (Bhandari 2004; Bohra and Massey 2005; Graner 2001; NIDS 2007, 2008).

In case of foreign migration, however, the complicated and expensive process of migration suggests that individuals from more deprived families may not often have the resources needed to pursue foreign employment. Then, there is the motivational issue with some groups more or less inclined to migrate than others. The relatively well-endowed Nawars as a group, for example, are less likely to migrate to other countries for jobs (Lokshin et al. 2007), despite their willingness to migrate to other areas of the country for employment and business opportunities (Bhandari 2004) suggesting that internal and external migrants may be subject to different constraints and opportunity sets.

Given the focus here on the implications of remittance as opposed to that on the determinants of migration (or the presence or absence of remittance money), it is important to identify which socioeconomic groups from among the families with migrant members and remittance are more likely to benefit and which less likely to do so. The hypotheses to test would be that families with higher socioeconomic backgrounds such as greater income, assets, and skills, higher caste and ethnic backgrounds, and residence in urban areas especially in the Eastern, Central, and

Western regions of the country would be likely to benefit more from remittance. While the livelihood strategy and relative deprivation hypotheses would suggest families with lower socioeconomic backgrounds to be more likely to migrate and have remittance (Bhandari 2004; Lokshin et al. 2007; Rakodi and Lloyed-Jones 2002; Thieme and Wyss 2005), the opposite may hold when it comes to maximizing the benefits from foreign employment and remittance as they impose different constraints and opportunity sets. Just because one is willing to migrate for jobs externally does not mean, for example, that the person will be able to do so especially when the required information, skills, and economic and social resource endowments are not in place. At the same time, a larger proportion of these migrant workers is likely to settle in the host country with their family members accompanying them and thus to be filtered out from workers with remittance, increasing the likelihood that the livelihood strategy and relative deprivations hypothesis will not hold.

In the entire population, a large proportion of families does not have or cannot afford to have their members pursue foreign employment and remittance. Some families may have members employed in other countries and yet do not receive remittance from them. Some families may wish to have their members in foreign employment but are unable to afford due to inadequate preparation, skills, or resource endowments. Some families can neither afford to have their members in foreign employment nor are willing to do so. The last category of families would be those that choose not to have members in foreign employment despite their abilities to do so. To the extent that the characteristics of families and migrating members can predict the migration outcomes and the remittance resulting from them, the amounts of remittance used do not involve self-selection bias. Their inabilities to do so—quite large in the larger population—however, would suggest that whether a family has remittance and how much remittance it has involves a

large self-selection bias, rendering any analysis focusing on the entire population subject to error. Mitigating this is important to derive accurate results.

Examining the role of socioeconomic status of families in determining the remittance outcomes would necessitate a multi-pronged approach where family characteristics can be used to predict the prime socioeconomic status—non-remittance income and assets. This strategy would be methodologically more appealing for its ability to incorporate the endogenous character of income and assets, factors that are likely to explain a large part of the variation in remittance. Given the involvement of multiple endogenous variables, techniques such as simultaneous equations can help minimize any simultaneous causality bias due to correlated errors in the instrumental variables framework. Perhaps even more important to minimize the self-selection bias would, however, be to use some community or group characteristics such as percent of families in which members have migrated out of the country for jobs and are sending remittance back-home (Adams et al. 2008; Lokshin et al. 2007). This is with the assumption that communities with large outflows to other countries will have greater access to information on the processes and outcomes of migration as well as greater support from experienced migrants for jobs once emigrated (Lokshin et al. 2007; NIDS 2008; Thieme 2003; Yamakana 2003). These strategies would allow further robustness analyses of the results. While migration and remittance decisions are collectively made by the family and its migrating member, this strategy would help mimic the actual process in which the role of the family is typically limited to helping the migrant members economically and socially.

IV. Model and Results

The operational strategy involves two models. The first takes the form of an Ordinary Least

Squares (OLS) regression to predict the amount of foreign remittance received using the economic resources as well as other individual and family characteristics. The following specification applies:

$$R = \beta_0 + \beta_y (Y - R) + \beta_w W + \mathrm{B}_i x_i + \mathrm{B}_f x_f + \varepsilon_1 \qquad \ldots \qquad \ldots \qquad (1)$$

where, R is the foreign remittance income, $(Y\text{-}R)$ is the total family income excluding foreign remittance, W is the total family assets,[6] x_i is the vector of individual characteristics of the migrant member (including gender, relationship to the family householder, host region, and employment industry), x_i is the vector of family characteristics (including family size, caste and ethnicity, and residence in Kathmandu and different rural/urban areas, regions, and ecological belts), ε is the disturbance term, and β's are the parameters to be estimated. This model will be estimated for families with positive remittance receipts using the 1996 and 2004 data separately. Since the goal is to estimate the effects of the explanatory variables on the size of remittance, focusing on positive remittance will help avoid any potential self-selection bias. Given that the data relating to families of different sizes may manifest considerable skewness and the model may involve misspecification due to omitted variables,[7] the OLS regression may not perform efficiently, invoking the use of Generalized Least Squares (GLS) estimator.

The second model will take the form of simultaneous equations where foreign remittance is predicted using the migrant members' individual characteristics and the socioeconomic resource variables including assets, non-remittance income, and the ratio of families with remittance. This technique incorporates the endogenous character of the economic resource variables by using their predicted values based on the family characteristics. The idea is to incorporate the direct effects of the individual level variables and community characteristics together with the indirect effects of family characteristics as mediated by economic resources. Whereas the first model

(equation 1) excluded data on all families with no foreign remittance, the second model (equation 2) helps to extend the analysis by incorporating all families with data. The models would take the following reduced form equation:

$$y = \lambda + \Lambda_y y + \lambda_c C + \Lambda_i x_i + \Lambda_f x_f + \varepsilon_2 \qquad \ldots \qquad \ldots \qquad (2)$$

where, y is the vector of foreign remittance, non-remittance income, and assets, C is the community characteristic measured as the ratio of families with foreign remittance at the PSU level,[8] ε_2 is the vector of disturbance terms, and λ's are the parameters to be estimated. Since the applicable Y and X variables would vary by equations, the parameter estimates would be specific to the variables used. The following system of equations adds further specificity.

$$R = \delta_0 + \delta_y (Y - R) + \delta_w W + \Delta_i x_i + \zeta_1 \qquad \ldots \qquad \ldots \qquad (3)$$

$$(Y - R) = \phi_0 + \Phi_f x_f + \zeta_2 \qquad \ldots \qquad \ldots \qquad (4)$$

$$W = \psi_0 + \psi_y (Y - R) + \Psi_f x_f + \zeta_3 \qquad \ldots \qquad \ldots \qquad (5)$$

These three equations show how the remittance income is determined with non-remittance income and assets as the endogenous variables. The right hand side elements of the non-remittance income (4) and assets (5) equations are different in that the former, just like total income, cumulates into the latter but the converse does not hold especially when it remains idle as in the form of unproductive real estate.[9] Even though the family characteristics one shown to be exactly alike between the non-remittance income and assets equations, variations will occur in the actual model estimation helping to identify the equations. Conceptually, the effects of such variables as location, caste and ethnicity, and family size tend to be common whereas those of householders' gender, age, and education do not. More specifically, this latter set of variables would have larger roles to play in determining the current family income than in determining assets. This constraint is also reasonable because indirect effects of these variables on asset

formation can be channeled through the effects of non-remittance income. Using this system of equations helps minimize any simultaneous causality bias arising from the exclusion of any one endogenous variable as in an instrumental variables regression to be estimated using the two stage least squared procedure. Statistically, simultaneous equations are shown to be asymptotically equivalent to and more efficient than the iterative instrumental variables regressions with augmented residuals especially when multiple endogenous variable equations are involved (Qian and Schmidt 1997; Wooldridge 2009).

