



**INTERNAL MIGRATION,  
REMITTANCES AND POVERTY:  
EVIDENCE FROM GHANA AND INDIA**

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## Abstract

Drawing on data from population censuses and recent household surveys for India and Ghana, this paper demonstrates the importance of internal migration in comparison to international migration, showing that internal migrants outnumber international migrants by an order of magnitude in both countries. It examines patterns of internal migration and the underlying reasons for migration, noting that people move from relatively poor areas to richer ones. While it is difficult to establish causality, complementary evidence suggests that these moves may allow poor people to access better opportunities in richer regions. The paper then looks more carefully at the association between migration and poverty at the district and state level and to some degree at the household level, which is followed by an examination of internal remittances and their association with poverty. A key finding of this paper is the importance of internal remittances, which in both countries appear to be greater in magnitude than international remittances. In addition, internal remittances appear to be particularly important in relation to international remittances in the poorest regions of Ghana and in the poorest states of India.

## 1. Introduction

There has been a rapid increase in recent years in research and policy in international migration, partly due to the perceived importance of this issue to richer countries (Skeldon 2008). Parallel to this development, there has been a significant focus on international remittances sent by migrants, given their rapidly increasing volume (World Bank 2011). Indeed, in a number of countries inflows of international remittances may be similar to, or greater than, receipts from external aid or foreign direct investment (Ratha and Shaw 2007).

However, notwithstanding this attention to international migration, the large majority of cases of migration, and of instances of sending remittances, take place within national borders. Using data from the latest available round of censuses (2000-2001), Bell and Muhidin (2009) estimated that there are about 740 million internal migrants in the world, nearly four times the number of people living outside their country of birth (UNDP 2009).<sup>1</sup> It could also be argued that internal migration and remittances are much more important for poverty reduction compared to international migration, since internal migration between regions, districts and municipalities, and between rural and urban areas, are more likely to involve poorer people (Deshingkar 2006; Migration DRC 2009).

Yet, in contrast to international migration, to date there are no estimates of the global volume of internal remittances, whilst estimates of internal remittances for individual countries are scarce. Again, this is partly due to the higher attention paid to international migration, but also to the fact that – unlike international transfers which are routinely captured in the balance of payments data compiled by the central banks – the tracking of domestic transactions is unnecessary from the

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<sup>1</sup> The definition of internal migrant to which this figure refers is anyone who was living within the same country but outside their largest administrative unit of birth at the time of the census.

national accounts' point of view (Sander 2003). Furthermore, transfers sent by internal migrants are more likely to be sent through informal channels (e.g. Hawala, hand-carrying, or through friends and relatives), making it difficult to capture them in official data. The volume of each individual internal remittance transfer is likely to be much smaller than a typical international remittance, as previous evidence has shown (e.g. Adams 2005; Adams, Cuecuecha and Page 2008; Gray 2009), but as there are likely to be many more of the former, the aggregate size of internal remittances could be of a similar or higher magnitude to international remittances, and they may constitute a direct transfer of money to the hands of a larger number of people, many of whom are poor. Until recently, only China had reliable estimates of the size of the domestic remittance market, with Cheng and Zhong (2005) suggesting the market was at just over US\$30bn in 2005. A recent estimate for India of a market worth US\$10bn in 2007-2008 (Tumbe 2011) is broadly consistent with the analysis in this paper.

This paper uses data for Ghana and India captured in censuses and household surveys, in order to assess the quantitative importance of internal migration and remittances, examining their patterns and exploring the relationship between internal migration and poverty. Ghana and India were chosen in order to compare one country from Africa and one from Asia from the countries covered by the Migrating out of Poverty Research Programme Consortium. Secondly, both countries have good data sets, which was an important consideration for the robustness of results. Although the two countries are not far apart in terms of the Human Development Index (India ranks 128 with an HDI of 0.602 and Ghana ranks 138 with an HDI of 0.502) and in terms of poverty levels,<sup>2</sup> they do differ in population size (approximately 24 million for Ghana and 1 billion for India), in per capita GDP levels (US\$1,643 in Ghana and US\$3,425 in India)<sup>3</sup> and in absolute numbers of poor people – India had more than 426 million living on less than US\$1.25 a day in 2008 (Sumner 2012) compared to less than 7 million in Ghana (Sumner 2010).

The analysis presented in this paper draws on the most recently available census and survey data for these countries. For Ghana, the 2000 Population and Housing Census and the 5<sup>th</sup> round of the Ghana Living Standards Survey (GLSS 5) conducted in 2005-2006 were used. For India, the data is primarily from the 2001 Population and Housing Census and the 64<sup>th</sup> round of the National Sample Survey (NSS) from 2007-2008.

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<sup>2</sup> The World Bank classifies both countries as 'lower middle income' countries, with declining national levels of poverty over the past two decades (in Ghana from 40 per cent in 1998 to 29 per cent in 2006 and in India from 45 per cent in 1994 to 37 per cent in 2005 and then again down to 30 per cent in 2010), similar levels of life expectancy at birth in 2010 at 64 years in Ghana and 65 years in India and similar rates of rural population with access to improved water source at 80 per cent for Ghana and 90 per cent for India in 2010 (see the World Bank country profiles for Ghana and India: <http://data.worldbank.org/country/ghana>, and <http://data.worldbank.org/country/india>).

<sup>3</sup> The population figures come from the World Bank data series 'Population, total' and the GDP figures are from the World Bank data series 'GDP per capita, PPP (current international \$)' (<http://data.worldbank.org/>). They all refer to the year 2010.

## 2. Data sources

The main sources of data on both internal- and international migration are censuses, population registers and sample surveys. Census data are the best source of information for the purpose of counting lifetime migrants,<sup>4</sup> and to some extent migrant flows, and have traditionally been used by most countries worldwide (UN 1970). This is because censuses are run in most countries, while for example population registers do not exist in all countries, and also because, in principle, censuses capture the whole population of a country, while surveys are usually only based on a sample.

There are direct and indirect approaches to measure internal migration using census data. Direct approaches involve using relevant questions that may have been added to the census questionnaire. The most frequently adopted questions are: place of birth, place of previous residence, duration of residence in the place of enumeration, and place of residence at a specified date before the census (commonly five years prior to the census date). Thus, for example, migrants can be identified as all persons who are enumerated, or are usually resident, in a place different from their place of birth, or those who previously resided in a place that is different from the place of enumeration, or from the current place of usual residence. Indirect methods for measuring internal migration involve obtaining estimates of net intercensal migration for any given geographical area using population counts from two successive censuses, along with other information that is typically available from the same censuses or other sources.<sup>5</sup>

One drawback of censuses is that they are typically only conducted at ten year intervals. Furthermore, migration information may only relate to the last five years, and while for internal migration it is possible to capture both in and out migrants, for international migration it is typically only possible to capture immigrants. Household surveys represent an alternative source countries can use to monitor demographic and socio-economic changes of their populations. Surveys are less costly than censuses and have the advantage of enabling the collection of more information than the census. For example, many household surveys collect data on household consumption and income, data not collected in censuses but which can enable assessment of welfare and poverty (and can establish whether they are linked to migration/remittances).<sup>6</sup>

Surveys can also be used in conjunction with censuses to generate information that otherwise cannot be extracted from one source or another, in particular to build a more disaggregated picture of poverty than surveys themselves enable. For example,

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<sup>4</sup> A lifetime migrant is a person whose area of residence at the census or survey date differs from his area of birth (UN 1970).

<sup>5</sup> For more details about indirect methods see UN (1970, Chapter II).

<sup>6</sup> In some cases surveys are used by countries as a substitute for a census, like the case of the 2007 South Africa Community Survey, which helped fill in the ten year gap between the 2001 and the 2011 census by providing municipal level data on the demographic and socio-economic conditions of the South African population.

Elbers, Lanjouw and Lanjouw (2003) developed a methodology that combines census and survey data to generate small-area estimates of poverty and inequality in a number of developing countries.<sup>7</sup>

Finally, with regard to the use of these sources for the analysis of migration, surveys are usually preferred to censuses when the purpose of the analysis is not to count migrants or describe their basic demographic characteristics and the nature of their movements, but to estimate the determinants or the impact of migration. Panel data are particularly suitable to estimate the impact of migration since they allow the tracking of the same individuals – including both migrant and non-migrants - over time, thus making it possible to control for pre-migration conditions that may have caused an improvement or worsening in certain outcomes (for example, poverty). The Kagera Health and Development Survey (KHDS) is an example of a long-term panel data set from northwest Tanzania that has been extensively used to look at welfare impacts of migration (see for example: Beegle, De Weerd and Dercon 2008; Dercon, Krishnan and Krutikova 2010).

In this paper we use data from both censuses and surveys for India and Ghana, depending on the question. As the initial starting point of the paper is to measure the extent of internal migration, and of different types of internal migrants, we begin with census data. We then use survey data as a complementary source to address additional questions, for instance the association between migration and poverty, and to add information in relation to remittances, including their size and their relationship with poverty.

We use the latest available censuses for the two countries, the 2000 Population and Housing Census of Ghana and the 2001 Population and Housing Census of India. While for India we use as raw data the official migration tables (D series) published on the census website, and covering the whole of India, for Ghana we use a 10 per cent sample of the census provided by the Integrated Public Use Microdata Series (IPUMS) International at the University of Minnesota (Minnesota Population Center 2011). The surveys used in this paper are among the most reliable recent surveys in these two countries that have dedicated modules on migration. We use the 64<sup>th</sup> round of the National Sample Survey (NSS) of India from 2007-2008 and the Ghana Living Standards Survey (GLSS 5) conducted in 2005-2006.<sup>8</sup> These are nationally representative surveys, covering 125,578 households in India and 8,687 in Ghana.<sup>9</sup>

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<sup>7</sup> In fact, as previously mentioned, censuses do not typically provide the information needed to generate poverty and inequality data in developing countries, while on the other hand, surveys are typically not large enough to allow for the generation of statistics at the level of small areas, such as districts or municipalities, thus, combining the two sources of data can sometimes help overcome their limitations. Nevertheless, some authors (e.g. Tarozzi and Deaton 2009) have recently shown that estimates of poverty, and the consequent generation of poverty maps, for small areas obtained using this methodology may be subject to a greater uncertainty (or lower level of precision) than it is often acknowledged.

<sup>8</sup> The India NSS is an on-going nationwide socio-economic survey conducted by the National Sample Survey Organisation (NSSO), also called the National Sample Survey Office, which is part of the Government of India's Ministry of Statistics and Programme Implementation (MOSPI). The most recent round that contained a special module on migration, called Employment and Unemployment

Both these surveys have been extensively used (sometimes in combination with other sources) by researchers to analyse issues related to migration, poverty and development. Litchfield and Waddington (2003) used earlier GLSS data to examine welfare outcomes of migrant households in the 1990s, as did Adams (2006) to explore how remittances (domestic and international) affect poverty in Ghana, and McKay and Quartey (2008) to analyse the links between internal migration and spatial inequality in Ghana. Using the more recent GLSS 5 data, Ackah and Medvedev (2010) examine the determinants of internal migration in Ghana and its welfare impacts. However, most of the above studies used the older rounds of the GLSS, and there are a number of aspects in our analysis that were not covered in those studies, such as the examination of the migration and poverty links at the district/region level, and the examination of the aggregate volume of internal remittances as opposed to that of international remittances. Similarly, numerous studies on migration exist using the previous rounds of the NSS data for India, while the 64<sup>th</sup> round has been used by Tumbe (2011) and by Czaika (2011), who examines how intra-group and inter-group relative deprivation affect the decision to migrate and the choice of destination. Again, our analysis of the 64<sup>th</sup> round of the NSS covers new aspects on the links between internal migration, remittances and poverty in the country.

It is important to remember that, by definition, a census will not give information on people who have migrated *out* of the country. Rather, it will provide information on those that have returned and on immigrants (foreign-born or foreigners). In a number of instances, a substantially greater number of natives may have left than returned. Emigrants can be captured to a certain extent through surveys, since some collect information about current emigrants through proxy individuals.<sup>10</sup> One additional feature of surveys, relative to censuses, is that they often collect information on remittances received by the households in the survey country, as well as information about the remitter, and for this they are virtually the only source available to estimate the aggregate value of internal remittances.<sup>11</sup> This is the case for the two surveys here, and we exploit this information to describe patterns of remittances in Ghana and India.

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and Migration Particulars (Schedule 10.2), was the 64<sup>th</sup> round conducted between July 2007 and June 2008 (NSSO 2010). The GLSS 5 is the fifth round of the Ghana Living Standards Survey and was conducted by the Ghana Statistical Service (GSS) between September 2005 and September 2006.

<sup>9</sup> In the case of Ghana, along with a standard set of questions on migration and another one on remittances, a nationally representative sub-sample of 4,000 households were also selected for the administration of additional and more detailed questions on migration and remittances (see Adams 2007). This, though, is not used in this paper.

<sup>10</sup> These absent individuals are sometimes captured as household members, and other times as former household members, like in the NSS 64<sup>th</sup> round.

<sup>11</sup> Note that some countries (e.g. The Bahamas and Kenya) have added questions on remittances in the questionnaire of the current round of censuses. However, these only refer to remittances sent by emigrants, thus, excluding those sent by internal migrants.

### 3. Migration patterns

In this section we provide an overview for Ghana and India of the rates of migration, the origin and/or destination of migrants, different types of internal migration (e.g. inter-district/inter-state, from/to rural/urban areas), and the reasons for migration differentiated by gender. In using the census, the definition of migration that we adopt is that suggested in the UN Manual VI, 'Methods of Measuring Internal Migration' (UN 1970), which defines migration as 'a move from one migration-defining area to another (or a move of some specified minimum distance) that was made during a given migration interval and that involved a change of residence'. We seek to standardise this as much as possible for the two cases given the information available.

