

Understanding the Gendered Structure of International Migration

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1 Motivation

Since the 1980s, academic and policy interest in women’s international migration has increased steadily, leading to the coining of the term *feminisation of migration*. Initially, the feminisation of migration described the growing number, in absolute terms, of international female migrants (Castles et al., 2014; Piper, 2006). More recently, following the emergence of evidence pointing to higher historical participation of women in international moves, the term has come to capture women’s new ‘ways of moving’: most notably, how more women are now pioneering migration routes and moving independently, rather than as family dependents (Donato & Gabaccia, 2016; Donato et al., 2006, 2011; Herrera, 2013). Despite these theoretical advances, the empirical evidence of women’s new ways of moving is still fragmentary and mostly stems from regional case studies or specific migration corridors (Anastasiadou et al., 2023). Indeed, the changing landscape of women’s migration has yet to be studied comparatively and at a global scale.

In this study, we address this research gap and argue that, as a macro-scale phenomenon, the feminisation of international migration should be reflected in systematic differences in the migration patterns of women and men. The notion of migration patterns originates from the literature of spatial demography and human geography, where migration flows are understood as connections between geographical locations: in this perspective, migration processes both emerge from and are manifested in observable spatial structures (DeWaard & Ha, 2019). Here, we seek to describe and explain the gendered patterns of international migration, using estimates on all international moves by gender between 1990 and 2020. Specifically, we aim to contribute to the scholarship on the feminisation of migration by addressing the following questions: (i) ***Have the destinations chosen by men and women from the same country of origin become more different over time?*** and (ii) ***Do women have access to a broader range of destinations than men, or do they tend to concentrate within a small number of countries?***

To address these first two questions, we propose an index of concentration that measures the extent to which a country’s migration outflows (or inflows) concentrate within a smaller pool of destination (or origin) countries. As such, this study also serves as a methodological contribution, which in the future could be applied to further research questions and contexts.

2 Data and methods

To answer our research questions, we use estimates of bilateral, country-to-country migration flows of women and men for 143 world countries over six 10-year periods, from 1960 to 2020. Following previous work by Abel (2018), Abel and Cohen (2019, 2022) and Azose and Raftery (2019), these estimates are produced using demographic accounting, including minimisation and pseudo-Bayesian methods, and migration stock data recently released by the World Bank (2023). We analyse these flows as origin-destination matrices, with origin locations as rows and destinations as columns, such as that the element M_t^{ij} will measure the number of people moving from origin i to destination j over the period t . The total outflows (emigration) and inflows (immigration) for a location i in period t would then be represented by row- and column-sums: $EM_t^i = \sum_{j=1}^{n_t} M_t^{ij}$ and $IM_t^i = \sum_{j=1}^{n_t} M_t^{ji}$. To capture differences in migration behaviour between men and women, we employ several descriptive statistics. First, we use Czaika and de Haas’s (2014) emigration spread index, which measures the extent to which bilateral migration flows from any given location are diverse in the

destinations during a specific period of time: $ES_t^i = 1 - \sum_{j=1}^{n_t} \left(\frac{M_t^{ij}}{EM_t^i} \right)^2$, where n_t is the number of countries experiencing international migration in the period t . We compute the same index also by destination, rather than origin, to investigate whether the migrants arriving in destination j tend to come from the same sending countries. Secondly, we measure migration spreads (both emigration and immigration) at a higher level and look at macro-regions of countries: $ES_t^{Global} = 1 - \sum_{i=1}^{n_t} \left(\frac{EM_t^i}{M_t} \right)^2$, where M_t measures the total number of migrants in the period t .

