Working Papers

The Globalisation of Migration

Has the world really become more migratory?

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- analyse migration as part of broader global change

- contribute to new theoretical approaches

- advance understanding of the multi-level forces driving migration

Abstract

Although it is commonly believed that the volume, diversity, geographical scope and overall complexity of international migration have increased as part of globalisation processes, this idea has remained largely untested. This paper aims to fill this gap by mapping shifts in global migration patterns between 1960 and 2000. In order to simultaneously capture changes in the spread, distance and intensity of migration, this paper elaborates indices for emigration dispersion, immigration diversification and migration globalisation. The results challenge the idea that there has been a global increase in volume, diversity and geographical scope of migration. While international migration has not accelerated in relative terms, main migratory shifts have been directional and are linked to major geopolitical and economic transformations, such as the rise of new 'migration magnets', development-driven emigration hikes and the lifting of emigration restrictions. Migration has globalized from a destination country perspective but hardly from an origin country perspective, with migrants from an increasingly diverse array of non-European origin countries concentrating in a shrinking pool of prime destination countries. The global migration map has thus become more skewed. Rather than refuting the globalisation of migration hypothesis, this seems to reflect the asymmetric nature of globalisation processes in general.

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1 Introduction

It is commonly assumed that international migration has accelerated over the past fifty years, that migrants travel over increasingly large distances, and that migration has become much more diverse in terms of origins and destinations of migrants (Arango 2000: 291). In this context, Vertovec (2007) coined the term 'super-diversity' to indicate the unprecedented degree of immigrant diversity in Britain and other immigrant receiving societies. This is based on the idea that an increasing number of 'new, small and scattered, multiple-origin, transnationally connected, socio-economically differentiated and legally stratified immigrants' (Vertovec 2007: 1024) have recently arrived and settled in destination societies. It has also been argued that with the increasing integration of societies in international migration systems (cf. Skeldon 1997), more and more countries are experiencing significant volumes of immigration and emigration.

All these trends combined suggest that global migration patterns have become more *complex.* This is opposed to the assumed lower diversity and neater structuring of past migrations, in which more clear-cut division between immigration and emigration countries would have existed. This is also linked to the idea that, in the past, migration often concentrated in a few bilateral corridors, frequently following colonial and other historical links. For instance, the vast majority of trans-continental migrants from Francophone Africa moved to France, while migrants from Anglophone Africa tended to move to the UK (Bakewell and de Haas 2007). In recent decades, these patterns seem to have become more diverse with a 'fanning out' of migration to new destinations in Southern Europe, the Gulf and Asia.

The assumed increases in the volume, diversity, geographical scope and overall complexity of international migration are commonly linked to advances in transport and communication technology, and more generally to globalisation processes. Globalisation can perhaps best be defined as the 'widening, deepening and speeding up of worldwide interconnectedness in all aspects of contemporary social life' (Held et al. 1999: 2).

Globalisation should be simultaneously seen as a technological and political process. Technological revolutions have radically reduced the costs of (air) travel and communication over increasingly large distances (Castells 1996). The common assumption that technological change has facilitated migration along increasingly diverse geographical pathways is threefold. First, technological change has lowered resource constraints on mobility – the threshold levels of wealth required to move – by bringing down costs of travel and communication. Second, it has strengthened migrant networks and transnational ties by making it easier to stay in touch with family and friends, to remit money and to travel back and forth between destination and origin countries (cf. Faist 2000; Vertovec 2004; Vertovec 2001). Third, increased literacy and education alongside improved access to 'global' information through (satellite) television, mobile phones and internet seem to have increased people's aspirations and awareness of opportunities in previously unknown countries. Combined, these processes seem to have increased people's capabilities and aspirations to migrate (de Haas 2009).

It is however, important to emphasise that modern-day globalisation is not only driven by technological progress, but also by political-ideological change. Since the 1980s in particular, there has been a global political trend towards *laissez-faire* economic policies, which went along with the gradual, albeit asymmetrical, lifting of international barriers for trade and capital flows. This process gained momentum in the 1980s with the Reagan and Thatcher governments in US and the UK

respectively, pushing the agenda for domestic and international economic deregulation. This trend was further accelerated after the fall of the Berlin wall in 1989 heralding an age of 'market triumphalism' (cf. Jones 1998) and the dominance of the Washington Consensus on the importance of market liberalisation, privatisation and deregulation (Gore 2000; Stiglitz 2002: 67). Thus, while globalisation has been facilitated by technological progress, the process is also driven by ideological shifts and political change, presumably towards a 'universalization of Western liberal democracy' (Fukuyama 1992) across the globe.

A key dimension of globalisation is a rapid increase in cross-border flows of all sorts, starting with finance and trade, but also ideas, ideologies, and knowledge about democratic and economic governance, cultural and media products, and people (Castles and Miller 2009). These flows seem to reinforce each other. For instance, increasing trade, investment, communication and international aid links appear to reinforce migration links, and/or vice versa, at least in the short run (Czaika and Mayer 2011; Schiff 1994). This seems to confirm the key proposition of migration systems theory that one form of exchange, such as trade, between countries or places is likely to engender other forms of exchange, such as people, in both directions (Kritz, Lim and Zlotnik 1992; Mabogunje 1970; Massey et al. 1998).

The core idea is that growing social, economic and cultural interconnectedness epitomised by the concept of 'globalisation' has facilitated migration in ever greater numbers between an increasingly diverse and geographically distant array of destination and origin countries. Other factors that seem to explain surging migration are increasing international and domestic inequalities, the persistent demand for high and low-skilled migrant labour in the segmented labour markets of wealthy societies, and the lack of opportunities, population growth, oppression and violent conflict in developing countries. Several of these factors, such as growing labour market segmentation and domestic inequality, are affected by the same political trends towards market liberalisation and economic deregulation that have also boosted the economic globalisation (cf. Wade 2004).

In this vein, Salt (1992) argued that the contemporary geography of labour migration reflects the globalisation of the world economy and labour markets, in which an increasing number of countries have become participants in global migration systems. He therefore spoke of 'the globalisation of international labour migration' (Salt 1992: 1080), in which 'all countries now engage in migration systems growing in size and complexity and producing an increasing diversity of flows'. Further, Castles and Miller (2009) argued that there has been a 'globalisation of migration', which is 'the tendency for more and more countries to be crucially affected by migratory movements at the same time' (Castles and Miller 2009: 10). This would correspond with a diversification of immigrant populations, in which 'most countries of immigration have entrants from a broad spectrum of economic, social and cultural backgrounds' (Castles and Miller 2009: 10)

The widely assumed *acceleration* of global migration would have occurred along with a *diversification* of migration in terms of composition of immigrant populations not only in terms of countries of origin, but also in terms of migration categories, in which labour, student, family and asylum migration as well as temporary and permanent migration would increasingly coexist (Castles and Miller 2009: 11-12). Global migration is also believed to have feminized, with more and more women independently migrating instead of 'dependent' family migrants (Jureidini and Moukarbel 2004; Ramírez, García Domínguez and Míguez Morais 2005; Zlotnik 1998).

While there is broad consensus that the volume, diversity, geographical scope and overall complexity of migration have increased under the influence of broader globalisation processes, these assumptions have not been subjected to systematic empirical assessment. This is unfortunate, as there is reason to challenge these assumptions. Zlotnik (1999) already questioned the consensus view that international migration is accelerating by showing that the percentage of people living outside their country of origin is 'remarkably small and has been relatively stable for a long period' (Zlotnik 1999: 42). Her analysis of data from the United Nations Population Division showed that between 1965 and 1990 this percentage has oscillated between 2.1 and 2.3 per cent of the world population.

There is also cause to question the diversification hypothesis. While, some European countries may host an increasingly diverse array of immigrants from increasingly distant countries, we cannot automatically extrapolate this Eurocentric observation to the global level. For instance, while South American countries used to attract large numbers of migrants from a remarkably diverse array of countries beyond Europe (including Japan, India, China and Lebanon), this diversity seems to have decreased in recent decades, with a stronger focus on intra-regional migration.

We may also question the idea that the geographical scope of migration has increased. For instance, several European countries have seen large-scale immigration from (often very distant) ex-colonies between 1950 and 1990. However, in more recent years there has been a surge in immigration from (less distant) Eastern European countries. While Australia and New Zealand used to almost exclusively attract migrants from (extremely distant) Europe, they now attract increasing numbers of migrants from (less distant) Asian countries. This also shows the importance of distinguishing between emigration and immigration patterns.

The latter observations also demonstrate the need to look beyond global averages. The focus on global migration rates is likely to conceal significant differences in the extent to which the volume, diversity, geographical scope of migration has changed on a global level and across world regions. In order to understand how global migration patterns have changed, it is necessary to go beyond the usual focus on the volume of migration by analysing underlying changes in the geographical scope, diversity and directionality of migration. This is important for three reasons. First, globalisation may not necessarily manifest itself in a change in the volume, but rather the underlying spatial patterns of migration. Second, it is unlikely that 'globalisation' has affected regions in a uniform way making it crucial to analyse the regional trends that underlie global patterns. Third, it is unlikely that globalisation has had a similar impact on immigration and emigration patterns.

There is a lack of studies that explore in detail how the global spatial patterning of migration has evolved over the past decades. The best available studies analyse migration trends between and within the global 'South' and 'North' and the major migration poles (e.g. Özden et al. 2011). Such studies have provided valuable insights into the major shifts in inter-continental migration flows. There however remains a need to go beyond crude and highly problematic distinctions between 'South' and 'North' (cf. Bakewell 2009) to achieve a more nuanced understanding of how global migration patterns have changed in volume, diversity, direction and geographical scope.

This paper aims to fill these empirical and conceptual gaps by analysing the evolution of global migration patterns between 1960 and 2000 through mapping changes in the *direction*, *intensity*, *geographical spread* and *distance* of international migration. In order to simultaneously capture changes in the geographical spread, distance and intensity of migration (and a more general 'complexity' dimension), and distinguish between immigration and emigration patterns without

relapsing in crude distinctions between emigration and immigration countries, this paper elaborates country-level indices for emigration dispersion and immigration diversification. These two indices are amalgamated in country-level indices of migration globalisation. The ensuing empirical analysis will serve to evaluate the following propositions:

1. Migration has become more *intense* in terms of the relative number of people moving;
2. Migrants have moved over increasingly large *distances*;
3. More and more countries have become connected to international migration systems and experience increasing volumes of immigration and emigration;
4. Partly because of (2) and (3), migration has become more *diverse* in terms of origin countries of immigrants and destination countries of emigrants; and
5. Migration has become less concentrated in particular bilateral (country-to-country) migration corridors.

Conceptually, all these propositions can be related to a more overall (functionalist) notion of a global *diffusion* of migration experiences and a concomitant level of equalisation ('flattening') of access to international migration. We can call this notion the *globalisation of migration*. If this globalisation of migration has occurred, this should have resulted in a general diversification in origins of immigrants and destinations of emigrants and a decreased spatial clustering of international migration along particular migration corridors.

The capacity to perform the analyses required to assess these propositions have been drastically improved thanks to the release of the Global Bilateral Migration Database (GBMD) by the World Bank. This database contains bilateral migration population data for 226 countries, major territories and dependencies for each decade from 1960 to 2000 (Özden et al 2011; World Bank 2011). As their primary source of information, the database used decennial census records. The database used the UN definition of a migrant, also used by most national statistical offices, that states '[…] a (long-term) migrant is a person who moves to a country other than that of his/her usual residence for a period *of at least 12 months*, so that the country of destination becomes his/her new country of residence' (United Nations 1998). Due to the GBMD database's focus on migrant stocks, it mainly captures long-term international migrants, and is likely to miss out much temporary and circular movement and various forms of non-migratory mobility. Although still far from perfect, this database has radically expanded and provides new opportunities in advancing our understanding on long-term migration processes on a global level. The comprehensiveness of the GBMD enables us to analyse the evolution of global migration patterns at a level of detail that was not possible before.

2 Conceptualising the globalisation of migration: intensity, spread and distance

Before we can turn to the empirical analysis, it is necessary to define the key concepts of *intensity*, *diversity* and *distance* and the more general notion of the *globalisation of migration*. Such concepts are often not defined, and this easily renders analyses vague. For instance, what do we mean by *intensity* of migration, and how do we measure it? Can we use absolute numbers, or is this deceiving and should we rather express this in relative numbers such as the shares of the total population?

What do we mean by *diversification* of migration? This is not obvious, as we can look at this dimension from various angles. First of all, do we mean diversification from an origin country (emigration patterns) or destination country (immigration patterns) perspective? Does this pertain to

the spread of migrant origins (for destination countries) and migrant destinations (for origin countries) or to the idea that migrants come from and go to more diverse countries in terms of geographical distance and, hence, cultural and phenotypical differences? Or does the notion of diversification simultaneously encapsulate spread *and* distance? So, diversification is a potentially multidimensional concept and hence the need to clearly define and operationalize this key concept.

Distance is a similarly ambiguous concept. The default position is to use geographical distance as a yardstick, although some would argue that this is becoming a less relevant factor in a globalizing world, and that distance should rather (or also) be expressed in terms of legal, phenotypical, cultural, or linguistic distance as these are the barriers that really matter. For instance, Britons migrating to New Zealand may go to the other side of the world, but they cross a smaller linguistic and cultural distance than if they would migrate to France. Although it is often stated that migration is becoming increasingly complex under the influence of globalisation processes, such complexity is rarely defined or operationalized. And what do we actually mean by *complexity*? Complexity does not mean that migration is chaotic or devoid of regularities, it rather means that the patterns are elaborate and multi-layered. But elaborate in which ways?

In order to base the empirical analyses on an unequivocal conceptual basis, this paper will define, decompose and operationalize the central concepts *intensity*, *diversity* and *distance*. Subsequently these sub-components will be aggregated into one composite measure of migration globalisation, reflecting the extent to which international migration has undergone a spatio-temporal diffusion process.

With regards to *intensity*, it is important to clearly distinguish absolute and relative numbers. We can only speak of a growing intensity or *acceleration* of migration if migrants constitute an increasing percentage of a population, reflecting an acceleration of migration rates. We also need to maintain a distinction between global migration intensity and country-level emigration and immigration intensity, since a stationary global migration rate may conceal important changes in country-level migration levels.

Second, the concept of *diversification* seems to simultaneously capture three sub-dimensions: migration intensity, migration spread and migration distance. The migration diversification hypothesis is that all three dimensions have increased under conditions of globalisation. In practice, this would imply that growing immigrant populations have also diversified by coming from an increasingly geographically distant and diverse array of origin countries. We call this *immigration diversification*. From an origin country perspective, the idea is that growing numbers of emigrants have dispersed to an increasingly diverse array and geographically distant array of destination countries. We call this *emigration dispersion*.

From this, we can define and conceptualize migration globalisation as functionally related processes of emigration dispersion and immigration diversification. Based on migration systems theory (see above), the idea is that if immigration diversification increases, we also expect emigration dispersion to increase, and vice versa. This also provides the basis for a more concrete and verifiable operationalization of the common, but rather vague notion that migration patterns have increased in complexity. This seems to reflect the idea that migrants move along less uniform spatial pathways in a less socially and politically organised manner. Disorganised does not mean chaotic. It rather implies that migration patterns have evolved more spontaneously than in the past, where the impression is that

governments were more actively involved in, for instance, the recruitment of labour and 'guest-workers' as well as assisted emigration. .