In the case of Ghana the census question asked respondents for their district or country of residence five years prior to the census, while in the case of India the 2001 census asked the place of last residence (possibly within the same district) and the duration of residence in the place of enumeration.<sup>12</sup> Thus, in order to make the definition of a migrant as comparable as possible between the two countries, in the case of India we take as migrants only people who had changed residence sometime in the past and whose duration of residence in the place of enumeration was up to four years.

It is important to emphasise that our definition of migration captures only movements that occurred in the five years prior to the census in both countries, thus excluding longer-term migration. Therefore, we focus on more recent patterns of migration rather than lifetime movements (which the census data could also be used for). Using census data also excludes much short-term, temporary and circular migration, a point which also applies to data from most household surveys.

Finally, for the analysis of the reasons for migration and of the different types of internal migration, the data from the 2000 Census of Ghana did not have the relevant information, thus, in this case, we use the GLSS 5 data. This required an adjustment in the definition of migration as follows: in the GLSS a 'migrant' is any household member seven years or older who either moved or returned to the current village or town of residence at any time, and who intends to stay in the current village or town of residence for a year or more. Thirty per cent of the persons captured in the GLSS 5 sample are migrants by this definition. This definition is not consistent with the one that we adopt when using census data, in that it captures lifetime migrants (or people who moved to the current place of residence at any time in the past) rather than recent migrants. While it would have been possible to restrict attention only to those migrants who had arrived in the five years prior to the survey, this would have reduced the sample size considerably, resulting in much less precise estimates, so we opted to capture lifetime migrants when we used the GLSS 5.

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<sup>12</sup> The 'place' of residence in the Indian census refers to at least a village (if in rural areas), or a town (if in urban areas).

### 3.1 Extent of different types of migration and origin-destination of migrants

Tables A1 and A2 in the Appendix show the numbers of migrants who moved during the period 1995-2000 in Ghana and the period 1996-2001 in India, for the whole country and by region/state, divided by migrant type. A more detailed geographic disaggregation is possible for India, in that here we can identify intra-district migrants, which cannot be done for Ghana. In the tables an intra-district migrant is someone who changed place of residence but remained in the same district of India; an inter-district migrant is anyone who changed district of residence in Ghana/India but remained in the same region/state; an inter-regional/state migrant is someone who changed region/state in Ghana/India; and for both countries an international migrant is someone who arrived from abroad.

From the figures in Tables A1 and A2 we can determine that 96 per cent of all migrants in Ghana and 99 per cent of those in India came from another place within the national borders rather than from abroad.<sup>13</sup> It must be noted, however, that – given the data source – international migration, in this context, refers to immigrants, not emigrants. This is a limitation for our comparison of internal and international migration, but to our knowledge there are no estimates of emigration that are directly comparable to our estimates of internal migration, since we do not know the number of migrants who moved from Ghana to any other country in the period 1995-2000, and of those who moved from India to any other country in the period 1996-2001.<sup>14</sup>

In Ghana, inter-regional movement is the most important type of migration, more important than inter-district migration within regions. In India, international immigration is relatively small in all states; among internal movements intra-district migration is more important than inter-district migration, which in turn is more important than inter-state migration. This partly reflects larger district size in India than Ghana, but it also reflects the importance of migration for marriage in India, much of which is intra or inter-district, as opposed to inter-state.

In terms of the direction of movements, in Ghana, Greater Accra is the region that attracts by far the largest number of all types of migrants, both in absolute numbers and relative to the region's population in 2000; the proportion of migrants is lowest in the three northern provinces. The overall rate of in-migration in Greater Accra, relative to the total region population in 2000, was 9.81 per cent,<sup>15</sup> followed by the

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<sup>13</sup> The higher number in India partly reflects the fact that intra-district migrants are captured here.

<sup>14</sup> In fact, existing estimates of emigration measure stocks rather than flows, and these tell us that in 2000 there were 213,800 emigrants whose country of origin was Ghana and who were living abroad and 2,621,400 emigrants whose country of origin was India and who were living abroad (Dumont, Spielvogel and Widmaier 2010). The latter figures can be crudely compared to our estimated total numbers of internal migrant 5-year flows, which are 961,270 for Ghana and 55,760,453 for India (these two latter figures are derived from Tables A1 and A2 by summing up the total numbers of all types of internal migrants). This crude comparison still highlights the much higher extent of internal migration relative to international moves.

<sup>15</sup> This is the total number of in-migrants (from other districts or regions of Ghana, or from other countries) that arrived between 1995 and 2000.

Central region at 7.3 per cent. By contrast, in the three northern regions the rates were 2.87 per cent in the Northern region, 3.01 per cent in the Upper East region and 3.07 per cent in the Upper West region.

Tables A3 and A4, in the appendix, present more detailed information, focusing on inter-region and inter-state flows in Ghana and India, respectively. In Ghana, significant sending regions as a share of their 1995 population included the Upper East, Upper West and Central regions (see Table A3). Upper West migrants tended to go to the Brong Ahafo and Ashanti regions primarily, whilst Upper East migrants went to the Ashanti, Brong Ahafo and Western regions. This is strongly suggestive of migration from less economically successful to more economically successful regions. However, it is also evident that geographical distances – along with other drivers – shape patterns of mobility in Ghana, since migrants from the poorer Upper West and Upper East regions more often go to the relatively nearby regions of Brong Ahafo and Ashanti, rather than to the richer but more distant regions of the coastal belt. This is also consistent with previous evidence (see for example: Ackah and Medvedev 2010). Similarly, more educated and wealthy people from the Upper West prefer to migrate to urban centres – including Accra – while the poor and illiterate migrate to the Brong Ahafo region (Van der Geest 2011: 170). The range of economic opportunities available in some of the regions is also another important factor determining the choice of destination. The Ashanti region, for example, has attracted migrants from the north of the country, due to its cocoa plantations, whilst the Western region has been a major point of attraction due to cocoa production and mines there (McKay and Quartey 2008).

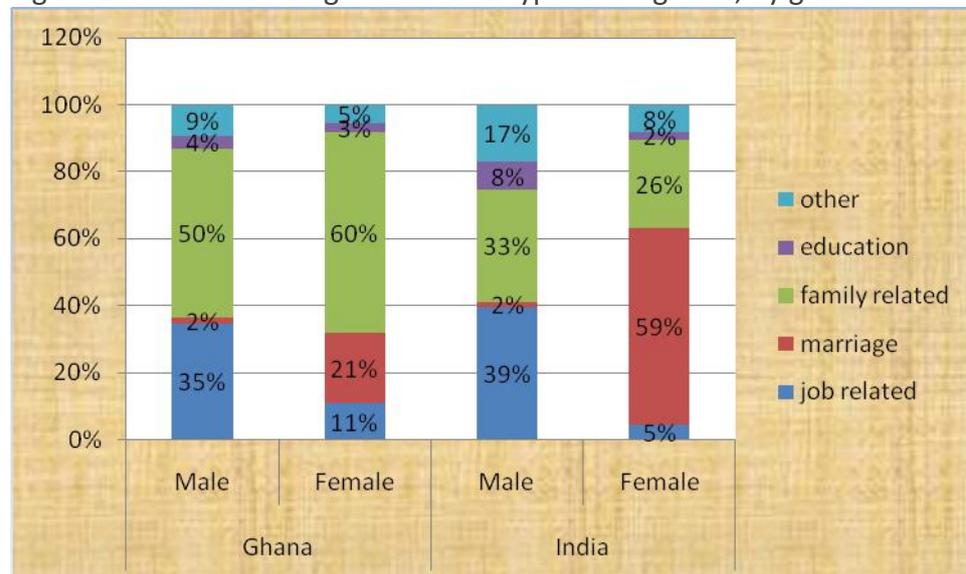
Table A2 shows that the states which are major recipients of inter-state migrants in India are first and foremost Maharashtra (2.0 million in-migrants) and Delhi (1.2 million), followed by Haryana, Gujarat, Uttar Pradesh, Karnataka and Punjab (all between 500,000 and 800,000). Table A4 shows that major sending states are, first, Uttar Pradesh (2.2 million out-migrants) and Bihar (1.3 million), followed by Rajasthan, Maharashtra and Madhya Pradesh (between 500,000 and 600,000). Of course, these include many of the more populous states, and some states have large numbers of both in-migrants and out-migrants (Maharashtra, Uttar Pradesh), as well as high levels of intra-state migration. But, again, what we are seeing in India, as in the case of Ghana, is evidence of migration from less economically successful states, such as Bihar or Uttar Pradesh, to wealthier states, such as Maharashtra or Delhi.

### **3.2 Reasons for migration differentiated by gender**

The census data in India and survey data in Ghana provide information on the reasons underlying migration. The responses are summarised in Figure 1, which shows a striking gender difference in the reasons for migration in both countries. In both countries women move for marriage much more often than men, while men are much more likely to move for work reasons (including job transfer, business, or to seek employment). This is not to deny local variations, such as the increase in young women moving to Accra and Kumasi to work as head-porters – popularly called *kayayei* – (Addai 2011; Kwankye *et al.*), and women migrating for industrial work (Banerjee and Raju 2009; Eapen 2004) and domestic work (Rao 2011) in India.

Furthermore, it has been observed that women’s movement for marriage can help mitigate risks. Indeed, Rosenzweig and Stark (1989) argue on the basis of longitudinal data from South India that marriage linked to migration contributes significantly to a reduction in the variability of household food consumption.<sup>16</sup>

Figure 1. Reasons for migration for all types of migrants, by gender



Sources. 2001 Census of India and GLSS 5

There are no major differences between the two genders, or between the two countries, in the proportions of migrants moving for education. In Ghana we can observe that family-related reasons, which include accompanying spouse or parents and other family-related reasons which were not explicitly mentioned by the interviewees, cover a large proportion of reasons for moving (other family-related reasons alone cover 33 per cent for men and 38 per cent for women). In India, family-related reasons other than marriage, which include moving after birth and moving with household, are also quite frequently stated by migrants, but on a lower scale than in Ghana.

### 3.3 Types of internal migration differentiated by gender

While it is sometimes assumed that internal migration often equals migration from poor rural areas to richer urban areas, these data show that patterns of internal migration are more complex than that. Tables A5 and A6 show the frequency of different streams of internal migration for Ghana and India, on the basis of the GLSS 5 data and the 2001 Indian census. The frequencies are differentiated by gender. The

<sup>16</sup> Overall, in both countries more women than men migrate (see Tables A5 and A6), especially in India, where the number of female migrants almost doubles the number of male migrants. We also see that women tend to move shorter distances (e.g. intra-district in India), from rural to rural areas, and mostly for marriage or family-related reasons. However, the content of the category ‘family-related reasons’ in the case of Ghana is less clear, and given that also 50 per cent of men in this case fall in this category we do not exclude that there may be overlapping with economic-related reasons. Also, as already noted, marriage migration is not disconnected from economic reasons.

tables also report the number of international migrants moving to urban and to rural areas.

In India, census data show that rural-urban flows among inter-state migrants are indeed the most prominent form of internal movements, as we can see from Table A6, although this is mostly due to male migrants. In fact, the rate of rural-urban flows of inter-state migrants in India has grown from 28 per cent in 1971 to 39 per cent in 2001 (King *et al.* 2010), in part due to growing employment opportunities in urban areas, and perhaps also linked to growing urbanisation. However, rural-rural flows are by far the most predominant form of migration amongst other types of internal migrants in India (namely, intra-district and inter-district flows), especially among women, with a striking figure of 15.7 million women, almost half of all migrant women in India who arrived between 1996 and 2001, having moved from a rural area to another rural destination within the same district. That said, broadly speaking rural-rural migration is on the decline as rural-urban migration increases. These findings are consistent with other studies including Mitra and Murayama (2008) and Srivastava (2005).

The most apparent counterintuitive finding, though, is found in the case of Ghana, where the GLSS 5 data suggest that rural-urban migration is the least predominant form of internal migration for both men and women, while movements in the opposite direction are much larger. There are also high levels of migration from one urban area to another or one rural area to another. Previous studies (Anarfi *et al.* 2003; Litchfield and Waddington 2003; McKay and Quartey 2008) suggest that the high rate of urban-rural migration in Ghana is partly explained by return migration. Anarfi *et al.* (2003) observed that macroeconomic and sector-specific policy interventions, started in 1983, enhanced the domestic terms of trade in support of the rural sector, thereby encouraging urban dwellers to return to the farm. There have also been improvements in the road network into rural areas, which decreases the costs of moving from urban centres to rural zones. Other authors have argued that strong kinship links to the villages of origin, combined with periods of economic crises in the cities of destination, have been reasons for a reversal in rural-urban trends in Sub-Saharan Africa (Beauchemin 2011; Potts 1995; Reed, Andrzejewski, and White 2005; Songsore 2000).

