

Intergenerational  
determinants of  
occupational choice:  
The case of international  
labor migration from Nepal

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## Abstract

We study the deep determinants of occupational choice, with a focus on what appears to be a particularly profitable pathway out of poverty, overseas labor migration. To what extent is this choice constrained by access to economic resources, in contrast to variation in preferences, or perceived costs of migration? We use previous migration choices as an indicator of preferences for migration. We find that early in-migrants to the frontier area we study have more labor migrants today. This indicates that in-migrants need a generation to settle in the new location. Present occupational choice is also restricted by predetermined landholdings.

# 1. Introduction

Occupational choice in poor rural areas is a complex issue that is still not well understood. Poor households may, or may not, diversify their incomes. On one hand the non-poor may have the assets and opportunities necessary to branch into other income generating activities than agriculture, leaving the poor behind as small farmers. But on the other hand lack of resources force poor landless or marginal farmers to diversify by combining farming with casual labor or petty trading. So assets, including land and education, may explain your occupational choice, but at the same time the occupational choice affects your income and thus the opportunity to accumulate assets (Barrett, Reardon and Webb, 2001; Hatlebakk, 2012). And for some occupations we know that particular assets are necessary. A teacher will, for example, have some higher education, while a self-cultivating farmer will have land. There is also normally a lack of good instruments that could, in theory, solve the causality problem by creating exogenous variation in assets or income possibilities. One approach to get around this problem is to go far back in history, and assume that at some point in time your historical assets are independent of your occupations today. This is the strategy taken in this paper where we use recall of assets, occupations and events going back to grandfather's time.

Note that if we go only a few years back, as is common in panel data, then there is no reason to assume that assets are determined independently of occupations, as households invest in land or education precisely to become teachers or farmers in the future. But if we go further back, and we go back to the time when the grandfather of the present household head was 40 years old, then one may argue that landholdings are not a function of occupations today<sup>1</sup>. The only other paper we know that is using this identification strategy based upon intergenerational family histories is by us, on a parallel data set from Orissa (Hatlebakk, 2012). In Orissa we found, motivated by Banerjee and Newman's (1993) model of occupational choice and economic development, that initial land distribution in a village matters for land and occupational dynamics over generations.

That theory is, however, not relevant for the plains (terai) of Nepal. The terai is a frontier, previously forested, area with massive in-migration over the last 50 years. There was much less agricultural land available at grandfather's time, and there is no reason to expect that the land distribution at that time

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<sup>1</sup> One may argue that historic land, and present occupations, are correlated through some stable family traits that are inherited over generations. In theory one can control for this by family fixed effects. But we will focus on an occupation that was barely available two generations ago, overseas labor migration, so a fixed effects model would mean to investigate whether that choice today is determined by the change in, let us say, landholdings since grandfather's time. But we are here interested in the level of land the grandfather had, as well as his decision to relocate the family, which would both be part of a fixed effect. In a more stable economy, where people go in and out of, let us say, landlessness, and in and out of self-cultivation over generations, then fixed effects may be appropriate. We have in fact a parallel dataset from villages cross the border in Bihar, where family fixed effects may indeed add to the analysis.

have any effect on present day economic development<sup>2</sup>. During previous fieldwork in the area, spread over 15 years, we have noticed the importance of this resettlement and its implications for present social and economic dynamics of the villages. And at the same time we have noticed the dramatic recent increase in overseas labor migration. So in contrast to the stable villages of upland Orissa the focus of the present paper is on a vibrant village community with massive in and out migration. As migration plays an increasing role as a pathway out of poverty for villagers all over South-Asia, and elsewhere, we believe our case is an interesting one, as we can compare the role of traditional assets, here land, with the role of previous migration experiences in explaining present day migration choices. The data consists of family histories, going back to grandfather's time, collected from a random sample of 400 households from six villages in an ethnically diverse but relatively small area in the eastern plains of Nepal.

The massive resettlement to the plains was in fact encouraged by the Nepali government in different phases. It appears that the rulers wanted a "Nepali" origin population in the plains as a bulwark towards India, but over time there was also need for labor, and Dalit and tribal groups moved in from India as well. And even before this active resettlement policy there was in-migration in particular from India of people who over many generations have settled in the border regions (with the border quite often not being clearly defined). For discussions of the historical migration patterns as well as the economic and social structure of the area, we still find Gaige (1975) and Regmi (1972, 1988) to be the best sources. For a more recent overview of Nepali history see Whelpton (2005). There is also a growing literature that discusses the more recent tensions between people of "Nepali" and "Indian" (Madhesi) origin in the plains, which culminated in the so-called Madhesi uprising in 2007 (Hatilebakk, 2007). The Madhesi uprising was part of a broader ethnic movement in Nepal that has been fueled by the Maoist uprising (and some will say also by the western donors). There is also a literature on broader ethnic issues in Nepal, see in particular Hangen (2010), and for an early collection see Gellner, Pfaff-Czarnecka and Whelpton (1997).

The resettlement policy has had serious implications for the local indigenous population (in our area mainly *Tharu*, *Rajbansi* and *Santhal*). They have gradually sold, or lost, land to the settlers. We will study the implications of the historic resettlement and land accumulation for the present day population of all ethnicities. As the indigenous groups have had generations to adjust, they will today have very similar occupations to their non-indigenous neighbors, they all live from farming, casual labor, small trading, and for some of them, government or private sector formal jobs.

During the last decade there has been a dramatic change in the available livelihood opportunities. The Nepalese have always migrated abroad for work, with India still dominating in numbers. But recently many young men travel to Malaysia, and to an even larger extent, to the countries around the Persian Gulf, in particular Qatar and Saudi-Arabia. A normal monthly income for an unskilled laborer in Qatar

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<sup>2</sup> We do however believe that the land sales, and some will say theft, that has taken place over the period is important for present day development, and implicitly this is what we study here. But we do not believe that the variation in the distribution of land between villages at that time is important because those villages have completely changed due to in-migration. The landholdings we study are the land people owned where-ever they lived when the grandfather was 40. In the mean time they have used those assets to resettle in the plains, and many of them have purchased land there. We have not seen any explicit quantitative study of land sales in this region, and our data only allows for comparison of holdings at different points in time. But for a qualitative discussion of how the indigenous population of the plains gradually has lost control of land, see in particular Guneratne (2002), although his focus is more on the western terai.



will, including the regular overtime, be in the range of 20 000 rupees. The investment cost is 100 000, so in a year they will normally have repaid the loans taken to finance the trip. They stay 2-3 years and send a surplus back of let us say 300 000 rupees. If they rather stay at home they may be lucky and get a factory job, where they may earn 6000 rupees (USD 60) per month. For most families this will not give a surplus, while the savings from Qatar are normally used to upgrade the house and send children to an assumedly better school. Three years abroad will for many families make a toll, but for many of the younger men it is also an adventure, and they may bring back not only money, but also job experiences that can be useful in Nepal. The costs of migration depends to a large extent on the type of job they do overseas, as in particular construction workers bare a heavy toll working in the glaring desert sun, which from what we understand leads to a number of premature deaths<sup>3</sup>.

Despite the risks, there are villages in Nepal, including in our sample, where every second household has a migrant overseas, and many of them have started on a second or third trip. And there is no doubt that overseas labor migration is lifting households out of poverty. It also has a positive external effect on the non-migrants as labor is now in short supply in rural Nepal, so also local wages have gone up. But in this paper we focus on the migrants themselves. What immediate and historic factors determine whether a household choose this fast-track out of poverty and send a young man overseas for work? This has interest in itself, but we also believe the analysis will bring new insights to a very limited literature on the deep determinants of occupational choice.