Results from the estimation of the first model are presented in Table 4. Given that the OLS regression did exhibit signs of heteroskedasticity, the GLS estimator was used to estimate the model.[10] The model has relatively small predictive power for both years with the 1996 version holding slightly smaller predictive power due partly to the more restrictive sample size. This, together with a relatively large root mean squared errors (RMSE), suggests that the model can explain only a part of the variation in foreign remittance across families. While increasing the explanatory power and minimizing omitted variables bias is desirable, it would be overly ambitious to expect a very high explanatory power given the reality that explaining variations goes beyond what can be captured in this model using existing data. The fact that families with zero remittance have been excluded to avoid self selection bias has also contributed to this small explanatory power. Yet, the model does not contain any further sign of heteroskedasticity as indicated in the Breusch-Pagam test and that of pronounced multicollinearity as evidenced by low correlations and variance inflated factors (Wooldridge 2009). The model estimates are also largely well-behaved with consistently negative but insignificant roles of non-remittance income and the positive and significant roles of assets. More specifically, the current non-remittance income does not show any significant relationship with the amount of foreign remittance

received whereas asset-holding shows it for both years after controlling for the roles of many sender and family characteristics.

(Table 4)

Of the sender characteristics used, the coefficients on female, immediate family member, and other countries than the Middle East and East Asia were consistently significant while that on agricultural employment was significant in 1996 and those on the Middle East and East Asia were significant in 2004. For both years, results suggest that female migrants tended to remit less money compared to their male counterparts and that immediate family members such as sons, daughters, or parents of the recipients were likely to remit more money than other counterparts. The role of employment industry, which were captured as agriculture, non-agriculture, and students or others,[11] was partly significant in 1996 with those employed in agriculture as well as students and others likely to send less money. In case of the specific most regions, however, while the results show other regions than the Middle East and East Asia as generating more remittance for both years, these regional categorizations have been less than consistent. First, these regions are compared against India and other South Asian countries (including Bangladesh and Maldives) making this region the last in the amounts of remittance received. Second, the category East Asia was not included in the 1996 data with these countries embedded in the category of others.

Of the family characteristics focusing exclusively on the geographies, caste and ethnicities, and family size, only the rural areas, Eastern region, Terai belt, lower caste Hindus, Newars, and family size showed significant coefficients for 1996. The results that the lower caste Hindus, Newars, and those from the Terai belt were likely to receive significantly less remittance and that larger families were likely to receive more remittance are also consistent between 1996 and

2004. What were inconsistent were the positive coefficients on the Kathmandu valley, rural areas, Eastern region, and Mountain of which the Eastern region tended to enjoy significantly greater remittance for families in 1996 whereas other categories to enjoy larger remittance in 2004. Even more anomalous was the coefficient on Terai belt, as its negative sign in 1996 was transformed into positive by 2004. The Mid Western region and Muslims, in contrast, tended to experience significantly smaller remittances in 2004.

Results from the estimation of the second model using the three-Stage Least Squared (3SLS) procedure are reported in Table 5. The intent here is to extend the analysis on the roles of endogenous income and assets variables and sender and family characteristics using all observations with data increasing the effective sample size—to 3606 for 1996 and 4263 for 2004. The results including the fit indices and individual coefficients are also organized by the endogenous variables. The instrumental variable used to control for the role of community characteristics to increase the predictive power of the models quite sizably—by over 10 percent for both years—reaffirming its relevance. Yet, as with the case of GLS regression, the explanatory power of the models is not very high with relatively larger RMSE's. Even smaller predictive powers apply to the two endogenous variables since not all relevant variables to determine the non-remittance income and assets have been captured.

(Table 5)

The coefficient signs on non-remittance income and assets and their significance are largely consistent between the 3SLS and GLS regressions. Whereas the coefficient on non-remittance income was insignificant in the 2004 GLS model, the 3SLS model detected its significance for 2004. Results here reaffirm the positive role of assets on the amount of foreign remittance with the application of simultaneous equations model with an added instrumental variable enabling to

identify the negative role of non-remittance income on foreign remittance for families in 2004. Between the endogenous variables, the hypothesized relationship that the coefficient on non-remittance income for assets would be positive as the former cumulates into the latter is supported. In this sense, non-remittance income has indirect relationship with foreign remittance for 1996 whereas it has both direct and indirect relationship mediated through assets for 2004. For 1996, non-remittance income positively affects assets, which then increases foreign remittance. For 2004, however, even though non-remittance income has positive indirect effects on foreign remittance, its direct effects are larger, rendering the ultimate net effects to be negative.[12]

The coefficients on many of the sender and family characteristics appear to be consistently significant. Of greater importance, however, are the sender characteristics to see if the results are consistent with those from the GLS regression. Unsurprisingly, many of the coefficients including on female, immediate family member, Middle East, East Asia, and other countries are consistent in the signs. Nevertheless signs of the coefficients on the sibling of the recipient, agricultural employment, and students and others are inconsistent. This inconsistency has contributed to their greater insignificance, making their roles in determining the value of foreign remittance spurious at best. The role of family characteristics in foreign remittance is conceived to be only through their effects on assets and non-remittance income. First, many of the coefficients are different in signs and sometimes in significance between the non-remittance and assets models. This may in part manifest the vulnerability of the estimates to different methodology and model specifications. At the same time, some of the results highlight differences in the process of determining non-remittance income and assets for families. Residence in the Kathmandu valley, for example, has consistently positive coefficients whereas

that in rural areas has consistently negative coefficients for non-remittance income and assets. The coefficients on more aggregate regions and belts appear to be inconsistent either on the sign or significance. In the same vein, whereas the coefficients on castes and ethnicities are somewhat more consistent with the Lower Caste Hindus (LCH) and Janjatis consistently behind the High Caste Hindus (HCH), those on family size are consistently significant and positive. Between the GLS and simultaneous equations models, while the coefficients are only somewhat consistent on urban/rural residence, regionality, and castes and ethnicities, those on family size are highly consistent supporting the fact that larger families make greater foreign remittances more likely.