Table 1 displays these three conceptual dimensions of migrant globalisation from both an origin and destination country perspective. Taken together, these three dimensions reflect what we can refer to as the 'globalisation of migration' as they match rather close the idea that globalisation can be defined as the *widening*, *deepening* and *speeding* up of worldwide interconnectedness (Held et al. 1999: 2). We can also theoretically root this notion in Zelinsky's (1971) and Skeldon's (1997) conceptualization of migration as a spatio-temporal diffusion process, which reflects the idea that more people will start moving in increasing numbers and over increasingly large distances as a result of demographic, economic and urban transitions embodied in the concept of 'development'. So, as countries develop and become integrated in global economic, political and social systems, we can also expect that their migratory interconnectedness increases.

Table 1 Theoretical dimensions of migration globalisation

Dimensions	***Emigration dispersion*** *(origin country perspective)*	***Immigration diversification*** *(destination country perspective)*
Intensity	Emigration intensity	Immigration intensity
Spread	Emigration spread	Immigration spread
Distance	Emigration distance	Immigration distance

Following this conceptualization, globalisation of migration would not only imply that migration has accelerated, but also that migration has become more complex through an increasing geographical diversity and scope of migratory pathways. A final notion is that globalisation increases migratory interconnectivity *in both directions*. This notion can be rooted in migration systems theory (Mabogunje 1970; Massey et al. 1998; Skeldon 1997), and earlier observations by Ravenstein (1885), according to which flows of people (as well as flows of ideas, goods and capital) in one direction are likely to generate migratory counter-flows in the medium to longer term. This also helps us to overcome crude distinction between immigration and emigration countries.

So, if the globalisation of migration hypothesis holds, we should expect growing migration emigration dispersion *and* immigration diversification, with more countries simultaneously experiencing accelerating immigration and emigration from and to an increasing diverse and geographically distant array of origin and destination countries. Section 3 will assess the basic propositions that the intensity, diversity and geographical scope of migration has increased. It will also assess major changes in directionality of migration. In order to further assess the globalisation of migration, section 4 will amalgamate, elaborate and analyse indices for emigration dispersion, immigration diversification and a composite migration globalisation index.

3 The Globalisation of migration since 1960

3.1 Global migration patterns: intensity, spread and distance

Drawing on the Global Bilateral Migration Database (GBMD), this section assesses the hypotheses that international migration has become more (1) intense, (2) spread and (3) geographically distant on

a global, regional and national level and that there has been a particular increase in migration from developing to developed countries. Table 2 displays the number of net immigration versus net emigration countries. Over the last decades the number of countries and territories with net immigration has shrunk from 102 to 78 while the number of net emigration countries has increased from 124 to 148. Between 1960 and 2010, 46 countries shifted from being a net emigration to a net immigration country, while 70 countries made a reverse transition. This can be partly explained using migration transition theory, which predicts an inverted U or J pattern in terms of the impact of development on migration, with initially *increasing* emigration as countries develop (de Haas 2010; Skeldon 2012).

The underlying idea is that improvement in infrastructure, income, education and information increases people's capabilities and aspirations to migrate. While the poorest countries have relatively low emigration and can even be net immigration countries (particularly when they are settlement countries or the target of refugee populations or international humanitarian workers), middle income countries typically experience high net emigration. Only after sustained period of growth and development, emigration tends to decrease while immigration increases, explaining how after this emigration-immigration transition countries transform into net immigration countries in the 'last stage' of migration transitions.

First, West European countries have massively entered the last stage of the migration transition, with countries transforming from high emigration to high immigration countries. This is linked to a broader, global reversal in migration patterns. While for centuries Europeans have been moving outward through conquering, colonizing, occupying, fleeing and settling in lands elsewhere on the globe, these patterns reversed in the second half of the twentieth century. Under the influence of decolonization, demographic change, rapid economic growth and the creation of the European Union (EU) as a free trade and migration zone, the expanding Union has emerged as a global migration magnet.

Table 2 Number of net immigration and emigration countries and territories (N=226)

	1960	**1970**	**1980**	**1990**	**2000**
Net emigration countries	124	129	140	141	148
Net immigration countries	102	97	86	85	78
Transition from emigration to immigration country		11	12	13	10
Transition from immigration to emigration country		16	23	14	17

Source: Authors' own calculations. The total number of countries and territories (N=226) has been kept constant over time although many countries (dis-)integrated during this time period (Germany, Soviet Union, Yugoslavia etc.). Based on census data, the GBMD re-calculates for earlier periods respective stocks of migrants for countries which were formerly unified or independent.

The decreased relative importance of Europe as a source of migrants is linked to fundamental shifts in global migration patterns. Declining European emigration coincided with a second shift in migration patterns, that is, increasing immigration from South and South-East Asia and (for North America) Latin America to traditional countries of settlement, principally the US, Canada, Australia and New Zealand. Third, several Latin American countries have experienced drastically reduction in immigration and rapidly increasing emigration, while some countries, including Panama, Peru, Brazil and Honduras, have witnessed reverse migration transitions, from net emigration to net immigration countries. This reflects the declining position of Latin America in the global wealth ranking and declining immigration from Europe, the traditional source of immigrants to the Americas.

A fourth shift has been the rise of new global migration magnets outside of North America, Australia, New Zealand and Europe, principally in the Persian Gulf regions (particularly since the 1970s), the 'Asian Tiger' economies (principally Singapore and South Korea) as well as Japan. A fifth shift was that many developing countries have entered a migration transition (see above), coinciding with emigration hikes. Many current emigration hotspots, including Sudan, Yemen, Philippines, Turkey, Morocco, Egypt and India, were weakly integrated into global migration systems, and actually used to be countries of net immigration in 1960.[1] Since then, certain levels of development, rising education, infrastructure improvement and increased global interconnectivity seem to have boosted emigration from those countries. Although most migration was initially mostly regional, migrants have increasingly moved further afield, towards North America, Europe, Australia and New Zealand, as well as Japan, South Korea and the Gulf Region. In some countries, such as Afghanistan, Angola, Somalia, Sudan, and former Yugoslavia, emigration hikes were primarily related to refugee movements. After the fall of the Berlin wall in 1989, several Central and Eastern European also experienced high increases in emigration.

Table 3 compares estimates of net migrant populations in the 15 major emigration and immigration countries for 1960 and 2000, and highlights these shifts in global migration patterns. The United States has reinforced its position as the world prime destination. In 2000, it was home to approximately 35 million migrants, which was equal to about 21 per cent of the estimated 167 million migrants in the world. In 1960, the US was home to only 12 per cent of all international migrants. While in 1960 Argentina and Brazil were home to the second and ninth largest net immigration stock in the world, they have moved significant down the list since then. By contrast, Gulf economies have become prime destination while European countries have consolidated their position.

Table 3 Top 15 net immigration and net emigration countries, 1960 and 2000

	1960			2000	
Country	**Net Stock [in million]**	**Net Rate [in %]**		**Net Stock [in million]**	**Net Rate [in %]**
USA	9.847	5.29	USA	32.631	11.55
Argentina	2.445	11.85	Germany	7.532	9.16
France	2.307	5.05	Saudi Arabia	4.918	24.53
Germany	1.662	2.29	France	4.512	7.65
Canada	1.635	9.14	Canada	4.300	14.03
Hong Kong	1.576	51.25	Australia	3.566	18.62
Indonesia	1.548	1.68	UAE	2.213	72.94
Australia	1.533	14.92	Hong Kong	1.942	28.67
Brazil	1.253	1.72	Cote d'Ivoire	1.675	10.00
Israel	0.969	46.36	Israel	1.658	25.64
Sri Lanka	0.936	9.34	Russia	1.542	0.88
Kazakhstan	0.836	8.36	Switzerland	1.232	17.19
South Africa	0.748	4.31	Kuwait	1.134	58.43
Uganda	0.684	10.08	Singapore	1.065	27.18
Congo	0.678	4.41	Argentina	0.961	2.60
Puerto Rico	- 0.607	-25.72	Algeria	- 1.268	-4.15
Mozambique	- 0.641	-8.38	Korea, Rep.	- 1.329	-2.89

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[1] This may partly reflect colonial settlement or, such as in the cases of Turkey and India, processes of state formation.

Korea, Rep.	- 0.701	-2.80	Colombia	- 1.424	-3.58
Belarus	- 0.883	-10.78	Serbia/Montenegro	- 1.558	-14.48
Portugal	- 0.897	-10.09	Morocco	- 1.560	-5.43
Greece	- 0.913	-10.96	Indonesia	- 1.687	-0.79
Czech Republic	- 1.138	-11.95	Vietnam	- 1.708	-2.17
Spain	- 1.554	-5.11	Turkey	- 1.741	-2.74
UK	- 1.790	-3.51	Egypt	- 2.105	-3.11
Ukraine	- 2.236	-5.23	Philippines	- 2.761	-3.57
Russia	- 2.251	-1.88	India	- 3.281	-0.31
Pakistan	- 2.494	-5.43	Bangladesh	- 4.022	-3.10
Poland	- 3.260	-11.21	Poland	- 4.325	-11.28
Italy	- 4.044	-8.16	China	- 5.600	-0.44
China	- 4.558	-0.69	Mexico	- 9.051	-9.06

Source: Authors' own calculation.

While in 1960 Italy, the UK, Spain and Greece were prime countries of emigration, in 2000, their place has been taken by countries such as Mexico, Bangladesh, India, Philippines, Egypt, Turkey, Vietnam, Indonesia and Morocco. Although China is still an important origin or sending country, the numbers are relatively low compared to its total population. Further, the absolute number has hardly changed over the past four decades, suggesting that emigration rates are actually declining. What these figures also suggest is that there is a higher 'skewedness' in the distribution of migration destinations compared to migration origins, an issue which will be further elaborated in the further analysis.

While the spatial patterning of international migration has undergone significant changes, the relative number of migrants on a global level has actually *decreased*. While the absolute number of international migrants has increased from 93 million in 1960 to 167 million in 2000 – which is an 80 per cent increase – the world population has actually grown faster from 2.98 billion to 6.07 billion, which is a 104 per cent increase. This explains why the proportional number of international migrants has slightly decreased from 3.1 per cent of the world population in 1960 to 2.7 per cent in 1980 to stabilize over subsequent decades (see Table 4 and Figure 1).

While migration has not accelerated on a global level, there is some evidence of an increasing diffusion of migration. In Table 4 we estimated the *global spread* of migrants across all possible bilateral (country-to-country) migration corridors, calculated as one minus the sum of squares of the shares of the global migrant populations for each corridor in the world.[2] This yields a measure ranging from 0 to 1; lower values would indicate that the global migrant population is scattered 'relatively' equal across all migration corridors. Numbers show that the global migrant population is relatively un-concentrated with extremely high values between 1960 and 2000. Increasing values for this period indicate that the total world migrant population continuously spreads globally. Of the 50,850 bilateral corridors between the 226 countries and territories in our dataset, only about 32 per cent were 'filled' in 1960; this share has continuously increased to about 47 per cent in 2000, which illustrates a growing connectedness between countries in terms of bilateral migration. There is also some evidence that the average *distance* of migration has increased somewhat. Table 4 shows that the geographical distance covered by an 'average migrant' (estimated by the distance between origin country and

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[2] This measure is the Hirschman-Herfindahl index on migrants' concentration in bilateral corridors. Since we are rather interested in an indicator of spread (and not of concentration) we subtract the concentration score from 1.

current country of residence) has increased from nearly 3,000 kilometres in 1960 to over 3,600 kilometres in 2000.

Table 4 Global migration intensity, spread, and distance, 1960-2000

	1960	1970	1980	1990	2000
Global migration rate (in % of world population)	3.06%	2.86%	2.70%	2.67%	2.73%
Global migration spread (across 226*225 corridors)	0.980	0.985	0.990	0.992	0.993
Global migration distance (average in km)	2992	2914	3128	3308	3657

Source: Authors' own calculation.

By calculating bilateral migration imbalances, we can assess whether such balancing has occurred. This is done through calculating bilateral net stocks, that is the number of people born in country *j* living in country *i*, subtracted by the number of people born in country *i* living in country *j*, which indicates net movements per bilateral corridor (M2 stock; see Figure 1). Our dataset shows that in 1960 there was global migration imbalance across all migration corridors of about 57 million people. This means that about 61 per cent of the global migration stock was not bilaterally balanced by an equally-sized 'counter stock'. The bilateral imbalance ratio has actually *increased* since 1960 by about nine percentage points reaching 70 per cent in 2000. This suggests that global migration has become more skewed towards particular destinations attracting increasingly high numbers of migrants without being counterbalanced by significant reverse flows. In other words, there has been a decline in 'migration reciprocity', at least at the global level.

Figure 1 Global migration intensity: Total (M1) and bilateral net (M2) stocks and rates, 1960-2000
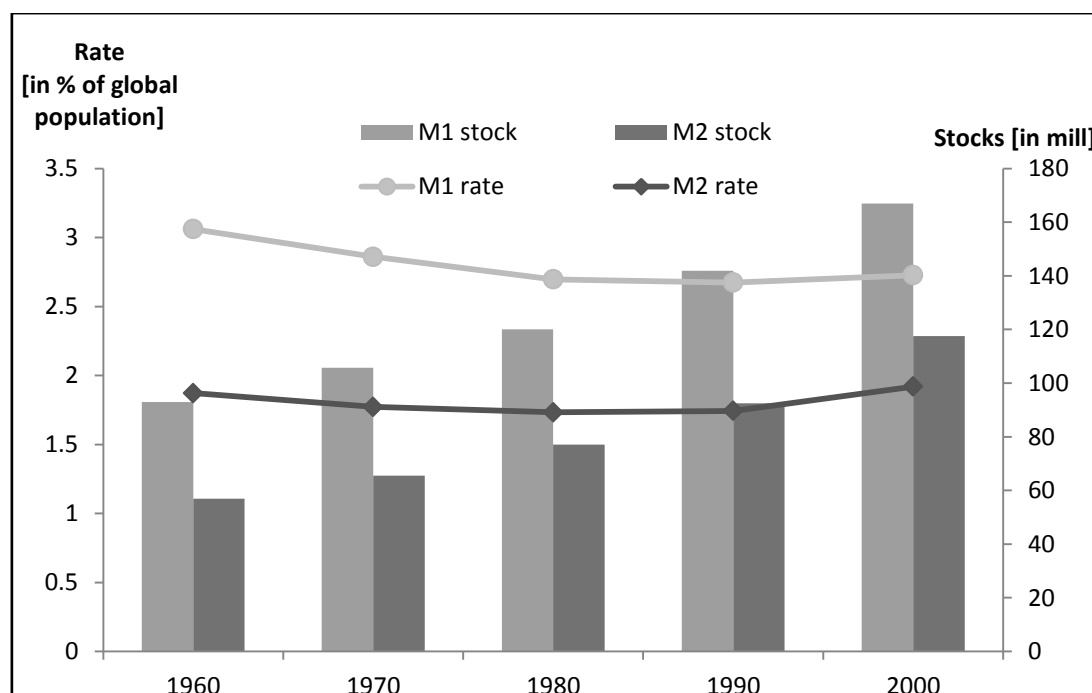
Source: Authors' own calculation.

