The Evolution of Global Bilateral Migration: 1960-2000

Caglar Ozden
Christopher Parsons
Maurice Schiff
Terrie L. Walmsley

⤷ Caglar Ozden is Senior Economist at World Bank, in the Development Research Group's Trade and Integration team.

⤷ Christopher Parsons is a PhD student at the University of Nottingham.

⤷ Maurice Schiff is Lead Economist in the Development Economics Research Group at the World Bank. His work has focused on different aspects of trade and development

⤷ Terrie L. Walmsley is an Associate Professor and Director of the Center for Global Trade Analysis in the Department of Agricultural Economics at Purdue University, USA and a Principal Fellow Associate Professor at the University of Melbourne in Australia.

The empirical analysis of migration flows and their impact lags behind the policy debate and the theoretical literature. The main reason is the absence of comprehensive and reliable data on international migration patterns and migrant characteristics at either the aggregate or the household level.

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•••/••• Thanks to the painstaking reconciliation and extension of over 1,000 censuses and population registers, global origin-destination matrices of bilateral migrant flows for 226 countries/regions have been made constructed at 10 year intervals over the period 1960-2000. For the first time, a comprehensive picture of bilateral global migration over the last half of the twentieth century emerges. The data reveal that the global migrant stock increased from 92 to 165 million between 1960 and 2000. Quantitatively, South-South migration dominates the global migrant stock, constituting half of all international migration in 2000 while the US remains the most important migration destination in the world. The data also show that, while the total migration stock is predominantly male, the proportion of women increased notably between 1960 and 2000.

Until recently, efforts to produce bilateral data sets on migration were concentrated on OECD countries and a subset of developing countries (OECD (2002), 2007)) often with even some disaggregation by correlates (age of entry, education, gender). This data have informed the policy debate about various aspects of migration: the importance of various forms of brain drain (Beine, Docquier and Marfouk (2007), Bhargava and Docquier (2008) or the role of migration remittances (Ratha and Shaw (2008)). But we were still lacking a comprehensive overview of the evolution of migration flows by regions or income level. With the support of colleagues at various Census bureaus and UNDP staff, starting from The Global Migration Database maintained by the United Nations Population Division (UNPD) which serves as the basis for the foremost data source on the Total World's Migration Stock ("Trends in the World Migration Stock"(TWMS), the authors have constructed a 226*226 set of bilateral matrices of migration flows by gender according to the most recent current (i.e. 2000) set of countries (Ozden et al. 2011). Because the data covering migrant destinations in the separate 3500 censuses in the UNPD data were not directly suitable for analysis, a major effort had to be devoted to harmonizing and completing the bilateral migrant matrices and verifying the reliability of the resulting estimates.

▶ I. Harmonizing and Completing the Data Base

Because of the many changes in the global political landscape of the periods covered by the Censuses (1955-2004), a preliminary step was to specify a standard set of countries for the entire period (e.g. West Germany was folded to Germany and data on Croatia was constructed from data on Yugoslavia prior to its existence). For the countries that no longer exist (e.g. Czechoslovakia or the USSR), their census numbers are disaggregated between destination countries on the basis of more recent migration figures (i.e. the shares of migrants from the fifteen ex-Soviet Republics to Australia in 2001 were attributed to the USSR for the earlier censuses).

In addition to dealing with fragmentation and disappearance of countries, and taking wherever possible data on migration by country of birth rather than by nationality, it was necessary to recode the data. This had to be done because the data on migrants in the censuses in destination countries is often recorded by aggregate geographic Region (e.g Africa, South Asia or Melanisia). As a result 292 specific regions had to be mapped into the 226 countries and territories in the master list. This mapping turned out to be a major difficulty that was resolved by using propensity measures based either on a destination country's propensity to accept migrants from a particular origin or based on origin countries' propensity to send migrants abroad. Finally miscellaneous categories (refugees, born at sea) were omitted because of lack of data or lack of importance.

Further steps had to be carried out to complete the data base. Varying census dates that did not correspond to the decadal intervals cho-

sen had to be reconciled. So did different migration definitions (migrants were sometimes defined by nationality than location of birth). Missing gender splits had to be constructed. Finally interpolation methods were used to construct missing census data. And when the data were very poor (typically for small poor countries), it was necessary to rely on data from the UN (2006) TWMS.