V. Findings and Discussions

Results from the models estimated above have been presented as the determinants of foreign remittance for those with non-zero remittance and for the entire sample separately. Conventional interpretation of the estimates representing the degrees of relationship between the dependent and explanatory variables would be in terms of the likelihood of different socioeconomic groups of receiving foreign remittance. Results from the first model are also useful to sort out implications of foreign remittance for different socioeconomic groups with remittance in Nepal. Results from the second model provide evidence to extend the analysis with the incorporation of the ratio of families with foreign remittance at the community level helping to mimic how the amounts of remittance are determined and can be explained.

At a broader level, the model estimates highlight a number of findings relevant to identify the socioeconomic implications of foreign remittance. First, evidence is highly consistent that families with greater assets are the ones to maximize their foreign remittance with this relationship getting stronger over time. While the relatively better performance of the log-log

specification indicates the relationship to be non-linear with the positive role of assets attenuating with their greater increases, assets are found to be the most consistent predictor of foreign remittance. On the face of it, it is reasonable to find that families with greater asset endowments are able to afford to have their members in foreign employment generating greater amounts of remittance in return. Given that making the specific job opportunities in a far away land a reality necessitates enormous investment in preparation and information access (Bhattarai 2005; Bohra and Massey 2009; NIDS 2007, 2008; Yamakana 2003), those with ability to afford are expected to generate larger foreign remittance. Without financial investment, for example, families cannot even apply for specific job opportunities that are typically processed through different manpower agencies in Nepal, to apply for visa, or to pay for the required travel costs. These costs also tend to rise with better employment prospects with manpower agencies attaching applications for certain countries or industries with lucrative job offers with greater processing or visa fees. Some families are able to borrow to pay for these necessary expenses but borrowing does not come without costs and lenders are not ready to lend without certain assets in the form of real estate, house, or business as collateral. It must be conceded that the measurement of current assets does not fully capture the amount of assets available to fund the migration processing at the time it occurred as the stock of assets may change due to many factors including the foreign remittance itself. But it provides a reasonable basis to examine the role of one's ability to invest especially given that asset formation is a rather lengthy process taking years if not decades to realize and thus the assets captured in the data may apply for a reasonable length of time.

At a theoretical level, however, the finding that greater assets are associated with greater foreign remittance may not directly support the livelihood strategy hypothesis that suggests that

families with financial vulnerability pursue foreign employment to sustain their livelihoods (Ellis 2003; Rakodi and Lloyed-Jones 2002; Thieme and Wyss 2005). But the facts that foreign remittance requires prior investment and that families typically pursue foreign employment to diversify their earning portfolio are consistent with the livelihood strategy framework (Rafique, Massey, and Rogally 2006). To make larger gains, one would be expected to make greater investments requiring greater resource endowments. Also, almost all of the families with foreign remittance had some non-remittance income with most reporting employment, business, and/or agricultural incomes. This strategy may have further institutionalized in rural as well as urban areas in Nepal during the period covered here and beyond as the political instability and financial insecurity forced people to find ways to support themselves. This is even more important when social insurance and security is unavailable at the institutional level and parents increasingly count on their offspring for longer term security of their own.

Yet, when the amount of foreign remittance is directly related with assets, families without other alternatives may not be the only ones to utilize foreign employment. The finding is not fully consistent with the positive poverty and inequality reducing effects of foreign remittance reported in Tables 1 and 2. If those with greater assets are the ones to reap greater benefits from foreign employment, the argument that the bottom stratum of the families would see their relative economic positions improve in society as supported by the relative deprivation hypothesis (Bhandari 2004; Stark 1991; Stark and Bloom 1985) cannot be meaningfully sustained. Under this hypothesis, families compare their economic positions vis-à-vis those of others in their own and other societies and utilize migration and foreign employment as a way to improve their relative positions. The results suggest, however, that foreign employment may not have reduced inequality even though the Gini indices may have reduced slightly. The reason has

partly to do with the way inequality was measured using income as the indicator without any connection between income earning capacity and assets. Once these interconnections between assets and income are incorporated, as in the GLS regression but more so in the 3SLS regression (Wagle 2006a), the inequality reducing effect of remittance cannot hold, suggesting that the true implications of remittance are more complicated to assess than what descriptive statistics provide them to be.

There can be a valid argument that the livelihood strategy or relative deprivation hypotheses are not based on what happens at the top of the distribution as long as remittance helps lower poverty. Focusing on the assets-remittance nexus alone does not provide the complete picture of who benefits from remittance since it is the income that is more related to economic well-being and poverty. The second important finding therefore concerns the relationship between foreign remittance and non-remittance income, the evidence on which appears to be highly fragile. The GLS regression did not detect any significant relationship for families receiving foreign remittance. The 3SLS regression that incorporated the direct as well as indirect relationships suggested that while the indirect relationship is positive especially for 2004, even larger direct and negative relationship would lead to the net relationships to be negative. The findings therefore suggest that how large the amounts of foreign remittance families with at least some foreign remittance would be likely to receive would not depend on their non-remittance income. The larger sample including all families, on the other hand, indicated that the interrelationships between foreign remittance and non-remittance income may have changed over time. Whereas the non-remittance income was positively related to foreign remittance through assets in 1996, the net relationship was negated for 2004 as its direct positive relationship was larger than its indirect negative relationship.

Non-remittance sources and foreign remittance constitute two separate types of income sources with the former deriving from activities within the country and the latter from outside of the country. Not every migrant worker sends money and not everyone sends the equal proportion of the earned money. Even following the livelihood strategy framework, families tend to have different sources of income including employment, self-employment, agriculture, house rental, and investment in stocks, real estates, or businesses. Even though seemingly unrelated, the two forms of income may be highly interrelated with foreign remittance helping to form assets which is then invested for income generation. On the contrary, foreign remittance may encourage other family members to shun employment or other income generating activities, putting negative pressures on non-remittance income. This may be the case especially when the chief breadwinner in the family has migrated out of the country leaving other adult(s) at home with dependent children. What is clear with these caveats in mind, however, is that foreign remittance tended to go to those families that already had greater non-remittance income in 1996. This in essence is to say that the Matthew-effect prevailed making the rich richer and poor poorer. This may have changed by 2004 in an important way as families with smaller non-remittance income tended to receive greater foreign remittance, with other things being equal, indicating that a slightly different set of families may have utilized foreign employment. Increasingly, for example, members from smaller and nuclear families may have adopted foreign employment to support and sustain livelihood especially in response to the increasing paucity of employment opportunities in Nepal. This is not to suggest that smaller families may have received greater foreign remittance, on which the evidence is quite the contrary. But while the proportion of families with remittance has increased over time, data show that these families have also been smaller, decreasing in size from an average of 6.55 members to 6.07 members.

