The mobility transition in Asia between 1970-2011

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Introduction

The mobility transition hypothesizes that in parallel to the demographic transition, defined patterns of migration are notable (Zelinsky 1971). At first, when mortality and fertility are high there is limited movement of populations, and then once mortality declines, migration from rural to urban areas becomes significant. When fertility starts to decline, rural to urban migration starts to fall but remains strong until it is further reduced when fertility and mortality are both low. Circular migration, and intra-urban migration are expected to dominate migration flows. These shifts in migration are also expected to change over the course of urbanization. Although migration between rural and urban areas has been found to play a small role in urbanization across low- and middle-income countries (Chen et al. 1998; Preston 1979; Stecklov 2008), this role has been shown to dissipate as countries become proportionately more urban (Menashe-Oren and Bocquier 2021). We aim to investigate empirically whether a mobility transition in Asia exists, or whether it diverges from theory.

Rural-urban migration in Asia gradually increased between the 1960s-1980s, distinct from the declining trend found in Africa and the fluctuating trend seen in Latin America (Chen et al. 1998). However, the contribution of migration to urbanization in Asia differs substantially across countries. In India, urbanization levels increased slowly from 17% to 31% from 1951 to 2011, while the contribution of net rural-urban migration was around 20% (Bhagat 2016; Jiang and O'Neill 2018). In contrast, in China, net rural-urban migration was estimated to account for 60% or urban population growth in the 1990s (Chan and Hu 2003). The contribution of migration in population growth in urban areas can also differ by city, for example, in Manila and Shanghai population growth rates are comparably high, but in Manila, the main contributor is higher fertility while in Shanghai it is rural-urban migration (Jones 2014). Moreover, migration flows within Asia have changed over time, and some countries have experienced a feminization of migration (United Nations 2001), while others, like China, have seen an increase in educational attainment of migrants, and younger ages at migration (NBS 2020).

We propose examining migration trends in Asia over time and by stage of urbanization using *directly* estimated migration from census samples. Importantly, we also subdivide the category of "urban", into capital city and other urban areas, so that we can better understand where rural migrants move to, and

whether intra-urban migration is directed to capital cities. We further consider the age pattern of these migration flows, which may shift by direction of flow, or by stage of mobility transition.

Methods

Estimating internal migration flows in Asia is challenging as direct migration data is often scarce. However, for a set of 10 Asian countries, and 27 censuses, which we pool together, we cover a range of regions in Asia, over four decades (see Figure 1). We aim to model average internal migration flows within Asian countries, but it is important to also note that the data are geographically biased to mostly East Asian countries. The data, available from IPUMS, is used to estimate migration rates for both sexes over all age groups, between the rural and urban sectors. Migration rates between capital, other urban and rural were also estimated. Rural/urban sectors were determined per country, and the regional division of the country was used to identify whether rural or urban. Migrations rates were estimated for both in- and out-migration (allowing us to also examine net flows), based on questions of previous residence within about 3 years or place of residence five years ago.

Figure 1: Census data in Asia available from IPUMS where possible to estimate migration between rural and urban sectors
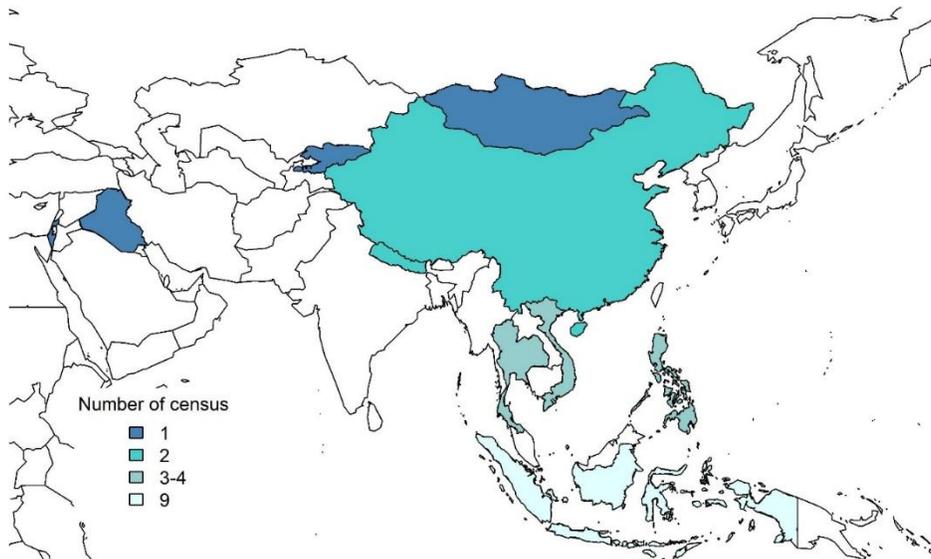