As mentioned we do not know any similar study, except for the parallel study we have done in upland Orissa where we also collected family histories going two generations back in time. Baulch and Davis (2008) collected family histories by recall on a random sample, but from what we can see they have not collected information on previous generations. There is, however, an extensive literature on occupational choice that has motivated our research, and we see the methodology presented here as a supplement to the use of panel, or cross-sectional data (Barrett, Reardon and Webb, 2001; Barrett, Bezuneh and Aboud, 2001; Ellis, Kutengule and Nyasulu, 2003; on Nepal, Menon, 2009; and with a deeper theoretical structure, Karaivanov, 2012)<sup>4</sup>. Any attempt to dig into the black box of correlations between assets and livelihoods has the potential of revealing information that may be useful for public policy in poor areas of the world. In our case we believe insights into the choice of traveling overseas for work may bring knowledge that is relevant not only for the existing regulation of international migration, but potentially also for the design of micro-credit programs as the income profile of labor migrants will be different from the normal micro-credit customer.

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<sup>3</sup> There is regularly media coverage of the working conditions in particular in Qatar, where the heat is a major problem for construction workers. We know no proper estimates of the increased death toll as compared to jobs at home (life in Nepal is also risky), but based on the numbers that circulate in the media there seems to be a significantly higher risk of early death as a construction worker in the Gulf region. The media numbers indicate that among maybe one million Nepalese working in the Gulf countries at any point in time, maybe 500 (0.05%) die prematurely every year. But again, this is a back-of-the-envelope calculation based on unsystematic media reports.

<sup>4</sup> Although we see overseas migration as just another occupational choice, there is a parallel literature on international migration, where the focus is on costs and benefits of migration as compared to working in local labor markets, see in particular Oded Stark and co-authors, including Stark (1991) and Stark and Fan (2011). But again we are not aware of any studies that attempt to identify the deeper historical determinants of who becomes a labor migrant. There is also another strand of literature that focus on the migrants in the destination, and quite often their networks there or at home, see in particular Kaivan Munshi and co-authors, including Munshi (2003) and Munshi (2011).

The next section discusses the importance of labor migration from Nepal. Then we go on to the model, before we discuss the data, descriptive statistics and the survey area. After that we return to the econometric model before we present the findings. In the last section we summarize the findings and discuss possible policy implications.

## 2. Labor migration from Nepal

About 20% of Nepali households have a migrant overseas (in countries other than Nepal and India) according to recent household surveys. The World Bank (2011) survey finds that remittances from overseas constitute 16% of GDP. This will be more than reported by NLSS (2011a) where remittances from all destinations (including Nepal and India) can be calculated to be 17% of household incomes<sup>5</sup>. Even though there are discrepancies between surveys the overall picture is that international labor migration plays a significant role. Our own fieldwork in Nepal also indicates that the rapid increase in daily wages that is reported in NLSS (2011a) to some extent is explained by migration as there is now lack of even unskilled labor many places in Nepal and thus a pressure on local wages. So labor migration has led to a massive increase in remittances, and also contributed to an increase in domestic incomes among the poor. In sum labor migration appears to have contributed significantly to the reduction in poverty from 42% in 1995, via 31% in 2003, to 25% in 2010 (NLSS, 2011b).

There is large variation in migration patterns between social groups. The Nepal Migration Survey that is the basis for World Bank (2011) has details on wealth, income and social identity of the migrants. They find that the poor migrate to India, while the not so poor migrate overseas. Similarly, they find that Dalits, in this survey in particular Dalits of hill origin, have many more labor migrants to India than other social groups, while the hill-origin ethnic groups are over-represented in the Gulf countries<sup>6</sup>. That Dalits and the poor look for work in India, while the more wealthy, and in particular the ethnic groups of hill origin, can afford to make the investment to migrate overseas is also found in other studies, including surveys we have done previously in the eastern plains of Nepal.

We conclude that one needs resources, financial or social, to be able to migrate, which in turn indicates that labor migration to the Gulf is desirable. When the richest deciles of the population to a much larger extent send their sons and husbands to Qatar and Saudi Arabia for two or three years of relatively hard labor, this means there must be good incomes to be made. This reflects, of course, to some extent the lack of opportunities at home. But since this is attractive even for the non-poor, we must assume that the poor, who tend to migrate to India for work, would be similarly interested in work in the Gulf region, just that they cannot afford, or do not have the necessary social connections, to get this kind of work (Hattelbakk, Iversen and Torsvik, 2010). There is however variation and even poor people get work in Gulf countries. And if we can better understand the mechanisms that affect the chances of getting a better paid job there, we may as a result be better positioned to formulate policies for labor migration. Since this is such a big sector in Nepal, it is in fact well regulated. Most of the migrants get, at least their first job, through a manpower agency, which in turn must be approved by the government. The migrants may in principle organize the work-permit themselves in collaboration with the employer, but manpower agencies still dominate the market. In the next section we present the theoretical framework for the analysis before we return to the data and the rural context of the plains of eastern Nepal.

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<sup>5</sup> We should expect this number to be larger than the 16% of GDP as household incomes constitute only one part of GDP and also because NLSS reports all remittances, not only from overseas.

<sup>6</sup> More surprisingly, they also find that the plain (terai) origin Dalits are overrepresented among Gulf-migrants, but there is no parallel evidence from the NLSS data. Although we do not know the data, a likely explanation for this discrepancy may be the coding of social identity in the migration survey. The classification of terai Dalit and ethnic groups tend to vary between studies.

### 3. Model

We study the deep determinants of overseas labor migration, which appears to be a quick, and for many people a feasible, pathway out of poverty. To be able to do so we first model the immediate determinants, and then historical factors that affect those. The dependent variable  $m_1$  indicates whether a household has an overseas labor migrant or not. Most households will need to take a loan to finance labor migration, and in poor rural areas the preferred collateral is land, and by that we expect the probability of labor migration  $Pr(m_1=1)$  to be a function of present landholding  $L_1$ . To simplify the notation we write the probability as  $m_1$ , as in a linear probability model.

In our study area, as in most of South-Asia, we know that social identity in terms of caste and ethnicity will affect your chances in the labor market<sup>7</sup>. People of Dalit or indigenous/tribal background have difficulties finding good jobs at home, and may find it relatively more attractive to work overseas. We thus allow the probability of labor migration to depend on social identity  $C$ . There may also be family specific variation in the conceived benefits and costs of overseas migration that will be unobservable to us, and any such factors we model by  $z$ . So in sum the model becomes,

$$m_1 = f(L_1, C, z). \quad (1)$$

Turning to the deep determinants, the unobservable family traits  $z$  may also, in addition to the observable characteristics  $C$ , affect the accumulation of land,

$$L_1 = g(L_0, C, z). \quad (2)$$

If this is the case, then we may use  $L_0$  as an instrument for  $L_1$  to get an unbiased estimate for the effect of  $L_1$  in (1). Note that  $z$  includes any traits beyond the group specific traits in  $C$  (where the effect of  $C$  may include any form of discrimination that may affect asset accumulation, whether through income opportunities or for example land certification). Below we shall see that we cannot reject that the IV estimate is the same as the OLS estimate (and the parameters are basically the same), so in the final model to be estimated we may omit  $z$  from (2) (in the estimations we of course still allow for unobservable characteristics as modeled by the independently distributed residual),

$$L_1 = g(L_0, C). \quad (2')$$

In reality we find that it is landlessness that matters for  $m_1$ , so  $L_1$  will be a dummy variable. And we find that previous landlessness as well as the amount of land matters for the accumulation process, so  $L_0$  is modeled by a dummy for landlessness as well as by the area of land<sup>8</sup>.