Again, it is important to remember that in both countries the data do not capture less permanent types of migration, such as circular rural-urban migration (for Ghana, see Wouterse 2010 and Anarfi *et al.* 2003; for India, see Deshingkar and Farrington 2009). There may also be issues in relation to how urban and rural areas are defined and how their classification could change over time.<sup>17</sup>

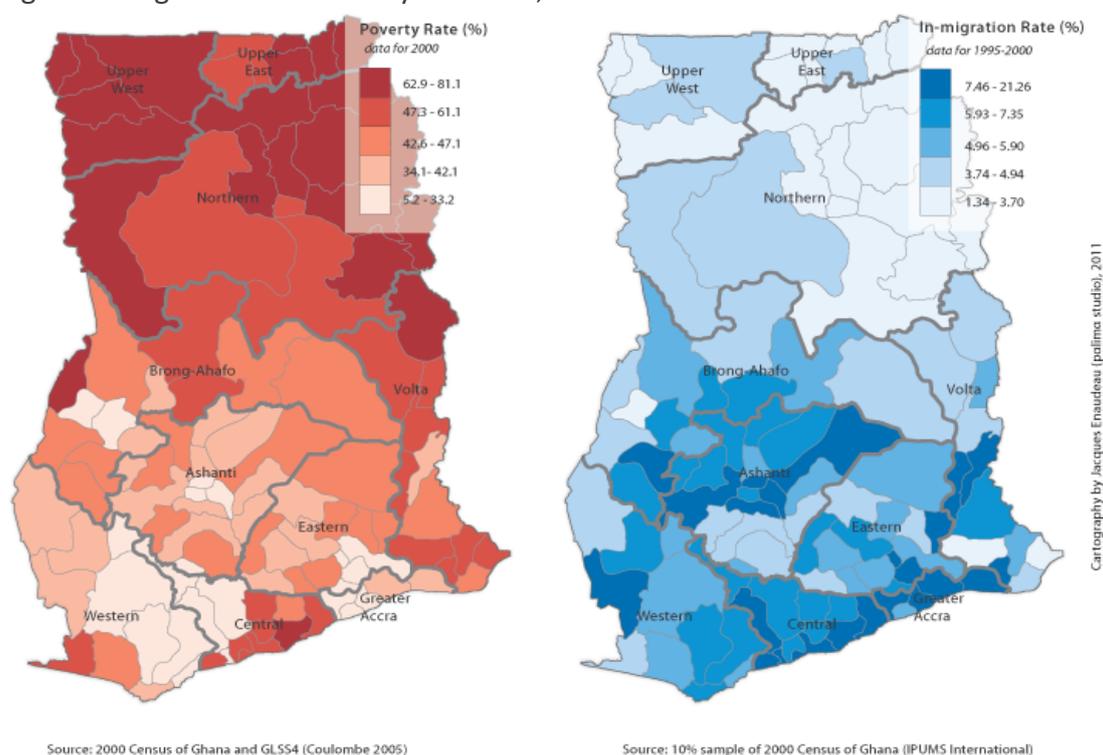
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<sup>17</sup> As noted, changes in classifications of rural and urban areas may contribute to over or under estimation of one type of internal migration or another. In Ghana, the census definition of an urban area is any settlement with a population of 5,000 or more persons, so if the population of a village grows over this threshold a village that previously was classified as a rural area will be re-classified as an urban area when the change occurred, leading to an apparent increase in urbanisation over time (Songsore 2010). Another limitation of the data is that the classification of a urban/rural area of the previous place of residence of migrants in Ghana is as reported by the household, while the

#### 4. Migration and poverty interactions

We now turn to a more detailed examination of the above suggested relationship between migration patterns and poverty. Here we examine the correlation between migration and poverty at the district and region/state level. For both Ghana and India we use the census data to compute respectively the district/region-level and state-level in-migration rates. In the case of Ghana, this is defined as the share of the 2000 district/region population who were living in another district/region of Ghana or outside Ghana in 1995, while for India the in-migration rate is the share of the 2001 state population whose previous place of residence was in a different state of India or abroad, and whose duration of residence in the current state is between zero and four years. We then correlate these immigration rates with district/region level poverty in Ghana or state domestic product in India (see Figures 2 and 3, respectively, and Tables A7, A8 and A9).

Figure 2. Migration and Poverty in Ghana, District-level.



In Ghana, districts with the highest rates of in-migration are located in the south, and those with the lowest levels in the north. The district with the highest in-migration rate is Ga in Greater Accra, with a 21.26 per cent in-migration rate (see Table A7 in the Appendix). When we compare the in-migration rates with district-level poverty rates for 2000 calculated by Coulombe (2005), it is clear that districts and regions with higher rates of in-migration have lower levels of poverty, and vice versa. For instance, poverty levels are higher in the north than in the south and in-migration is

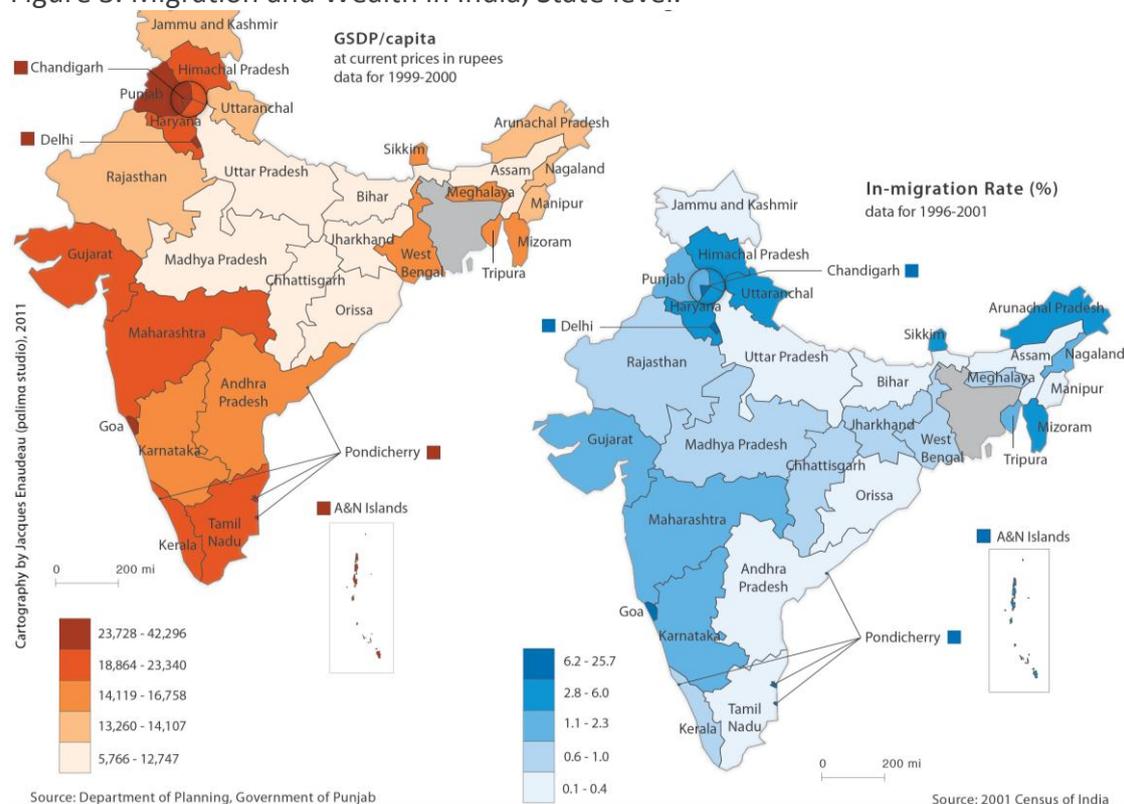
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urban/rural classification of the destination (that is, place of residence at the time of the survey) is done by the administrators of the survey (Ackah and Medvedev 2010).

much lower in the former than the latter. Table A8 shows that there is a correlation of -0.89 between regional levels of poverty and rates of in-migration.

In the case of India, areas of higher in-migration are states in the west, as well as Delhi and the surrounding areas in the north (see Figure 3). Areas of the lowest in-migration are the poorest states in the north and east, including Uttar Pradesh, Bihar and Orissa. Again this correlates with the relative wealth of states: Delhi, Maharashtra and Gujarat have significant in-migration and have higher levels of state domestic product. The correlation coefficient between state-level wealth and in-migration rates in India is 0.82 (see Table A9). This shows clearly that the broad picture is of movement from poorer to richer areas in both countries.

Figure 3. Migration and Wealth in India, State level.



Thus, there is clear association between poverty and migration at the district or state level. This, of course, does not imply a causal relationship, because it cannot be determined whether those who migrate are the poor within the poorer regions or states, nor can it be determined whether people are better off after they migrate. Thus, it is not possible to draw conclusions about causality from these data alone. Judging households based on the quintiles in which they are presently located (see Figures A1 and A2 in the Appendix), there are significant levels of internal migration in all quintiles, although migration levels are slightly lower in the poorest fifth of the population in both Ghana and India, probably because the poorest of the poor cannot afford to migrate. This might suggest – but certainly does not prove – that internal migration is important for households in most income groups. By contrast,

international migration is almost entirely restricted to the richest fifth of both populations.

## 5. Remittances

A significant proportion of migrants, both internal and international, send remittances or transfers back to their families at their place of origin, either in the form of cash or goods. There has, rightly, been much attention paid to the substantial flows of international remittances, as these can sometimes be of similar magnitudes to annual overseas development aid (ODA) and foreign direct investment (FDI). The World Bank (2011) estimated that the total inflow of international workers' remittances received by Ghana in 2006 equalled US\$105 million, although this is much lower than the estimate of net private transfers reported by the Ghana's central bank in 2006, which equals US\$1.6 billion (Bank of Ghana 2006).<sup>18</sup> According to the World Bank (2011) India received over US\$49 billion in workers' remittances and US\$797 million in compensation of employees, totalling nearly US\$50 billion in international remittance flows to the country in 2008. India is the top remittance-receiving country in the world with the level of international remittances flows reaching US\$55 billion in 2010 (World Bank 2011).

Estimates of the total volume of internal remittances are very rare for individual countries and nonexistent on a global level. This is partly due to the lower attention paid to internal migration in general, but also to the fact that domestic transactions are not captured in the balance of payments by the central banks, which is the main source used to compile data on international remittances (World Bank 2011). Furthermore, transfers sent by internal migrants are more often sent through informal channels, making it difficult to capture them in official estimates of remittances. Using primary data collected in six villages in the state of Uttarakhand in India, Jain (2010) found that, while all international migrants used bank transfers to send remittances to their families, the majority of domestic migrants remitted money via informal channels, by hand-carrying them themselves, or through friends and relatives. Tumble (2011) estimated that only 30 per cent of domestic remittances are sent through formal channels in India. Some exceptions exist however, with China's formal domestic remittance market estimated to cover 75 per cent of the overall remittance market in the country in 2005 (Cheng and Zhong 2005).

Thus, in this section we seek to fill an important data gap, by providing estimates of the aggregate value of internal remittances, both at the national and state/region level, using surveys, and comparing these to the corresponding value of international remittances. While this comparison has not been made before in the case of Ghana, because there are no estimates of aggregate domestic remittances, Tumble (2011)

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<sup>18</sup> Note that the Bank of Ghana's figure refers to 'net' private transfers, that is, private transfers receipts minus payments, so strictly speaking that figure is not comparable to the World Bank's figure; however, in Ghana, unlike India for example, the BOP sheet does not report separately the receipts of private transfers and the payments of private transfers. Moreover, it is expected that the inward figure of private transfers is much higher than that of outward private transfers, so we take the net figure of US\$1.6 billion as an approximation of total inward remittances for Ghana.

has provided similar estimates in the context of India, using the same data source that we use here. However, our paper has a number of differences with his: it has a specific emphasis on poverty whereas he tackles inequality; it deals with remittance patterns in the broader context of migration flows; and, more importantly, it highlights the relative importance of internal remittances in the country.<sup>19</sup> The NSS migration report also reports the total volume of domestic and international remittances in India (NSSO 2010, A-57), but the figures are not discussed in the text, nor are they disaggregated at the state level.

The data in Ghana and India relate to remittance receipts in the last 12 months and they capture both remittances in cash and in kind. In Ghana, the remitters could be persons who never belonged to the actual households receiving the transfers, while in India only remittances sent by former household members are captured.<sup>20</sup> Nevertheless, the data from Ghana and India show a similar pattern with regard to remittances, which is that a large proportion of the remitters are internal migrants, and that, while the individual sums of money sent by international remitters are usually larger (sometimes much larger), the sum total of internal remittances is higher than international remittances in both countries (see Table A10 in the Appendix).

In Table A10 the aggregate amount of remittances is the sum calculated over all individual remittances sent by all persons in the sample applying sampling weights.<sup>21</sup> The method that we used to estimate aggregate remittances is equivalent to

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<sup>19</sup> Note that there is also another ‘technical’ difference between Tumbe’s paper and ours: while we report only one set of estimates for the total domestic and international remittance markets for India, Tumbe (2011: 7-9) reports two sets of estimates, one which is consistent with ours, and one where the estimates are corrected for an estimated 30 per cent downward bias (due to under-reporting). Although we agree that estimates of total remittances using household surveys are likely to be severely downward biased, we are not convinced that the way in which Tumbe estimated this bias is correct, since his estimate of the bias is based on the fact that the percentage of households receiving international remittances in Kerala is 13.7 per cent according to the NSS data, while it is 17.1 per cent according to the Kerala Migration Survey, the latter result showing that the NSS data underestimate the proportion of households receiving international remittances in Kerala by 20 per cent. However, we believe that applying the same estimate of the bias that Tumbe found for international remittances sent to Kerala to the whole of India and to domestic remittances as well is a generalisation that is not justifiable. Note also that in this paper we do not attempt to correct our estimates of the volume of remittances for potential bias, because we are more interested in the relative values of domestic and international remittances rather than in their absolute values.

<sup>20</sup> The GLSS 5 (Section 11b) asked households whether they had received any transfer payment, either in the form of cash, food or other goods, by an absent household member or any other person in the past 12 months. Information about the amount sent and about the remitter’s current place of residence was also collected. The NSS survey 64<sup>th</sup> round asked the households whether there was any former household member who, at any time in the past, had moved outside the village/town. Information on whether these persons, in the past 12 months, remitted to the households in the form of cash or in kind, and how much, was also collected. In the case of India, we do not know the exact location of the remittance sender, but only if s/he was living within the same district, in another district with the same state, in another state, or abroad.