It must also be noted that the amounts of foreign remittance vary greatly across families with the mean values reported in Table 1 not providing a complete picture. Whereas the sample mean of remittance in 1996 was over NPR 21,000, the median was less than its 40 percent. In 2004, by comparison, the average remittance was valued at over NPR 41,000 with the median value less than 37 percent. Anyone with some knowledge of income structure would know that a median in a typical distribution would be lower than its mean but the fact that the former is less than 40 percent and increasingly lower for the foreign remittance in Nepal indicates that the distribution is composed of a large number of small remittances and a small number of very large remittances. While even small amounts of foreign remittance can help families at the margin of poverty lines escape poverty, making noticeable dent on poverty headcount ratios, their contributions to the overall economic well-being may not have been very encouraging for a large number of families. This same phenomenon appears to be operational in showing that foreign remittance helps lower poverty, when in fact what is happening is not that the bottom strata of the distribution are gaining their relative position but that a large number of families are getting some help to supplement their incomes. In 1996, for example, data show that the bottom 50 percent of the families with foreign remittance had the average remittance receipts of less than NPR 3,000 and the average non-remittance income of just over NPR 11,000 totaling NPR 14,000 as their family income. In 2004, the average remittance for the bottom 50 percent increased to NPR 6,000 and the average non-remittance income to NPR 14,000, bringing the family income to NPR 20,000. When the additional money, however meager in size, is available for families to count as income, the overall distribution would look more equal helping to improve the Gini index.

This discussion suggests that, while foreign remittance helped many families avoid poverty,

this may not have substantively improved the overall economic well-being since most of the remittance receipts were relatively small. This did not substantively help lower inequality either, as those receiving large sums of money as foreign remittance possessed greater non-remittance income and/or assets already.

The third important finding has to do with the characteristics of the migrant workers remitting money. The hypothesis here was that males, immediate family members, and those in regions other than India and employed outside of agriculture would be associated with greater remittances. Findings are quite consistent that female migrants would be likely to remit significantly lower amounts of money whereas the immediate family members would be likely to remit greater amounts. Emigration of Nepali women for jobs is a more recent development and the labor demands in importing countries typically focus on one's physical strength for menial, hard work (Bhatarai 2005; NIDS 2007). Given the nature of these labor demands, women have not been able to compete for these opportunities (Graner 2001). Yet, while the findings capture the gendered nature of foreign employment and remittance, a very low representation of women migrant workers (numbering less than four percent) register further caution. The finding on the relationship of the sender to the recipient is also consistent with the expectation that immediate family members such as sons, daughters, or parents would be likely to remit more money. They have greater family attachment and responsibilities than do other relatives including siblings and thus would provide greater remittances.

Findings on the regions of migration are straightforward even though migration to regions other than the Middle East and East Asia would be more likely to generate greater remittance when compared to that to India. It is clear that the countries in the Middle East and East Asia—the latter were recorded as other countries in the 1996 survey—scored significantly better in

remittance in 2004. Historically, India has hosted millions of Nepali migrant workers at different kinds of unskilled jobs, as has Nepal hosted hundreds of thousands of Indian migrant workers, because of the visa-free mobility policy between them. But India also sends millions of migrant workers abroad for foreign employment and, even within the country, the recent waves of export-led growth have generated enormous rural to urban migration, making the domestic labor market in India not the destination of choice for most Nepali workers (Rafique et al. 2006; Thieme 2006). Due to enormous competition among job-seekers, employers in India do not offer competitive wages especially for unskilled labor greatly reducing the prospects for large remittances. The finding that all other countries than India are likely to generate greater amounts of remittance for Nepali families is well substantiated. While migration to the Middle East was not found to significantly increase the expected remittance for Nepali workers, a very low representation of these cases (less than three percent) warrants further caution. There is also evidence that the migrant workers employed in agriculture are likely to remit less money compared to those employed in non-agricultural sectors. The focus on agricultural and non-agricultural sectors was to be consistent with the availability of the data. But the findings are consistent with reasonable expectations that the agricultural sector is one of the least paid sectors in labor importing countries. Yet, the positive coefficients produced by the 3SLS regression models, together with partly significant coefficients on students and others, another category of employment used, suggest that findings are less than definitive.

Finally, findings have important implications for the different family characteristics focusing on urban/rural areas, regions, caste and ethnicity, and family size. While the 3SLS regression with instrumental variables has detected many more significant coefficients, there is some agreement across the models and years that families from the Kathmandu valley may have

tended to receive greater foreign remittances compared to those from other urban areas, who in turn may have been better off than those from rural areas. Given the relative advantages of the Kathmandu valley on economic resources and the relative disadvantages of rural areas when compared with other urban areas, the remittance money may have filtered down to rural areas. Since those from Kathmandu can make large investments and pursue migration to countries and industries offering better wages, they appear poised to receive a major chunk of the remittance money. Added to this are the internal migratory patterns especially augmented by the political turmoil during the late 1990s and early 2000s that those able to afford living in this capital city would migrate to Kathmandu and those able to afford living in other urban areas with relatively better security situation than rural areas would migrate there (Wagle 2009c, 2010). Partly, this is a self selection problem as people choose to live in different parts of the country depending on their resource endowments and livelihood strategies diversifying their earning portfolio. This is not to suggest that international migration has not affected rural areas as they have experienced mass exodus to urban areas especially to Kathmandu as well as to other countries (Bhandari 2004; Graner 2001; Shrestha, Velu, and Conway 1993; Thieme 2006; Thieme and Wyss 2005). But the ever-enlarging foreign remittance has made increasing contributions to the already engulfing urban and rural divide in Nepal.

The role of more arbitrarily drawn administrative regions and ecological belts appear to be largely inconsistent either across the regions or belts or over time. The relatively more advantaged position of the East and West and the relatively disadvantaged position of the Mid West compared to the Center appear to be inconsistent across the models and over time. The same holds for the relatively better positioned Terai and Mountain belts compared to the Hills. While the Western region and Terai may be catching up with the Center and Hills on the

amounts of foreign remittance given the changing internal migration patterns, further research would be needed to draw more definitive conclusions. One thing that is important, however, is the specific socioeconomic compositions of these regions and belts that help identify the implications of foreign employment and remittance.

Given the dominance of a socially embedded hierarchical caste system, there has always been an assumption that castes and ethnicities have played large roles in economic outcomes (Bista 1991; Gellner 2007; Wagle 2010). Findings here partly support this assumption with the LCH's, Newars, and Muslims likely to decrease the amount of foreign remittance compared to the HCH's including Brahmins and Chettris. While there are some differences especially with Muslims' disadvantaged position documented by the 2004 data and the Newars' disadvantaged position perhaps faded by 2004,[13] the suggestion has been that these caste and ethnic backgrounds appear to make the pattern of foreign remittance dominated by the HCH's with other things held constant. One interesting finding—better termed as a lack of it—is concerning the Janjatis around whom much of the ongoing ethnic politics has centered (Gellner 2007). Although the Janjatis have been perceived to lag significantly behind others and particularly behind the HCH's, findings are consistent that their foreign remittance does not appear to be any smaller than those of the HCH's. This does not align fully with the results from the 3SLS regression in determining their non-remittance income and assets and through them foreign remittance as they apply to the larger population. This inconsistency suggests a need to go beyond the ethnic identities especially given that this group includes a large number of tribal denominations that manifest a range of advantages and resources.