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<sup>7</sup> See Hatlebakk (2011) where social identity turned out to be a major determinant of agricultural wages.

<sup>8</sup> This implies a concentration of observations on the vertical axis that will not necessarily be in the intercept for the regression line, meaning that we believe the accumulation process for the landless is different from the accumulation process for the near-landless.

In this frontier area of the plains of Nepal we find that people of hill origin are considered a distinct social group. And we shall see below that they to a much larger extent send migrants overseas. This may reflect some innate preferences, abilities, or social norms within this group, but may also reflect their previous migration experiences. So we cannot know whether a hill migrant migrate today because of his previous experiences, or just because hill migrants have an innate willingness to investigate new economic opportunities<sup>9</sup>. However, previous migration may have a negative effect as well, and we shall see that this is in fact the finding, as recent migrants to the area seem to need time (a full generation or more) to settle in. Despite this the group as a whole migrates more, indicating an even stronger effect that is related to social identity.

People have migrated to this area at different points in time. The plain origin people have migrated in over generations, with some groups being considered indigenous to the area, while the hill origin people have migrated during the last two-three generations, in fact almost all of the father's generation in our data are born in the hills. Thus to be able to separate hill identity from the role of migration itself, we construct a variable  $m_0$  that equals one if the present generation is born in the area. Thus  $m_0$  is a measure of early migration to the area. We use the same measure for the plain origin people to be consistent, but note that the early migrant sub-sample is much larger for the plain origin group. To separate the effect of identity from migration experiences, we add  $m_0$  to equation (1),

$$m_1 = f(L_1, C, m_0, z). \quad (1')$$

Now,  $m_0$  may also be predetermined by  $L_0$  and  $C$ . In reality we find that  $L_0$  has no effect on  $m_0$  as measured here. This is because we, as discussed, measure  $m_0$  by the birth-place of the present generation, while we have to go back to grandfather's time to measure  $L_0$ . We have to measure  $L_0$  at that time because the father and son may still live together, and in that case  $L_0$  and  $L_1$  will constitute the same measure, and we would get a bias towards predetermined landholdings. So we end up with a model where  $m_0$  vary with social identity only,

$$m_0 = h(C). \quad (3)$$

In reality we find that hill versus plain origin is the only measurable identity marker that matters for migration and accumulation of land. In the data we do have subgroups, and we will report some descriptive statistics for those below, but in the end we model  $C$  as a hill origin dummy. This in turn means that (3) measures the proportion of early migrants in the two groups. And since landlessness turns out to be the essential determinant of (lack of) land-accumulation, we note that many of our findings can be represented in 2x2 tables in stead of regressions, but we will report on both.

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<sup>9</sup> There is lots of hearsay in Nepal on this issue, with hill people argued to be more entrepreneurial, even terai people may argue that this explains their success after they moved to the plains. But alternatively there may be a selection effect as the most entrepreneurial ones move to the terai, and we cannot separate this effect from other norms and preferences of hill identity people in the plains. So the reader should interpret any findings with care. We cannot conclude that Nepalese of hill origin are in general more entrepreneurial, we can only separate the role of social identity from previous migration experiences, without being able to explain exactly why previous migration matters.

Now one may argue that  $z$  also belongs in (3), as family traits may affect both types of migration. If so, this would "bias" the estimated effect of  $m_0$  in (1'). But note that this would just be a reinterpretation of the role of  $m_0$ . It is not essential for us whether  $m_0$  has a causal effect on  $m_1$  as measured by (1'), or whether this is a correlation that is explained by  $z$ . We only want to see what part of the correlation between  $C$  and  $m_1$  that is associated with previous migration. As discussed above, there is no reliable way to identify the causal relation between  $m_0$  and  $m_1$ , and even if we were to identify any such effect it would be hard to imagine any policy implication<sup>10</sup>. Our objective is to understand labor migration today, and it appears that this is explained by a combination of social identity and previous migration experiences, which we may untangle by use of (1'). Note that since  $z$  is now dropped from (2) and (3), we may as well drop it from (1) and (1'),

$$m_1 = f(L_1, C, m_0). \quad (1'')$$

In the data we have missing information on  $L_0$  for some households. This does in fact lead to a selection problem if we use the limited sample to estimate (1''), so we will report (1'') both for the smaller sample, which we have to use to estimate (2), as well as for the full sample. Finally we will report the "reduced" form version of (1''), where we insert for  $L_0$ ,

$$m_1 = f(L_0, C, m_0). \quad (1''')$$

This function allows us to discuss the role of  $L_0$  and  $m_0$  as deep determinants, or correlates, of  $m_1$ , and we will report the ultimate reduced form, where we insert for  $m_0$  from (3),

$$m_1 = f(L_0, C). \quad (1''')$$

This function investigates to what extent overseas labor migration today is ultimately determined by the family's caste/ethnic belonging as well as the grandfather's landholdings.

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<sup>10</sup> The government did in fact encourage resettlement to the plains, but we are quite sure that their concern was not overseas labor migration generations later.

## 4. Descriptive statistics and survey area

At the national level Nepal can be divided, according to social identity, into three major population groups of approximately the same size. According to the 2001 census there were 31% Brahmin/Chettris of hill origin, 27% of hill origin ethnic groups, 34% of terai (plains) origin, while the remaining population are Dalits of hill origin (7%). Social identity is a major category in Nepali politics and social life, with people being categorized in the census into 100 different groups based on ethnicity/caste, where you are considered to be either from an ethnic group or from a particular Hindu caste, with other religious groups, in particular Muslims, being identified as separate groups. In Nepal this categorization based on ethnicity is not considered problematic by the majority. This normalcy implies that most people will not hide their ethnic/social identity, which allows us to use the variable as an indicator of in particular discrimination, but potentially also as a common denominator if we believe preferences vary between social groups.

Our field area, the district of Morang in the eastern terai, has a very similar ethnic composition with 24% hill Brahmin/Chettris, 22% hill ethnic groups (Rai and Limbu from the nearby hill areas are the largest groups), and approximately 47% of terai origin. The higher percentage of terai origin people is of course expected in a terai district. Furthermore, the terai origin group can be separated into the ethnic groups (20%, with Tharu and Rajbansi being the largest groups) and the so called Madhesi groups (27%) that over generations (for some families hundreds of years) have migrated in from India. The Madhesi groups are of all castes, including in this district a large group of Madhesi Dalits, and different groups that in India would be classified as OBC (with Kewat, Gangai and Yadav being the largest groups in Morang), as well as a significant (4%) group of Muslims. The 14 distinct groups in the 2001 census with 2% or more of the district population (with 13% for the largest group of hill Brahmins) are thus; Brahmin and Chettri, five hill ethnic groups, two terai ethnic groups, four Madhesi groups (including one Dalit group) as well as the Muslim community. We have not found any other district in Nepal that have such sizeable populations of all three main population groups, as well as this level of variation even within each category<sup>11</sup>.

Each village of Morang is, however, normally more homogeneous than the district itself, and we have intentionally selected different types of villages for our survey. These are all located in a north-south belt just east and north-east of the city of Biratnagar<sup>12</sup>. The distance by road from north to south is 60 km. We have two typical hill migrant villages in the north, one typical indigenous (Tharu) village, and three Madhesi villages with variation in the population composition, one dominated by Madhesi

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<sup>11</sup> For Nepal we find this to be a useful measure of diversity, that is, the number of distinct caste/ethnic groups identified in the census that have 2% or more of the district population. Sarlahi district has 15 groups of this kind, but most are Madhesi, so on the balance Morang is the most diversified. At the moment there is extensive discussion of ethnic diversity in Nepal as there is a strong political movement for separating the country into ethnic based provinces. Although most districts are more unified than Morang, there are very few districts with a majority from a particular ethnic group, most of them with a Chettri majority in the western hills. For further discussion of the issue of ethnic based federalism, see Hatlebakk and Ringdal (2013) and for a collection of papers representing a range of different standpoints see Mishra and Gurung (2012).