Further, we propose an index of migration *concentration* to observe the reverse pattern. In the case of emigration this index takes the form $EC_t^i = \frac{1}{EM_t^i} \sum_{j=1}^{n_t} \frac{M_t^{ij}(2M_t^{ij} - EM_t^i)}{EM_t^i - 1}$. This formula looks at the contribution of each destination j to the overall emigration from origin i during the time period, ranging between -1 and +1, where higher values ($EC_t^i > 0$) suggest that migrants in the system tend to concentrate within fewer destination countries while lower values ($EC_t^i < 0$) indicate a more even distribution of emigration. Here, the numerator compares, for each origin-destination dyad, the individuals that go to the same destination with those who do not. For this reason, the concentration index provides a more nuanced account of the distribution of migrants across destinations compared to measures of spread, which instead focus exclusively on individuals going to the same destination. Moreover, the index of concentration scales linearly as population increases, allowing for longitudinal analyses. As for spread, we compute a global measure of concentration:

$$EC_t^{Global} = \frac{1}{n_t} \sum_{i=1}^{n_t} \frac{\sum_{j=1}^{n_t} \frac{M_t^{ij}(2M_t^{ij} - EM_t^i)}{EM_t^i - 1}}{EM_t^i}.$$

In all cases, we disaggregate the indices of migration spread and concentration by gender, to examine whether female and male migrants came from and moved to an equally diverse range of countries. A comparison of concentration values by gender can then inform us about the tendency of women and men to migrate towards (or come from) broader or narrower pools of destinations (origins). Furthermore, the concentration index can be analysed in conjunction with other statistics describing aggregate migration patterns. For example, it can be evaluated together with an index of gender dissimilarity, which would capture whether the destinations (or origins) of female and male migrants are substantially different. Here, we suggest an index of gender dissimilarity in the following form: $D_t^i = \frac{1}{2} \sum_{i=1}^{n_t} \left| \frac{M_{female,t}^{ij}}{EM_{female,t}^i} - \frac{M_{male,t}^{ij}}{EM_{male,t}^i} \right|$, where $EM_{female,t}^i$ and $EM_{male,t}^i$ represent the number of women and men moving from location i to j in period t , respectively, while the denominators represent the total outflows from i in period t by gender.

3 Preliminary results

A first analysis of international migration patterns of men and women, using flow data from 1990 to 2020 estimated by Abel and Cohen (2022), shows that levels of concentration have decreased for both emigration and immigration, as reported in Panel A in Figure 1. This means that international migrants now come from more diverse origins and go to more diverse destinations, irrespective of gender. At the global level, the pool of origin countries appears to be slightly narrower for women, given the higher concentration index, while the pool of women’s destinations has become wider than men’s starting from the 2000s. Disaggregating the results at regional level brings further insight. As shown in Panel B in Figure 1, even though concentration intensity varies, in almost all world regions the concentration indices are below 0, with the exception of Central America, the Caribbean, and more recently Central Asia. This patterns is most likely driven by specific migration corridors, such as the Mexico-US corridor. This result points to a process of migration expansion and globalisation. On top of that, it appears that, in most cases, the levels of immigration concentration of men and women migrants do not differ within the same world region, meaning that female and male migrants arriving in the same region tend to come from similarly wide and diverse pools of origins. Conversely, the levels of men’s and women’s emigration concentration appears to differ for countries falling in the middle of the world income distribution (second and third row), most prominently in Western Asia.

The decreasing emigration and immigration concentration levels among female and male international migrants can be compared to the results of Czaika and de Haas (2014). Their analysis using stock migration data suggested that migrants are now concentrating in smaller pools of destination countries (declining emigration

spreads), but come from a growing number of origin countries (increasing immigration spreads). However, our results reveal that, between 1990-2020, the pools of both sending countries and receiving countries have grown and become more diverse over time. Further, descriptive measures of concentration and gender dissimilarity can also be used to enrich qualitative research findings and assess them on a broader scale. For example, work by Oishi (2002, 2005) indicates that, in the context of Asia, men tend to emigrate from almost all developing countries, while women mostly originate from three major sending countries: Philippines, Sri Lanka, and Indonesia (Oishi, 2002, p. 3). This finding stems primarily from interview data with migrants and policymakers and it can be corroborated further using the concentration and gender dissimilarity indices. An application of our index of concentration, as reported in Panel A of Figure 2, reveals that in several countries, such as Bangladesh, Nepal, and Pakistan, the migration inflows of women are highly concentrated within few origin countries, but this pattern is not as strong for men. Moreover, we employ the gender dissimilarity index to investigate the gender composition of migration inflows and outflows in each country, as shown in Panel B of Figure 2. For several receiving countries, we find that incoming women and men migrants originate from very different countries: for example, between 20 and 30% of migrants arriving in Bangladesh would need to come from a different origin in order to resemble the composition of women immigrants.