▶ II. Robustness of the resulting estimates

In the end, the estimated cells in the matrices had two origins. Either they were constructed from: (i) raw data or from the remainder in which case the estimates are likely to be reliable; (ii) filling the cell by interpolation when partial data is available or dealing with entirely missing data (e.g. missing bilateral data for every census round for Somalia). In 1960, 59% of the data in the cells came from (i), rising to 69% by 2000. However, since modification to the raw data was often for small bilateral flows, in each one of the four census years, over 92% of the migration flows come from the raw data. For the less reliable data obtained under (ii), simulation methods were used to test the accuracy of the methods used to construct missing data. This was done by deleting countries with complete data from various parts of the world (i.e. Australia, the US, Switzerland, Chile) and filling the blank cells following the different methods used (propensity measure, interpolation between years, or interpolation based on data for the remaining portion of the sub-region). The various methods were found to give relatively accurate estimates, with the interpolation method working the best.

Finally, the aggregate figures constructed by the authors were compared to those in the various TWMS publications (which only provides migration data by destination, not by corridor). Comparison of the two aggregate migration estimates reveal that for each census period the estimates differ by a very small margin (about 1

million migrants out of totals varying between 70 and 160 million) except for 1990 when the discrepancy is of 3 million out of 137 million.

▶ III. The evolution of Global Migration

Following are some of the main trends and patterns in migration over the period 1960-2000.

Global Migration. Between 1960 and 2000, the total global migrant stock increased from 92 to 165 million. At the beginning of the period, one fifth of the world's migrant population was born in Europe, and one sixth attributable to both the partition of India and intra-Soviet Union migration respectively. Two-thirds of the growth, up until 2000, was due to migrant flows to Western Europe and the United States.

Despite the sustained increase in the global migrant stock over the period, as a proportion of the world population, the migrant stock declined between 1960 and 1990, from 3.05% to 2.63%; after which it again rose to 2.71% in 2000.

Global Migration between the "North"[1] and the "South". The greatest growth in the number of migrants is largely driven by the numbers migrating from the South to the North however, which increased from 14 million to 60 million between 1960 and 2000 while the number of migrants from the North remained fairly stable (figure 1).

South-South migration is a declining proportion of total world migration. In 1960, South-South migration accounted for 61% of the total migrant stock, but by 2000, it had fallen to 48%. However, when factoring in the migrant creating effects of South Asia (partition of India) and the Soviet Union (creation of new countries), South-South migration has actually remained fairly stable over time, around a quarter of the total (figure 2). In fact, as a proportion of the total migrant stock, only South-North migration

1. The North includes Australia, Canada, EFTA, EU-15, Japan, New-Zeland, US.

increased between 1960 and 2000 reflecting increasingly liberal immigration policies in the North in terms of the number of countries from which richer countries accept migrants. Over the period, the proportion of world migration attributable to South-North migration rose from 16% to 37%. Surpassing North-North migration between 1970 and 1980, both in terms of numbers and as a proportion of the total migrant stock, the dramatic increase in South-North migration is unquestionably one of the defining trends.
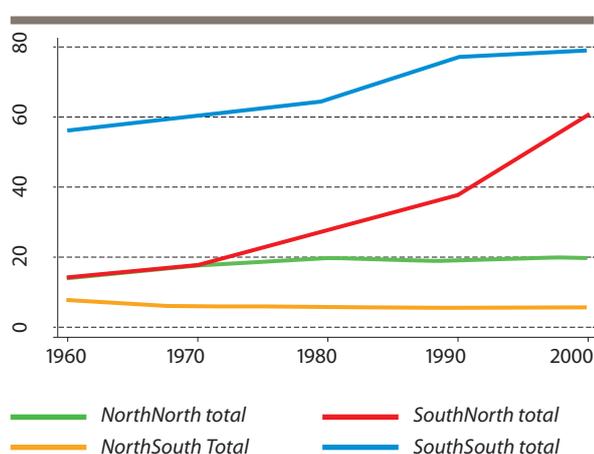