3.1.1 Global spread of migration

A next step is to differentiate between the spread of the global immigrant and emigrant populations in terms of origin and destination countries respectively. We provide three different measures capturing three different reference points: first, the *global emigrant spread* (ES^{global}) measures the extent to which the total global migrant population M ($=\sum_{i=1}^{226} EM_i$) is dispersed across destination countries, while the *global immigrant spread* (IS^{global}) indicates the extent to which the global migrant population M ($=\sum_{i=1}^{226} IM_i$) comes from a diverse set of origin countries:

$$ES^{global} = 1 - \sum_{i=1}^{226} \left(\frac{EM_i}{M}\right)^2$$

$$IS^{global} = 1 - \sum_{i=1}^{226} \left(\frac{IM_i}{M}\right)^2$$

Calculation of these indicators reveals the distinct and diverging trends for the evolution of the global spread of emigrant and immigrant populations (Figure 2). While immigrant populations come from an increasingly diverse array of origin countries, they have tended to concentrate in an increasingly small number of destination countries. This reflects the earlier finding that the number of net immigration countries has decreased. In other words, a shrinking number of prime migration destinations attract migrants from an increasingly diverse array of origin countries.

Figure 2 Global emigrant and global immigrant spread, 1960-2000
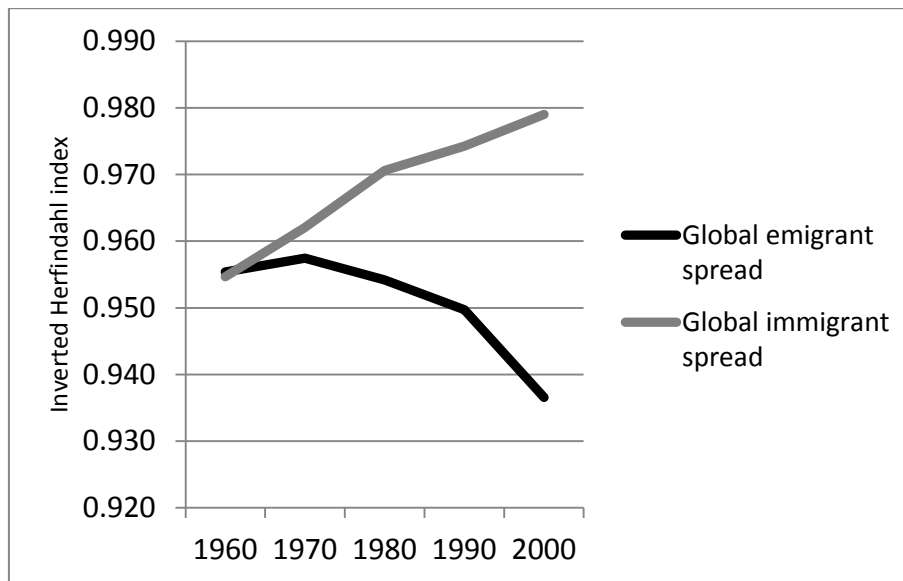
Source: Authors' own calculation. Spread is defined as unity minus the Herfindahl index of concentration.

The previous two measures assessed the spread of the world migrant population across destination and origin countries on a global level. On a country level, we calculate the (weighted) average of all national averages of the *emigration spread* (ES_i) and *immigration spread* (IS_i), which, again using the Herfindahl index, estimate for each country i the extent to which the profile of emigrant (EM_i) and immigrant populations (IM_i) has become more diverse in terms of destination and origin countries, respectively.

These measures indicate the extent to which emigrant and immigrant populations have become more diverse or rather more concentrated from the perspective of individual destination and

origin countries respectively. We calculated both indices for all countries and calculated the weighted global average, weighing by the total size of immigrant and emigrant populations of each country.

$$ES_i = 1 - \sum_{j=1}^{226} \left(\frac{EM_{ij}}{EM_i} \right)^2$$

$$IS_i = 1 - \sum_{j=1}^{226} \left(\frac{IM_{ij}}{IM_i} \right)^2$$

Figure 3 shows that on average (weighted at country-level) immigrant populations have become less concentrated, which seems in accordance with the globalisation of migration hypothesis. Also national emigrant populations have become more spread across destination countries, although this increase has been lower than the growing immigration diversification. This finding, which shows that – at the country-level – the emigration spread has also increased may apparently seem to contradict the earlier finding (see Figure 2) that global migrant populations have tended to concentrate in a smaller number of destination countries. However, the *global emigrant spread* and average *emigration spreads at country levels* measure something different. While the former measures the extent to which migrants are spread across destination countries irrespective of their origins, the latter is the (weighted) average of *country-level* emigration spread values. What this means is that while from an individual origin country perspective, emigrants have gone to an increasingly diverse array of destinations, on a global level these destination countries increasingly *overlap*, that is, they represent a decreasing pool of major immigration countries on which global migration has increasingly focused.

Figure 3 Average emigration and immigration spreads, weighted at country level 1960-2000
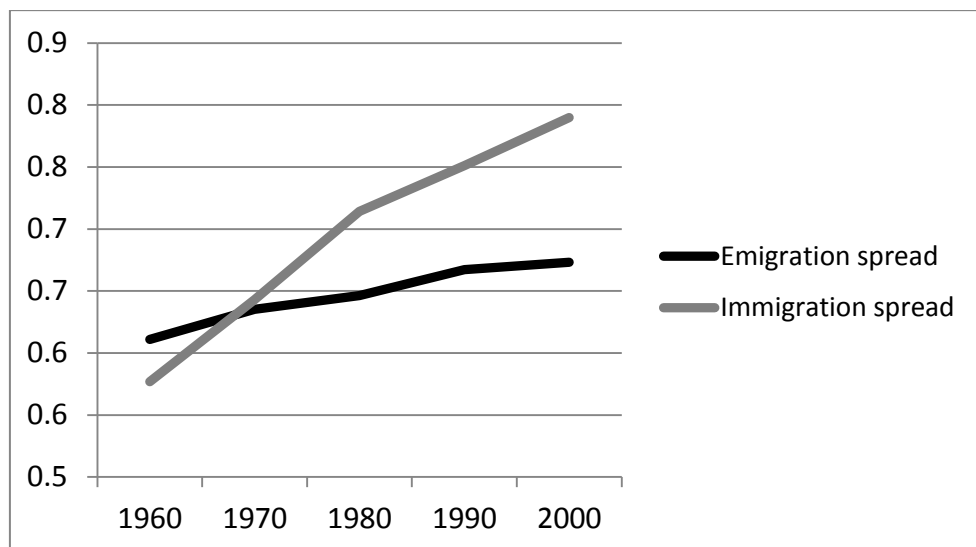
Source: Authors' own calculation.

Furthermore, Figure 3 shows that over the past decades immigration and emigration spreads have both increased. To a certain extent, this seems to confirm the idea of a tendency towards homogenisation of global migration patterns. However, the spread of immigrant populations has increased far more than emigration spreads, which implies that while more countries have generated significant emigrant populations – which presumably reflects increased interconnectivity associated with globalisation – 'collectively' they tend to increasingly concentrate in particular destination countries. Country-level emigration patterns are increasingly resembling one another, with emigrants going to an increasingly similar set of dominant destination countries, such as the US, Germany, France, Canada, Australia and the Gulf countries.

3.2 Regional migration patterns: intensity, spread and distance

The above findings suggest that the world has not become necessarily more migratory, but that migration has become more 'skewed' on a global level. These findings challenge the hypothesis that there has been generic intensification of migration on a global level – presumably because of improving communication and transport links and globalisation in general. It now seems useful to further look at the underlying regional trends to detect possible difference and changes in migration patterns which global averages are likely to conceal. For this analysis, we have used the UN classification of world regions and sub-regions as a basis to demarcate regions (see annex Table A10).

Figure 4 and Table A1 in the annex show considerable variation in the average size of country-level emigrant populations as a percentage of origin-country populations. While emigrant rates have somewhat decreased in Europe and Africa they have rapidly increased in Oceania and the Americas. However, there is considerable variation within regions. While Africa as a continent has relatively low and declining emigrant rates, on a sub-regional level these rates are relatively higher in Southern, Western and, particularly, Northern Africa. While the Caribbean and Central America (including Mexico) have seen soaring emigration, levels are very low in North and South America. In Asia, emigration is high from the ex-Soviet republics of Central Asia as well as Western Asia, which includes most of the Middle East including Turkey, but is very low in the rest of Asia. In Europe, emigration levels have been particularly high in Eastern Europe and relatively low in Western Europe. In Oceania, emigration has been particularly increasing from Micronesia and Polynesia.

Figure 4 Emigration intensity by region, weighted by emigrant stock at country-level, 1960-2000
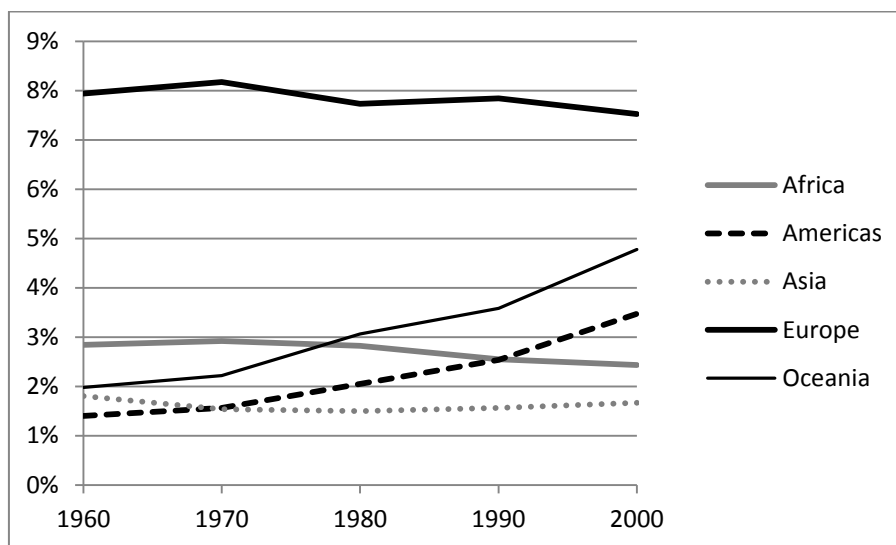
Source: Authors' own calculation.

Looking at the reverse picture, we also find large variations across and within world regions for immigrant rates (see Figure 5 and Table A2 in the annex). Over time, these have increased particularly in Europe and the Americas, remained more constant in Oceania, and decreased in Africa and Asia. Intra-regionally, immigrant rates have been particularly low in North African countries, but they have been higher in other parts of Africa, particularly Southern Africa. Thus, the poorer regions of Africa tend to have relatively low intensity of emigration *and* immigration. While immigration is high and increasing in Northern America, it has been decreasing in South America and is very low in the high-emigration countries of Central America. In Europe immigration is high and increasing in all sub-regions, particularly in Western Europe. In Oceania, Australia and New Zealand and Micronesian states boast some of the highest immigration intensities in the world.

Figure 5 Immigration intensity by region, weighted by immigrant stock at country-level, 1960-2000
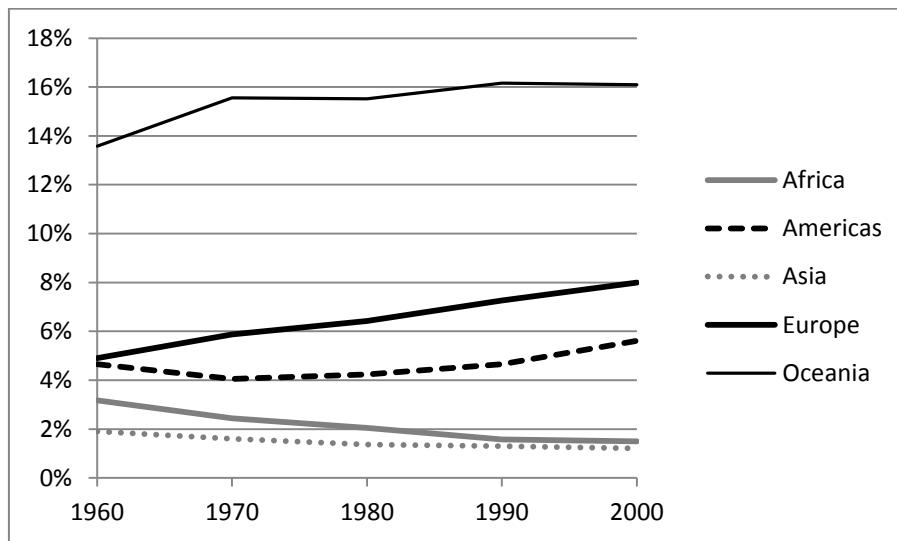
Source: Authors' own calculation.

Also when looking at the spread of emigrant populations we see rather stark differences across and within world regions (see Figure 6 and Table A3 in annex). The Americas have seen a remarkable increase in the concentration (i.e. declining spread) of destination countries, which reflects the increasing focusing of emigration from Central America (particularly Mexico) to the US. For South and North America these trends have remained rather stable. African emigrant destinations are remarkably spread, which primarily reflects a strong dispersion of migrants within the continent. Destination countries have been diversifying for North Africa, which partly reflects the rise of new European migration destinations beyond France, where most migration from the Maghreb used to concentrate. European emigration is also highly spread, which mainly reflects migration within the continent and less extra-regional outflows. Asian emigration has become more spread, which primarily reflects increasing diversity of migration from Central Asia.

Figure 6 Emigration spread by region, weighted by emigrant stock at country-level, 1960-2010
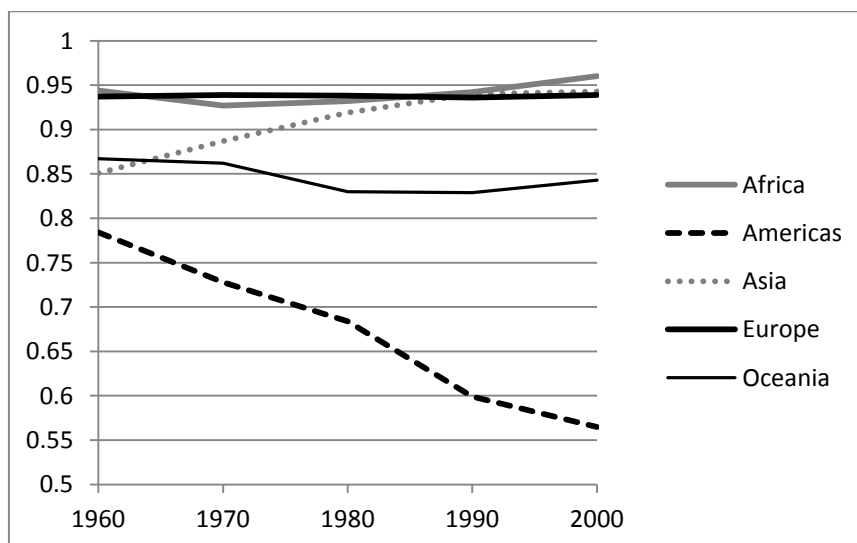
Source: Authors' own calculation.