Family size is one of the important characteristics the relationship of which has remained highly consistent across all models and years: larger families are likely to receive greater

amounts of foreign remittance. This does not mean that families sending migrant workers have grown in size over time as data show it to be the contrary. Consistent with smaller likelihoods of poverty for larger families (Wagle 2006b), the positive relationship of family size with remittance may depend on the ability of larger families to invest in better foreign employment opportunities ensuring greater return. Another possibility that has not been explored neither is there a way to do so using the exiting data is whether or not these families tended to have multiple migrant members pooling remittance money together.

VI. Conclusion

This analysis examined the rising foreign remittance activities in Nepal affecting a large number of migrant workers, their families, society, and the economy in general. Data were limited to the years 1996 and 2004, constricting the ability to extend the analysis to the mid-2000s, the period with enormous acceleration in migration for foreign employment and remittance. The idea was to identify the socioeconomic implications of foreign remittance on income, poverty, and inequality. A study of the socioeconomic implications is timely given that foreign remittance has evolved as one if not the most important source of income and foreign currency in Nepal, transforming the entire economy into remittance economy and a good proportion of families into remittance families.

Data suggest that the period registered enormous growth in foreign employment with foreign remittance constituting 18 percent of the family income in the larger population and close to 63 percent of the family income for those receiving at least some foreign remittance, figures that were up to 13 percentage points higher in 2004 than in 1996. This increasing remittance income helped reduce both poverty and inequality by close to four percent suggesting that the bottom

strata of the population may have benefited equally if not more highly. Further multivariate analyses suggested, however, that these observations based purely on descriptive statistics may be premature. The consistently positive relationship of assets and foreign remittance, for example, indicated that among the greatest beneficiaries of these remittances may have been the wealthy with those at the bottom of the wealth distribution receiving marginal amounts. This was further substantiated by the fact that a large number of families received only a small amount compared to very few families that received large amounts. Similarly, while the negative association of non-remittance income with foreign remittance especially for 2004 was partly consistent with the poverty reducing effects of foreign remittance, a larger portion of the benefits appeared to have gone to families with considerable amount of non-remittance income.

These findings, together with those on the roles of the sender and family characteristics, suggest that families to benefit from foreign employment include those with immediate relatives as the migrant workers especially in countries other than India and those located in urban areas, HCH's, and large families. Many other characteristics relevant to examine the implications of foreign remittance did not show consistent relationships either between the sample of families with foreign remittance and the larger population, over time, or both. These findings have important implications for policies on foreign employment and remittance as well as the general social and economic structure. Whereas the government can count on foreign remittance to lower extreme poverty, it does not appear to have contributed much toward greater economic well-being especially given that it may have some work or business disincentives for the family members receiving foreign remittance. Since most of the amounts of foreign remittance appear to be small, without much impact on improving the economic well-being of recipient families, the eligibility criteria especially for foreign employment outside of India may need to target low

income groups from rural areas. The government may also need to keep cost of information on foreign employment low by offering greater information outreach. While the recipients of foreign remittance appear to be somewhat random by geography or ethnicity, greater policy efforts are needed to promote foreign employment among the LCH's, Newars, and Muslims especially for countries other than India. Efforts are also needed to lessen the increasing inequality of income and particularly assets due to foreign employment that have caused further economic disparities in society.

Analytical findings can be as valid as the data render them to be. Survey data like these can have large measurement errors especially when the specific subsample under consideration is largely self selected without much control of the researcher. While more efficient econometric strategies help mitigate these potential biases, they cannot completely remove them. Larger samples of remittance families would help examine the implications of remittances more comprehensively. To the extent allowed by data, future research needs to examine issues at various regional levels as well as for various castes and ethnicities, allowing derivation of more specific understanding. Focus also needs to be on obtaining more comprehensive profiles of migrant workers to draw more definitive conclusions about their job characteristics as well as their pre-migration preparatory and post-migration job experiences.

Notes

[1] These English years are used as shorthand even though the actual years they refer to are Nepali fiscal years. The year 2005, for example, represents the Nepali fiscal year of 2004/2005 with mid-July as the cutoff point.

[2] The surveys were conducted during the Nepali fiscal years 1995/1996 and 2003/2004. But the two years are referred here as 1996 and 2004 even though the actual data collection took place during the entire fiscal years.

[3] Total income aggregates income from all sources including employment, self employment, agriculture, house rental, business and investment, remittance, and home and in kind production. Although not specifically considered income, this last category needs to be included to capture the amount of money equivalence that working in family farms or home production typically brings to the overall economic well-being in this society where a large portion of the population depends on subsistence agriculture (CBS/Nepal 1996, 2004).

[4] The poverty headcount ratios presented in Table 2 appear to be strikingly higher than those reported elsewhere for Nepal (World Bank 2006) even though the NLSS serves as the unified source of survey data for these computations. This is even more so when considering that both computations use the same nationally recognized poverty lines. The major difference, however, has to do with the use of income and consumption as the basis of poverty measurement. The methodological problems inherent in survey-based income estimates are widely recognized especially in rural areas where monetary values do not typically enter the calculus of daily family economy. This is also the reason why consumption estimates are used to measure poverty in most if not all developing countries. These caveats apply to the higher poverty estimates reported in Table 2. It is also important to remember, however, that the goal here is not to examine the magnitude of poverty per se but to visit them in order to examine the impact of remittance. And, the results on this will be valid as long as the methodology applied does not cause bias in any particular direction.

[5] During the period, data show that the proportion of families receiving foreign remittance more than tripled in East, more than doubled in Mid West and Far West, and increased by 34 and 27 percents in Center and West respectively.

[6] This is in the form of net-worth including real estate, houses, business and investment, and other liquid assets.

[7] These may include factors that are related to education and human capital, motivation, and employment.

[8] Ideally, access to greater information about migration would have lagged effects on future migration decisions especially considering lengthy migration processes. While an ideal approach would be to obtain data from previous population censuses, matching data at the community level would be exceedingly challenging. The one adopted here is to construct this variable form the NLSS data so that the findings would be indicative despite some likely temporal differences. Also, the focus of this analysis on PSUs helps capture more specific contexts than focusing on more aggregate districts as is the case with Lokshin et al. (2007) in Nepal or even on aggregate ethnicities as is the case with Adams et al. (2008) in Ghana. Data on a total of 274 PSUs in the 1996 round and on 336 PSUs in the 2004 round of the NLSS would be far more specific and superior than the data on 75 districts.