<sup>12</sup> In addition to the ethnic diversity described above, there is some path-dependency in selection of field-site, as this was a relatively peaceful area during the Maoist insurgency, and when this fieldwork on inter-generational family histories was planned there was still uncertainty regarding the post-conflict situation. This is, in fact, still the case for the core Madhes districts to the west of the field area.

Dalits, one with a large group of Muslims, and one with many other Madhesi caste groups. The two latter still have a large fraction of households of terai ethnic origin.

Within each of the six villages we randomly selected 3 of the 9 administrative units called wards, and selected 22 households at random for our survey, so a total sample of  $6 \times 3 \times 22 = 396$  households. Since hamlets within villages also tend to be homogenous, the final sample is even more homogenous at the cluster level. Table 1 shows the ethnic composition of the sample, where we start in the south (10 km from the border to India and a few kilometers from the city of Biratnagar) with the typical Madhes village, and ends up in the north (north of the east-west highway) with the typical hill-origin village. But keep in mind that the "hill" village is a village of households that cleared the forest and settled in the plains, although this village is near the foot-hills.

**Table 1. Ethnic composition of the sample divided between villages**

Social identity	Type of village						Total
	Madhes1	Madhes2	Madhes-Dalit	Tharu	Hill1	Hill2	
Hill-high-caste	0	1	0	0	37	14	52
Hill-ethnic	0	0	0	0	19	50	69
Hill-Dalit	0	0	1	1	2	2	6
Terai-ethnic	36	29	12	63	5	0	145
Muslim	6	16	0	0	0	0	22
Madhes-Dalit	1	13	47	0	2	0	63
Madhes-other	23	7	6	2	1	0	39
	66	66	66	66	66	66	396

Note that each village is homogenous along the main identity marker in this area, which is hill versus terai origin. Although it is feasible to add village fixed effects, and we have checked that most of the results are robust to this test, we will below report findings without village fixed effects<sup>13</sup>. This is because we will focus on hill identity independently of where people live. But the reader must keep in mind that hill identity may matter precisely because most of them live in a village with other people of the same identity.

The Madhes Dalits in our case are mostly *Sardars (Bantar)* and most of them live in the Madhes-Dalit village. This contrasts with other villages in Morang, where the *Musahar* is the largest Dalit group. Now, the *Bantars* were in fact considered as just another indigenous group by our enumerators, and for example Sugden (2010), who has also worked in this area, considered them as an indigenous group. We however use the standard statistical classification, see for example Gurung, Gurung and Chidi (2006), which in turn may be based on Singh (1995)<sup>14</sup>. But the impression people have of the *Bantar* as an indigenous group probably reflects that they have lived in the area for long, which is what we find as well, as many as 46% of the *Bantar* grandfathers are born in the village where we conducted the interview. There is another 21% born in Nepal, but outside the village, and from our fieldwork we know that they have migrated from the Sunsari and Saptari terai districts that are located west of Morang. The other Madhes groups, including Muslims, have to a large extent (40%) migrated

<sup>13</sup> As we may expect the parameter for hill identity becomes smaller, as part of this effect is rather explained by the fact that they live in hill origin dominated villages. As we can see from the table the identification of "hill origin" when we have village fixed effects come from three hill households in terai identity villages, and eight terai households in a hill identity village.

<sup>14</sup> This is an ethnographic description that contains many stereotypes that western scholars may find problematic.



in from India since grandfather's time, but also for this group a large share of the grandfathers is born in the village where the household is located today. Since the place of birth is such an important variable in our analysis, we will now report on this in more detail.

#### 4.1 Social identity and place of birth

The details on place of birth of the three generations of different social identity are shown in Tables 2-5. Table 6 will summarize the discussion and describe the variable that will be used in the analysis. The reader may thus go to Table 6 unless there is a special interest in historical migration patterns. We have asked about landholdings, main occupation, major events and place of birth of the grandfather of the present household head<sup>15</sup>. Below we report the birthplace for the different identity groups.

**Table 2. Birthplace of the grandfather**

Social identity	Unknown	Same village	Rest of Morang	Rest of Nepal	India	Total
Hill-high-caste	3 (6%)	0 (0%)	1 (2%)	48 (92%)	0 (0%)	52 (100%)
Hill-ethnic	4 (6%)	0 (0%)	3 (4%)	62 (90%)	0 (0%)	69 (100%)
Hill-Dalit	0 (0%)	0 (0%)	0 (0%)	6 (100%)	0 (0%)	6 (100%)
Terai-ethnic	14 (10%)	86 (59%)	20 (14%)	10 (7%)	15 (10%)	145 (100%)
Muslim	1 (5%)	8 (36%)	0 (0%)	4 (18%)	9 (41%)	22 (100%)
Madhes-Dalit	10 (16%)	29 (46%)	2 (3%)	13 (21%)	9 (14%)	63 (100%)
Madhes-other	9 (23%)	7 (18%)	3 (8%)	6 (15%)	14 (36%)	39 (100%)
	41 (11%)	130 (31%)	29 (7%)	149 (38%)	47 (12%)	396 (100%)

Since the three first groups (lines in the table) are by definition not from the survey area, they must at some point in time have migrated from the hills to the terai. And in fact, most of them have migrated during grandfather's time, or later. Below we shall see that even their sons are born in the hills, so the migration has for most households taken place during the two last generations.

For the three Madhes groups (the three last lines of the table) we find that more than 50% of the grandfathers are born in another terai district or in India, while the indigenous terai-ethnic population is, in fact indigenous, only 17% of the grandfathers have migrated to Morang district. Since there is so little variation among the hill migrants, we go on to report the birthplace of the father's generation in Table 3.

<sup>15</sup> To get comparable data on inheritance we had to link the family history to a male person, so in case of a female head we identified her (potentially dead) husband or father as the focal-point for the survey, and asked about his grandfather. If we had followed the female line in those approximately 60 (15%) cases, we would not get the development over time of the same family's landholdings, as the grandfather of the wife would be from a different family than the family where she now lives.

**Table 3. Birthplace of the father**

Social identity	Unknown	Same village	Rest of Morang	Rest of Nepal	India	Total
Hill-high-caste	1 (2%)	1 (2%)	2 (4%)	48 (92%)	0 (0%)	52 (100%)
Hill-ethnic	1 (1%)	1 (1%)	5 (7%)	62 (90%)	0 (0%)	69 (100%)
Hill-Dalit	0 (0%)	0 (0%)	0 (0%)	6 (100%)	0 (0%)	6 (100%)
Terai-ethnic	1 (1%)	108 (74%)	16 (11%)	9 (6%)	11 (8%)	145 (100%)
Muslim	0 (0%)	10 (45%)	0 (0%)	3 (14%)	9 (41%)	22 (100%)
Madhes-Dalit	1 (2%)	40 (63%)	3 (5%)	12 (19%)	7 (11%)	63 (100%)
Madhes-other	0 (0%)	15 (38%)	4 (10%)	7 (18%)	13 (33%)	39 (100%)
	4 (1%)	175 (44%)	30 (8%)	147 (37%)	40 (10%)	396 (100%)

There is basically no change since grandfather's time, so migration has happened during the father's life or later. We thus go on to Table 4 where we report the birthplace of the present generation. Here there is some variation also among hill migrants as about 20% of the present hill-origin sample is born in Morang district. So even most of the present generation has migrated to terai, which in turn reflects that the person in question was 53 years old on average at the time of the survey in 2011, which means that the average person was born in 1960. Migration from the hills to the plains started earlier, but we know from the 1952-54 census that only 14% of the eastern terai population spoke hill-origin mother-tongues<sup>16</sup>, so even in 1960 there were probably very few hill origin households.