Compared to the rather mixed picture in the spread of destinations for countries' emigrant populations we see a clear-cut trend towards highly spread immigrant populations in terms of origin countries, particularly for Oceania, Asia and, to a lesser extent, Europe (see Figure 7 and Table A4 in annex). Increasing diversity of Asian immigration populations primarily reflect migration from an increasingly diverse array of origins to South-East Asia (Singapore, Brunei, Thailand) and East Asia (Hong Kong, Japan, South Korea, Taiwan). Increases in immigration spread in Oceania mirror growing immigrant spread in Australia, New Zealand, and Micronesia. In Europe, increasing spread of immigrant populations has primarily occurred in Western and Eastern Europe. For immigrant populations in African countries, spreads of origin countries has remained on a consistently high level, largely reflecting strong intra-continental migration. In the Americas, immigration spread has been slightly decreasing, although this is mainly the result of decreasing immigration diversity in Central America.

Figure 7 Immigration spread by region, weighted by immigrant stock at country-level, 1960-2010
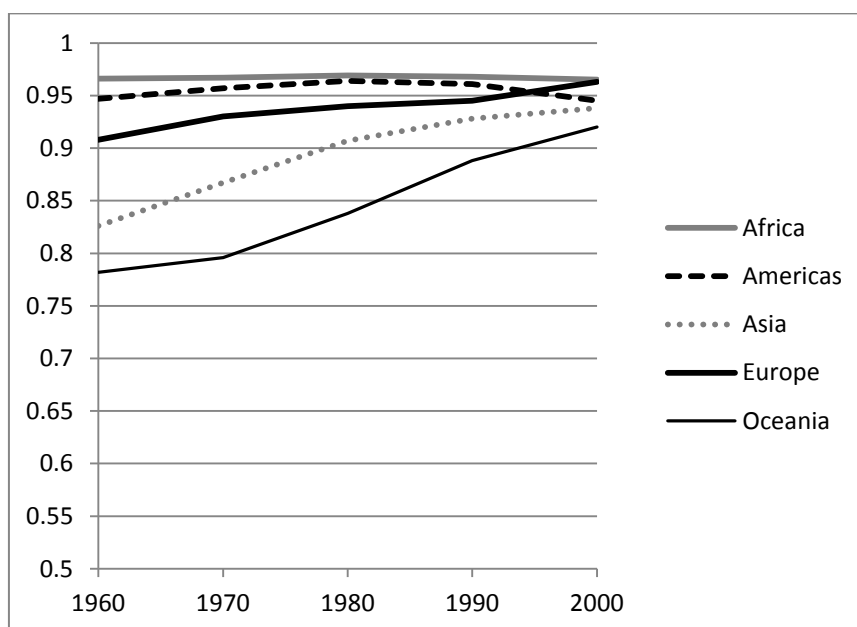
Source: Authors' own calculation.

Figures 8 and 9 (see also Tables A5 and A6 in annex) display that patterns of average migration *distances* by emigration and immigration countries also show considerable variation. They are highest in Oceania which is linked to their geographical seclusion. They are lowest in Africa but have been increasing, particularly from Southern and Eastern Africa, partly reflecting increasing migration to Western countries. Average emigration distances have been increasing in South America, while they remained constant in the Caribbean and Central America. Average distances travelled by migrants leaving from Southern and Eastern Asia have rapidly increased, while they have stagnated or decreased elsewhere in Asia. In Europe, emigration distances have decreased with diminishing migration out of Europe.

Figure 8 Emigration distances (in km) by region, weighted by emigrant stock at country-level, 1960-2000
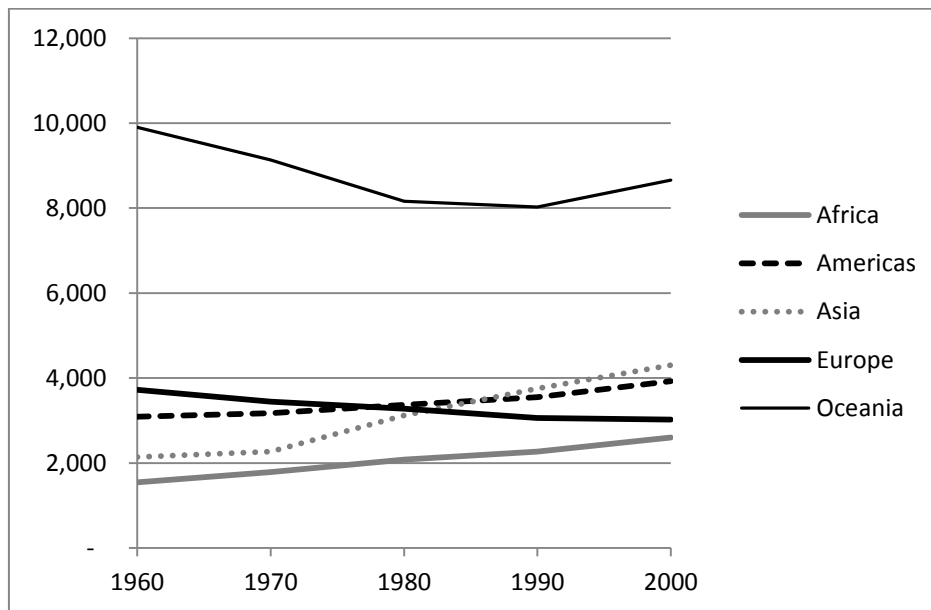
Source: Authors' own calculation.

Looking at immigration distances, we see a decrease for Oceania, reflecting declining European and increasing Asian immigration. Also in South America there has been a huge decrease in average immigration distance, reflecting plummeting European immigration. Only in North America, there has been a slight increase, primarily reflecting a strong increase in Asian immigration. In Asia, immigration distances have been particularly increasing in the wealthy countries of East Asia, and have actually declined in South-East Asia. Average immigration distances have been decreasing in Africa, with the exception of North Africa.

Figure 9 Immigration distances (in km) by region, weighted by immigrant stock at country-level, 1960-2010
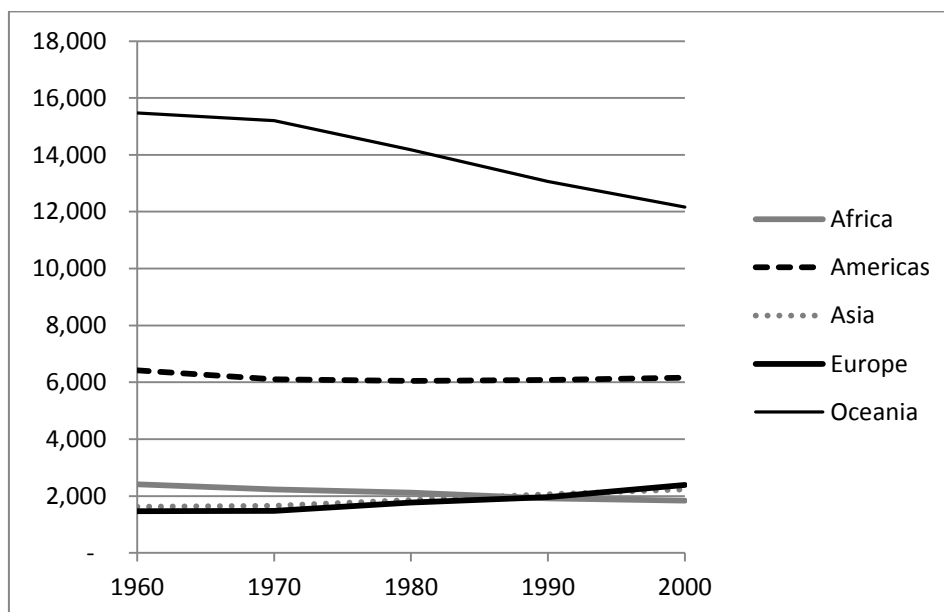
Source: Authors' own calculation.

4 Measuring migration globalisation at the country-level: an index

In order to further explore the hypothesis on the globalisation of migration at the country level, we developed a methodology to operationalize the three concepts of intensity, distance and spread, which we identified earlier as key dimensions to capture the complexity of the migration pattern. We propose a *Migration Globalisation Index* (MGI), which is an index that combines two composite sub-indices, the *Emigration Dispersion Index* (EDI) and the *Immigration Diversification Index* (IDI). Both sub-indices are composed by country-level information on the aforementioned dimensions spread, distance and intensity.

4.1 Operationalizing intensity, spread and distance of migration

4.1.1 Intensity

The simplest indicator for measuring migration intensity is the actual migrant rate, that is, the total migration population in relation to the total population. We distinguish between emigration intensity, a country's total number of emigrants in relation to its total population, and immigration intensity, which is the total number of immigrants in relation to the destination country's population. For calculating decennial migration intensities, we combined the aggregated data on migration stocks from the Global Bilateral Migration Database (GBMD) with total population estimates from United Nations Population Division (2012).

The immigration and emigration intensity variables are both normalised on a range between zero and unity. For most countries emigration and immigration rates are below 20 per cent (in 2000, the unweighted average immigration rate was about 11 per cent while the respective emigration rate was about 16 per cent). Some countries however, mostly small island states, have relatively large emigration populations which sometimes even outnumber the resident population, i.e. yielding emigration rates above 100 per cent. Therefore, we normalise migration rates by dividing the migration rate of country j (j=1,..., 226) in period t (t=1960, ..., 2000) by the respective migration rate of country $x \in i$, which is the country with the highest migration rate at any time t^* between 1960 and 2000. Thus, emigration and immigration intensity scores are calculated as follows:

$$\text{Emigration intensity } EI_{jt} = \left(\frac{Em_{jt}}{Pop_{jt}}\right) \bigg/ \left(\frac{Em_{xt^*}}{Pop_{xt^*}}\right)$$

$$\text{Immigration intensity } II_{jt} = \left(\frac{Im_{jt}}{Pop_{jt}}\right) \bigg/ \left(\frac{Im_{xt^*}}{Pop_{xt^*}}\right)$$

4.1.2 Spread

Countries' geographical spread of their immigrant and emigrant population is calculated by unity minus the sum of squared bilateral shares of a country's total emigrant and immigrant population, respectively. We normalise these sub-indices by using the respective all-time maximum as the benchmark in which the migration spread scores of country j (with j=1,..., 226) in period t (t=1960, ..., 2000) is divided by the migration spread of country $y \in i$, which we identified as the country with the largest average immigration (respectively, emigration) spread at any time t^* between

1960 and 2000. Thus, we calculate a country j's emigration and immigration spread, respectively, as follows:

$$\text{Emigration spread } ES_{jt} = \left(1 - \sum_i \left(\frac{Em_{jit}}{Em_{jt}} \right)^2 \right) \Bigg/ \left(1 - \sum_i \left(\frac{Em_{yit^*}}{Em_{yt^*}} \right)^2 \right)$$

$$\text{Immigration spread } IS_{jt} = \left(1 - \sum_i \left(\frac{Im_{ijt}}{Im_{jt}} \right)^2 \right) \Bigg/ \left(1 - \sum_i \left(\frac{Im_{iyt^*}}{Im_{yt^*}} \right)^2 \right)$$

4.1.3 Distance

As our third category for measuring the globalisation of migration we operationalize the concept of migration distance. We use the average geographical (Euclidian) distance to calculate average emigration and immigration distances for country j's emigrant and immigrant population, respectively, residing across or originating from all other 225 countries and overseas territories in our dataset. Average migration distances are corrected by a country's average geographical distances towards all other 225 countries and territories, which captures spatial 'remoteness' of a country. This correction is necessary to account for the fact that the average bilateral distance between a country j and all other countries and territories in our dataset is larger for countries located in the 'global periphery'. Immigrants and emigrants moving from or towards these 'remote' countries migrate systematically larger distances (see also Figures 8 and 9). For instance, the average emigration distance will automatically be larger for countries like New Zealand than for countries that are closely surrounded by other countries. In fact, Albania is the global geographical 'centre' with the smallest average distance to all other 225 countries in our dataset. We correct for this type of geographical remoteness and calculate the sub-indices on immigration and emigration distance as follows:

$$\text{Emigration distance } ED_{jt} = \left(\frac{\sum_i Em_{jit} d_{ji}}{Em_{jt}} \Bigg/ \frac{\sum_i d_{ji}}{225} \right) \Bigg/ \left(\frac{\sum_i Em_{zit^*} d_{zi}}{Em_{jt^*}} \Bigg/ \frac{\sum_i d_{zi}}{225} \right)$$

$$\text{Immigration distance } ID_{jt} = \left(\frac{\sum_i Im_{jit} d_{ji}}{Im_{jt}} \Bigg/ \frac{\sum_i d_{ji}}{225} \right) \Bigg/ \left(\frac{\sum_i Im_{zit^*} d_{zi}}{Im_{jt^*}} \Bigg/ \frac{\sum_i d_{zi}}{225} \right)$$

The immigration distance ID_{jt} (and the emigration ED_{jt} accordingly) is the average distance d_{ji} between the capital of destination country j and the respective capitals of all origin countries i from where country j hosts migrants, divided by the total number of immigrants Im_{ji}. The calculated average immigration distance is then divided by the average geographical distance between country j and all other 225 countries. We normalise these sub-indices by dividing the migration distance scores of country j (j=1,..., 226) in period t (t=1960, ..., 2000) by the migration distance score of the 'goalpost country' $z \in i$, which we identified as the country with the largest average immigration (respectively, emigration) distance at any time t^* between 1960 and 2000.

4.2 Emigration dispersion and immigration diversification

As a next step, we generate composite indices for measuring a country's level of *dispersion* of its emigrant population and the level of *diversification* of its immigration population. In order to generate country-specific indicators for these two concepts, we aggregate the three sub-indices on

intensity, spread and distance by their geometric mean and assign equal weights to the three components:[3]

$$\text{Emigration Dispersion Index } EDI_{jt} = (EI_{jt} * ES_{jt} * ED_{jt})^{\frac{1}{3}}$$

$$\text{Immigration Diversification Index } IDI_{jt} = (II_{jt} * IS_{jt} * ID_{jt})^{\frac{1}{3}}$$

In Table 5, we display rank correlations (Kendall's τ) within the three components of the *Emigration Dispersion Index* (EDI) and the *Immigration Diversification Index* (IDI) over time (2000 as the reference year). Compared to other correlation coefficients, the interpretation of Kendall's τ rank correlation is rather straightforward. Given the total number (226x225) of pairwise comparisons of country scores of two dimensions, the coefficient represents the share of concordant pairs minus the share of discordant pairs (Foster et al 2012). Thus, a value of 0.205 for the correlation between the ranking of the emigration spread in 2000 and the respective ranking in 1990, tells that about 60 per cent of all (226x225/2) pairwise comparisons are concordant (i.e. about 40 are discordant), and thus, fully robust over time.