We model migration rates in Asia using a Poisson model including a set of covariates including proportion urban, sex, five-year age group, education level (primary, secondary plus or none), decade, type of

migration flow (rural-urban or urban-rural), and country (to account for unobserved heterogeneity). Additionally, we include in the model a covariate that control for measurement bias – the period for which migration was estimated. Where proportion urban is included in the model it is also as a squared term assuming that level of urbanisation influences the intensity and direction of migration flows between the sectors (Zelinsky 1971), and this is explicitly in a non-linear way as the urban transition progresses: our hypothesis is that this is higher at the beginning than at the end of the transition.

Preliminary Results

In examining the modelled internal migration estimates in Asia, we generally find that net migration declined to low rates in the 1990s, followed by an upturn and peaking of migration rates in the 2000s (Figure 2). The earlier migration trends should however be treated with caution since fewer countries are represented during this period. The fluctuating trend (downward and upward) is especially pronounced for within-sector migrations. Intra-rural migration and migration within other urban areas is especially high, suggesting that countries in Asia are still at relatively early stages of the mobility transition. Rural sector is the main origin for inflow to capital area compared with other urban areas. Rural-capital flow is slightly higher than capital-rural, while migration flow from other urban areas to capital city is extremely low. Predicted net migration rate from rural area to capital city seems similar to that from rural sector to other urban areas.

Figure 2: Net migration flows (3-year rates) within and between capital cities, other urban areas and rural areas over four decades in Asia
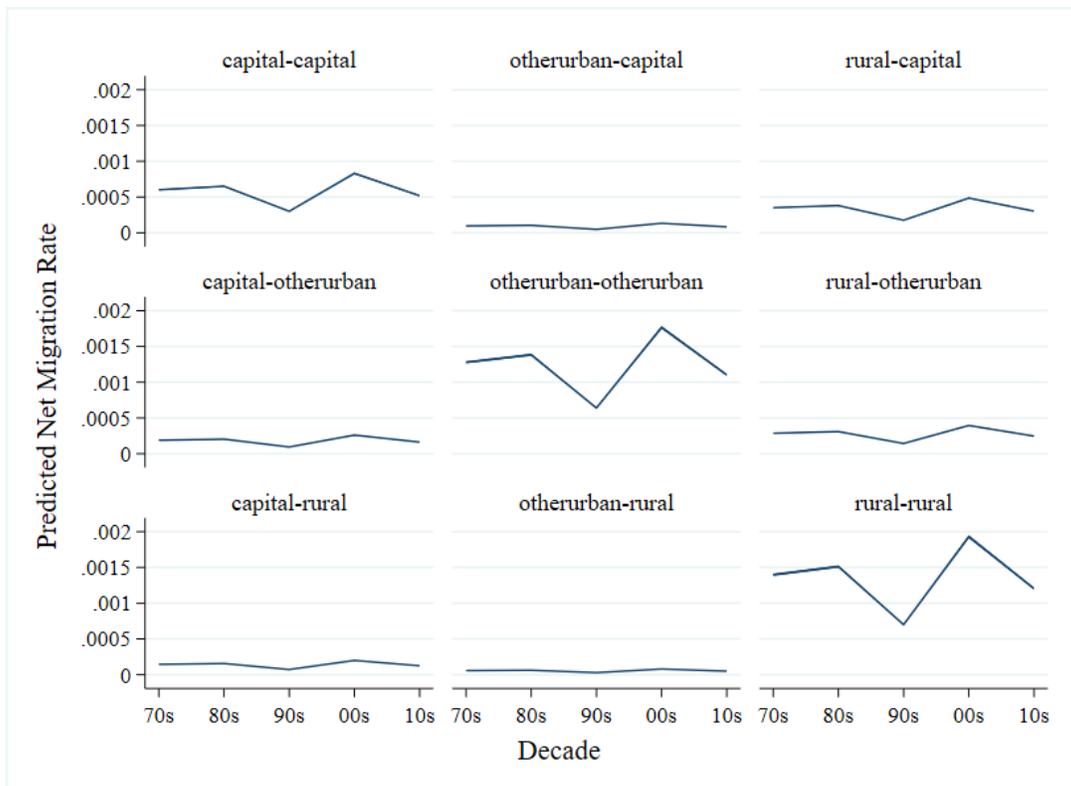
When we examine the age profile of internal migrants (Figure 3), without correcting for underestimation of young children, we note that both rural to urban and urban to rural out-migration follow similar schedules to known migration age profiles (Castro and Rogers 1983; Rogers et al. 2002). Migration peaks in early adult years as people enter the labour force and marry (Bernard et al. 2014), and this peak in Asia is especially high among rural out-migrants. In older adult ages, from around 50 years old, migration rates are low, with small humps in rural to urban flows possibly capturing retirement migration (Bernard et al. 2014; Raymer and Rogers 2006).