[9] Whereas Wagle (2006a) found assets to directly affect income and income to indirectly affect asset formation in Kathmandu, this may not be representative of rural areas where the likelihood of assets remaining idle is greater.

[10] While the sampling weights supplied with the data have been used throughout this analysis to make the results representative of the entire population in the country, a transformed weighting variable was used for the GLS estimator. The transformation took the form of 1/W, with W signifying the sampling weight.

[11] It would be ideal to capture specific industries, occupations, and employment types to examine how the amounts of remittance vary across countries. But these were not included in the analysis due to data unavailability reasons thus potentially increasing the omitted variables bias.

[12] Evaluated at the sample average, for example, the negative direct effect on foreign remittance turns out to be about NPR 4.90 for every 100 percent increase in non-remittance income, which is greater than the total, positive effects estimated at NPR 1.32 as the product of NPR 293.76 (the effect on assets of 100 percent increase in non-remittance income) and NPR 0.45 (the effect on foreign remittance of 100 percent increase in assets).

[13] The Newars have traditionally been considered to be at socioeconomic disadvantage compared to the HCH's. But they have been able to solidify their position during the period covered here as evidenced by their increasing incomes and assets (Wagle 2009). When it comes to foreign employment and remittance, however, they appear to still lag behind, posing questions on their desire to migrate for employment and remit money back to families (Lokshin et al. 2007).

References

Adams, Richard, Alfredo Cuecuecha, and John Page. 2008. The Impact of Remittances on Poverty and Inequality in Ghana. World Bank Policy Research Working Paper #4732.

Adams, Richard. 2005. Remittances, Household Expenditures, and Investment in Guatemala. World Bank Policy Research Working Paper #3532.

Barham, Bradford and Stephen Boucher. 1998. Migration, Remittances, and Inequality: Estimating the Net Effects of Migration on Income Distribution. *Journal of Development Economics*, 55(2), 307-31.

Bhandari, Prem. 2004. Relative Deprivation and Migration in an Agricultural Setting of Nepal. *Population and Environment*, 25(5), 475-99.

Bhattarai, Prakash. 2005. Migration of Nepalese Youth for Foreign Employment: Problems and Prospects. Youth Action Nepal (mimeo).

Bista, Dor. 1991. *Fatalism and Development: Nepal's Struggle for Modernization.* Calcutta, India: Orient Longman.

Bohra, Pratikshya and Douglas Massey. 2009. Process of Internal and International Migration from Chitawan, Nepal. *International Migration Review*, 43(3), 621-51.

CBS/Nepal. 1996. *Nepal Living Standard Survey 1995/96: Main Findings (Volumes I and II).* Kathmandu, Nepal: Central Bureau of Statistics.

CBS/Nepal. 2004. *Nepal Living Standard Survey 2003/04: Statistical Report (Volumes I and II).* Kathmandu, Nepal: Central Bureau of Statistics.

Du, Yang, Albert Park, and Sangui Wang. 2005. Migration and Rural Poverty in China. *Journal of Comparative Economics*, 33, 688-709.

Ellis, Frank. 2003. A Livelihoods Approach to Migration and Poverty Reduction. A paper

commissioned by the Department for International Development, Contract No: CNTR 03 4890.

Fajnzylber, Pablo and J. Humberto López. 2007. *Close to Home The Development Impact of Remittances in Latin America* (Conference Edition). Washington, DC: the World Bank.

Gellner, David. 2007. Nepal: Towards a Democratic Republic: Caste, Ethnicity, and Inequality in Nepal. *Economic and Political Weekly*, (May 19), 1823-28.

Gonzalez-Konig, Gabriel and Quentin Wodon. 2005. Remittances and Inequality. Poverty Group of the Latin America Region in The World Bank (mimeo).

Graner, Elvira and Ganesh Gurung. 2003. Arab Ko Lahure: Looking at Nepali Labour Migrants to Arabian Countries. *Contributions to Nepalese Studies*, 30(2), 295-325.

Graner. Elvira. 2001. Labor Markets and Migration in Nepal: The Case of Workers in Kathmandu Valley Carpet Manufactories. *Mountain Research and Development*, 21(3), 253-59.

Gustafsson, Bjorn and Negatu Makonnen. 1993. Poverty and Remittances in Lesotho. *African Economies*, 2(2), 49-73.

Kollmair, Michael, Siddhi Manandhar, Bhim Subedi, and Susan Thieme. 2006. New Figures for Old stories: Migration and Remittances in Nepal. *Migration Letters*, 3(2), 151-60.

Lokshin, Michael, Mikhail Bontch-Osmolovski, and Elena Glinskaya. 2007. Work-Related Migration and Poverty Reduction in Nepal. World Bank Policy Research Working Paper # 4321.

Nepal Rastra Bank. 2009. *Quarterly Economic Bulletin,* v44(#3). Kathmandu, Nepal: Nepal Rastra Bank.

NIDS. 2007. *Nepal Migration Year Book 2006*. Kathmandu, Nepal: Nepal Institute of

Development Studies.

NIDS. 2008. *Nepal Migration Year Book 2007*. Kathmandu, Nepal: Nepal Institute of Development Studies.

Qian, Hailong and Peter Schmidt. 1997. The Asymptotic Equivalence Between the Iterated Improved 2SLS Estimator and the 3SLS Estimator. *Econometric Reviews*, 16(4), 441-57.

Rafique, Abdur, Deeptima Massey, and Ben Rogaly. 2006. Migration for Hard Work: A Reluctant Livelihood Strategy for Poor Households in West Bengal, India. Development Research Centre on Migration, Globalisation and Poverty Working Paper # T17.

Rakodi, Carole and Tony Lloyed-Jones. 2002. *Urban Livelihoods: A People-Centered Approach to Reducing Poverty*. London, England: Earthscan.

Seddon, David, Jagannath Adhikari, and Ganesh Gurung. 2002. Foreign Labor Migration and the Remittance Economy of Nepal. *Critical Asian Studies*, 34(1), 19-40.

Seddon, David. 2005. Nepal's Dependence on Exporting Labor. Migration Information Source (accessed on 9/24/2009 from http://migrationinformationsource.org).

Shrestha, Nanda, Raja VElu, and Dennis Conway. 1993. Frontier Migration and Upward Mobility: The Case of Nepal. *Economic Development and Cultural Change*, 41(4), 787-816.

Stark, Oded and David Bloom. 1985. The New Economics of Labor Migration. *The American Economic Review*, 75(2), 173-78.

Stark, Oded. 1991. *The Migration of Labor*. Cambridge, MA: Blackwell.

Thieme, Susan and Simone Wyss. 2005. Migration Patterns and Remittance Transfer in Nepal: A Case Study of Sainik Basti in Western Nepal. *International Migration*, 43(5), 59-98.

