

Remittances and Financial Inclusion: Evidence from Nepal

Nayan Krishna Joshi⁸

IIDS at Kathmandu University, Kathmandu, Nepal

Sadichchha Shrestha⁹

New York University Shanghai, Shanghai, China

Shailie Rimal¹⁰

IIDS at Kathmandu University, Kathmandu, Nepal

Saurab Shrestha¹¹

IIDS at Kathmandu University, Kathmandu, Nepal

Bishnu Dev Pant¹²

IIDS at Kathmandu University, Kathmandu, Nepal

Abstract

Research question with some background

Since 2008, Nepal has been consistently ranked as one of the top ten remittance recipient countries in the world when remittances are measured as a share of gross domestic product (GDP). In fact, among the countries receiving remittances as a proportion of GDP, Nepal stood second in 2016, first in 2015, and third in 2013 and 2014. However, despite this fact, the empirical evidence on how remittances impact financial inclusion - household's access to and use of formal financial services - in Nepal remains scarce. In this paper, we attempt to fill this gap in literature. In particular, we examine whether remittances have an impact on the likelihood of households: i) having an account at a formal financial institution; ii) having an outstanding debt; and iii) purchasing loan products from a formal financial institution. This question is important because financial inclusion has been shown to foster inclusive growth and economic development (see Demirgüç-Kunt & Singer, 2017 for related empirical evidence).

Conceptually, remittances could impact financial inclusion through a variety of mechanisms. First, remittances are typically lumpy and thus, the increase in remittances may increase the demand for deposit services at formal financial institutions because households need these services for the safe storage of their temporary excess funds (Aggarwal, Demirgüç-Kunt, & Peria, 2011; Anzoategui, Demirgüç-Kunt, & Peria, 2014; Ambrosius & Cuenca, 2016). Second, remittances reduce the information asymmetry between formal financial institutions (lenders) and recipient households (borrowers) by providing the information on the income of the households to the lenders (Anzoategui, Demirgüç-Kunt, & Peria, 2014; Ambrosius & Cuenca, 2016). This increases households' creditworthiness and the likelihood of obtaining a loan from formal financial institutions. However, remittances may also function as a substitute for credit by relaxing

⁸ Email: nayankrishnajoshi@gmail.com

⁹ Email: ss9387@nyu.edu

¹⁰ Email: shailierimal@gmail.com

¹¹ Email: saurabmshrestha@gmail.com

¹² Email: bishnu.pant@gmail.com

households' credit-constraints and thus reducing the households' demand for a loan from formal financial institutions. In summary, we expect ex-ante remittances to increase the households' use of accounts at formal financial institutions. On the other hand, the impact of remittances on demand for a loan is a priori unclear.

Data and Statistical Methods used

We use a unique micro-level data from a large household survey undertaken by Government of Nepal, Ewha Womans University (Korea), International Organization for Migration (IOM), and the Institute for Integrated Development Studies (Nepal) from November 2015 through June 2016, involving three of the authors, with the financial assistance from Korea International Cooperation Agency and IOM Development Fund. The survey is nationally representative and covers 31 of the 75 districts in Nepal, with the sample design created in close coordination with the Nepali Central Bureau of Statistics. The dataset includes migrant households, non-migrant households, potential migrant households, and returnee migrant households as separate target groups with individualized questionnaires. Among others, the dataset provides detailed information about the household head, remittances, banking and saving behaviour, and investment behaviour for 5837 households.

To examine the impact of remittances on financial inclusion, we use the following econometric model:

$$FININC_i = \alpha + \beta_1 + REM_i + \beta_2 X_i + \varepsilon_i$$

where, i denotes the household, $FININC$ refers to one of the following three binary dependent variables related to financial inclusion: i) whether households have an account (savings, current, fixed, or other) at a formal financial institution (bank, finance company, and co-operatives); ii) whether households the following loan products from a formal financial institution: educational loan, personal loan, business loan, housing/construction loan, and debit/credit card at the time of the survey.

The main variable of interest is REM , a dummy variable that takes the value one when household received remittances from abroad during the previous 12 months. X are control variables at the household and district level. Consistent with previous studies (Anzoategui, Demirgüç-Kunt, & Pería, 2014; Ambrosius & Cuecuecha, 2016), we include the following household-level control variables: age of the household head, gender of the household head, education of the household head, caste of the household head, log of monthly per capita expenditure as a proxy for the income level of household, and household size.

The estimate of β_1 cannot be interpreted as a causal effect because household remittances may not be exogenous. There are two reasons for this. First, there may be the possibility of reverse causality from financial inclusion to remittances, e.g., if migration is financed through debt from formal financial institutions or if financial inclusion reduces the cost of remittances, then financial inclusion might have a causal impact on remittances (Anzoategui, Demirgüç-Kunt, & Pería, 2014; Ambrosius & Cuecuecha, 2016). Second, there may be omitted variable bias: there may be unobserved factors that are correlated with both financial inclusion and remittances.

There are at least two reasons why reverse causation is less likely in our study. First, migration is less likely to be financed through debt from formal financial institutions since migrants are

normally poor individuals with little to no collateral. Second, the World Bank's Remittance Prices Worldwide database show that the recent cost of sending remittances to Nepal are, on the average, lower for money transfer operators vis-à-vis formal financial institutions. Thus, ex-ante it is not clear whether financial inclusion reduces the costs of remittances. We also considered the use of instrumental variable estimations but did not employ it because there are no good instruments in our data set.

To address omitted variable bias, we control for all the theoretically relevant observables. We also include district fixed effects dummy variables, which we believe would address the concern that districtlevel factors might be driving both remittances and financial inclusion. Furthermore, we use the approaches of Altonji, Elder, and Taber (2005) and Oster (2016) to assess how much omitted variables could potentially bias our results.

References

Aggarwal, R., Demirgüç-Kunt, A., & Peria, M. S. M. (2011). Do remittances promote financial development? *Journal of Development Economics*, 96(2), 255-264.

Altonji, J. G., Elder, T., & Taber, C. (2005). Selection on observed and unobserved variables: Assessing the effectiveness of Catholic schools, *Journal of Political Economy*, 113, 151–184.

Ambrosius, C., & Cuenca, A. (2016). Remittances and the use of formal and informal financial services. *World Development*, 77, 80-98.

Anzoategui, D., Demirgüç-Kunt, A., & Peria, M. S. M. (2014). Remittances and financial inclusion: evidence from El Salvador. *World Development*, 54, 338-349.

Demirgüç-Kunt, A., & Singer, D. (2017). Financial inclusion and inclusive growth: A review of recent empirical evidence. Retrieved from <https://openknowledge.worldbank.org/bitstream/handle/10986/26479/WPS8040.pdf?sequence=1>

Oster, E. (2016). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business & Economic Statistics*. Forthcoming.