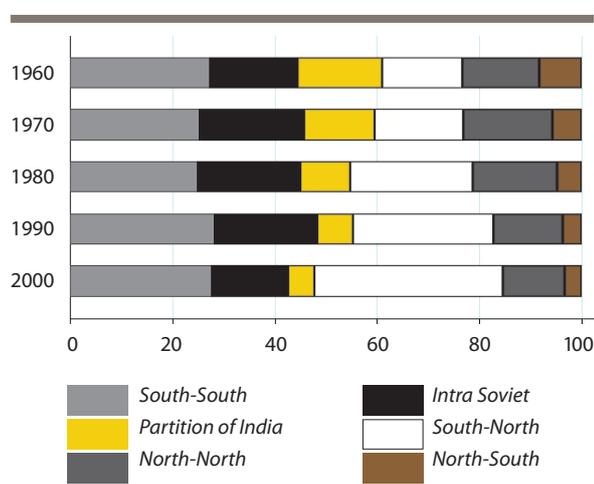**Figure 1**: Stock of Migrants by Origin and Destination

Figure 1: Migration Shares

Between 1960 and 2000, the migrant stocks of the United States and Western Europe grew by 24.3 million and 22 million respectively, totaling some 42% of the world total in 2000. However, there exist notable differences in the migrant compositions of these two regions. Whereas United States' immigrant profile has changed dramatically, Europe's has remained far more stable, in part, reflecting her continuing ties with her ex-colonies.

The United States is a particularly important recipient of migrants from all regions of the world, except perhaps Southern and Central Africa. In 2000, the United States received the largest migrant flows from sixty countries across the globe, including Germany, Vietnam, Cuba and Korea. Moreover, thirteen of the largest fifty migration corridors in the world and six out of the ten largest South-North corridors in 2000 were to the United States. At this time the two most significant migration corridors to the United States were from Mexico and the Philippines. Alone they account for 10.8 million migrants, equivalent to 31% of the migrant stock in the US or nearly 7% of the world migrant stock.

Western Europe has been instrumental in many of the largest migrations in history, as both a major sending and receiving region. Indeed between 1960 and 2000, many Western European countries transformed from net migration senders to net migration receiving nations. Today, Western Europe remains a key destination region for migrants from every other part of the world, excepting the high-income MENA region. Increasingly over the period, Western Europeans favor migrating to other countries within the region. In 2000, wholly two-fifths of all Western European migrants lived elsewhere in Western Europe, driven largely by the expansion and economic and political integration of the European Union.

Despite these increased numbers however, intra-Western European migrants are increasingly becoming a minority as a proportion of the total migrant stock, especially after 1970,

・・・/・・・ predominantly because of migration from South. The Turks and Poles in Germany constitute the two largest diasporas in Western Europe and the second and third largest South-North migration corridor globally. Elsewhere in Europe, the most significant migrant corridor from the South is from Algeria to France. In all decades except 2000, this corridor is in the top four most significant South-North migrations in the world. Other notable corridors from the South to Western Europe include from the countries of South Asia to Britain, from the former Yugoslavia to Germany and from other countries in North Africa to France.

Migration to the South. Apart from the partition of India and the disintegration of the former Soviet Union, the significant shift in global migration toward the Persian Gulf States is arguably the most significant development in the data as 15% of all migration to the South, (including both partition and intra-Soviet flows) was to the high-income MENA region in 2000, rising from under 3% in 1960. These movements are predominantly from South and South East Asia (45% of total migration to this region in 2000) and the low-income MENA region (33% of the total in 2000) to the Gulf and from the countries of the former Soviet Union to Israel.

Migration from the North to the South, although declining over time is not insignificant, (see Figure 2). Both the absolute and relative importance of Northern migrants to the south is declining rapidly. Today, the most significant North-South movements are (i) from Western Europe to South America and the other countries of Europe and (ii) from the United States to Central America (mostly Mexico) and the Caribbean.

The Feminization of Migration Stocks. In 1960, all regional immigrant stocks had proportionally more males (with the exception of the United States and Eastern Europe and Central Asia). Between 1960 and 2000, the gender composition of immigrant stocks changed fairly significantly. With the exception of South Asia, the numbers of women in each region rose in absolute terms. In terms of emigrant stocks, in absolute terms, all regions of the world sent greater numbers of women abroad in 2000. The largest proportional increase in the numbers was from Latin America and the Caribbean followed by the high-income MENA region. In 2000, the countries with the highest proportion of women in their emigration stocks were, Ukraine (61%), Singapore (60%) and the Philippines (60%).

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Contact
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contact@ferdi.fr
+33 (0)4 73 17 75 30