What we observe then is that the level of inter-temporal rank robustness (i.e. within-correlation) decreases over time. Across all dimensions, rank correlations decline the larger the time gap between two observations (except for emigration spread between 1980 and 2000). Beyond this, we see that for all three dimensions, correlations within the immigration diversification components are higher than the respective values for emigration dispersion (except intensity correlations between 2000 and 1960). This implies that processes of immigration diversification measured as aggregates of immigration intensity, spread and distances were more robust over time than respective emigration dispersion processes. Over time, the most rank-robust dimension within the emigration dispersion process is emigration intensity, whereas for immigration diversification processes it is rather the immigration distance in which rank permutations between countries do not occur (except between 1990 and 2000 where immigration intensity was slightly more robust than distance).

Table 5 Rank correlations (Kendall's tau) within dimensions across time (reference year 2000)

	Emigration Dispersion			Immigration Diversification		
	Spread	**Distance**	**Intensity**	**Spread**	**Distance**	**Intensity**
Year	2000	2000	2000	2000	2000	2000
1990	0.205*	0.726*	0.772*	0.769*	0.828*	0.841*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
1980	0.210*	0.638*	0.695*	0.646*	0.737*	0.717*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
1970	0.081	0.502*	0.529*	0.552*	0.634*	0.587*
	(0.071)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
1960	0.068	0.446*	0.495*	0.477*	0.601*	0.455*
	(0.130)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

* Correlation coefficients are significant on a 1% level. Cross-correlations between dimensions are reported in the annex.

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[3] Geometric aggregation (contrary, e.g. to the arithmetic mean) ensures limited compensation (substitutability) between its components. This ensures, for instance, that for a country with no immigration at all, i.e. an immigration intensity of zero, the respective Immigration Diversification Index is equally zero (and not positive). Furthermore, weighting of components (sub-indices) is a crucial decision in the compilation of any index. For the EDI and IDI we use equal weights for all three dimensions, which is supported by the fact that rank robustness of each index is rather high, which means that any alternative weighting scheme does not lead to a strong change or even reversal of the overall rankings (see Czaika 2013).

Furthermore, cross-sectional rank correlations between dimensions are much lower (and mostly statistically non-significant) than correlations within one dimension (see Table A8 in appendix). In fact, only the correlation between immigration spread and distance is significantly different from zero. This implies that the three dimensions spread, distance, and intensity are non-redundant, which gives us confidence in the fact that the three sub-indices capture different aspects of global emigration dispersion and immigration diversification processes. Technically, both indices are scaled on a zero-one range making straightforward comparisons between the *EDI* and *IDI* scores possible. In a final step, we calculate the geometric mean of the *EDI* and *IDI* scores in order to generate a *Migration Globalisation Index:*

$$MGI = \sqrt{EDI} * \sqrt{IDI},$$

which indicates a country's level of integration into the global migration system.

4.3 The Migration Globalisation Index: Results

A more detailed description of the methodology and results of the *Migration Globalisation Index,* including a broader discussion of its components capturing emigration dispersion and immigration diversification, can be found elsewhere (Czaika 2013). Here, we will only present some key outcomes of the analysis and provide interpretations of the evolution of the global pattern of migration.

A first key observation is that small states and territories have the highest degrees of migration globalisations, indicating .that countries and overseas territories with small populations are much more prone for migration than more populated countries. Across four decades between 1960 and 2000, about three quarters of the top 20 most "migration-globalised" countries were small, defined as having a population of less than 500,000 in 1960. According to this definition, about a third (76 out of 226) of all countries and overseas territories in the database were small in 1960. Small countries are similarly overrepresented in both emigration dispersion and immigration diversification. The set of small countries with high levels of emigration dispersion however, look rather different from the set of small countries hosting a highly diversified immigrant population. At the top of the most dispersed populations we find small, mostly developing islands as 'migrant sending states' such as Cape Verde, Samoa or Suriname, whereas the distinct group of small countries with an often highly diversified immigrant population are amongst the wealthiest in the world such as the Gulf countries (Qatar, Kuwait) or places known for affluent lifestyles (Cayman Islands, Monaco, Bermuda).

This finding supports the existing idea that geographically large and more populated countries are likely to capture more migration within their own borders. In small countries a lot of migration becomes international that in larger countries would have counted as 'internal' migration. This seems to particularly apply for countries which lack urban agglomerations where particularly skilled workers tend to find employment, increasing the likelihood that what is essentially rural-urban migration involves border crossing (cf. de Haas 2010).

As our rankings are skewed by this 'small country bias', we may consider the larger set of non-small countries separately, which are by our own definition those countries with a population size of more than 0.5 million in 1960. Figure 10 displays EDI and IDI scores for the top 10 non-small countries, ranked by their average *MGI* score across 1960 and 2000. Unsurprisingly, we see some 'classical' immigration countries like Australia, Israel or Canada and 'long-term' emigration countries such as the UK, Portugal or Lebanon at the top of this list. Aggregation of the EDI and IDI scores, which generates *MGI* scores, shows that for all of these top 10 countries their degree of integration into global migration has continuously increased over the past decades.

Figure 10 Migration Globalisation Index: Top 10 non-small states*, 1960-2000
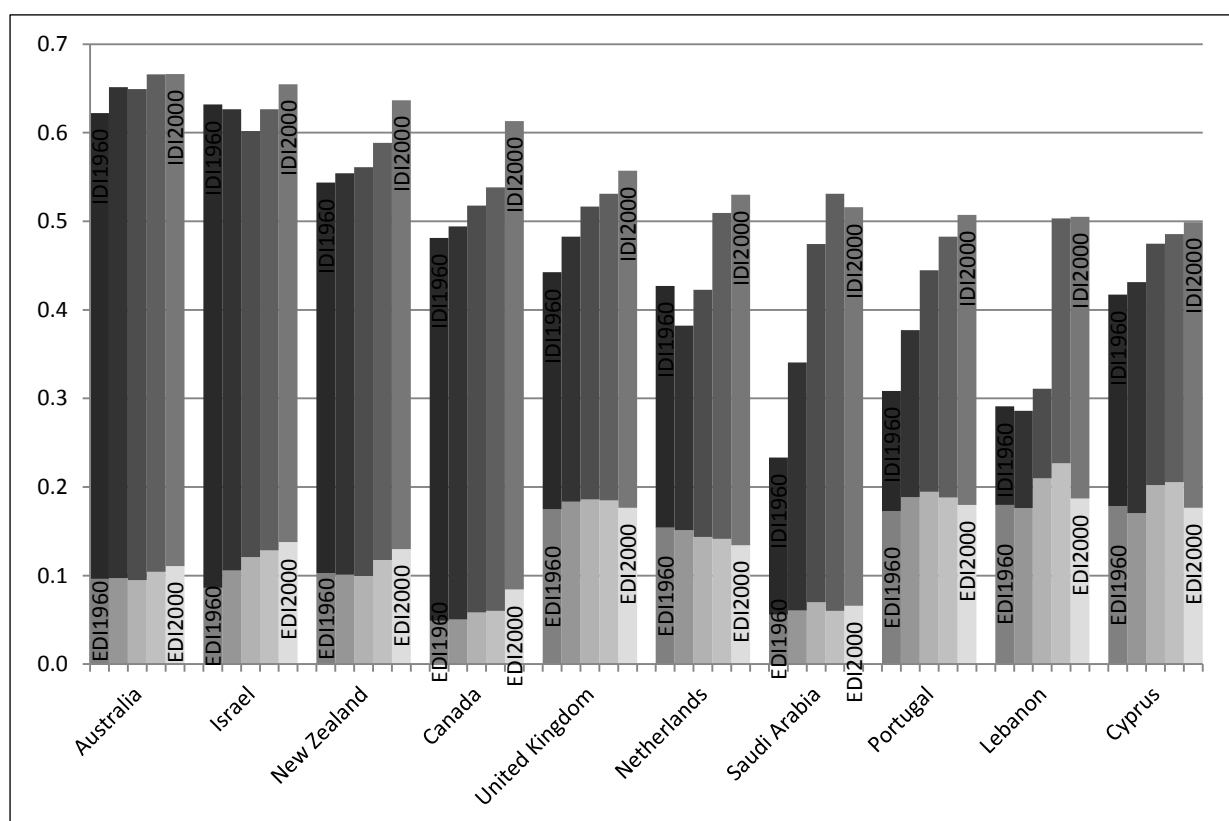
Note: (*) We define non-small states as those states and overseas territories which had a population size of more than 500,000 in 1960.

Additionally, this sample of the most migratory (non-small) countries of the world suggests a negative relationship between levels of emigration dispersion and immigration diversification – higher levels of immigration diversification are associated with lower levels of dispersion of emigrant population. This pattern, however, is not representative and globally robust. In fact, when we consider all countries and territories of the world, the process of emigration dispersion is rather positively associated with immigration diversification; this relationship only weakens at the high end of the immigration diversification scale. Figure 11 separately displays for small and non-small states that IDI scores relate positively to EDI scores. This positive relationship is even stronger and more robust (smaller variance) for non-small countries. This implies that immigration diversification and emigrant dispersion processes are dynamically integrated and co-evolve over time, in particular for non-small countries. This finding is in line with migration systems theory.

Figure 12 highlights several aspects of the globalisation of migration processes at the country level. First, emigration dispersion levels are systematically lower than levels of immigration diversification both on average and over time. Second, emigration dispersions have become more leptokurtic ('spiky') over time. This implies that – from an origin country perspective – the 'diversity of destinations' has slightly decreased over the past decades. Although more countries have integrated in the global migration systems, the level of dispersion of countries' emigrant population across destinations has somehow decreased. Third, immigration diversification has become more platykurtic ('flatter') over time, which means that the level of immigration diversification has significantly increased. This indicates to a growing 'diversity of origins' from which a less diverse set of global destinations receive their immigrant populations from.

Figure 11 Immigration Diversification versus Emigration Dispersion, 1960-2000
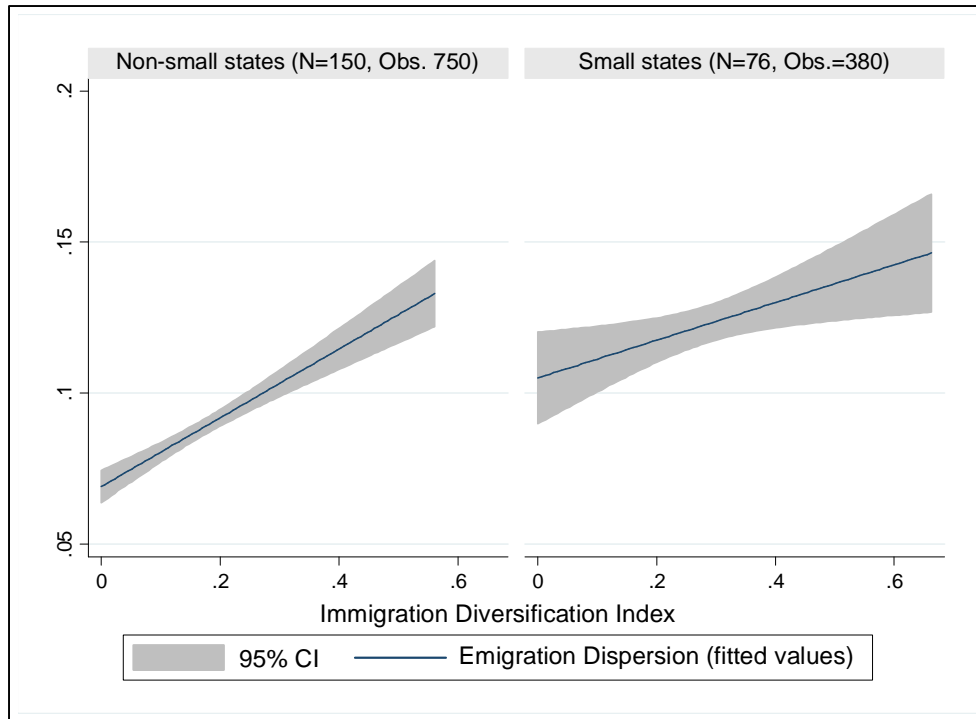
Figure 12: Immigration diversification vs. Emigration dispersion, weighted by migration turnover, 1960-2000
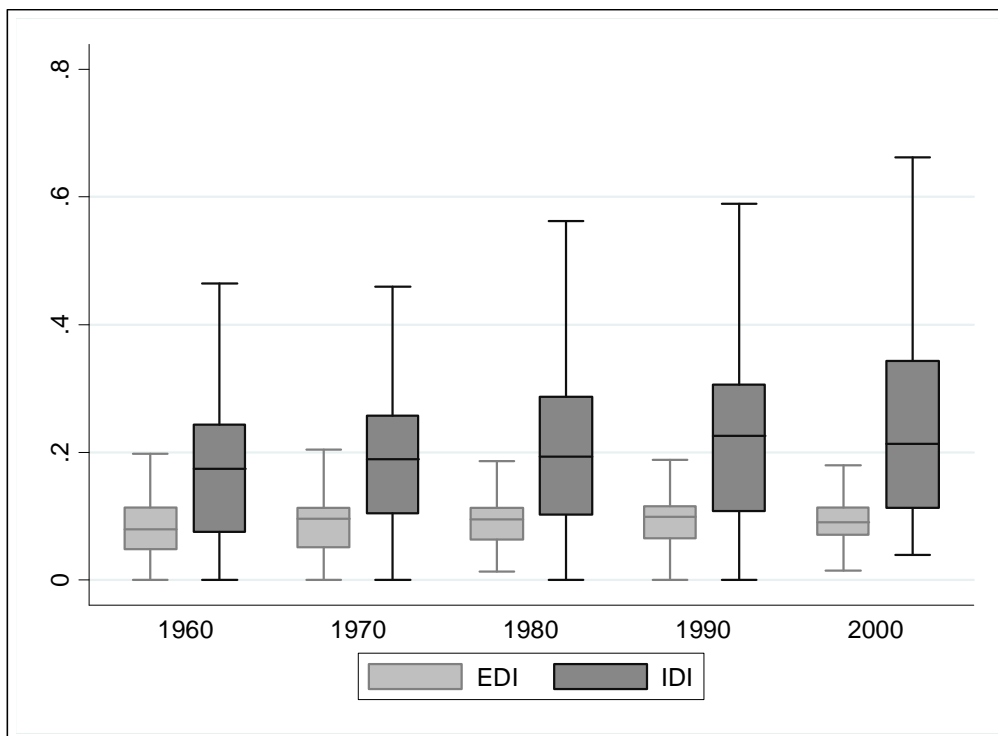
Source: Authors' own calculation.