<sup>16</sup> See Table 11 of CBS (1954). The languages are categorized into two groups of Maithali dialects (a language also used in India) (34.1% and 16.7%), Eastern terai dialects (25.5%), Tamang (hill-ethnic group) 9.9%, Morang dialects (5.9%), Nepali (the official language) (4.4%), and Hindi (3.5%).

**Table 4. Birthplace of the son vs social identity**

Social identity	Same village	Rest of Morang	Rest of Nepal	India	Unknown	Total
H = 1	B = 1		B = 0			
Hill-high-caste	8 (15%)	2 (4%)	39 (75%)	3 (6%)	0 (0%)	52 (100%)
Hill-ethnic	7 (10%)	9 (13%)	51 (74%)	1 (1%)	1 (1%)	69 (100%)
Hill-Dalit	0 (0%)	0 (0%)	6 (100%)	0 (0%)	0 (0%)	6 (100%)
H = 0	B = 1		B = 0			
Terai-ethnic	126 (87%)	11 (8%)	5 (3%)	3 (2%)	0 (0%)	145 (100%)
Muslim	17 (77%)	0 (0%)	0 (0%)	5 (23%)	0 (0%)	22 (100%)
Madhes-Dalit	57 (90%)	2 (3%)	2 (3%)	2 (3%)	0 (0%)	63 (100%)
Madhes-other	22 (56%)	6 (15%)	5 (13%)	6 (15%)	0 (0%)	39 (100%)
	237 (60%)	30 (8%)	108 (27%)	20 (5%)	1 (0%)	396 (100%)

Let us summarize the findings this far. Even for the present generation (Table 4) the hill origin households in fact originated in the hills. But while basically all of the previous generations were born in the hills, we find that 20% of the present generation was born in the district. The plain origin people are born in the plains, but with some variation between the groups when it comes to the specific place of birth. And even in the present generation 17% were not born in the village where they now live.

Below we compare the role of ethnic identity, which in our context is summarized by the place of origin of your ethnic group or caste (including the high castes that consider themselves to be of either hill or terai origin<sup>17</sup>), to the role of being a migrant, for the accumulation of assets and the resulting livelihood decisions. In short we reduce Table 4, first by combining sub-groups according to hill and terai identity as shown in Table 5.

**Table 5. Birthplace of the son vs origin**

Social identity	Same village	Rest of Morang	Rest of Nepal	India	Unknown	Total
Hill-origin	15 (12%)	11 (9%)	96 (76%)	4 (3%)	1 (1%)	127 (100%)
Terai-origin	222 (83%)	19 (7%)	12 (4%)	16 (6%)	0 (0%)	269 (100%)
	237 (60%)	30 (8%)	108 (27%)	20 (5%)	1 (0%)	396 (100%)

<sup>17</sup> The "Nepali" identity of the hill origin high castes is important to them, as they contrast themselves to people of "Indian" (Madhesi) origin.

And then by combining place of birth in to Morang and elsewhere as shown in Table 6.

**Table 6. Birthplace of the son vs origin**

Social identity	Morang	Elsewhere	Total
Hill-origin	26 (20%)	101 (80%)	127 (100%)
Terai-origin	241 (90%)	28 (10%)	269 (100%)
	267 (67%)	129 (33%)	396 (100%)

With the aggregation in Table 6 we have sufficient sample sizes in each category to be able to separate the role of place of birth from the role social identity. So we can, for example, separate household of hill-origin according to whether they migrated during the present generation, or earlier. The table shows the 20% of the hill origin people who are born in Morang district and thus can be classified as early migrants, as well as the 90% of the terai origin households that are early in-migrants according to this definition.

## 4.2 Land transitions and ethnicity

Table 6 described the correlation between  $m_0$  and  $C$ , which will be the essential variables in the analysis of determinants of overseas migration  $m_1$  below. We will now go on to describe the land variables that also are potential determinants of  $m_1$ . We describe the declines in land for different categories of  $m_0$  and  $C$ . This is a first step towards the regression analysis in the next section. First recall that approximately 90% of the people of hill origin had a grandfather who was born in Nepal but outside Morang district, which means that they migrated from the hills to the terai during his life-time or later. Also note that most of the present generation of hill origin is born in the hills. And the initial land measured by us is the landholding of the grandfather when he was 40 years old, an age when most of the present generation is not, or just, born. So in most cases the initial landholding will be located in the hills<sup>18</sup>. So the apparent larger loss of land among the in-migrants from the hills, as shown in Table 7, may be explained by the fact that they sold land in the hills, and bought a smaller plot in the plains.

<sup>18</sup> A different unit of land is used in the hills, which potentially may create a measurement problem as people will remember their land in *ropani*, and not *kattha*, which we used as the unit in the survey. However, this is not a major problem for two reasons. First we control for hill ethnicity, so within subgroup we use the same unit, although of course there may be noise if people report different units. If people in fact reported their ropani of land, then the numbers would have to be adjusted upwards by 50%, as 20 kattha (one bigha) = 13.6 ropani. So if a household reported that the grandfather had 40 kattha of land, and meant 40 ropani, then that will in fact be close to 60 kattha in stead. But the notes that were made by the enumerators on the questionnaires, and discussions with them afterwards, indicate that re-calculations were done in the field. A related potential problem may be that people did not report their hill landholdings, but rather the terai landholdings they got after moving to terai. But this appears not to be the case, as most of them report that they had land, which is and was the normal situation in the hills, while in terai many are landless.

**Table 7. Land transition categories**

Group:	Increase	No change	Decline 1.5 bigha or less	Decline 1.5 to 5 bigha	Decline more than 5 bigha	Total
<b>Hill origin:</b>						
Born in Morang	1 (6%)	2 (11%)	5 (28%)	6 (33%)	4 (22%)	18 (100%)
Born in the hills	2 (3%)	7 (10%)	21 (31%)	24 (35%)	14 (21%)	68 (100%)
<b>Terai origin:</b>						
Born in Morang	38 (19%)	64 (32%)	31 (15%)	27 (13%)	42 (21%)	202 (100%)
Born elsewhere	3 (20%)	5 (33%)	1 (7%)	5 (33%)	1 (7%)	15 (100%)
<b>Total</b>	<b>44 (15%)</b>	<b>78 (26%)</b>	<b>58 (19%)</b>	<b>62 (20%)</b>	<b>61 (20%)</b>	<b>303 (100%)</b>

For the hill origin households there appears to be no difference in land transitions depending on when they migrated to terai<sup>19</sup>. For the terai origin households there is no big difference either, but we note that among the locally born households there is a sizeable minority that have lost large amounts of land. This is the group that normally gets the focus in more qualitative discussions of land relations between hill in-migrants and the terai population. Large terai landholders have over generations sold, or lost, land to the in-migrants. Before we go on to the analysis of overseas migration, let us see whether there are differences within the terai and hill identity groups.