<sup>21</sup> The weight variable that we used for Ghana is the variable ‘weight’ that we found in the poverty dataset, and the weight variable that we used for India is a variable that we generated as suggested in the NSS documentation, as follows: `gen weight=mlt/100 if nss==nsc; replace weight=mlt/200 if nss!=nsc`

multiplying the total number of remitters by the average amount of remittances sent, and is referred to as the out-migrant (OM) method in Tumbe (2011). This is also the method that has been used in the NSS report (NSSO 2010). In particular, our calculations for Ghana suggest that the aggregate volume of annual international remittances received in 2005/2006 totalled US\$283 million while that of domestic transfers amounted roughly to US\$324 million.<sup>22</sup> In India, over US\$3.846 billion was sent by international migrants and US\$7.485 billion by internal migrants in 2007/2008, according to our estimates from the NSS data.<sup>23</sup>

While our estimates for India are consistent with those reported by Tumbe (2011, Table 1) and in the NSS report (NSSO 2010, A-57), there are no strictly comparable figures of the aggregate value of internal and international remittances for Ghana. The GLSS 5 report estimates the total volume of remittances (including internal and international) received by Ghana to be equal to 547,571 million of new Cedis (GSS 2008, Table 9.25), but this figure seems implausible since, if converted into US dollars, this would mean that in 2005/2006 Ghanaian households received more than US\$500 billion in migrants' remittances. On the other hand, our estimate of aggregate international remittances for Ghana, namely US\$283 million, seems consistent with that reported by Mazzucato, van den Boom and Nsawah-Nuamah (2005: 148), who, using the previous round of GLSS data, estimated that the value of total overseas remittances received by Ghana in 1998/1999 was US\$152 million.

We acknowledge that in both cases there is a discrepancy between the figures of international remittances reported by the World Bank (2011) and our survey-based estimates of international remittances. However, the World Bank data come primarily from the IMF Balance of Payments database, along with data from central banks, national statistical agencies and World Bank country desks, while our figures are exclusively based on remittances reported by the receiving households, and also are estimates based on a sample of these households. Thus, a comparison between the World Bank estimates, as well as those reported by the two countries' central banks, and our estimates is difficult. Nevertheless, our main interest in this paper is to highlight the importance of the total volume of internal remittances, relative to that of international remittances, which seems to have been underscored in the literature.<sup>24</sup>

We conclude this section by showing the pattern of remittances in more detail, by origin and destination. Figures A3 and A4 show the proportions of the aggregate amount of different types of remittances flowing to Ghana and India, by origin of the sender. In Ghana, 53 per cent of the total volume of remittances came from within domestic borders, while in India 66 per cent of transfers were sent by internal

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<sup>22</sup> The exchange rate for Ghana in 2006 was approximately 1 US\$=9,200 Old Cedis (Bank of Ghana 2006).

<sup>23</sup> The exchange rate for India in 2008 was approximately 1 US\$=43.42 Rs (Reserve Bank of India 2011).

<sup>24</sup> We need to acknowledge that since the data collect information at one point in time, we are unable to capture possible links between internal and international remittances. In fact, some of the internal remittances may have been sent by persons who had previously received international remittances. Thus, the results should be interpreted with caution.

migrants (see also Table A10). This suggests that internal remittances are substantial flows and, thus, may have an important impact on living conditions. In fact, if we disaggregate the analysis by region/state of destination of the remittances, we can see that the regions/states in which the rate of internal remittance receipts is higher are the poorer regions/states (see table A11). In Ghana, Greater Accra and Ashanti are the only two regions in which the rate of international remittances is greater than the rate of internal remittances. Furthermore, data from Ghana suggests that it may be households in the poorest 20 per cent that receive the highest proportion of remittances relative to their consumption level (see Figure A5).

## 6. Conclusions

This paper focuses on the importance of internal migration and remittances based on evidence from two populous countries with marked regional inequalities, Ghana and India. It highlights the extent of internal migration in these countries, which is substantially more important, numerically, than international migration. In addition, it highlights the hitherto unrecognised fact that total internal remittances exceed international remittances in both countries. Earlier studies on migration and poverty have tended to underplay the significance of internal remittances because individual transfers are much smaller than international remittances. But our calculations highlight the fact that these individual transfers reach a larger number of households and are greater in total. Our findings also show that internal remittances are more likely to be received in poorer regions or states. Yet, remitting money internally is often more risky and expensive than remitting it internationally, because most migrants depend on informal channels or hand carrying of money.

Overall, a key question in relation to internal migration and remittances is their interaction with poverty. The new economics of labour migration theories provide important insights on this, including how migration can be linked to consumption smoothing and reductions in vulnerability. The same theories predict that remittances can inject critical capital for credit constrained households functioning in contexts of complete or partial market failure (Stark and Bloom 1985; Stark and Lucas 1988).

But the actual impact of migration and remittances on poverty depends on a range of economic, social and political factors, and their complex interactions with each other. A clear understanding of the counterfactual situation is also necessary. In both countries patterns of migration involve movements from poorer areas to less poor areas. While international migration may be more important for richer households, it seems that households at all levels of income may engage in internal migration, although this is something which needs to be more carefully confirmed in later analyses.

In relation to remittances, some studies find an improvement in welfare for remittance receiving households (Lucas 2005; Taylor 1999), although not all do. It has been argued that international remittances have greater poverty reducing potential than internal remittances (Mendola 2008, 2010; Wouterse 2008). However,

there are studies that show that internal remittances do have a positive impact on receiving households in terms of repayment of debts, better nutrition, better education and investment in enterprise (Afsar 2003; Dayal and Karan 2003; Ellis 2003). Even if not reducing poverty, migration is an important coping strategy and remittances smooth incomes (Mosse *et al.* 2002).

These are not issues which are resolved in this paper. But what this paper does highlight is the substantial quantitative importance of internal remittances. The poverty reduction effect of receiving an international remittance may be substantial, but relatively few households receive them. Much greater numbers of households receive internal remittances, and while these are generally smaller in magnitude, they can still contribute to poverty reduction or reducing vulnerability for large numbers of households (Deshingkar 2006). Whether or not internal remittances allow receiving households to improve their standard of living in a sustained manner over time depends on a number of mediating factors, both at the level of the household (such as the dependency ratio, levels of existing debt, life cycle stage and asset base), as well as at a contextual level (policy and institutional factors).

Finally, the paper also shows that there are several distinct patterns of internal migration. Migration for work motives is important, but so is migration for reasons of marriage, particularly in the case of female migrants. Over half of the female migrants in India and about one-in-five in Ghana moved for marriage reasons, while over one-third of male migrants in both countries migrated for work. In both countries the data show that in the majority of cases migration does not involve a move from a rural to an urban area. However, these data do not capture many types of short-term, seasonal and circular movements, which could have led to a different conclusion.

These findings have major policy implications; both for policies on migration and remittances and for policies related to development. For the former, the clear policy message is that the costs and risks associated with internal migration and remittances need to be reduced through the removal of policy distortions (policies that discourage migration), more support for migrants (better access to welfare programmes and remittance facilities) and reduction in the costs of sending transfers. In fact, the poor, who are more likely to engage in internal migration, are also more likely to send remittances through informal channels (like the Hawala system), since they often do not meet the requirements to open a bank account, or because they live in remote areas distant from banks or post offices (see for example: Gopinath *et al.* 2010). On the other hand, using informal channels is often more expensive and more risky than transferring money through a bank. Gopinath *et al.* (2010: 20) estimate that domestic migrants in India could save US\$200 million per year if they were all to send transfers through banks rather than informal couriers. Thus, several policy options should be considered to improve the situation of poor migrants, including increasing the availability of appropriate financial institutions in migrant sending areas, making opening a bank account more accessible to the poor and the less educated, and creating incentives for informal financial operators to become more formalised and reduce the fees that they charge.

For wider development policies, there is a need to recognise the potential role that internal remittances can play in improving welfare and reducing poverty. This means moving away from the dominant discourse that views internal migration mainly in negative terms. First, there is a need to recognise the economic dimension of marriage migration and the role this may play in mitigating the risks at the household level (Rosenzweig and Stark 1989). Second, there is a need to examine the autonomous migration of women and girls in a more balanced way, moving away from discourses where they are viewed mainly as victims. Finally, in relation to rural-urban migration, it is important that policymakers overcome a longstanding fear of urbanisation. Many developing countries still remain under-urbanised, whilst urbanisation can be positive for growth and poverty reduction (Ravallion 2007). Governments need to adopt a more inclusive approach to urbanisation, one that includes migrants.

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## 8. Appendix

**Table A1. Number of migrants in Ghana in 1995-2000, by region and type of migration**

| Region of enumeration | Non migrant | Inter-district migrant | Inter-regional migrant | International migrant | Total population (5+ age) in 2000 |
|-----------------------|-------------|------------------------|------------------------|-----------------------|-----------------------------------|
| Western               | 1,533,660   | 26,830                 | 68,460                 | 3,370                 | 1,632,320                         |
| Central               | 1,256,370   | 32,360                 | 59,560                 | 7,070                 | 1,355,360                         |
| Greater Accra         | 2,343,150   | 103,070                | 137,650                | 14,150                | 2,598,020                         |
| Volta                 | 1,336,630   | 31,800                 | 36,540                 | 5,180                 | 1,410,150                         |
| Eastern               | 1,690,580   | 43,610                 | 65,220                 | 2,640                 | 1,802,050                         |
| Ashanti               | 2,863,710   | 98,430                 | 98,290                 | 4,890                 | 3,065,320                         |
| Brong Ahafo           | 1,454,600   | 21,300                 | 59,300                 | 1,990                 | 1,537,190                         |
| Northern              | 1,443,790   | 21,110                 | 20,310                 | 1,210                 | 1,486,420                         |
| Upper East            | 755,070     | 7,840                  | 14,890                 | 740                   | 778,540                           |
| Upper West            | 482,910     | 7,330                  | 7,370                  | 590                   | 498,200                           |
| All of Ghana          | 15,160,470  | 393,680                | 567,590                | 41,830                | 16,163,570                        |

Source: 10% self-weighted sample of 2000 Census of Ghana provided by IPUMS International.

**Table A2. Number of migrants in India in 1996-2001, by state and type of migration**

| State of enumeration | Non migrant | Intra-district migrant | Inter-district migrant | Inter-state migrant | Inter-national migrant | Total population in 2001 |
|----------------------|-------------|------------------------|------------------------|---------------------|------------------------|--------------------------|
| Jammu & Kashmir      | 9,839,957   | 167,675                | 63,384                 | 70,505              | 2,179                  | 10,143,700               |
| Himachal Pradesh     | 5,551,239   | 272,145                | 98,130                 | 134,573             | 21,813                 | 6,077,900                |
| Punjab               | 22,908,151  | 536,586                | 372,804                | 523,411             | 18,047                 | 24,358,999               |
| UT – Chandigarh      | 758,227     | 1,799                  | 0                      | 137,264             | 3,337                  | 900,635                  |
| Uttaranchal          | 7,843,493   | 273,075                | 123,829                | 225,847             | 23,105                 | 8,489,349                |
| Haryana              | 19,457,387  | 423,875                | 449,631                | 795,579             | 18,092                 | 21,144,564               |
| UT – Delhi           | 12,590,135  | 0                      | 81,600                 | 1,150,785           | 27,987                 | 13,850,507               |
| Rajasthan            | 53,311,650  | 1,899,824              | 820,630                | 467,022             | 8,060                  | 56,507,188               |
| Uttar Pradesh        | 160,819,636 | 2,994,761              | 1,690,774              | 674,237             | 18,510                 | 166,197,921              |
| Bihar                | 80,286,062  | 1,782,452              | 648,152                | 252,442             | 29,393                 | 82,998,509               |
| Sikkim               | 488,643     | 21,361                 | 10,650                 | 15,282              | 4,915                  | 540,851                  |
| Arunachal Pradesh    | 974,074     | 49,571                 | 28,224                 | 44,566              | 1,533                  | 1,097,968                |
| Nagaland             | 1,941,261   | 14,641                 | 13,292                 | 19,851              | 991                    | 1,990,036                |
| Manipur              | 2,253,971   | 23,967                 | 10,064                 | 3,005               | 118                    | 2,291,125                |
| Mizoram              | 816,937     | 27,218                 | 24,465                 | 15,331              | 4,622                  | 888,573                  |
| Tripura              | 3,039,812   | 96,152                 | 22,101                 | 35,949              | 5,189                  | 3,199,203                |
| Meghalaya            | 2,272,213   | 17,097                 | 6,782                  | 21,996              | 734                    | 2,318,822                |
| Assam                | 25,753,119  | 615,850                | 210,137                | 73,851              | 2,571                  | 26,655,528               |
| West Bengal          | 76,478,387  | 2,346,431              | 818,049                | 435,560             | 97,765                 | 80,176,197               |
| Jharkhand            | 25,814,338  | 649,258                | 208,574                | 272,222             | 1,431                  | 26,945,829               |
| Orissa               | 35,007,542  | 1,108,510              | 547,523                | 138,728             | 2,357                  | 36,804,660               |
| Chhattisgarh         | 19,503,625  | 790,882                | 339,419                | 198,372             | 1,504                  | 20,833,803               |
| Madhya               | 56,856,679  | 1,911,545              | 1,086,472              | 488,926             | 4,385                  | 60,348,023               |

|                               |             |            |            |            |         |               |
|-------------------------------|-------------|------------|------------|------------|---------|---------------|
| Pradesh                       |             |            |            |            |         |               |
| Gujarat                       | 46,832,833  | 2,030,046  | 1,113,085  | 685,023    | 10,030  | 50,671,017    |
| UT – Daman & Diu              | 117,466     | 1,103      | 507        | 37,572     | 1,556   | 158,204       |
| UT – Dadra & Nagar Haveli     | 182,303     | 2,178      | 0          | 35,215     | 794     | 220,490       |
| Maharashtra                   | 87,376,524  | 4,392,102  | 3,074,842  | 2,002,320  | 32,835  | 96,878,627    |
| Andhra Pradesh                | 71,752,599  | 3,038,558  | 1,149,087  | 265,433    | 4,330   | 76,210,007    |
| Karnataka                     | 49,421,585  | 1,763,883  | 1,079,181  | 572,147    | 13,752  | 52,850,562    |
| Goa                           | 1,158,141   | 88,097     | 14,869     | 83,027     | 3,534   | 1,347,668     |
| UT- Lakshadweep               | 48,461      | 8,445      | 0          | 3,733      | 11      | 60,650        |
| Kerala                        | 29,890,608  | 1,264,054  | 504,997    | 159,404    | 22,279  | 31,841,374    |
| Tamil Nadu                    | 60,056,722  | 1,320,698  | 840,571    | 170,619    | 17,069  | 62,405,679    |
| UT- Pondicherry               | 858,262     | 49,340     | 4,208      | 61,531     | 1,004   | 974,345       |
| UT- Andaman & Nicobar Islands | 305,676     | 26,396     | 3,438      | 20,079     | 563     | 356,152       |
|                               |             |            |            |            |         |               |
| All of India                  | 972,567,718 | 30,009,575 | 15,459,471 | 10,291,407 | 406,395 | 1,028,734,665 |

*Notes to table:* For migrants the raw census data also reported the category 'unclassifiable'. This category is not shown in the table in order to conserve space, but it explains why in the cases of Chandigarh, Rajasthan, Uttar Pradesh, Bihar, West Bengal, Jharkhand, Orissa, Chhattisgarh, Madhya Pradesh, Maharashtra, Karnataka and Kerala, the sum of non migrants and the different types of migrants residing in the state does not coincide with the total population of the state.