4 Next steps

The preliminary results stemming from an application of our novel concentration index, in conjunction with a gender dissimilarity index, point at sharp and non-trivial differences in the international migration patterns of women and men between 1990 and 2020, particularly in the case of flows originating from developing countries. As the next step in our study, we intend to complement this descriptive analysis by evaluating whether traditional push and pull factors, such as spatial proximity, economic conditions, and the presence of previous migration waves, may adequately explain these discrepancies. As there is context-specific evidence that the drivers of migration might vary by gender (Anastasiadou et al., 2023; Curran et al., 2005, 2006), we aim to use our comprehensive and comparative framework to investigate this on a wider spatial and temporal scale.

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Figure 1

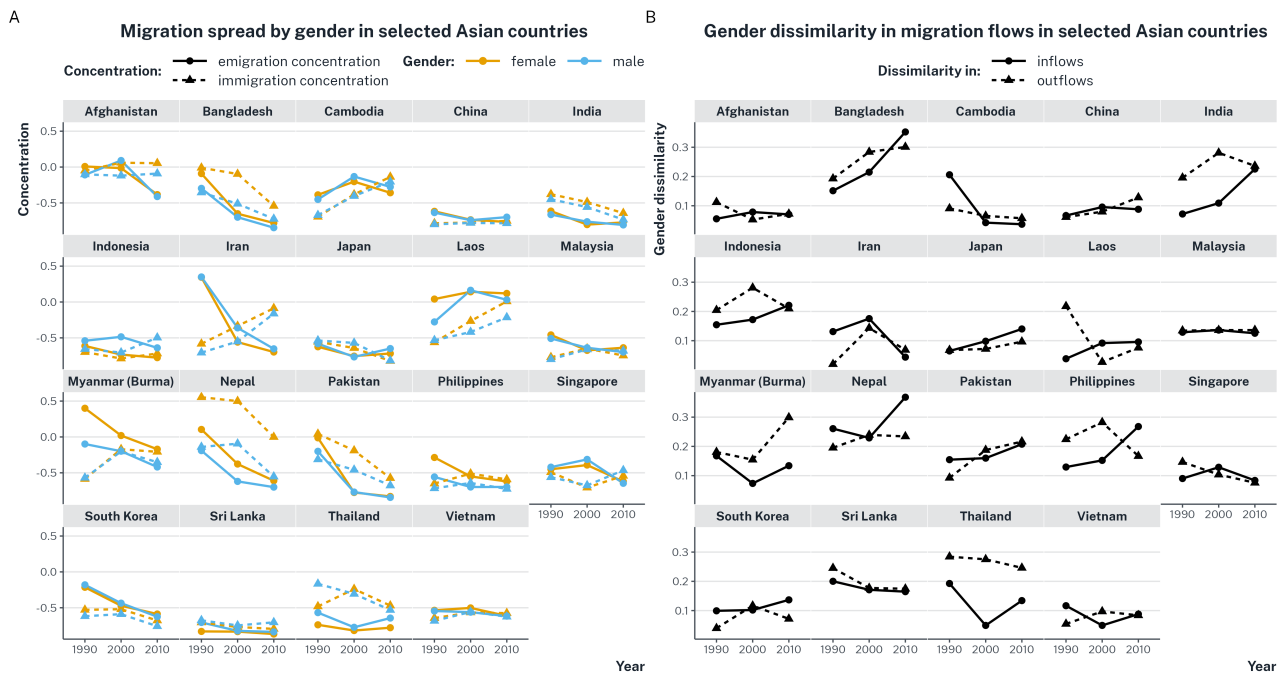


Figure 2