**Table 8. Land transition categories, by ethnic identity**

Social identity	Increase	No change	Decline 1.5 bigha or less	Decline 1.5 to 5 bigha	Decline more than 5 bigha	Total
Hill-high-caste	1 (3%)	0 (0%)	10 (25%)	16 (40%)	13 (33%)	40 (100%)
Hill-ethnic	2 (5%)	6 (15%)	15 (37%)	13 (32%)	5 (12%)	41 (100%)
Hill-Dalit	0 (0%)	3 (60%)	1 (20%)	1 (20%)	0 (0%)	5 (100%)
Terai-ethnic	23 (19%)	25 (20%)	19 (15%)	23 (19%)	34 (27%)	124 (100%)
Muslim	5 (26%)	7 (37%)	3 (16%)	2 (11%)	2 (11%)	19 (100%)
Madhes-Dalit	10 (20%)	25 (50%)	8 (16%)	3 (6%)	4 (8%)	50 (100%)
Madhes-other	3 (13%)	12 (50%)	2 (8%)	4 (17%)	3 (13%)	24 (100%)
	<b>44 (15%)</b>	<b>78 (26%)</b>	<b>58 (19%)</b>	<b>62 (20%)</b>	<b>61 (20%)</b>	<b>303 (100%)</b>

The hill Dalits are very few in this dataset, but they have a smaller decline than the other hill groups basically because they had less land initially. There also seems to be a larger decline for hill high caste

<sup>19</sup> We may compare the mean declines in stead of categorizing the declines, but in that case a few observations will dominate the findings, so we prefer this representation. There is however no significant difference between the means for the two hill origin groups whether it is measured as an absolute or relative decline. For the terai groups there is a difference in absolute values as the few families born elsewhere has a smaller decline. This difference is explained by the 21% of the Morang born terai groups that have a decline of more than 5 bigha.

groups than for the hill ethnic groups, but this is not significant. For the terai groups we find that the large declines at the upper end are, as we may expect, among the indigenous groups. Despite this we keep the ethnic groups together with the other terai identity groups below. If we rather split the terai sub-sample, then we find that the overseas migration results are basically the same, while inheritance of landlessness only happens among the terai ethnic groups. So there seems to be less economic mobility within the indigenous terai groups<sup>20</sup>.

### 4.3 Overseas migration and ethnicity

Before we go on to the regression analysis, we will report, in Table 9, on the descriptive statistics version of equation (1), but leave the role of land for the regression analysis. Households with overseas migrants are mostly (75%) of hill origin (55 out of the 73 households with overseas migrants). For both hill and terai origin groups we find that there are more households with overseas migrants among the early settlers. We shall see that this finding survives when we add land below. For the terai group there are in fact no migrants among the few late arrivals. Our interpretation, which will be the main conclusion below, is that the late arrivals to the area find the relocation to Morang to be a sufficient improvement in their livelihood opportunities.

**Table 9. Households with overseas migrants**

Group:	Households with migrant	Households without migrant	Total
Hill origin:			
Born in Morang	14 (54%)	12 (46%)	26 (100%)
Born in the hills	41 (41%)	60 (59%)	101 (100%)
Terai origin:			
Born in Morang	18 (7%)	223 (93%)	241 (100%)
Born elsewhere	0 (0%)	28 (100%)	28 (100%)
Total	73 (18%)	323 (82%)	396 (100%)

Let us check, by inspection of Table 10, whether the underlying explanation is the ethnic identity of the different groups.

<sup>20</sup> We reported similar findings in Hatlebakk (2007) based on NLSS data, but this is an issue that deserves a separate and deeper analysis than we have room for here.

**Table 10. Households with overseas migrants, by ethnic identity**

Social identity	Households with migrant	Households without migrant	Total
Hill-high-caste	21 (40%)	31 (60%)	52 (100%)
Hill-ethnic	32 (46%)	37 (54%)	69 (100%)
Hill-Dalit	2 (33%)	4 (67%)	6 (100%)
Terai-ethnic	10 (7%)	135 (93%)	145 (100%)
Muslim	4 (18%)	18 (82%)	22 (100%)
Madhes-Dalit	3 (5%)	60 (95%)	63 (100%)
Madhes-other	1 (3%)	38 (97%)	39 (100%)
	73 (18%)	323 (82%)	396 (100%)

There are no significant differences within the terai or hill communities. Inspection indicates that there are more migrants from the Muslim community, but with the small sample size any such difference is not significant (it would be different from the Madhes group if we believe there is no intra-cluster correlation).

#### 4.4 Broader occupational transitions

As mentioned earlier we have conducted a similar survey in Orissa (Hatlebakk, 2012), where we found that historical land-distribution determines land and occupational dynamics. As discussed above this hypothesis cannot be tested for the plains of Nepal, as there was only a limited population some generations ago, and agricultural land was of less importance as the area was covered by tropical forest. The clearing of forest and the malaria eradication program that followed has created a completely different economy, and we shall not expect the historical land-distribution to matter. The resulting in-migration, on the other hand, is expected to be important, and is the focus of this paper.

It may still be of interest to supplement the discussion of household level land dynamics, with a summary of occupational dynamics at the household level. We must then keep in mind that this will not say anything about the historical occupational composition as the grandfathers lived in different places (in contrast to Orissa where more than 90% of the grandfathers were born in the village). Since occupational dynamics is not a main focus here we refer to Hatlebakk (2012) for details on the methodology, and only report the occupational transition table.

**Table 11. Transition from grandfather's time to present generation**

Class grandfather	Class present generation		
	1	2	3
1	34 (46.6)	28 (36.4)	13 (8.5)
2	28 (38.3)	35 (45.4)	48 (31.6)
3	11 (15.1)	14 (18.2)	91 (59.9)
N=302	73 (100)	77 (100)	152 (100)

*Percentages in parentheses*

Occupations are ranked based on the assets of the households. At grandfather's time the three groups are basically large and small farmers as well as the landless (class 3). Today the lower classes (class 3) are laborers, small farmers and petty traders. The "middle class" are medium sized farmers and also include the overseas migrants. While the "upper classes" run businesses, large farms (two bigha or more) or are government employees. We find that 60% of the laboring classes at the bottom of the occupational ladder had a grandfather who was landless. In the upper end there are more transitions between the middle and upper classes as shown in Table 11.



## 5. Econometric specification

As discussed the regression results will to a large extent be variations on the descriptive statistics already discussed. Regression analysis is, however, necessary when we measure land not only by landlessness, but also as a continuous variable, and when we report IV estimations. The regression model will be linear in the parameters, but for land we allow for non-continuity at zero, by adding the dummy for landlessness, and we have checked whether a second-order term made a difference (it did not). As mentioned, it turns out that for  $L_1$  landlessness is the essential characteristic, so it is sufficient to use the dummy variable specification. While for  $L_0$  the final functional form includes a dummy for landlessness as well as the measured land area itself. For the land accumulation model this implies that the probability of being landless today has a downward shift for a landless grandfather. For positive land the intercept is thus higher, but then the probability declines with the amount of land. However, historic landlessness is the essential determinant of landlessness today. If one plots the data, the discontinuity happens at 10 kattha<sup>21</sup> of grandfather's land, where the probability of being landless today drops from approximately 70% to 40%.

The variables are named as *landnow0* which equals one if  $L_1 = 0$ , *landg0* which equals one if  $L_0 = 0$ , and *landg* which is  $L_0$ . We report descriptive statistics for all variables in Table 12. Note that we run a linear probability model, following the general advice in Angrist and Pischke (2009) of using linear models, as non-linear models may escalate small biases. But the findings are robust to a non-linear (Probit) specification.

Recall that for some grandfathers land information and place of birth are missing. For location we might add a dummy for missing to include those households, but missing on land has no useful representation, so those households are dropped from the analysis, leading to a smaller sample size than the full sample of 396 households. For the land accumulation equation we thus run the regressions for both samples to see whether the findings are robust, and they are. As said,  $m_0$ , which we name as *bornlocs*, equals one if the present generation (normally the household head) is born in the district of Morang.