**Table A3. Region-to-region matrix, based on place of residence 5 years ago, Ghana**

| Region of residence 5 years ago | Region of enumeration |               |                |               |               |               |               |               |               |              | Total population (5+ age) in 1995 |
|---------------------------------|-----------------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|-----------------------------------|
|                                 | Western               | Central       | Greater Accra  | Volta         | Eastern       | Ashanti       | Brong Ahafo   | Northern      | Upper East    | Upper West   |                                   |
| Western                         | 0                     | 12,450        | 11,540         | 3,160         | 5,870         | 15,470        | 6,210         | 860           | 2,030         | 560          | 1,618,640                         |
| Central                         | 15,020                | 0             | 20,060         | 1,900         | 7,520         | 10,730        | 1,620         | 1,010         | 650           | 230          | 1,347,470                         |
| Greater Accra                   | 8,550                 | 21,430        | 0              | 14,720        | 24,020        | 12,400        | 3,420         | 2,550         | 1,500         | 820          | 2,535,630                         |
| Volta                           | 4,130                 | 3,280         | 27,130         | 0             | 9,490         | 4,120         | 2,550         | 1,420         | 990           | 220          | 1,421,760                         |
| Eastern                         | 5,720                 | 8,160         | 35,120         | 6,770         | 0             | 9,800         | 3,500         | 830           | 870           | 330          | 1,805,290                         |
| Ashanti                         | 12,350                | 8,780         | 23,950         | 2,660         | 9,730         | 0             | 13,450        | 3,340         | 4,010         | 1,840        | 3,042,250                         |
| Brong Ahafo                     | 8,820                 | 2,500         | 6,450          | 2,250         | 3,430         | 17,290        | 0             | 3,770         | 1,400         | 1,910        | 1,523,720                         |
| Northern                        | 3,450                 | 930           | 7,200          | 4,330         | 2,360         | 11,000        | 8,570         | 0             | 2,780         | 1,060        | 1,506,580                         |
| Upper East                      | 6,560                 | 1,470         | 4,090          | 390           | 1,700         | 12,070        | 6,940         | 2,650         | 0             | 400          | 799,180                           |
| Upper West                      | 3,860                 | 560           | 2,110          | 360           | 1,100         | 5,410         | 13,040        | 3,880         | 660           | 0            | 521,220                           |
| <b>Columns totals</b>           | <b>68,460</b>         | <b>59,560</b> | <b>137,650</b> | <b>36,540</b> | <b>65,220</b> | <b>98,290</b> | <b>59,300</b> | <b>20,310</b> | <b>14,890</b> | <b>7,370</b> | <b>16,121,740</b>                 |

Source: IPUMS International, 10% self-weighted sample of Ghana Census 2000 (the figures in the table are population figures).

**Table A4. State-to-state matrix, based on duration of residence in place of enumeration 0-4 years, India**

| State of last residence | State of enumeration |                  |         |             |            |         |         |           |               |        |        |
|-------------------------|----------------------|------------------|---------|-------------|------------|---------|---------|-----------|---------------|--------|--------|
|                         | Jammu & Kashmir      | Himachal Pradesh | Punjab  | Chandigargh | Uttranchal | Haryana | Delhi   | Rajasthan | Uttar Pradesh | Bihar  | Sikkim |
| Jammu & Kashmir         | 0                    | 6,460            | 14,871  | 2,212       | 2,534      | 4,605   | 10,841  | 3,010     | 6,509         | 7,312  | 315    |
| Himachal Pradesh        | 2,761                | 0                | 31,923  | 13,054      | 4,572      | 12,315  | 13,485  | 3,183     | 4,348         | 335    | 255    |
| Punjab                  | 11,932               | 34,691           | 0       | 28,058      | 6,617      | 82,307  | 25,200  | 33,607    | 17,753        | 5,073  | 112    |
| Chandigargh             | 690                  | 4,152            | 24,033  | 0           | 866        | 21,734  | 3,856   | 1,132     | 2,423         | 421    | 24     |
| Uttranchal              | 2,304                | 5,999            | 12,480  | 7,393       | 0          | 17,948  | 60,081  | 5,763     | 57,545        | 9,218  | 105    |
| Haryana                 | 3,699                | 8,297            | 64,363  | 18,048      | 5,744      | 0       | 89,507  | 71,534    | 29,296        | 4,127  | 110    |
| Delhi                   | 1,808                | 6,163            | 12,347  | 5,955       | 9,369      | 75,354  | 0       | 15,083    | 88,729        | 5,396  | 113    |
| Rajasthan               | 3,304                | 4,611            | 33,445  | 2,806       | 3,808      | 115,687 | 46,948  | 0         | 33,261        | 3,294  | 155    |
| Uttar Pradesh           | 10,057               | 23,483           | 156,643 | 31,743      | 143,042    | 254,409 | 448,211 | 95,893    | 0             | 56,763 | 527    |
| Bihar                   | 6,052                | 14,092           | 97,998  | 11,163      | 15,760     | 107,434 | 227,878 | 34,693    | 136,435       | 0      | 2,835  |
| Sikkim                  | 58                   | 128              | 197     | 53          | 129        | 134     | 524     | 138       | 146           | 129    | 0      |
| Arunachal Pradesh       | 150                  | 175              | 126     | 31          | 208        | 117     | 678     | 149       | 309           | 392    | 85     |
| Nagaland                | 87                   | 96               | 148     | 60          | 1,530      | 193     | 4,204   | 212       | 1,401         | 13,065 | 34     |
| Manipur                 | 120                  | 70               | 420     | 455         | 377        | 273     | 2,569   | 535       | 921           | 124    | 315    |
| Mizoram                 | 44                   | 46               | 26      | 48          | 162        | 32      | 560     | 38        | 74            | 113    | 16     |
| Tripura                 | 75                   | 42               | 119     | 37          | 156        | 135     | 610     | 462       | 456           | 148    | 22     |
| Meghalaya               | 107                  | 116              | 356     | 110         | 295        | 319     | 1,591   | 400       | 394           | 111    | 86     |
| Assam                   | 1,163                | 586              | 4,589   | 1,175       | 2,619      | 4,027   | 10,107  | 4,249     | 20,031        | 17,382 | 510    |
| West Bengal             | 3,015                | 4,133            | 17,776  | 3,666       | 4,501      | 26,235  | 49,026  | 19,348    | 31,435        | 23,013 | 8,862  |
| Jharkhand               | 1,093                | 4,997            | 9,083   | 1,240       | 6,595      | 6,591   | 37,512  | 4,898     | 53,519        | 62,212 | 130    |
| Orissa                  | 2,215                | 2,406            | 4,513   | 651         | 1,752      | 5,138   | 14,247  | 3,978     | 8,035         | 7,252  | 144    |
| Chhatisgarh             | 7,212                | 6,587            | 6,671   | 1,443       | 1,721      | 26,153  | 8,590   | 2,745     | 63,211        | 12,696 | 68     |
| Madhya                  | 5,121                | 2,049            | 7,921   | 1,253       | 3,833      | 12,403  | 25,090  | 85,646    | 78,639        | 1,467  | 48     |

|                       |               |                |                |                |                |                |                  |                |                |                |               |
|-----------------------|---------------|----------------|----------------|----------------|----------------|----------------|------------------|----------------|----------------|----------------|---------------|
| Pradesh               |               |                |                |                |                |                |                  |                |                |                |               |
| Gujarat               | 946           | 636            | 3,178          | 1,185          | 1,903          | 3,424          | 7,077            | 39,610         | 6,769          | 9,280          | 34            |
| Daman & Diu           | 0             | 2              | 0              | 2              | 42             | 13             | 342              | 29             | 23             | 208            | 0             |
| Dadra & Nagar Haveli  | 0             | 0              | 4              | 3              | 6              | 23             | 39               | 20             | 57             | 32             | 0             |
| Maharashtra           | 2,114         | 2,093          | 8,405          | 1,727          | 3,052          | 7,435          | 16,155           | 20,069         | 14,650         | 6,855          | 77            |
| Andhra Pradesh        | 1,423         | 759            | 3,273          | 792            | 1,020          | 3,435          | 7,523            | 6,419          | 3,873          | 2,901          | 92            |
| Karnataka             | 831           | 554            | 2,751          | 1,108          | 986            | 1,868          | 5,846            | 4,255          | 4,149          | 1,480          | 45            |
| Goa                   | 32            | 68             | 164            | 45             | 106            | 222            | 1,446            | 140            | 207            | 42             | 3             |
| Lakshadweep           | 0             | 0              | 0              | 0              | 11             | 1              | 108              | 1              | 4              | 12             | 0             |
| Kerala                | 1,023         | 600            | 2,757          | 618            | 1,102          | 2,857          | 19,007           | 4,860          | 5,793          | 721            | 96            |
| Tamil Nadu            | 1,033         | 458            | 2,731          | 1,055          | 1,360          | 2,618          | 11,340           | 4,719          | 3,485          | 768            | 63            |
| Pondicherry           | 5             | 10             | 22             | 21             | 36             | 47             | 320              | 111            | 121            | 58             | 0             |
| A & N Islands         | 31            | 14             | 78             | 54             | 33             | 93             | 267              | 93             | 236            | 42             | 1             |
| <b>Columns totals</b> | <b>70,505</b> | <b>134,573</b> | <b>523,411</b> | <b>137,264</b> | <b>225,847</b> | <b>795,579</b> | <b>1,150,785</b> | <b>467,022</b> | <b>674,237</b> | <b>252,442</b> | <b>15,282</b> |

Source: 2001 Census of India (Series D tables).

**Table A4 (continued). State-to-state matrix, based on duration of residence in place of enumeration 0-4 years, India**

| State of last residence | State of enumeration |          |         |         |         |           |        |             |           |        |              |
|-------------------------|----------------------|----------|---------|---------|---------|-----------|--------|-------------|-----------|--------|--------------|
|                         | Arunachal Pradesh    | Nagaland | Manipur | Mizoram | Tripura | Meghalaya | Assam  | West Bengal | Jharkhand | Orissa | Chhatisgargh |
| Jammu & Kashmir         | 752                  | 158      | 29      | 49      | 52      | 227       | 674    | 3,544       | 739       | 541    | 2,777        |
| Himachal Pradesh        | 180                  | 142      | 31      | 43      | 61      | 187       | 330    | 726         | 412       | 252    | 307          |
| Punjab                  | 369                  | 234      | 46      | 41      | 106     | 344       | 1,605  | 4,900       | 2,226     | 1,318  | 2,073        |
| Chandigargh             | 28                   | 10       | 12      | 1       | 6       | 53        | 312    | 764         | 381       | 206    | 313          |
| Uttranchal              | 628                  | 751      | 130     | 74      | 227     | 281       | 800    | 2,533       | 627       | 305    | 673          |
| Haryana                 | 250                  | 179      | 78      | 54      | 63      | 406       | 1,148  | 3,378       | 1,098     | 905    | 1,980        |
| Delhi                   | 156                  | 118      | 56      | 98      | 43      | 294       | 1,224  | 6,685       | 1,344     | 1,780  | 1,707        |
| Rajasthan               | 560                  | 545      | 80      | 46      | 212     | 765       | 3,253  | 8,392       | 1,516     | 2,040  | 2,717        |
| Uttar Pradesh           | 2,366                | 1,212    | 204     | 180     | 511     | 1,270     | 6,163  | 38,243      | 15,471    | 6,286  | 22,144       |
| Bihar                   | 4,979                | 2,540    | 417     | 516     | 994     | 1,880     | 18,201 | 166,926     | 162,460   | 16,461 | 17,893       |
| Sikkim                  | 91                   | 46       | 20      | 12      | 15      | 18        | 115    | 1,212       | 22        | 39     | 19           |
| Arunachal Pradesh       | 0                    | 123      | 50      | 101     | 75      | 152       | 3,140  | 589         | 81        | 137    | 31           |
| Nagaland                | 439                  | 0        | 205     | 152     | 47      | 657       | 3,092  | 509         | 86        | 97     | 29           |
| Manipur                 | 528                  | 1,749    | 0       | 4,680   | 120     | 1,685     | 1,983  | 748         | 137       | 135    | 56           |
| Mizoram                 | 145                  | 81       | 76      | 0       | 26,370  | 544       | 593    | 206         | 51        | 12     | 4            |
| Tripura                 | 317                  | 420      | 90      | 1,266   | 0       | 636       | 3,931  | 3,226       | 152       | 165    | 40           |
| Meghalaya               | 285                  | 161      | 136     | 568     | 176     | 0         | 4,087  | 1,439       | 100       | 94     | 37           |
| Assam                   | 26,376               | 8,199    | 768     | 5,912   | 3,179   | 9,122     | 0      | 27,824      | 1,150     | 1,105  | 983          |
| West Bengal             | 2,109                | 763      | 128     | 281     | 957     | 1,196     | 14,067 | 0           | 52,270    | 26,168 | 8,595        |
| Jharkhand               | 1,427                | 665      | 113     | 773     | 1,727   | 412       | 1,310  | 99,020      | 0         | 27,489 | 18,339       |
| Orissa                  | 879                  | 291      | 51      | 90      | 305     | 171       | 1,318  | 28,823      | 14,123    | 0      | 35,373       |
| Chhatisgargh            | 63                   | 38       | 8       | 9       | 13      | 22        | 171    | 4,943       | 6,052     | 17,058 | 0            |
| Madhya                  | 119                  | 102      | 31      | 43      | 66      | 183       | 731    | 4,182       | 2,093     | 2,644  | 52,619       |