Which are these countries with a high level of immigrant diversification? Figure 13 displays global maps indicating countries by their levels of immigrant diversification and the extent patterns have changed between 1960 and 2000. While in 1960 global migration map is still dominated by the aftermath of the trans-Atlantic migration systems connecting European origin states with Northern and Southern American destinations, the world in 2000 looks slightly different. New destinations have emerged as poles of attraction for a rather globalised population of immigrants such as the Gulf region (UAE, Saudi Arabia, Oman and Kuwait) and Western Europe (Portugal, Sweden, Norway, Denmark and Spain), while some 'older' destinations lost some of their attraction (such as Argentina, Uruguay and Venezuela in Southern America or Zambia, Angola, Madagascar and South Africa in Southern Africa). We can even say that the set of global migration destinations has 'northernized', which has partly to do with a growing attractiveness of Northern destinations, and declining migration and settlement in Latin America and Africa, in particular.

Figure 13 Immigration diversification, IDI scores in 1960 and 2000
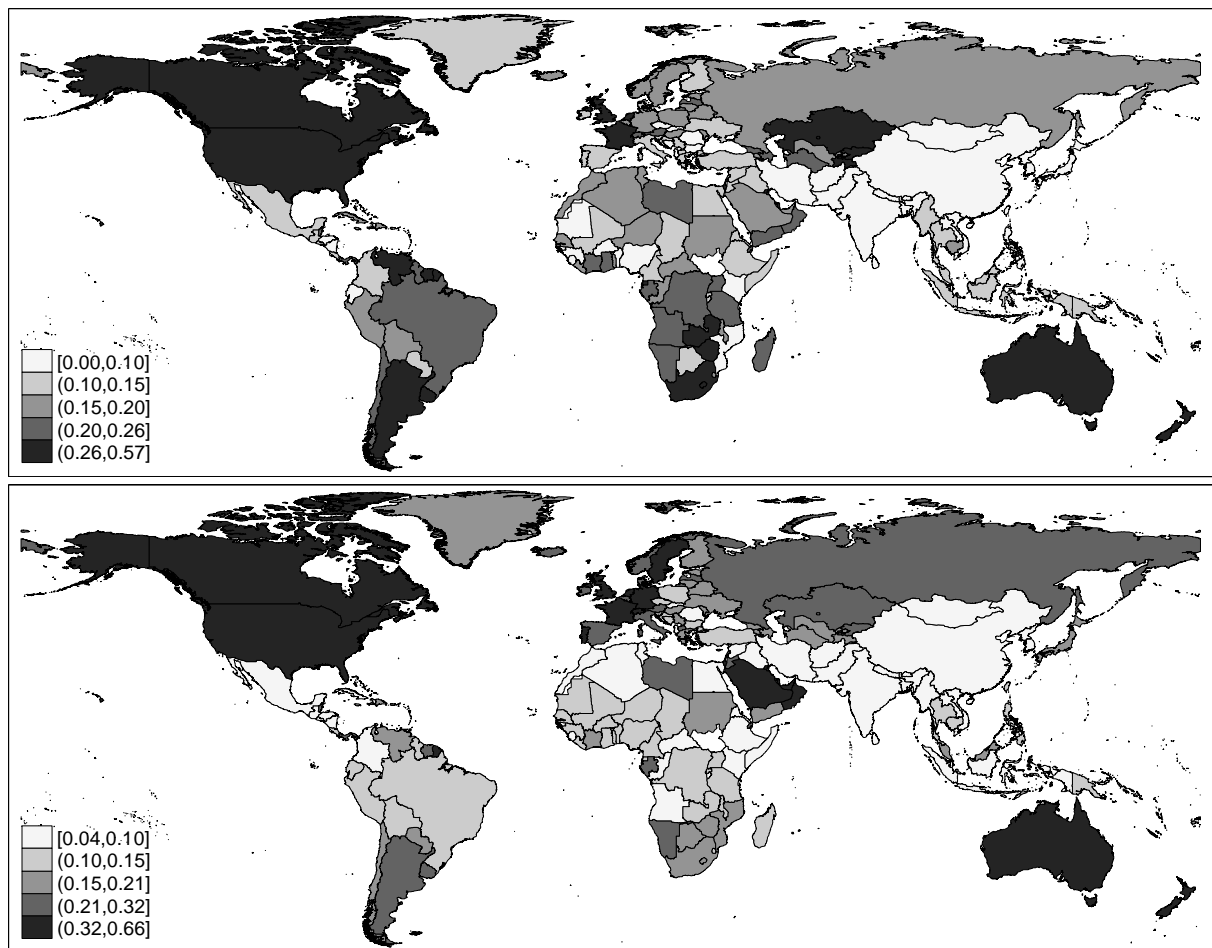
Source: Authors own graphs.

A different pattern has emerged when looking at processes of emigration dispersion (Figure 14). In 1960, European and some African countries were the major origins with an emigrant population widely dispersed beyond the respective continents. For African emigration, this has since changed slightly due to a growing importance of intra-continental destinations. Between 1960 and 2000, Malawi, Republic of Congo and Burundi dropped significantly in the list of countries with a highly dispersed emigrant population. The character of European emigration also changed over this period. While trans-continental migration lost in relative importance, intra-European migration has

gained weight in the dispersion of European migrants. For instance, Spain, Italy, Belgium and Austria are among the countries globally with the strongest decline in the level of dispersion of their emigrant populations, which reflects declining extra-continental and increasing intra-continental migration.

At the other end of the spectrum of emigration dispersion levels, small island economies have experienced very high levels of outflow and globalisation of their emigrant populations. No matter whether we consider Polynesian islands (such as Samoa, Tokelau, Tonga or Tuvalu), Caribbean islands (Guadeloupe, Montserrat, or Netherlands Antilles) or East and West African islands (Saint Helena, Reunion, Seychelles, or Sao Tome and Principe), all of these islands have gone through a period of transition that has dispersed a large portion of their population to other island states in the region (e.g. in Oceania) or to economies farther away that provide more opportunities.

Figure 14 Emigration dispersion, EDI scores in 1960 and 2000
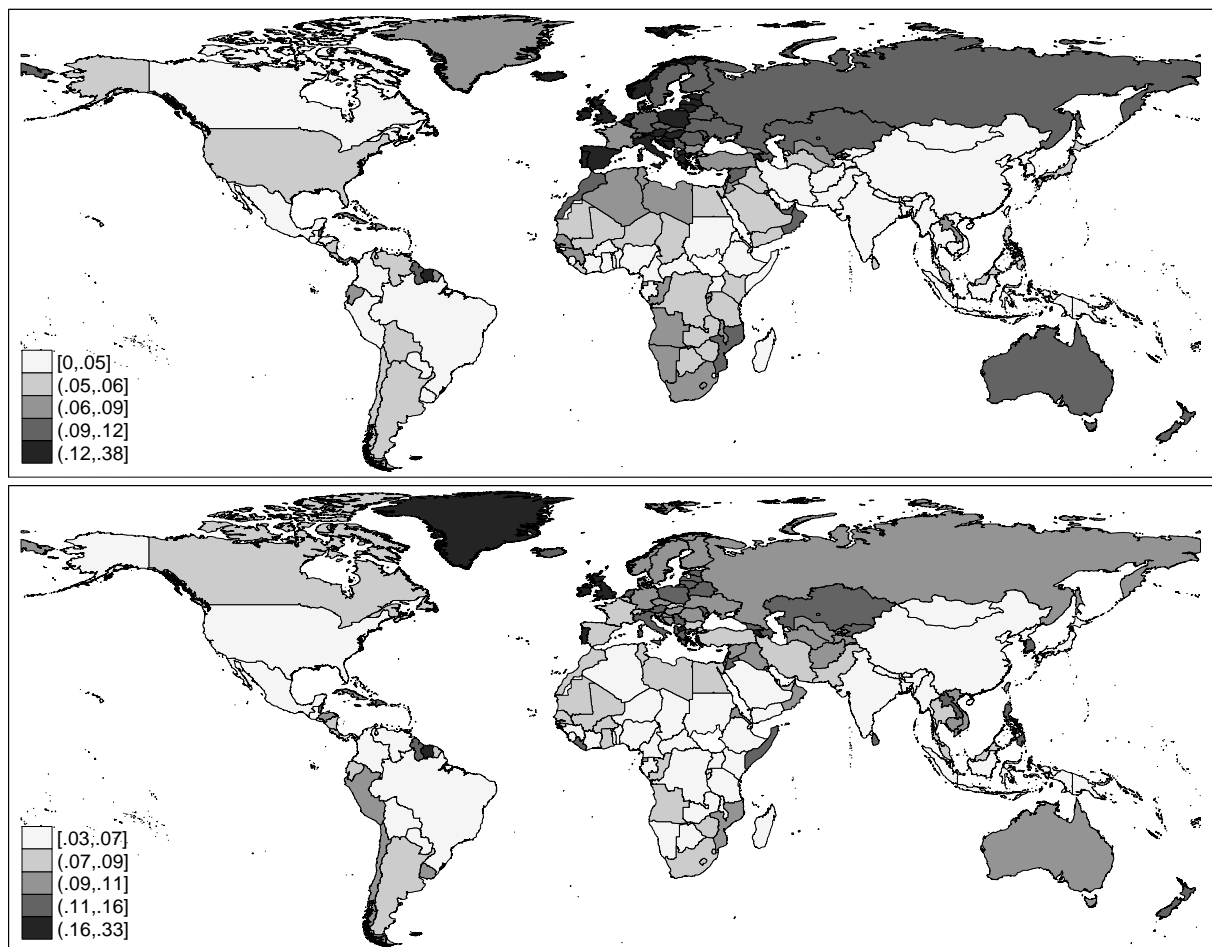
Source: Authors own graphs.

Evaluating processes of emigration dispersion and immigration diversification jointly by the means of the *Migration Globalisation Index*, the world in 2000 looks like a patchwork (Figure 15). It shows regional migration hubs which receive a highly diverse immigrant population – mostly from the same region but also and increasingly from all over the globe. These hubs however, are also places from where people disperse all over the world. Such regional and global migration hubs are surrounded by countries that are weakly or moderately integrated into global migration systems. From those countries, migration flows tend to be unidirectional oriented towards regional hubs. An *exchange* of people between these hubs and their respective periphery thus hardly exists. Finally,

there is a range of highly marginalised countries located mostly in Asia (Bangladesh, North Korea, Nepal, Myanmar, Mongolia), Africa (Algeria, Central African Republic, Burundi, Ethiopia) and Latin America (Haiti, Colombia), which are neither important migration destination nor origin countries. This low level of global migration integration sometimes reflects politically chosen 'self-exclusion', but often coincides with low levels of economic and human development and international integration. This is the category of countries which Skeldon (1997) called the 'resource niche', i.e. countries characterised by a low levels of integration into global or regional migration systems.

Figure 15 Migration Globalisation Index, MGI scores in 2000
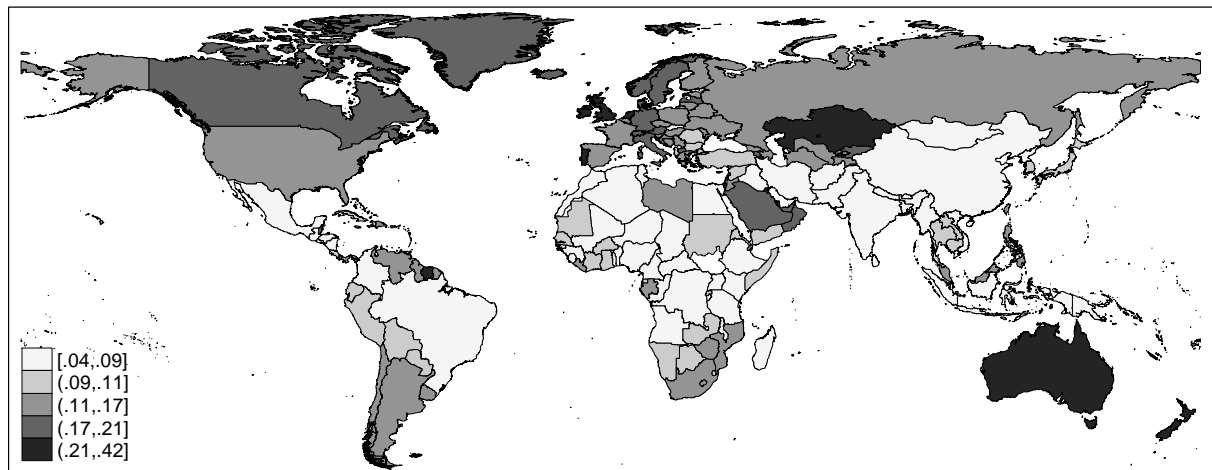
Source: Authors own graphs.

5 Conclusion

The preceding analyses challenge the common idea that there has been a global increase in volume, diversity and geographical scope of migration. While international migration has not accelerated on a global level, main shifts in global migration have been *directional* and are linked to major geopolitical and economic shifts, the concomitant rise of new migration hubs in Europe, the Gulf and Asia, development-driven emigration hikes in origin countries, and the lifting of emigration restrictions in former Communist and developing countries.

The idea that immigration has become more diverse may partly reveal a Eurocentric worldview. While immigrant populations have become more diverse in new destination countries in Europe, this is not always the case elsewhere, such as the Americas and the Pacific, where immigrant populations have become less European but not necessarily more diverse in terms of diversity of origin countries. For instance, while immigration countries such as the US, Canada, Australia and New Zealand used to attract Europeans, non-European immigration has been surging since the 1960s. Some Latin American countries have seen decreasing diversity coinciding with their transformation from immigration to emigration countries.

With declining European emigration towards other continents there has been major shift in global directionality of migration, with the transformation of Europe from a global source region of emigrants and settlers into a global migration magnet. This has led to an increased presence of phenotypically and culturally distinct immigrants in Europe as well as settler societies of European descent in North America and the Pacific. In other words, rather than an increasing spread in terms of origin countries of migrants per se, the national and ethnic origin of immigrant populations has become increasingly non-European.

It is a key observation from our analyses that migration has 'globalized' from a destination country perspective but not from an origin country perspective. This implies that migrants from an increasingly diverse array of non-European origin countries have been concentrating in a shrinking pool of prime destination countries. The global migration map has thus become more skewed.

Several factors may explain immigration diversification. First, over the past decades, many former Communist and developing countries have lifted restrictions on the emigration of their citizens (de Haas and Vezzoli 2011; Zolberg 2007), enhancing access to international migration opportunities. For instance, the collapse of Communism has contributed to the diversification of immigrant populations in Western Europe. This has been part of a more general ideological shift towards economic liberalization, in which emigration and remittances have come to be seen as potential engines for economic growth (Castles and Wise 2007).

A second major factor seems the development process itself. Over the past decades, many developing countries have experienced emigration hikes as they entered a 'migration transition'. As infrastructure, education and living standards have improved in most countries in the world, more people than ever have the capabilities to migrate. Education alongside radically improved access to media such as satellite television and internet may have also increased awareness of opportunities elsewhere, increasing people's migration aspirations. Such development-related increases in migration capabilities and aspiration may explain why development initially tends to coincide with accelerating emigration (de Haas 2010; Skeldon 2012; Zelinsky 1971).