**Table 12. Dependent and independent variables**

VARIABLES	N	mean	st.dev.	min	max
<u>Dependent:</u>					
Having overseas migrant	396	0.184	0.388	0	1
<u>Independent:</u>					
Landless today	396	0.497	0.501	0	1
Land today (kattha = 0.03 ha)	396	11.912	23.186	0	198
Initially landless	303	0.366	0.483	0	1
Initial land (kattha)	303	93.261	179.760	0	1538
Present generation born in district	396	0.674	0.469	0	1

<sup>21</sup> We prefer to report land in local units, since it becomes more transparent that the zero-s (10, 20 and so on) are focal points for the reports of land at grandfather's time. We have 20 kattha = 1 bigha = 270 x 270 sq. feet = 0.6773 hectare. So a marginal farmer at grandfather's time has 0.34 hectare land or less, and today this family will tend to be landless.

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Family of hill origin	396	0.321	0.467	0	1
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Note that most of the variables are dummy variables and the binomial function implies that the standard deviations, which will tend to be close to 0.5, do not add information beyond the frequency (mean). And for the continuous variables, which measure land, the large standard deviations reflect a few very large values. So the main information in Table 12 is the means, and we may here also report that the median land at grandfather's time was 25 kattha, while the median today is 0.75 kattha. The low value today is as expected since almost 50% are landless in this sample, as compared to 27% in the eastern terai in general (Hatlebakk and Ringdal, 2013). The villages we study are close to the city of Biratnagar and thus attract people who survive from casual labor or petty trading.

## 6. Findings

Note that equation (3) on the resettlement to the frontier area is basically the descriptive statistics from Table 6 that will here be presented as an OLS regression. Next we will present equation (2) on land accumulation, and then finally equation (1) on determinants of present labor migration. Equations (2) and (3) will help in the interpretation of the reduced form model of (1). For each equation we also present the findings for the hill and terai identity subsamples. There will be one table per equation (and an additional table for the sub-sample findings for equation one), and we do not present the first stage findings from the IV as this will basically<sup>22</sup> be equation (2). We shall see that the IV findings are basically the same as the OLS, although larger standard errors (IV is a less efficient estimator) imply that *landnow0* is not significant.

Starting with equation (3) in Table 13 we find that 20% (the sum of the two parameters) of hill people are early migrants (the present generation is born in the district), while 90% (the constant term) of terai people are early migrants. The same numbers are found in the first column of Table 6. As discussed above, if we go back to father's generation then only 3% of the hill migrants are born in Morang, so only the birthplace of the present generation can be used as an indicator of time of migration<sup>23</sup>.

**Table 13. Early in-migration**

VARIABLES	(1) bornlocs
hillorig	-0.691*** (0.041)
Constant	0.896*** (0.024)
Observations	396
R-squared	0.474

*Robust and clustered standard errors in parentheses*

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Turning now to equation (2) on land accumulation that is reported in Table 14 we find 69% landlessness among households with a landless grandfather, as compared to 33% for landed grandfathers (the difference is the same as the coefficient of 0.36 for *landg0*, but we get the same numbers from descriptive statistics where we do not control for other variables). This difference is even larger within the two identity groups, all landless hill origin grandfathers have landless descendents today, against 47% landless households among the large majority of landed grandfathers (in the hills most people owned land). While for the terai identity population we find 67% landlessness today among the landless grandfathers, but only 24% landlessness among the landed grandfathers.

<sup>22</sup> Not exactly the same since all exogenous variables are used in the first stage, thus including *bornlocs* from equation one, but there is no major difference in the parameters.

<sup>23</sup> Otherwise there will be very limited variation in the data. We also have information on the actual year of relocation (from the events section), but this information seems to be less reliable than the year and place of birth.

**Table 14. Land accumulation**

	(1) nepal	(2) hill	(3) terai
VARIABLES	landnow0	landnow0	landnow0
hillorig	0.210** (0.090)		
landg0	0.361*** (0.073)	0.482*** (0.097)	0.344*** (0.087)
landg	-0.000** (0.000)	-0.001 (0.000)	-0.000* (0.000)
Constant	0.315*** (0.081)	0.518*** (0.097)	0.323*** (0.094)
Observations	303	86	217
R-squared	0.185	0.136	0.201

*Robust and clustered standard errors in parentheses*

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

We have also investigated whether amount of land among the landed grandfathers matters. It does, the coefficient is significant, but the effect is very small as indicated by the 0.000 coefficient. The effect (0.36) on the probability of being landless (today) of going from zero to some land (at grandfather's time) can only be matched by going from some (infinitesimal) land to the upper end of the distribution at 800 kattha (or 40 bigha). Although small, this is a real effect that survives also if we drop the few holdings at the upper end. The effect is, however, slightly stronger for the terai-origin population.

Let us now turn to the main equation (1) and the determinants of overseas labor migration as reported in Table 15. First we note that landlessness today, which as we know is predetermined by the grandfather's landlessness, affect the chances of sending a family member overseas. The likely explanation, which is confirmed by interviews we have done in the area, is that a landless household has more difficulties raising the necessary loans to finance the trip to Qatar or Saudi Arabia. We also note, what we have already discussed, that many more families of hill origin have overseas labor migrants.

**Table 15. Overseas labor migration**

VARIABLES	(1) overseah	(2) overseah	(3) overseah	(4) IV overseah	(5) overseah	(6) overseah
landnow0	-0.107*** (0.033)	-0.101*** (0.033)	-0.103*** (0.031)	-0.122 (0.072)		
hillorig	0.367*** (0.047)	0.426*** (0.058)	0.530*** (0.074)	0.530*** (0.074)	0.374*** (0.056)	0.522*** (0.079)
bornlocs		0.085*** (0.026)	0.197** (0.069)	0.194** (0.072)		0.209*** (0.071)
landg0					-0.019 (0.053)	-0.026 (0.051)
landg					0.000 (0.000)	0.000 (0.000)
Constant	0.120*** (0.028)	0.041 (0.039)	-0.064 (0.067)	-0.053 (0.079)	0.070 (0.042)	-0.120* (0.067)
Observations	396	396	303	303	303	303
R-squared	0.213	0.219	0.243	0.242	0.203	0.230

*The first stage of the IV is basically Table 14.*

*Robust and clustered standard errors in parentheses*

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

The main new finding is the positive coefficient for early in-migration (*bornlocs*), which when added only affects the coefficient for hill-origin identity. We see that hill origin identity becomes even more important when we control for time of relocation to the area. So early migrants to the area send more labor migrants overseas, and when we control for this factor, then hill origin households are even more prone to labor migration. Initially we expected the recent migrants to the area to send more labor migrants, as a positive correlation could be explained by migrants developing a preference for, or tolerance for the costs of, further migration. The result is however the opposite. Hill migrants are in general more prone to labor migration but it seems like the recent migration experience stops them from further migration, at least for one generation. The simple explanation is probably that they need a generation to settle in the new location.

Column (4) indicates that the finding is robust to land potentially being endogenous (one may imagine that entrepreneurial households accumulate land and migrate), in fact the estimates are basically the same (but less efficient as shown by the larger standard error)<sup>24</sup>. As discussed, equation (2) and thus Table 13 is basically the first-stage of the IV. If we now insert from (2) in (1) and estimate the reduced form as shown in columns (5) and (6), then we again confirm that hill-origin and time of relocation determine overseas labor migration. These effects dominate, however, the deeper effects of grandfather's land, despite that land is significant in the two equations that are combined in the reduced form. This must be due to correlation between initial land and hill-origin identity, and that seems in fact to be the case as we will now see for the sub-sample findings reported in Table 16. We shall see that initial land (and land today) matters for the hill and not the terai sub-sample, and we shall see that within the sub-samples land now appears to be endogenous. So the non-endogeneity finding for the full sample is probably just explained by the dominance of hill-origin identity as the main determinant of overseas migration.