|                       |               |               |              |               |               |               |               |                |                |                |                |
|-----------------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|
| Pradesh               |               |               |              |               |               |               |               |                |                |                |                |
| Gujarat               | 76            | 74            | 18           | 5             | 34            | 191           | 685           | 4,172          | 2,060          | 4,671          | 2,337          |
| Daman & Diu           | 1             | 0             | 2            | 0             | 0             | 0             | 0             | 28             | 1              | 17             | 6              |
| Dadra & Nagar Haveli  | 0             | 0             | 0            | 0             | 0             | 0             | 5             | 13             | 5              | 8              | 13             |
| Maharashtra           | 190           | 209           | 35           | 54            | 111           | 268           | 1,107         | 8,166          | 2,310          | 3,193          | 16,352         |
| Andhra Pradesh        | 160           | 183           | 29           | 36            | 116           | 202           | 1,255         | 5,515          | 2,231          | 20,407         | 6,803          |
| Karnataka             | 102           | 83            | 32           | 34            | 70            | 195           | 597           | 2,261          | 726            | 1,012          | 721            |
| Goa                   | 13            | 10            | 3            | 8             | 2             | 16            | 21            | 169            | 51             | 144            | 26             |
| Lakshadweep           | 0             | 0             | 0            | 0             | 0             | 0             | 0             | 5              | 4              | 0              | 4              |
| Kerala                | 755           | 528           | 62           | 150           | 168           | 354           | 1,091         | 2,863          | 1,158          | 2,005          | 2,017          |
| Tamil Nadu            | 202           | 221           | 64           | 54            | 122           | 251           | 788           | 3,097          | 1,022          | 1,910          | 1,289          |
| Pondicherry           | 9             | 14            | 0            | 1             | 0             | 5             | 15            | 49             | 17             | 32             | 23             |
| A & N Islands         | 12            | 2             | 1            | 0             | 1             | 9             | 39            | 410            | 46             | 92             | 72             |
| <b>Columns totals</b> | <b>44,566</b> | <b>19,851</b> | <b>3,005</b> | <b>15,331</b> | <b>35,949</b> | <b>21,996</b> | <b>73,851</b> | <b>435,560</b> | <b>272,222</b> | <b>138,728</b> | <b>198,372</b> |

**Table A4 (continued). State-to-state matrix, based on duration of residence in place of enumeration 0-4 years, India**

| State of last residence | State of enumeration |         |             |                      |             |                |           |       |             |        |            |             |               |
|-------------------------|----------------------|---------|-------------|----------------------|-------------|----------------|-----------|-------|-------------|--------|------------|-------------|---------------|
|                         | Madhya Pradesh       | Gujarat | Daman & Diu | Dadra & Nagar Haveli | Maharashtra | Andhra Pradesh | Karnataka | Goa   | Lakshadweep | Kerala | Tamil Nadu | Pondicherry | A & N Islands |
| Jammu & Kashmir         | 3,066                | 1,711   | 28          | 32                   | 7,973       | 1,186          | 3,006     | 439   | 6           | 497    | 627        | 40          | 131           |
| Himachal Pradesh        | 1,625                | 2,072   | 53          | 47                   | 4,592       | 471            | 1,772     | 180   | 1           | 196    | 191        | 28          | 141           |
| Punjab                  | 7,032                | 4,685   | 59          | 93                   | 16,787      | 2,092          | 3,627     | 322   | 3           | 798    | 892        | 55          | 204           |
| Chandigarh              | 752                  | 685     | 24          | 13                   | 2,374       | 408            | 1,007     | 84    | 0           | 157    | 220        | 8           | 75            |
| Uttaranchal             | 4,455                | 2,526   | 234         | 344                  | 10,605      | 591            | 1,163     | 238   | 1           | 269    | 134        | 11          | 66            |
| Haryana                 | 7,086                | 5,204   | 98          | 132                  | 12,617      | 1,726          | 4,095     | 420   | 0           | 740    | 651        | 89          | 126           |
| Delhi                   | 7,293                | 4,931   | 161         | 153                  | 24,894      | 4,571          | 8,420     | 867   | 33          | 3,363  | 4,246      | 277         | 324           |
| Rajasthan               | 73,153               | 103,454 | 1,627       | 2,113                | 111,975     | 10,212         | 21,494    | 1,261 | 11          | 2,046  | 5,538      | 222         | 148           |
| Uttar Pradesh           | 159,054              | 143,919 | 7,303       | 6,706                | 503,227     | 9,443          | 18,619    | 5,372 | 11          | 3,040  | 3,984      | 434         | 703           |
| Bihar                   | 26,632               | 66,692  | 7,144       | 5,371                | 141,633     | 9,566          | 14,903    | 2,542 | 3           | 1,791  | 4,152      | 312         | 406           |
| Sikkim                  | 145                  | 69      | 1           | 0                    | 306         | 63             | 332       | 8     | 0           | 43     | 43         | 8           | 11            |
| Arunachal Pradesh       | 168                  | 60      | 3           | 1                    | 409         | 107            | 648       | 13    | 3           | 176    | 174        | 23          | 10            |
| Nagaland                | 128                  | 57      | 8           | 7                    | 591         | 117            | 299       | 17    | 1           | 217    | 101        | 15          | 9             |
| Manipur                 | 286                  | 406     | 9           | 9                    | 1,241       | 295            | 915       | 44    | 1           | 150    | 269        | 14          | 6             |
| Mizoram                 | 65                   | 10      | 0           | 2                    | 466         | 25             | 159       | 9     | 0           | 81     | 79         | 11          | 4             |
| Tripura                 | 146                  | 340     | 4           | 2                    | 470         | 103            | 344       | 15    | 1           | 69     | 56         | 11          | 5             |
| Meghalaya               | 217                  | 47      | 0           | 1                    | 823         | 174            | 461       | 22    | 0           | 180    | 74         | 22          | 14            |
| Assam                   | 2,234                | 3,329   | 256         | 158                  | 8,417       | 1,720          | 3,343     | 268   | 3           | 813    | 966        | 112         | 120           |
| West Bengal             | 11,402               | 15,585  | 1,438       | 914                  | 87,851      | 9,460          | 16,202    | 1,918 | 38          | 2,576  | 4,000      | 287         | 5,437         |
| Jharkhand               | 7,396                | 11,298  | 1,182       | 897                  | 27,958      | 1,771          | 3,479     | 1,053 | 5           | 796    | 436        | 44          | 901           |
| Orissa                  | 6,511                | 45,907  | 1,725       | 1,599                | 40,205      | 35,873         | 9,964     | 1,567 | 8           | 2,460  | 2,864      | 549         | 574           |
| Chhatisgarh             | 56,292               | 4,799   | 381         | 326                  | 107,455     | 4,130          | 1,042     | 265   | 0           | 733    | 161        | 22          | 293           |
| Madhya Pradesh          | 0                    | 49,976  | 1,171       | 937                  | 186,097     | 5,389          | 4,879     | 887   | 1           | 1,762  | 2,324      | 115         | 111           |

|                       |                |                |               |               |                  |                |                |               |              |                |                |               |               |
|-----------------------|----------------|----------------|---------------|---------------|------------------|----------------|----------------|---------------|--------------|----------------|----------------|---------------|---------------|
| Gujarat               | 13,700         | 0              | 6,703         | 5,846         | 140,749          | 5,087          | 8,752          | 1,037         | 10           | 3,019          | 2,455          | 495           | 197           |
| Daman & Diu           | 12             | 2,074          | 0             | 280           | 355              | 16             | 44             | 50            | 24           | 19             | 7              | 7             | 16            |
| Dadra & Nagar Haveli  | 25             | 1,293          | 378           | 0             | 392              | 10             | 32             | 25            | 22           | 7              | 23             | 5             | 0             |
| Maharashtra           | 73,545         | 178,820        | 6,108         | 7,356         | 0                | 41,981         | 97,743         | 17,262        | 578          | 12,694         | 12,340         | 522           | 1,161         |
| Andhra Pradesh        | 11,676         | 10,747         | 170           | 382           | 128,167          | 0              | 141,350        | 2,712         | 15           | 6,289          | 33,760         | 5,011         | 2,914         |
| Karnataka             | 3,461          | 5,640          | 340           | 442           | 304,753          | 56,238         | 0              | 37,658        | 248          | 21,597         | 27,250         | 868           | 298           |
| Goa                   | 223            | 440            | 157           | 37            | 9,974            | 965            | 4,787          | 0             | 1            | 911            | 363            | 35            | 252           |
| Lakshadweep           | 1              | 3              | 1             | 2             | 15               | 9              | 24             | 0             | 0            | 638            | 17             | 8             | 18            |
| Kerala                | 7,253          | 10,771         | 507           | 671           | 61,817           | 13,455         | 75,592         | 3,994         | 2,399        | 0              | 45,233         | 3,692         | 1,425         |
| Tamil Nadu            | 3,777          | 7,067          | 271           | 326           | 55,951           | 46,374         | 122,443        | 2,205         | 269          | 88,583         | 0              | 48,102        | 3,928         |
| Pondicherry           | 32             | 260            | 1             | 12            | 459              | 604            | 974            | 49            | 9            | 2,011          | 15,918         | 0             | 51            |
| A & N Islands         | 83             | 146            | 27            | 4             | 722              | 1,201          | 233            | 224           | 28           | 683            | 1,071          | 77            | 0             |
| <b>Columns totals</b> | <b>488,926</b> | <b>685,023</b> | <b>37,572</b> | <b>35,215</b> | <b>2,002,320</b> | <b>265,433</b> | <b>572,147</b> | <b>83,027</b> | <b>3,733</b> | <b>159,404</b> | <b>170,619</b> | <b>61,531</b> | <b>20,079</b> |

**Table A5. Sample frequencies of different types of migration (all durations of residence) by gender, Ghana**

| <b>Internal migrants</b>      |              |              |              |
|-------------------------------|--------------|--------------|--------------|
|                               | All migrants | Males        | Females      |
| Urban-urban                   | 2,023        | 970          | 1,053        |
| Urban-rural                   | 3,039        | 1,480        | 1,559        |
| Rural-urban                   | 545          | 238          | 307          |
| Rural-rural                   | 2,756        | 1,154        | 1,602        |
| <b>International migrants</b> |              |              |              |
|                               | All migrants | Males        | Females      |
| Other African countries-urban | 172          | 91           | 81           |
| Other African countries-rural | 300          | 162          | 138          |
| Outside Africa-urban          | 44           | 28           | 16           |
| Outside Africa-rural          | 11           | 8            | 3            |
|                               |              |              |              |
| <b>Total migrants</b>         | <b>8,890</b> | <b>4,131</b> | <b>4,759</b> |

Source: GLSS 5

**Table A6. Frequencies of different types of migration (duration of residence 0-4 years) by gender, India**

| <b>Intra-district migrants</b>       |                   |                   |                   |
|--------------------------------------|-------------------|-------------------|-------------------|
|                                      | All migrants      | Males             | Females           |
| Urban-urban                          | 2,109,568         | 949,126           | 1,160,442         |
| Urban-rural                          | 1,982,307         | 821,123           | 1,161,184         |
| Rural-urban                          | 4,247,983         | 1,914,415         | 2,333,568         |
| Rural-rural                          | 20,413,726        | 4,675,198         | 15,738,528        |
| <b>Inter-district migrants</b>       |                   |                   |                   |
|                                      | All migrants      | Males             | Females           |
| Urban-urban                          | 3,618,902         | 1,662,965         | 1,955,937         |
| Urban-rural                          | 1,200,429         | 516,386           | 684,043           |
| Rural-urban                          | 3,867,393         | 1,928,094         | 1,939,299         |
| Rural-rural                          | 6,303,132         | 1,842,413         | 4,460,719         |
| <b>Inter-state migrants</b>          |                   |                   |                   |
|                                      | All migrants      | Males             | Females           |
| Urban-urban                          | 2,733,859         | 1,365,384         | 1,368,475         |
| Urban-rural                          | 725,674           | 386,025           | 339,649           |
| Rural-urban                          | 3,610,613         | 2,165,762         | 1,444,851         |
| Rural-rural                          | 2,939,667         | 1,326,665         | 1,613,002         |
| <b>All internal migrants</b>         |                   |                   |                   |
|                                      | All migrants      | Males             | Females           |
| Urban-urban                          | 8,462,329         | 3,977,475         | 4,484,854         |
| Urban-rural                          | 3,908,410         | 1,723,534         | 2,184,876         |
| Rural-urban                          | 11,725,989        | 6,008,271         | 5,717,718         |
| Rural-rural                          | 29,656,525        | 7,844,276         | 21,812,249        |
| <b>International migrants</b>        |                   |                   |                   |
|                                      | All migrants      | Males             | Females           |
| Countries in Asia beyond India-urban | 181,850           | 108,131           | 73,719            |
| Countries in Asia beyond India-rural | 190,007           | 101,019           | 88,988            |
| Other Countries-urban                | 23,186            | 12,385            | 10,801            |
| Other Countries-rural                | 11,352            | 4,305             | 7,047             |
|                                      |                   |                   |                   |
| <b>Total migrants</b>                | <b>54,159,648</b> | <b>19,779,396</b> | <b>34,380,252</b> |

Source: 2001 Census of India.