Other factors may include the decreasing significance of post-colonial migration patterns. In the 1960s and 1970s migration from many developing and former colonies tended to be concentrated on the former colonisers (e.g., from the Maghreb countries to France; or from Guyana to Britain) because of economic, social, cultural and linguistic ties. These ties may have eroded over time, possibly coinciding with a diversification of migration. Another factor may be that immigration policies of classical immigration countries often tended to select based on national origin or race and ethnicity. In recent decades, such criteria have often been weakened (e.g., the abolishment of the 'Whites Only' policy in Australia), along with an increasing selection based on skills or income of potential migrants.

So, the diversification of immigrant populations in terms of their origins seems partly related to decreasing emigration restrictions, the shifts towards skill-selective immigration policies, the waning of post-colonial effects and development-driven migration transitions. On a more general level, since 1960 increasingly more countries have become incorporated into the global economy, a process that has been facilitated by technological progress and a general liberalization of economic policies. As part of this process, a growing number of countries have entered the global 'migration market', increasing the global pool of potential origin countries. There is a shrinking pool of countries left that remain marginally integrated in global economic and migration systems.

This paper has however observed an essential paradox: while most countries now generate significant emigration, the total volume of international migration has not increased in relative terms, while migrants tend to concentrate in a shrinking number of prime destination countries. Also, while the number of empty migration corridors has decreased, migration has tended to concentrate in the larger corridors. This seems to contradict some key hypotheses of the globalisation of migration paradigm.

With regards to the non-acceleration of global migration, several researchers have ascribed this to growing immigration restrictions. The argument is that while state policies have promoted trade and capital flows, most states have reinforced their control over migration and that migration would therefore have been excluded from globalisation processes. Analysing data from 1965 and 1995, Tapinos and Delaunay (2000) indeed found that migration has not accelerated at a pace comparable to increases in capital flows and trade in goods and services.

Yet it is unlikely that immigration restrictiveness can largely explain this paradox. First, there is reason to question the very assumption that there has been a generic increase in immigration policy restrictiveness over the past decades. Rather, levels of restrictiveness have tended to oscillate with economic cycles and political-ideological shifts. Immigration policies have increasingly been about selection migrants in terms of their national origin, occupation and wealth, rather than about curbing volumes *per se* (Czaika and Haas 2011; Ortega and Peri 2009). Because immigration rules are often simultaneously constraining *and* facilitating migration of different national, occupational or family groups, it becomes even debatable whether it is useful to talk in terms of general policy restrictiveness at all.

Second, the assumption of growing migration policy restrictiveness reveals a destination-country bias and overlooks the fact that many developing and former Communist countries have lifted exit restrictions over the past decades and that an increasing numbers of states have started encouraging emigration, particularly of the lower skilled (cf. de Haas and Vezzoli 2011). So, the presumed migration-decreasing effects of increasing entry and residency restrictiveness for some migrant categories (particularly low-skilled labour migrants) have at least been partly counterbalanced by the migration-facilitating effect of decreasing exit restrictions. In this context, Zolberg (2007) speaks of a 'tug-of-war', in which poorer states have sought to prevent the emigration of 'valuable population' (generally the highly skilled) and welcome opportunities to 'shovel out' the surplus of low-skilled labour, while richer states increasingly favour immigration of the highly skilled while being less prone to favour legal entry of the lower skilled.

Third, a focus on policy restrictiveness as an explanation may potentially overrate the relative importance of migration policies as a migration determinant. The degree to which policies can actually control migration is limited and conditioned by larger economic and political forces driving migration (Castles 2004; Cornelius et al. 2004; de Haas 2011).

There however seem to be other, more fundamental reasons why technological and economic globalisation has not coincided with an acceleration of migration. First, from a theoretical point of view, the impact of technological change on migration is fundamentally ambiguous. While advances in communication and transport technology facilitate movement, this does not necessarily lead to more migration, because technology can also allow people to stay at home. Potential migration can be absorbed by circulation because of improvements in transport technology allowing for long-distance commuting while potential circulation and commuting can be absorbed by communication systems allowing people to work from home (cf. Skeldon 2012; Zelinsky 1971). Technology also facilitates trade, capital flows, outsourcing and off-shoring of production, and internet-based teleworking, which seem to have spurred *non-migratory forms of mobility* such as commuting, tourism, business trips and short-term international assignments. So, while this has made the world more mobile, it has not necessarily made the world more migratory. As this paper is based on migrant stock data, it was not able to explore whether globalisation has increased with an increased 'turnover' of migration as a consequence of a higher incidence of temporary and circular migration.

Finally, how can we explain that global migration patterns have become more skewed with migration from an increasingly diverse array of origin countries concentrating on a shrinking pool of prime destination countries? A plausible explanation for the growing skewedness of migration under conditions of globalisation is that we have misunderstood the very nature of globalisation processes. Although it is often argued that processes of technological progress and growing interconnectivity have 'flattened' the world (cf. Friedman 2005) and made global opportunity structures more egalitarian, in reality contemporary globalisation has been a highly asymmetrical process, which has favoured particular countries – or rather cities and agglomerations within countries – and social, ethnic, class and professional groups within them, while simultaneously excluding or disfavouring others (Castells 1996; ECLAC 2002; Sassen 1991). Although various parts of the world are more connected than ever, in many ways the world has become less flat, for instance through rising income inequality between, and particularly within countries (Stiglitz 2006). Florida (2005) argued that although globalisation has *changed* the economic playing field, it has *not levelled* it. Looking at the maps of location-specific global resource distribution, the world has remained invariably 'spiky' (Florida 2005).

In the same vein, liberalization and globalisation processes seem to have increased access of people living in poor countries to the international migration 'game', it has not made the playing field more level, rather the reverse. This shows that migration globalisation is not a natural, inevitable process semi-autonomously driven by technological change, but primarily the result of political-economic shifts. Human resources and economic activities have become increasingly concentrated in a relatively low number of countries or, more precisely, metropolitan areas within a few countries – which reflects processes of urbanization and internal (rural-urban) migration. According to Florida, the main difference with a few decades ago is not that the world has become 'flatter' but that the world's economic peaks have become geographically slightly more dispersed, particularly as a consequence of fast economic growth in East Asia.

Within this critical view on globalisation, migration can be seen as one of the key dimensions of the highly unequal global terms of exchange. This is also reflected in migration policies that give employment and residence rights to certain favoured (generally skilled and/or wealthy) groups, but at the same time exclude lower skilled migrants from such rights. These exclusion mechanisms do not stop migration but are likely to make migrant workers more vulnerable to exploitation on the labour market. Thus, the highly skewed spatial impacts of globalisation also seem to be reflected in shifts in global migration patterns. Rather than refuting the globalisation of migration hypothesis, this seems to reflect the asymmetric nature of globalisation processes in general.

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Annex

Table A1 Emigration rate by region and sub-region of origin, weighted at country-level, 1960-2000

Region/Sub-region	1960	1970	1980	1990	2000
Africa	**2.84%**	**2.92%**	**2.82%**	**2.55%**	**2.43%**
Eastern Africa	3.44%	2.95%	2.25%	1.83%	1.78%
Middle Africa	1.85%	1.68%	1.68%	1.47%	1.54%
Northern Africa	3.13%	4.04%	4.16%	4.23%	3.70%
Southern Africa	2.60%	2.17%	2.00%	2.32%	1.98%
Western Africa	2.45%	2.63%	2.96%	2.45%	2.63%
Americas	**1.40%**	**1.56%**	**2.05%**	**2.54%**	**3.47%**
Caribbean	8.10%	9.78%	12.13%	13.83%	16.96%
Central America	1.72%	2.01%	3.49%	5.61%	9.02%
Northern America	1.03%	1.05%	1.12%	1.05%	1.11%
South America	0.86%	0.91%	1.25%	1.48%	1.95%
Asia	**1.80%**	**1.54%**	**1.50%**	**1.56%**	**1.67%**
Central Asia	7.34%	8.28%	7.95%	10.57%	11.86%
Eastern Asia	0.78%	0.63%	0.58%	0.61%	0.70%
South-Eastern Asia	0.61%	0.61%	0.89%	1.37%	1.87%
Southern Asia	3.16%	2.43%	1.96%	1.65%	1.51%
Western Asia	3.74%	4.80%	6.75%	7.00%	7.22%
Europe	**7.94%**	**8.17%**	**7.73%**	**7.84%**	**7.52%**
Eastern Europe	10.18%	10.19%	9.67%	10.17%	9.46%
Northern Europe	7.39%	8.34%	7.90%	7.88%	7.85%
Southern Europe	8.08%	9.47%	8.35%	7.60%	7.51%
Western Europe	4.30%	3.67%	3.72%	3.76%	4.02%
Oceania	**1.98%**	**2.22%**	**3.06%**	**3.58%**	**4.78%**
Australia and New Zealand	1.95%	2.09%	2.56%	3.23%	4.17%
Melanesia	0.64%	0.79%	1.44%	2.06%	2.80%
Micronesia	14.13%	13.80%	19.68%	10.38%	23.35%
Polynesia	7.47%	12.09%	25.94%	27.17%	35.15%
Global	**3.06%**	**2.86%**	**2.70%**	**2.67%**	**2.73%**

Table A2: Immigration rate by region and sub-region of destination, weighted at country-level, 1960-2000

Region/Sub-region	1960	1970	1980	1990	2000
Africa	**3.18%**	**2.44%**	**2.05%**	**1.58%**	**1.50%**
Eastern Africa	3.78%	2.90%	1.98%	1.37%	1.42%
Middle Africa	4.38%	3.34%	1.87%	1.41%	0.89%
Northern Africa	2.21%	1.03%	0.91%	0.83%	0.76%
Southern Africa	4.98%	4.12%	3.30%	3.33%	2.35%
Western Africa	2.49%	2.37%	2.82%	2.07%	2.20%
Americas	**4.65%**	**4.05%**	**4.24%**	**4.65%**	**5.61%**
Caribbean	2.79%	3.07%	2.95%	3.07%	3.20%
Central America	0.93%	0.58%	0.54%	0.59%	0.78%
Northern America	6.66%	6.59%	7.94%	9.88%	12.89%
South America	3.45%	2.38%	1.91%	1.42%	1.19%
Asia	**1.90%**	**1.60%**	**1.36%**	**1.30%**	**1.21%**
Central Asia	14.94%	16.33%	14.51%	13.15%	9.23%
Eastern Asia	0.35%	0.30%	0.31%	0.31%	0.39%
South-Eastern Asia	1.76%	1.28%	0.73%	0.64%	0.86%
Southern Asia	3.00%	2.22%	1.59%	1.11%	0.81%
Western Asia	6.38%	6.51%	7.60%	9.78%	9.53%
Europe	**4.90%**	**5.87%**	**6.43%**	**7.26%**	**7.99%**
Eastern Europe	5.75%	6.06%	6.07%	6.99%	6.74%
Northern Europe	3.99%	5.91%	6.72%	7.19%	8.37%
Southern Europe	0.85%	1.36%	1.91%	3.06%	4.71%
Western Europe	6.84%	8.74%	10.33%	10.95%	12.35%
Oceania	**13.58%**	**15.56%**	**15.52%**	**16.16%**	**16.09%**
Australia and New Zealand	16.05%	18.43%	18.86%	20.03%	20.47%
Melanesia	2.20%	2.93%	2.04%	1.52%	1.32%
Micronesia	22.62%	20.71%	22.19%	26.54%	27.52%
Polynesia	3.54%	5.20%	8.67%	10.69%	11.06%
Global	**3.06%**	**2.86%**	**2.70%**	**2.67%**	**2.73%**

Table A3 Emigration spread by region and sub-region of origin, weighted at country-level, 1960-2000

Region/Sub-region	1960	1970	1980	1990	2000
Africa	**0.944**	**0.927**	**0.932**	**0.942**	**0.960**
Eastern Africa	0.888	0.909	0.926	0.936	0.942
Middle Africa	0.890	0.913	0.934	0.934	0.926
Northern Africa	0.751	0.633	0.734	0.803	0.884
Southern Africa	0.597	0.655	0.756	0.715	0.884
Western Africa	0.821	0.806	0.816	0.839	0.848
Americas	**0.784**	**0.728**	**0.684**	**0.599**	**0.565**
Caribbean	0.690	0.495	0.502	0.437	0.500
Central America	0.433	0.410	0.220	0.132	0.119
Northern America	0.746	0.811	0.842	0.868	0.891
South America	0.821	0.827	0.850	0.861	0.864
Asia	**0.851**	**0.887**	**0.919**	**0.940**	**0.943**
Central Asia	0.463	0.593	0.591	0.621	0.527
Eastern Asia	0.834	0.868	0.858	0.844	0.849
South-Eastern Asia	0.867	0.902	0.857	0.830	0.852
Southern Asia	0.642	0.679	0.732	0.828	0.883
Western Asia	0.928	0.935	0.918	0.932	0.921
Europe	**0.937**	**0.939**	**0.938**	**0.936**	**0.939**
Eastern Europe	0.905	0.901	0.891	0.883	0.905
Northern Europe	0.831	0.883	0.895	0.901	0.914
Southern Europe	0.898	0.902	0.905	0.917	0.917
Western Europe	0.896	0.901	0.897	0.907	0.918
Oceania	**0.867**	**0.862**	**0.830**	**0.829**	**0.843**
Australia and New Zealand	0.858	0.854	0.786	0.798	0.815
Melanesia	0.774	0.714	0.722	0.712	0.786
Micronesia	0.356	0.434	0.577	0.748	0.544
Polynesia	0.760	0.658	0.724	0.710	0.731
Global	**0.980**	**0.985**	**0.990**	**0.992**	**0.993**

Note: (1-(Herfindahl index on concentration: sum of squared share of (sub-) regional emigrant stocks across 225 countries))

Table A4 Immigration spread by region and sub-region of origin, weighted at country-level, 1960-2000

Region/Sub-region	1960	1970	1980	1990	2000
Africa	**0.966**	**0.967**	**0.969**	**0.968**	**0.965**
Eastern Africa	0.929	0.929	0.941	0.942	0.939
Middle Africa	0.704	0.937	0.942	0.936	0.943
Northern Africa	0.868	0.937	0.934	0.921	0.916
Southern Africa	0.897	0.909	0.909	0.905	0.896
Western Africa	0.902	0.857	0.894	0.881	0.882
Americas	**0.947**	**0.957**	**0.964**	**0.961**	**0.945**
Caribbean	0.893	0.864	0.851	0.879	0.877
Central America	0.897	0.875	0.836	0.833	0.800
Northern America	0.940	0.950	0.955	0.951	0.931
South America	0.947	0.946	0.954	0.964	0.960
Asia	**0.826**	**0.867**	**0.907**	**0.928**	**0.938**
Central Asia	0.470	0.535	0.544	0.591	0.600
Eastern Asia	0.538	0.557	0.606	0.640	0.738
South-Eastern Asia	0.460	0.595	0.648	0.790	0.867
Southern Asia	0.547	0.574	0.717	0.733	0.732
Western Asia	0.950	0.959	0.959	0.951	0.950
Europe	**0.908**	**0.930**	**0.940**	**0.945**	**0.963**
Eastern Europe	0.787	0.802	0.800	0.823	0.876
Northern Europe	0.933	0.939	0.951	0.96	0.969
Southern Europe	0.947	0.946	0.954	0.964	0.960
Western Europe	0.896	0.912	0.932	0.946	0.951
Oceania	**0.782**	**0.796**	**0.838**	**0.888**	**0.920**
Australia and New Zealand	0.763	0.775	0.822	0.877	0.912
Melanesia	0.872	0.849	0.902	0.901	0.891
Micronesia	0.660	0.631	0.743	0.775	0.793
Polynesia	0.886	0.834	0.797	0.818	0.807
Global	**0.980**	**0.985**	**0.990**	**0.992**	**0.993**