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<sup>24</sup> As expected from eyeballing the parameters a DWH-test cannot reject that the estimates are the same.

**Table 16. Overseas labor migration for hill and terai identity groups.**

	(1)	(2)	(3) IV	(4)	(5)	(6)	(7) IV	(8)
	hill	hill	hill	hill	terai	terai	terai	terai
VARIABLES	overseah	overseah	overseah	overseah	overseah	overseah	overseah	overseah
landg0				-0.216				-0.011
				(0.137)				(0.055)
landg				0.000**				0.000
				(0.000)				(0.000)
bornlocs	0.118*	0.322**	0.281	0.347**	0.058***	0.067***	0.075**	0.080**
	(0.058)	(0.122)	(0.158)	(0.108)	(0.016)	(0.021)	(0.025)	(0.027)
landnow0	-0.141	-0.184*	-0.590*		-0.083**	-0.073**	-0.024	
	(0.088)	(0.078)	(0.261)		(0.028)	(0.030)	(0.068)	
Constant	0.480***	0.483***	0.703***	0.361***	0.057**	0.044**	0.015	0.004
	(0.057)	(0.072)	(0.178)	(0.048)	(0.022)	(0.019)	(0.040)	(0.028)
Observations	127	86	86	86	269	217	217	217
R-squared	0.032	0.111	negative	0.130	0.036	0.025	0.017	0.006

*The first stage of the IV is basically Table 14.*

*Robust and clustered standard errors in parentheses*

*\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$*

Note that the *R-squared* is much lower for the sub-samples, which again reflects that hill identity is the main determinant in the full sample. This contrasts with the sub-sample estimates for land accumulation in Table 15, where the *R-squared* is basically the same as for the full sample.

For both sub-samples we again find that early in-migrants have more overseas labor migrants today. The smaller parameters for the terai-origin group are due to the lower number of migrants in total. In relative terms, as compared to the constant term, the effect is larger. In fact none of the few late terai in-migrants have overseas labor migrants. In the IV regression for the hill-origin sample the parameter is not significant, but this is most likely because the IV estimator is less efficient, the parameter is basically the same. There seems however to be a selection effect in the sense that early in-migrants have more overseas migrants in the sub-sample that are able to report their grandfather's land. This may only reflect that those who do not remember the land were to a larger extent landless.

Within both sub-samples it appears, as mentioned, that land is in fact endogenous. For the hill sub-sample there is a much stronger effect of landlessness in the IV regression, and for the reduced form we find that the area of grandfather's land matters (and not landlessness as most of them had land). While for the terai sub-sample there is a weaker, or rather zero, effect of land, both for present and

grandfather's land. So there seems to be some unobservable factors among terai people that explains that some people are landless and do not migrate. We know it is not time of in-migration, and we have also checked whether it is within terai-origin identity, but the results do not change if we add terai sub-castes as a control (basically because migration is equally low in all groups). So at this stage we can only conclude that the correlation between landlessness and lack of overseas labor migrants may not be a causal effect (as indicated by the need for collateral discussed above) among terai origin households, in contrast to the hill origin households. But one should not draw strong implications when it comes to this sub-sample as the number of overseas labor migrants is very small, among the 217 households there are 16 having overseas migrants, with three of them being landless. So land may still be an important factor, that for many households may be necessary but not sufficient as indicated by the IV regression, since most migrants have land. At the same time there are so many landed households without migrants that there must be unobservable factors that may explain why some terai households send migrants, and others not. In conclusion, early in-migrants of both groups are more likely to have migrants today, and in particular among hill people (where there are many more migrants) it appears that access to land is an important factor in explaining who are able to send migrants overseas.

## 7. Conclusions

We find that asset poverty is transmitted over generations. Since there are not many studies of this kind, and none that we know that use a random sample of family histories that go two generations back in time, this is an important finding in itself. The next step was to investigate whether this has implications for present day occupational choice, and it has, as landlessness today decreases the probability of taking up the successful pathway out of poverty of becoming an overseas labor migrant, and among the largest group of migrants, those of hill social identity, we find that even land at grandfather's time determines your chances of becoming a labor migrant today.

Being of hill origin is an important determinant in itself. These households are migrants to the area, and we know in what generation they relocated from the hills. Now, if it is the migration experience in itself that gave them a taste for further migration, then we shall expect the most recent migrants to the area to have more labor migrants today. We find however the opposite, late in-migrants have fewer labor migrants today. The most likely explanation is that it takes a generation, or more, to settle in the new area in the plains. And during this period it appears that fewer households can afford to send a household member abroad, as they are probably needed in different economic and social activities at home. To conclude, people of hill origin seem to have, or have developed, a liking for migration. But after their migration to the plains they need at least a generation to settle in before they send labor migrants overseas.

Labor migration from Nepal to Qatar and other Gulf countries has recently received attention in the media, as the conditions, for in particular construction workers that work in the desert sun, are quite intolerable. The working conditions are by now well known also in Nepali villages, but still hundreds of migrants leave every day for Qatar for their second or third extended stay. Most of them have repaid the debt before they return, so there are no obligations other than the expectations from wives and children of further financing of house and school expenditures at the new level that the incomes from Qatar have allowed. In our mind it is hard to define this as exploitation, these laborers are poor, but not ultra-poor, if they were they would not have been able to go to Qatar in the first place. The poor of this region migrate to India for work for much lower incomes.

Labor migration to the Gulf is strictly regulated in Nepal, one cannot leave without permission from the Department of Foreign Employment (DOFE)<sup>25</sup>. And the same newspapers that have brought up the inferior working conditions for laborers in Qatar have recently criticized DOFE for inefficiency in handling these permissions, as laborers have had to wait for weeks before they can leave for Qatar. One shall maybe not expect newspapers to be consistent, but can our study add insights on governmental or non-governmental policies on migration? The fact that collateral seems to be a constraint indicates that micro-credit programs should maybe also target financing of labor migration. If so, then the repayment schedule would have to be adjusted to monthly or even three-monthly repayments, and possibly allowing for direct bank-transfers. Most labor migrants will be able to repay the loan during the first year, but at a lower interest rate than what they have to pay in the informal market, and with regular payments that fit with the payments from the employer.

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<sup>25</sup> For more information see [www.dofe.gov.np/en/](http://www.dofe.gov.np/en/), and also Endo and Afram (2011).



Regarding selection on identity it is not clear whether government regulation should play a role. One may imagine a quota for particular ethnic groups, but it is hard to imagine that the employers in other countries would agree to comply with reservation systems in the sending countries. The local government should rather opt for positive discrimination along other dimensions. In particular it appears that the salaries of migrants to the Gulf depend to a large extent on their revealed performance. Migrants start out at a low level, but can get more responsibility if they demonstrate particular skills. So vocational training programs that are tailor made for labor migrants may improve their situation significantly.

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We study the deep determinants of occupational choice, with a focus on what appears to be a particularly profitable pathway out of poverty, overseas labor migration. To what extent is this choice constrained by access to economic resources, in contrast to variation in preferences, or perceived costs of migration? We use previous migration choices as an indicator of preferences for migration. We find that early in-migrants to the frontier area we study have more labor migrants today. This indicates that in-migrants need a generation to settle in the new location. Present occupational choice is also restricted by predetermined landholdings.