**Table A7. District-level in-migration rate and poverty rate, Ghana (only districts with lowest and highest in-migration rate within regions shown).**

| Region/district of enumeration                | In-migration rate (1995-2000) | Poverty rate (2000) |
|---|-------------------------------|---------------------|
| <b>Western</b>                                |                               |                     |
| Juabeso-Bia                                   | 0.0478                        | 0.346               |
| Aowin-Suaman                                  | 0.1009                        | 0.350               |
| <b>Central</b>                                |                               |                     |
| Assin   | 0.0496                        | 0.290               |
| Cape Coast                                    | 0.1170                        | 0.273               |
| <b>Greater Accra</b>                          |                               |                     |
| Accra   | 0.0553                        | 0.052               |
| Ga  | 0.2126                        | 0.237               |
| <b>Volta</b>                                  |                               |                     |
| Ketu  | 0.0302                        | 0.494               |
| Kpandu  | 0.0878                        | 0.501               |
| <b>Eastern</b>                                |                               |                     |
| Manya Krobo                                   | 0.0472                        | 0.431               |
| Asuogyaman                                    | 0.1028                        | 0.452               |
| <b>Ashanti</b>                                |                               |                     |
| Amansie West                                  | 0.0434                        | 0.437               |
| Kwabre  | 0.1187                        | 0.229               |
| <b>Brong Ahafo</b>                            |                               |                     |
| Berekum                                       | 0.0328                        | 0.332               |
| Asutifi                                       | 0.0757                        | 0.457               |
| <b>Northern</b>                               |                               |                     |
| Chereponi-Saboba                              | 0.0134                        | 0.752               |
| Bole  | 0.0478                        | 0.648               |
| <b>Upper East</b>                             |                               |                     |
| Builsa  | 0.0153                        | 0.575               |
| Bolgatanga                                    | 0.0380                        | 0.647               |
| <b>Upper West</b>                             |                               |                     |
| Jirapa-Lambussie                              | 0.0193                        | 0.754               |
| Nadowli                                       | 0.0410                        | 0.855               |
|   |                               |                     |
| <b>Correlation coefficient, all districts</b> | <b>-0.5923</b>                |                     |

Source: Authors' calculations from 10% IPUMS sample of 2000 Census of Ghana, and Coulombe (2005).

**Table A8. Region-level in-migration rate and poverty rate, Ghana, by gender.**

| Region of enumeration          | In-migration rate (1995-2000), total | In-migration rate (1995-2000), males | In-migration rate (1995-2000), females | Poverty rate (2000) |
|--------------------------------|--------------------------------------|--------------------------------------|--|---------------------|
| Western                        | 0.044                                | 0.048                                | 0.040                                  | 0.325               |
| Central                        | 0.049                                | 0.052                                | 0.047                                  | 0.448               |
| Greater Accra                  | 0.058                                | 0.060                                | 0.057                                  | 0.126               |
| Volta                          | 0.030                                | 0.030                                | 0.029                                  | 0.495               |
| Eastern                        | 0.038                                | 0.039                                | 0.036                                  | 0.389               |
| Ashanti                        | 0.034                                | 0.035                                | 0.032                                  | 0.272               |
| Brong Ahafo                    | 0.040                                | 0.046                                | 0.034                                  | 0.435               |
| Northern                       | 0.014                                | 0.016                                | 0.013                                  | 0.695               |
| Upper East                     | 0.020                                | 0.023                                | 0.017                                  | 0.715               |
| Upper West                     | 0.016                                | 0.017                                | 0.015                                  | 0.758               |
|                                |                                      |                                      |  |                     |
| <b>Correlation coefficient</b> | <b>-0.8864</b>                       | <b>-0.8601</b>                       | <b>-0.8894</b>                         |                     |

Source: Authors' calculations from 10% IPUMS sample of 2000 Census of Ghana, and Coulombe (2005).

**Table A9. State-level in-migration rate and GSDP per capita, India, by gender.**

| State of enumeration           | In-migration rate (1996-2001), total | In-migration rate (1996-2001), males | In-migration rate (1996-2001), females | GSDP pc, current prices in Rupees (1999-2000) |
|--------------------------------|--------------------------------------|--------------------------------------|--|---|
| JAMMU & KASHMIR                | 0.007                                | 0.007                                | 0.007                                  | 13,745  |
| HIMACHAL PRADESH               | 0.029                                | 0.036                                | 0.022                                  | 20,806  |
| PUNJAB                         | 0.023                                | 0.025                                | 0.021                                  | 25,611  |
| CHANDIGARH (UT)                | 0.160                                | 0.157                                | 0.164                                  | 41,386  |
| UTTARANCHAL                    | 0.032                                | 0.036                                | 0.028                                  | 13,672  |
| HARYANA                        | 0.039                                | 0.037                                | 0.042                                  | 21,966  |
| DELHI (UT)                     | 0.087                                | 0.089                                | 0.084                                  | 38,682  |
| RAJASTHAN                      | 0.009                                | 0.007                                | 0.010                                  | 13,477  |
| UTTAR PRADESH                  | 0.004                                | 0.003                                | 0.005                                  | 9,405   |
| BIHAR                          | 0.004                                | 0.002                                | 0.006                                  | 5,766   |
| SIKKIM                         | 0.046                                | 0.051                                | 0.041                                  | 14,890  |
| ARUNACHAL PRADESH              | 0.043                                | 0.048                                | 0.038                                  | 14,107  |
| NAGALAND                       | 0.011                                | 0.012                                | 0.009                                  | 13,819  |
| MANIPUR                        | 0.001                                | 0.002                                | 0.001                                  | 13,260  |
| MIZORAM                        | 0.028                                | 0.032                                | 0.023                                  | 16,443  |
| TRIPURA                        | 0.014                                | 0.014                                | 0.015                                  | 14,119  |
| MEGHALAYA                      | 0.010                                | 0.011                                | 0.010                                  | 14,611  |
| ASSAM                          | 0.003                                | 0.003                                | 0.003                                  | 12,269  |
| WEST BENGAL                    | 0.008                                | 0.007                                | 0.008                                  | 15,826  |
| JHARKHAND                      | 0.010                                | 0.008                                | 0.012                                  | 12,747  |
| ORISSA                         | 0.004                                | 0.004                                | 0.004                                  | 10,567  |
| CHHATTISGARH                   | 0.010                                | 0.009                                | 0.010                                  | 11,761  |
| MADHYA PRADESH                 | 0.008                                | 0.007                                | 0.010                                  | 12,384  |
| GUJARAT                        | 0.014                                | 0.017                                | 0.011                                  | 18,864  |
| DAMAN & DIU (UT)               | 0.257                                | 0.342                                | 0.137                                  |   |
| DADRA & NAGAR HAVELI (UT)      | 0.167                                | 0.217                                | 0.105                                  |   |
| MAHARASHTRA                    | 0.021                                | 0.025                                | 0.018                                  | 23,340  |
| ANDHRA PRADESH                 | 0.004                                | 0.003                                | 0.004                                  | 15,507  |
| KARNATAKA                      | 0.011                                | 0.012                                | 0.011                                  | 16,758  |
| GOA                            | 0.067                                | 0.076                                | 0.057                                  | 42,296  |
| LAKSHADWEEP (UT)               | 0.062                                | 0.097                                | 0.025                                  |   |
| KERALA                         | 0.006                                | 0.008                                | 0.005                                  | 19,294  |
| TAMIL NADU                     | 0.003                                | 0.003                                | 0.003                                  | 19,378  |
| PONDICHERRY (UT)               | 0.065                                | 0.059                                | 0.071                                  | 30,865  |
| ANDAMAN & NICOBAR ISLAND (UT)  | 0.060                                | 0.065                                | 0.053                                  | 23,728  |
|                                |                                      |                                      |  |   |
| <b>Correlation coefficient</b> | <b>0.82</b>                          | <b>0.83</b>                          | <b>0.80</b>                            |   |

Source: Authors' calculations from 2001 Census of India, and Department of Planning, Government of Punjab (2008).

**Table A10. Number of remitters and amount of remittances in Ghana (2005-2006) and India (2007-2008)**

| <b>GHANA<sup>25</sup></b>                                   |                     |                         |
|---|---------------------|-------------------------|
| <b>Remitter Type (weighted frequency and percent)</b>       | <b>Frequency</b>    | <b>Percent</b>          |
| Internal  | 2,614,641           | 81.79%                  |
| International   | 582,073             | 18.21%                  |
|   |                     |                         |
| <b>Average amount remitted in past 12 months (weighted)</b> | <b>Mean</b>         | <b>Std. Err.</b>        |
| Internal  | 1.1 million Cedis   | 4,267                   |
| International   | 4.5 million Cedis   | 11,064                  |
|   |                     |                         |
| <b>Aggregate amount remitted in past 12 months</b>          | <b>Amount</b>       | <b>Percent of total</b> |
| Internal  | 2,970 billion Cedis | 53.32%                  |
| International   | 2,600 billion Cedis | 46.68%                  |
|   |                     |                         |
| <b>INDIA</b>  |                     |                         |
| <b>Remitter Type (weighted frequency and percent)</b>       | <b>Frequency</b>    | <b>Percent</b>          |
| Internal  | 22,266,385          | 88.39%                  |
| International   | 2,924,961           | 11.61%                  |
|   |                     |                         |
| <b>Average amount remitted in past 12 months (weighted)</b> | <b>Mean</b>         | <b>Std. Err.</b>        |
| Internal  | 14,614 Rupees       | 4.33                    |
| International   | 57,115 Rupees       | 48.40                   |
|   |                     |                         |
| <b>Aggregate amount remitted in past 12 months</b>          | <b>Amount</b>       | <b>Percent of total</b> |
| Internal  | 325 billion Rupees  | 66.06%                  |
| International   | 167 billion Rupees  | 33.94%                  |

Source: Authors' calculations from GLSS 5 and NSS 64<sup>th</sup> Round

<sup>25</sup> The remittances amounts for Ghana are reported in old Cedis.

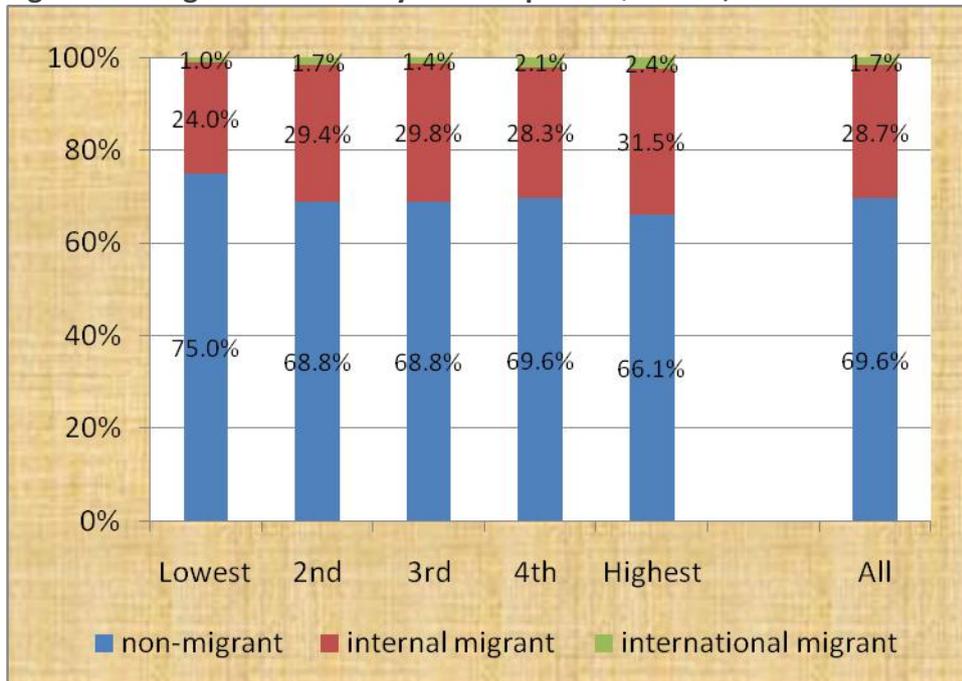
**Table A11. Amount of internal and international remittances sent to Ghana (2005-2006) and India (2007-2008) by region/state of destination**