Figure 3: Out- migration flows (3-year rates) between rural and urban sector by age, for men only at all educational levels
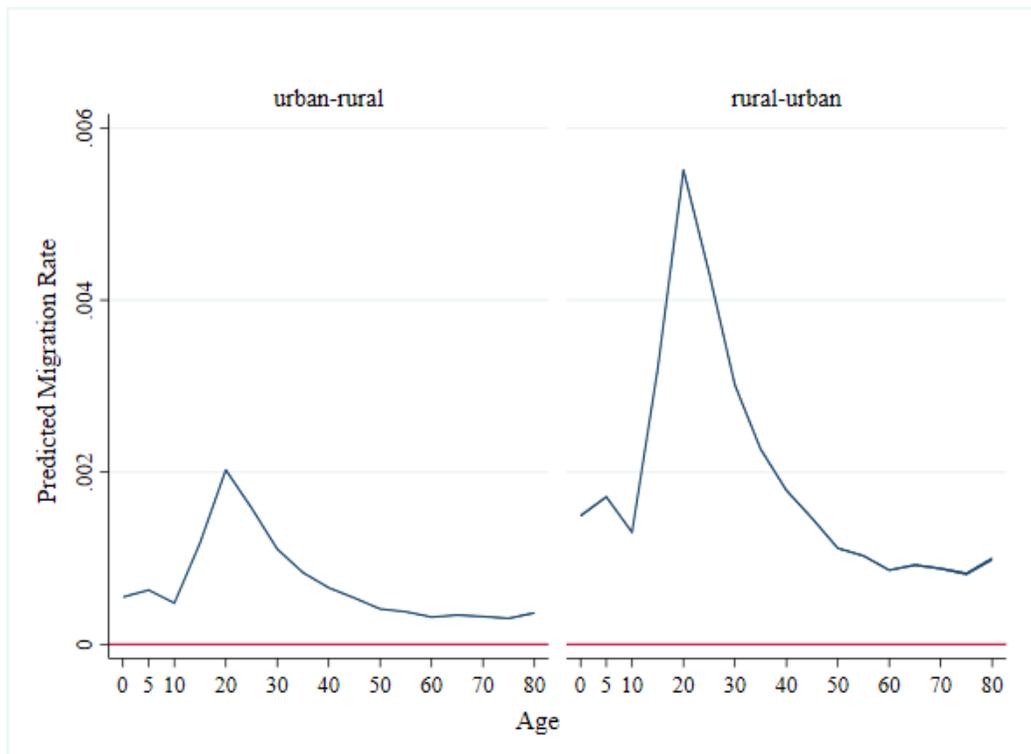
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