Thieme, Susan. 2006. *Social Networks and Migration: Far West Nepalese Labour Migrants in Delhi*. Munster, Germany: LIT.

Wagle, Udaya. 2006a. Economic Inequality in Kathmandu: A Multi-Indicator Perspective. *Himalayan Journal of Development and Democracy,* 1(1), 1-30.

Wagle, Udaya. 2006b. The Estimates and Characteristics of Poverty in Kathmandu: What Do Three Measurement Standards Suggest? *Social Science Journal,* 43(3), 405-23.

Wagle, Udaya. 2009a. Thriving Kathmandu: Causes for celebration. *The Himalayan Times*, July 30.

Wagle, Udaya. 2009b. Thriving Kathmandu: Causes for Concern. *The Himalayan Times*, September 11.

Wagle, Udaya. 2009c. Economic Inequality in Nepal: Patterns and Changes During the Late 1990s and Early 2000s. *Journal of International Development*, 21, 1-19 (in press).

Wagle, Udaya. 2010. Income and Wealth Inequality in Nepal, 1996 and 2004: Changes and Socio-Demographic, Spatial, and Economic Determinants. *Journal of Contemporary Asia*, 40(1), 83-105 (in press).

Wooldridge, Jeffrey. 2009. Introductory Econometrics: A Modern Approach (4th Edition). Mason, OH: Thompson.

Yamanaka, Keiko. 2000. Nepalese Labor Migration to Japan: From Global Warriors to Global Workers. *Ethnic and Racial Studies*, 23(1), 62-93.

Figure 1: Changes in Foreign Remittance (1991-2008)

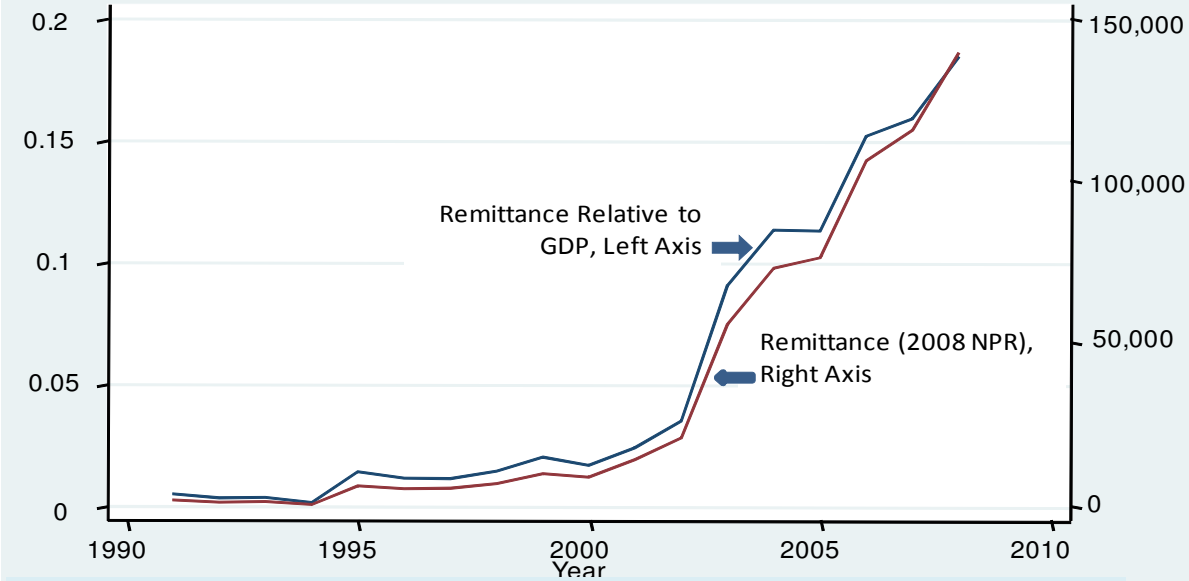

Figure 1, Changes in Foreign Remittance (1991-2008)
Source: Ministry of Finance/Nepal (various years); Nepal Rastra Bank (2009)

Table 1, Income from Foreign Remittance and Total Income (Values in 2004 NPR unless indicated otherwise)

Income and Level	1996		2004		% Change	
	N	Average Value (NPR)	N	Average Value (NPR)	N	Average Value (NPR)
All Families						
Remittance Income	3,606	2,422	4,263	7,802	18.22	222.13
Total Income	3,606	41,447	4,263	56,845	18.22	37.15
All Individuals						
Remittance Income	22,315	412	24,153	1,598	8.24	287.86
Total Income	22,315	7,533	24,153	11,944	8.24	58.56
Families with Foreign Remittance						
Remittance Income	380	21,229	750	41,157	97.37	93.87
Total Income	380	42,377	750	65,454	97.37	54.46
Individuals in Families with Foreign Remittance						
Remittance Income	2,505	3,611	4,613	8,430	84.15	133.45
Total Income	2,505	6,955	4,613	12,817	84.15	84.28

Table 2, The Effect of Foreign Remittance on Poverty Headcount Ratios[a] (Values are percentages based on non-negative incomes)

Coverage	1996			2004		
	Non-Remittance Income	Total Income	Effect of Remittance (%)[b]	Non-Remittance Income	Total Income	Effect of Remittance (%)[b]
Urban and Rural Areas						
Kathmandu Valley	12.00	11.59	-3.39	11.60	10.39	-10.48
All Urban Areas	39.05	38.36	-1.78	31.21	27.28	-12.58
All Rural Areas	76.44	74.67	-2.31	86.76	83.59	-3.65
Development Regions						
East	70.73	69.47	-1.78	83.10	84.62	1.82 [c]
Center	66.14	64.96	-1.79	80.62	79.83	-0.98
West	80.98	77.46	-4.35	74.11	62.91	-15.12
Mid West	84.45	82.72	-2.05	76.05	74.38	-2.20
Far West	90.40	46.48	-48.58	79.36	77.74	-2.04
Nepal	*75.07*	*73.23*	*-2.45*	*80.28*	*76.95*	*-4.15*

Notes:

a. The aggregate poverty lines for individuals were estimated to be NPR 5,089 and NPR 7,696 in 1996 and 2004 respectively. But the values in this table are based on the specific poverty lines applicable to Kathmandu, other urban areas, and rural areas in the Western and Eastern Hill and Western and Eastern Terai for 1996 and 2004. See World Bank (2006) for details.

b. Poverty reducing effects of remittance.

c. This positive effect results from the larger sizes of poor families and not from negative remittance.