| <b>GHANA</b>                       | <b>Aggregate amount received in past 12 months, in billion of old Cedis</b> |                      | <b>Percent of total</b> |                      |
|------------------------------------|---|----------------------|-------------------------|----------------------|
| <b>Region receiving</b>            | <b>Internal</b>   | <b>International</b> | <b>Internal</b>         | <b>International</b> |
| Western                            | 315   | 109                  | 74.29%                  | 25.71%               |
| Central                            | 340   | 156                  | 68.55%                  | 31.45%               |
| Greater Accra                      | 500   | 683                  | 42.27%                  | 57.73%               |
| Volta                              | 267   | 54.8                 | 82.97%                  | 17.03%               |
| Eastern                            | 345   | 219                  | 61.17%                  | 38.83%               |
| Ashanti                            | 615   | 1,210                | 33.70%                  | 66.30%               |
| Brong Ahafo                        | 216   | 139                  | 60.85%                  | 39.15%               |
| Northern                           | 324   | 25.2                 | 92.78%                  | 7.22%                |
| Upper East                         | 26.4  | 1.27                 | 95.41%                  | 4.59%                |
| Upper West                         | 26.4  | 5.77                 | 82.06%                  | 17.94%               |
|                                    |   |                      |                         |                      |
| <b>INDIA</b>                       | <b>Aggregate amount received in past 12 months, in billion of Rupees</b>    |                      | <b>Percent of total</b> |                      |
| <b>State receiving remittances</b> | <b>Internal</b>   | <b>International</b> | <b>Internal</b>         | <b>International</b> |
| Jammu & Kashmir                    | 6.96  | 0.144                | 97.97%                  | 2.03%                |
| Himachal Pradesh                   | 7.47  | 0.213                | 97.23%                  | 2.77%                |
| Punjab                             | 7.04  | 21.2                 | 24.93%                  | 75.07%               |
| UT – Chandigarh                    | 0.176   | 0.789                | 18.24%                  | 81.76%               |
| Uttaranchal                        | 6.79  | 0.283                | 96.00%                  | 4.00%                |
| Haryana                            | 8.64  | 3.13                 | 73.41%                  | 26.59%               |
| UT – Delhi                         | 0.204   | 0.304                | 40.16%                  | 59.84%               |
| Rajasthan                          | 35.6  | 8.16                 | 81.35%                  | 18.65%               |
| Uttar Pradesh                      | 63.9  | 9.01                 | 87.64%                  | 12.36%               |
| Bihar                              | 40.5  | 4.26                 | 90.48%                  | 9.52%                |
| Sikkim                             | 0.145   | 0.0032               | 97.82%                  | 2.18%                |
| Arunachal Pradesh                  | 0.194   | 0.0008               | 99.59%                  | 0.41%                |
| Nagaland                           | 0.23  | 0.00032              | 99.86%                  | 0.14%                |
| Manipur                            | 0.911   | 0.0103               | 98.88%                  | 1.12%                |
| Mizoram                            | 0.284   | 0.0025               | 99.12%                  | 0.88%                |
| Tripura                            | 1.16  | 0.0867               | 93.05%                  | 6.95%                |
| Meghalaya                          | 0.654   | 0.0108               | 98.38%                  | 1.62%                |
| Assam                              | 5.59  | 0.0352               | 99.37%                  | 0.63%                |
| West Bengal                        | 25.7  | 2.08                 | 92.51%                  | 7.49%                |
| Jharkhand                          | 10.4  | 0.49                 | 95.50%                  | 4.50%                |
| Orissa                             | 17.3  | 0.757                | 95.81%                  | 4.19%                |
| Chhattisgarh                       | 1.92  | 0.0667               | 96.64%                  | 3.36%                |
| Madhya Pradesh                     | 5.27  | 0.253                | 95.42%                  | 4.58%                |
| Gujarat                            | 4.71  | 2.7                  | 63.56%                  | 36.44%               |
| UT – Daman & Diu                   | 0.0505  | 0.114                | 30.70%                  | 69.30%               |
| UT – Dadra & Nagar Haveli          | 0.0091  | 0.0043               | 67.69%                  | 32.31%               |
| Maharashtra                        | 16.6  | 6.12                 | 73.06%                  | 26.94%               |
| Andhra Pradesh                     | 9.7   | 12.8                 | 43.11%                  | 56.89%               |
| Karnataka                          | 9.06  | 3.43                 | 72.54%                  | 27.46%               |
| Goa                                | 0.733   | 2.76                 | 20.98%                  | 79.02%               |

|                       |        |        |        |        |
|-----------------------|--------|--------|--------|--------|
| UT- Lakshadweep       | 0.0819 | 0.0048 | 94.44% | 5.56%  |
| Kerala                | 16.8   | 66.7   | 20.12% | 79.88% |
| Tamil Nadu            | 20.1   | 20.7   | 49.26% | 50.74% |
| UT- Pondicherry       | 0.326  | 0.512  | 38.90% | 61.10% |
| UT- Andaman & Nicobar | 0.131  | 0.0044 | 96.73% | 3.27%  |

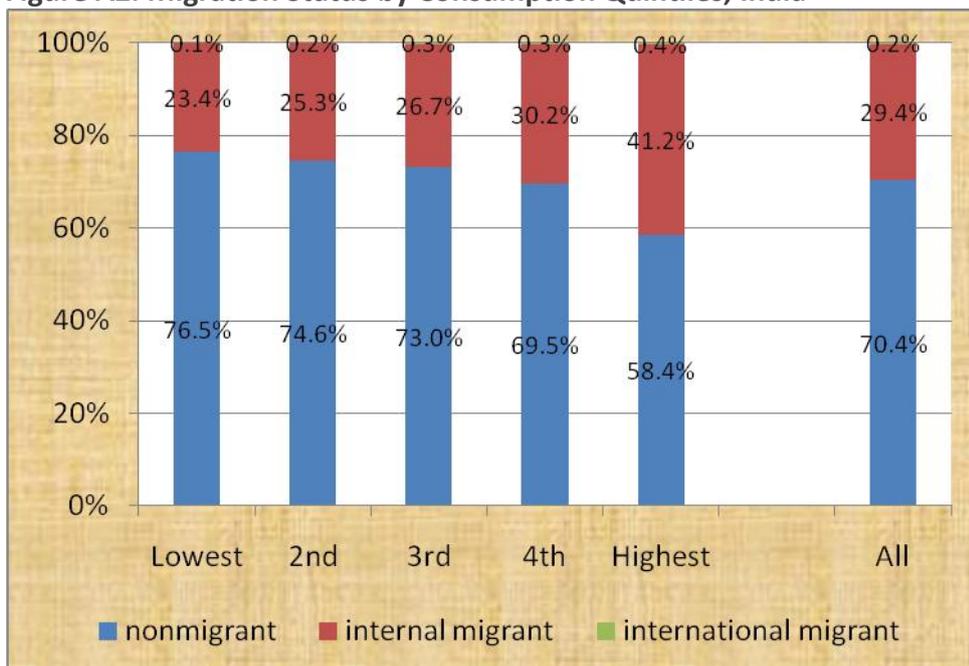
Source: Authors' calculations from GLSS 5 and NSS 64<sup>th</sup> Round

**Figure A1. Migration Status by Consumption Quintiles, Ghana**



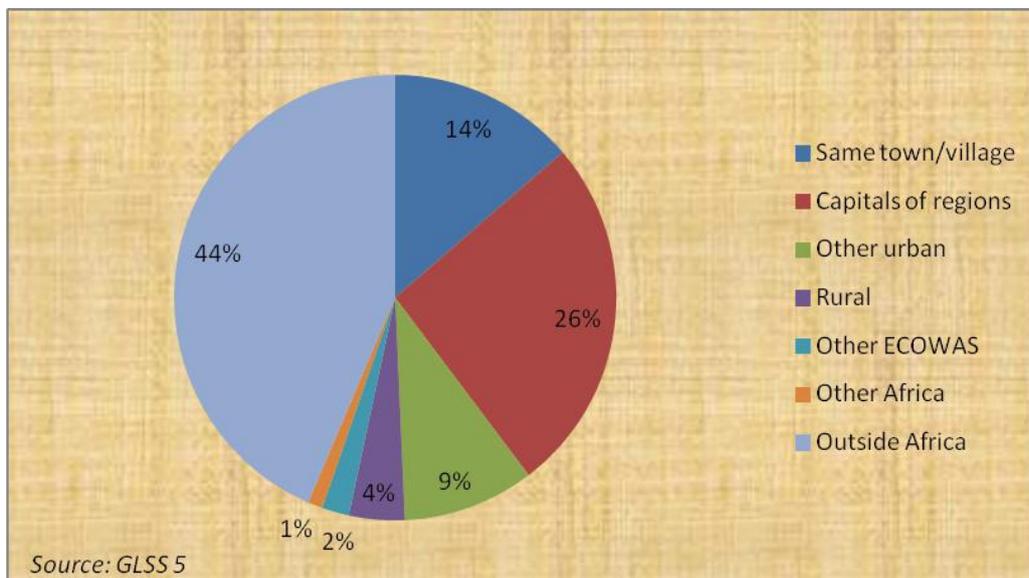
Source: Authors' calculations from GLSS 5. 'Migrant' is any household member of age 7+ who moved to current village/town of residence any time in the past and intends to stay for one year or more.

**Figure A2. Migration Status by Consumption Quintiles, India**



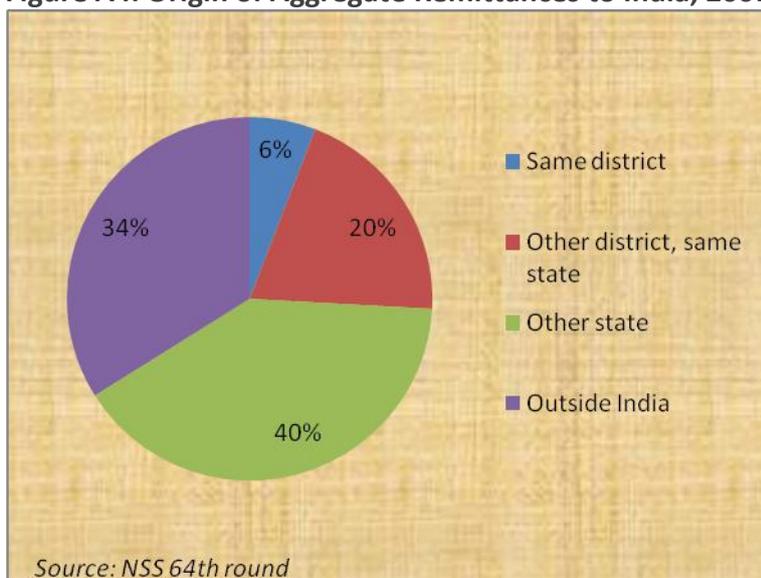
Source: Authors' calculations from NSS 64<sup>th</sup> Round. 'Migrant' is any household member whose place of enumeration differs from last usual place of residence.

**Figure A3. Origin of Aggregate Remittances to Ghana, 2005/06**



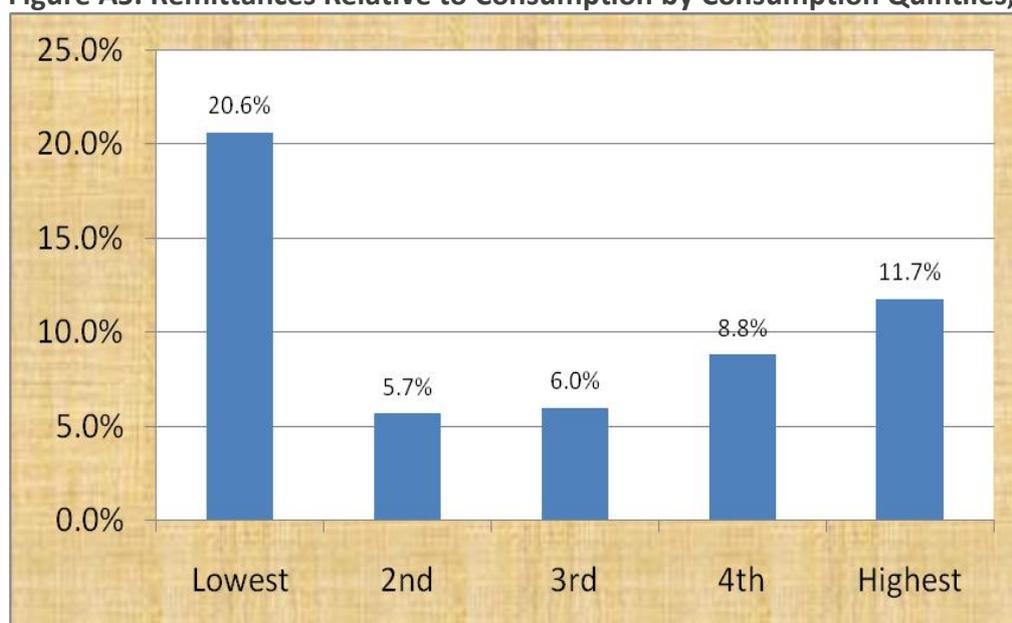
Authors' calculations.

**Figure A4. Origin of Aggregate Remittances to India, 2007/08**



Authors' calculations.

**Figure A5. Remittances Relative to Consumption by Consumption Quintiles, Ghana**



Source: Authors' calculations from GLSS 5.

## About the Migrating out of Poverty Research Programme Consortium

**Migrating out of Poverty** is a research programme consortium (RPC) funded by the UK's Department for International Development. It focuses on the relationship between migration and poverty and is located in six regions across Asia and Africa. The main goal of **Migrating out of Poverty** is to provide robust evidence on migration drivers and impacts that will contribute to improving policies affecting the lives and well-being of poor migrants, their communities and countries through a programme of innovative research, capacity building and policy engagement. The RPC will also conduct analysis in order to understand the migration policy process in developing regions and will update and extend world renowned migration databases at the University of Sussex to include internal migration.

The **Migrating out of Poverty** consortium is coordinated by the University of Sussex, and led by CEO Dr DilipRatha with Dr Priya Deshingkar as the Research Director. Core partners are: RMMRU in Bangladesh; the Centre for Migration Studies at the University of Ghana; the Asia Research Institute, National University of Singapore; the African Centre for Migration & Society at Witswatersrand University; and the African Migration and Development Policy Centre, Nairobi.

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