Table 3, The Effect of Foerign Remittance on Income Inequality (The reported Gini indices are based on non-negative incomes)

Coverage	1996			2004		
	Non-Remittance Income	Total Income	Effect of Remittance (%)[a]	Non-Remittance Income	Total Income	Effect of Remittance (%)[a]
Urban and Rural Areas						
Kathmandu Valley	0.507	0.507	0.000	0.513	0.512	-0.195
All Urban Areas	0.561	0.557	-0.713	0.562	0.547	-2.669
All Rural Areas	0.496	0.484	-2.419	0.520	0.504	-3.077
Development Regions						
East	0.470	0.469	-0.213	0.528	0.518	-1.894
Center	0.591	0.590	-0.169	0.627	0.619	-1.276
West	0.546	0.524	-4.029	0.580	0.549	-5.345
Mid West	0.683	0.664	-2.782	0.583	0.555	-4.803
Far West	0.485	0.452	-6.804	0.579	0.526	-9.154
Nepal	*0.600*	*0.590*	*-1.667*	*0.608*	*0.586*	*-3.618*

Note: a. Inequality reducing effects of remittance

Table 4, GLS Regression of Foreign Remittance (For families with remittance)

Description	1996		2004	
	Coefficient	Standard Error	Coefficient	Standard Error
Non-remittance income (Log)	-0.005	0.054	-0.076	0.039
Assets (Log)	0.122	0.046 **	0.076	0.027 **
Sender Characteristics				
Female	-1.385	0.319 **	-0.587	0.277 *
Son, daughter, or parent of the recipient	0.847	0.178 **	0.708	0.102 **
Sibling of the recipient	-0.322	0.253	-0.241	0.201
Middle East	1.179	1.250	1.661	0.124 **
East Asia	-	-	1.768	0.172 **
Other Countries	1.078	0.338 **	1.658	0.223 **
Employed in agriculture	-0.789	0.240 **	-0.260	0.166
Students or others	-0.972	0.449 *	-0.452	0.382
Family Characteristics				
Kathmandu Valley	1.548	1.581	0.811	0.397 *
Rural areas	1.270	0.607 *	-0.288	0.163
East	0.755	0.282 **	-0.262	0.137
West	-0.216	0.274	0.422	0.141 **
Mid West	-0.072	0.325	-0.476	0.161 **
Far West	-0.420	0.377	-0.111	0.184
Mountain Belt	0.085	0.532	0.494	0.212 *
Terai Belt	-0.450	0.207 *	0.325	0.107 **
Middle Caste Hindus	0.326	0.387	-0.220	0.176
Lower caste Hindus	-0.576	0.292 *	-0.621	0.129 **
Newar	-1.734	0.486 **	-0.510	0.255 *
Janjatis (tribal groups)	-0.025	0.207	-0.118	0.114
Muslims	0.113	0.289	-0.413	0.197 *
Other ethnicities/religions	0.029	0.711	0.238	0.540
Family size	0.118	0.025 **	0.084	0.016 **
Constant	5.624	1.039 **	8.460	0.539 **
N	380		750	
R-Squared	0.414		0.452	
Root Mean Squared Error (RMSE)	1.330		1.161	

Note: * $p < 0.05$; ** $p < 0.01$

Table 5, 3SLS Regression of Foreign Remittance, Non-Remittance Income, and Assets (For all families)

Description	1996 (N = 3606)		2004 (N = 4263)	
	Coefficient	Standard Error	Coefficient	Standard Error
Foreign Remitance (Log)				
Non-remittance income (Log)	-0.163	0.091	-0.308	0.088 **
Assets (Log)	0.144	0.059 *	0.389	0.063 **
Ratio of families with foreign remittance	6.446	0.291 **	5.888	0.250 **
Female	-0.811	0.227 **	-0.657	0.213 **
Son, daughter, or parent of the recipient	3.881	0.188 **	3.513	0.157 **
Sibling of the recipient	0.829	0.208 **	0.289	0.207
Middle East	6.932	1.254 **	7.036	0.229 **
East Asia	-	-	8.078	0.334 **
Other Countries	7.155	0.430 **	8.677	0.409 **
Employed in agriculture	0.814	0.150 **	0.393	0.188 *
Students or others	1.856	0.499 **	-0.298	0.348
Constant	-0.172	0.820	-1.719	0.767 *
R-Squared	0.371		0.520	
Root Mean Squared Error (RMSE)	2.259		2.653	
Non-remittance income (Log)				
Kathmandu Valley	1.063	0.136 **	0.981	0.089 **
Rural areas	-0.237	0.084 **	-0.622	0.049 **
East	-0.099	0.047 *	0.020	0.041
West	-0.306	0.051 **	-0.067	0.044
Mid West	-0.281	0.059 **	-0.004	0.052
Far West	-0.494	0.069 **	-0.232	0.065 **
Mountain Belt	-0.090	0.066	0.024	0.061
Terai Belt	0.204	0.043 **	0.282	0.035 **
Middle Caste Hindus	-0.116	0.091	-0.482	0.069 **
Lower caste Hindus	-0.026	0.053	-0.081	0.049
Newar	-0.287	0.090 **	0.092	0.064
Janjatis (tribal groups)	-0.157	0.046 **	-0.221	0.037 **
Muslims	0.024	0.081	-0.283	0.074 **
Other ethnicities/religions	0.480	0.107 **	0.107	0.190
Family size	0.086	0.006 **	0.088	0.006 **
Householder Female	-0.604	0.051 **	-0.550	0.038 **
Househonder's age	-0.002	0.001	-0.006	0.001 **
Householder with at least 12 years of schooling	0.797	0.127 **	0.999	0.077 **
Constant	9.935	0.109 **	10.431	0.082 **
R-Squared	0.214		0.307	
Root Mean Squared Error (RMSE)	1.022		0.976	
Assets (Log)				
Non-remittance income (Log)	0.282	0.088 **	0.214	0.068 **
Kathmandu Valley	-0.013	0.234	0.375	0.171 *
Rural areas	-0.624	0.132 **	-0.443	0.098 **
East	-0.423	0.074 **	-0.119	0.071
West	0.083	0.085	0.553	0.077 **
Mid West	-0.235	0.096 *	0.235	0.089 **
Far West	-0.360	0.117 **	0.469	0.114 **
Mountain Belt	-0.325	0.103 **	0.153	0.106
Terai Belt	-0.240	0.069 **	0.133	0.066 *
Middle Caste Hindus	-0.975	0.142 **	-0.305	0.124 *
Lower caste Hindus	-0.983	0.083 **	-1.239	0.086 **
Newar	-0.456	0.142 **	0.199	0.111
Janjatis (tribal groups)	-0.284	0.073 **	-0.690	0.067 **
Muslims	-1.136	0.125 **	-1.197	0.130 **
Other ethnicities/religions	0.052	0.173	-0.633	0.330
Family size	0.121	0.012 **	0.122	0.011 **
Constant	9.659	0.878 **	10.109	0.697 **
R-Squared	0.175		0.173	
Root Mean Squared Error (RMSE)	1.573		1.712	

Note: * $p < 0.05$; ** $p < 0.01$