Note: (1-(Herfindahl index on concentration: sum of squared share of (sub-) regional emigrant stocks across 225 countries))

Table A5 Emigration distances (in km) by region and sub-region of origin, weighted at country-level, 1960-2000

Region/Sub-region	1960	1970	1980	1990	2000
Africa	**1545.0**	**1785.2**	**2082.1**	**2264.5**	**2599.6**
Eastern Africa	1271.8	1673.9	2585.6	2945.2	3496.0
Middle Africa	2003.2	2299.9	2604.5	2778.0	3130.2
Northern Africa	1952.4	2005.6	2067.9	2044.9	2226.7
Southern Africa	2915.5	3212.1	3440.4	3752.5	5475.5
Western Africa	1036.9	1232.6	1376.8	1585.2	1742.6
Americas	**3088.4**	**3174.3**	**3371.9**	**3548.5**	**3928.6**
Caribbean	3487.1	2865.7	3009.6	2761.3	3149.5
Central America	2891.9	3416.0	3289.1	3318.2	3355.8
Northern America	2925.0	3300.1	3650.2	4025.5	4451.8
South America	2969.9	3241.9	3629.1	4414.3	5444.7
Asia	**2143.5**	**2271.7**	**3118.0**	**3752.8**	**4306.1**
Central Asia	2759.4	2619.8	2554.6	2613.6	2804.6
Eastern Asia	4189.6	3911.8	5044.8	5683.3	6462.1
South-Eastern Asia	5279.4	5177.7	8182.4	8663.6	7776.5
Southern Asia	1098.8	1353.7	1967.5	2537.2	3355.8
Western Asia	2789.9	2392.6	2315.5	2226.9	2374.6
Europe	**3722.4**	**3446.6**	**3277.3**	**3056.8**	**3019.8**
Eastern Europe	1942.6	1874.3	1753.9	1698.6	1842.7
Northern Europe	6741.4	6370.1	6429.0	6345.8	5807.2
Southern Europe	6343.1	5101.8	4822.6	4426.7	3888.2
Western Europe	4625.7	4414.9	4219.1	4073.8	3797.6
Oceania	**9898.7**	**9130.8**	**8163.1**	**8028.8**	**8655.7**
Australia and New Zealand	10530.4	9985.0	8658.7	9094.0	9521.7
Melanesia	5119.7	3684.6	6231.7	6160.1	7334.3
Micronesia	11220.0	10812.0	10372.2	7450.9	9543.1
Polynesia	5126.0	5241.6	6230.6	4862.8	5526.2
Global	**2991.5**	**2914.4**	**3127.8**	**3308.4**	**3657.1**

Table A6 Immigration distances (in km) by region and sub-region of destination, weighted at country-level, 1960-2000

Region/Sub-region	1960	1970	1980	1990	2000
Africa	**2414.9**	**2236.2**	**2120.6**	**1918.8**	**1839.7**
Eastern Africa	1824.0	1801.3	1874.0	1957.1	1964.5
Middle Africa	4894.0	3927.8	3291.0	2721.1	2773.5
Northern Africa	1553.1	1768.1	1920.7	1955.5	2140.5
Southern Africa	4147.1	4530.1	4914.4	3478.6	3863.7
Western Africa	1448.8	1085.5	1281.1	1087.5	1051.4
Americas	**6419.5**	**6108.5**	**6044.2**	**6087.3**	**6160.6**
Caribbean	3319.6	3159.8	2700.5	2568.3	2643.3
Central America	3787.1	3658.5	3648.8	2987.1	2933.8
Northern America	5779.3	5758.6	6099.3	6352.7	6492.5
South America	8730.6	8001.2	6697.3	5708.7	4787.3
Asia	**1628.5**	**1656.3**	**1865.7**	**2059.3**	**2227.1**
Central Asia	2859.8	2783.2	2726.7	2641.7	2629.2
Eastern Asia	1850.9	892.7	1803.6	2153.3	3205.3
South-Eastern Asia	3930.9	3702.4	3629.6	3011.7	2588.1
Southern Asia	870.5	955.9	1178.1	1315.6	1276.3
Western Asia	1522.3	1699.9	1959.1	2259.7	2336.8
Europe	**1470.4**	**1482.2**	**1772.2**	**1961.7**	**2391.6**
Eastern Europe	950.6	1046.0	1088.3	1224.2	1507.6
Northern Europe	2835.9	2748.5	3193.5	3579.3	4148.2
Southern Europe	2033.3	3204.0	3032.7	3080.3	3228.2
Western Europe	1742.2	1361.1	1827.8	2030.2	2375.7
Oceania	**15470.9**	**15197.6**	**14181.0**	**13063.3**	**12162.3**
Australia and New Zealand	15805.2	15660.7	14539.7	13417.2	12491.0
Melanesia	9654.1	8462.1	8535.7	8790.5	9230.0
Micronesia	9709.3	4817.3	6839.5	5670.4	4773.4
Polynesia	6003.5	7973.2	8900.3	8312.9	8180.2
Global	**2991.5**	**2914.4**	**3127.8**	**3308.4**	**3657.1**

Table A7 Descriptive statistics: on the EDI and IDI components, unweighted, 1960-2000

	Year	Mean	Std. Dev.	Min	Max
Emigration dispersion					
Spread	1960	0.646	0.244	0.013	0.975
	1970	0.674	0.233	0.015	0.987
	1980	0.640	0.236	0.027	0.992
	1990	0.665	0.233	0.000	0.997
	2000	0.693	0.219	0.018	1.000
Distance	1960	0.217	0.167	0.005	0.783
	1970	0.210	0.156	0.000	0.900
	1980	0.228	0.159	0.012	0.847
	1990	0.221	0.152	0.017	0.832
	2000	0.232	0.152	0.018	1.000
Intensity	1960	0.015	0.044	0.000	0.631
	1970	0.016	0.068	0.000	1.000
	1980	0.016	0.024	0.000	0.227
	1990	0.018	0.034	0.000	0.406
	2000	0.022	0.040	0.000	0.443
Immigration diversification					
Spread	1960	0.672	0.234	0.003	1.000
	1970	0.689	0.225	0.000	1.000
	1980	0.702	0.215	0.042	1.000
	1990	0.715	0.206	0.021	1.000
	2000	0.720	0.198	0.042	0.965
Distance	1960	0.242	0.186	0.000	1.000
	1970	0.241	0.176	0.000	0.891
	1980	0.241	0.167	0.000	0.851
	1990	0.237	0.157	0.000	0.766
	2000	0.241	0.154	0.045	0.765
Intensity	1960	0.095	0.134	0.000	0.871
	1970	0.105	0.152	0.000	0.822
	1980	0.120	0.182	0.000	0.937
	1990	0.135	0.198	0.000	0.980
	2000	0.141	0.202	0.000	1.000

Table A8 Rank correlations (Kendall's τ) within and between EDI and IDI components, 1960-2000

		Emigration Dispersion			Immigration Diversification		
		Spread 2000	*Distance* 2000	*Intensity* 2000	*Spread* 2000	*Distance* 2000	*Intensity* 2000
Emigration Dispersion	*Spread*						
	2000						
	1990	0.205*	0.195*	-0.142*	0.164*	0.004	0.038
		(0.000)	(0.000)	(0.002)	(0.003)	(0.929)	(0.394)
	1980	0.210*	0.161*	-0.175*	0.186*	-0.058	-0.051
		(0.000)	(0.000)	(0.000)	(0.000)	(0.192)	(0.258)
	1970	0.081	0.123	-0.092	0.195*	0.006	-0.002
		(0.071)	(0.006)	(0.040)	(0.000)	(0.903)	(0.973)
	1960	0.068	0.130	-0.082	0.147	-0.011	-0.055
		(0.130)	(0.004)	(0.066	(0.001)	(0.802)	(0.215)
	Distance						
	2000	0.004					
		(0.936)					
	1990	0.012	0.726*	-0.089	0.094	0.305*	0.041
		(0.782)	(0.000)	(0.048)	(0.036)	(0.000)	(0.362)
	1980	0.008	0.638*	-0.072	0.019	0.272*	0.088
		(0.859)	(0.000)	(0.110)	(0.674)	(0.000)	(0.050)
	1970	-0.031	0.502*	-0.005	0.074	0.315*	0.119
		(0.490)	(0.000)	(0.905)	(0.099)	(0.000)	(0.008)
	1960	0.006	0.446*	0.039	0.074	0.311*	0.145
		(0.889)	(0.000)	(0.388)	(0.098)	(0.000)	(0.001)
	Intensity						
	2000	-0.052	-0.120				
		(0.242)	(0.007)				
	1990	-0.030	-0.166*	0.772*	0.018	-0.007	0.278*
		(0.500)	(0.000)	(0.000)	(0.688)	(0.871)	(0.000)
	1980	-0.046	-0.162*	0.695*	0.006	0.018	0.356*
		(0.301)	(0.000)	(0.000)	(0.895)	(0.681)	(0.000)
	1970	0.051	-0.184*	0.529*	0.006	-0.099	0.298*
		(0.253)	(0.000)	(0.000)	(0.898)	(0.027)	(0.000)
	1960	0.035	-0.194*	0.495*	0.027	-0.087	0.334*
		(0.435)	(0.000)	(0.000)	(0.543)	(0.053)	(0.000)
Immigration Diversification	*Spread*						
	2000	0.086	0.081	-0.008			
		(0.054)	(0.071)	(0.853)			
	1990	0.070	0.064	0.008	0.769*	0.238*	0.018
		(0.117)	(0.153)	(0.858)	(0.000)	(0.000)	(0.683)
	1980	0.034	0.051	0.006	0.646*	0.188*	0.022
		(0.442)	(0.253)	(0.901)	(0.000)	(0.000)	(0.618)
	1970	0.062	0.031	0.020	0.552*	0.131	0.017
		(0.168)	(0.493)	(0.650)	(0.000)	(0.004)	(0.710)
	1960	0.033	0.032	0.052	0.477*	0.124	0.036
		(0.462)	(0.482)	(0.247)	(0.000)	(0.006)	(0.417)
	Distance						
	2000	-0.018	0.341*	0.021	0.307*		
		(0.689)	(0.000)	(0.642)	(0.000)		

1990	-0.018	0.334*	0.005	0.273*	0.828*	0.024
	(0.683)	(0.000)	(0.905)	(0.000)	(0.000)	(0.599)
1980	-0.023	0.321*	0.022	0.242*	0.737*	0.035
	(0.609)	(0.000)	(0.627)	(0.000)	(0.000)	(0.431)
1970	-0.016	0.299*	0.018	0.197*	0.634*	-0.015
	(0.729)	(0.000)	(0.682)	(0.000)	(0.000)	(0.744)
1960	-0.003	0.277*	-0.004	0.195*	0.601*	-0.017
	(0.947)	(0.000)	(0.926)	(0.000)	(0.000)	(0.708)
Intensity						
2000	0.008	0.008	0.301*	-0.000	0.035	
	(0.866)	(0.867)	(0.000)	(0.996)	(0.437)	
1990	0.020	-0.011	0.275*	-0.007	0.020	0.841*
	(0.654)	(0.805)	(0.000)	(0.869)	(0.662)	(0.000)
1980	0.025	-0.031	0.241*	-0.023	0.008	0.717*
	(0.572)	(0.492)	(0.000)	(0.615)	(0.855)	(0.000)
1970	0.007	-0.041	0.176*	-0.004	-0.016	0.587*
	(0.872)	(0.363)	(0.000)	(0.932)	(0.724)	(0.000)
1960	0.016	-0.040	0.147	0.011	-0.027	0.455*
	(0.729)	(0.374)	(0.001)	0.812	(0.550)	(0.000)

Note: (*) Significant on 1 per cent level. *p*-values in parentheses.

Table A9a Inter- and intra-regional migrant stock allocation (shares and growth rates), 1960-2000

Origin-	Africa	Americas	Asia	Europe	Oceania	Total
1960	**9103523**	**19753968**	**32450001**	**29564614**	**2142143**	**93014249**
Africa	**69.09%**	0.29%	1.38%	4.42%	1.51%	8.74%
Americas	2.11%	**23.91%**	0.32%	2.95%	2.28%	6.39%
Asia	2.97%	6.00%	**81.52%**	8.97%	5.48%	32.98%
Europe	25.73%	69.45%	16.74%	**83.36%**	84.52%	51.55%
Oceania	0.09%	0.34%	0.04%	0.31%	**6.21%**	0.34%
1970	**8979336**	**20979048**	**34239468**	**38482829**	**3034269**	**1.06E+08**
Africa	**78.41%**	0.71%	2.16%	7.15%	1.98%	10.16%
	(11.93%)	(157.52%)	(65.61%)	(110.58%)	(86.24%)	(32.06%)
Americas	0.71%	**31.82%**	0.37%	2.97%	1.90%	7.63%
	(-66.64%)	**(41.35%)**	(19.39%)	(30.98%)	(17.76%)	(35.75%)
Asia	5.14%	8.47%	**77.13%**	10.63%	6.33%	31.15%
	(70.60%)	(49.75%)	**(-0.17%)**	(54.22%)	(63.47%)	(7.33%)
Europe	15.62%	58.58%	20.31%	**78.96%**	82.85%	50.65%
	(-40.12%)	(-10.42%)	(28.01%)	**(23.31%)**	(38.85%)	(11.68%)
Oceania	0.11%	0.42%	0.04%	0.29%	**6.94%**	0.41%
	(28.54%)	(29.24%)	(-6.76%)	(24.01%)	**(58.39%)**	(38.58%)
1980	**9894503**	**26161855**	**35931355**	**44540920**	**3564718**	**1.2E+08**
Africa	**81.05%**	1.44%	3.38%	8.78%	2.80%	11.34%
	(13.91%)	(151.78%)	(64.26%)	(42.21%)	(66.08%)	(26.84%)
Americas	1.37%	**40.68%**	0.40%	3.62%	3.89%	10.55%
	(111.40%)	**(59.42%)**	(13.32%)	(41.23%)	(141.08%)	(57.13%)
Asia	4.88%	15.21%	**76.25%**	16.26%	12.07%	32.92%
	(4.71%)	(123.95%)	**(3.74%)**	(77.10%)	(124.04%)	(20.05%)
Europe	12.55%	42.12%	19.93%	**71.02%**	70.44%	44.60%
	(-11.49%)	(-10.34%)	(3.00%)	**(4.09%)**	(-0.10%)	(0.03%)
Oceania	0.14%	0.56%	0.05%	0.32%	**10.79%**	0.58%
	(35.56%)	(66.12%)	(35.42%)	(25.42%)	**(82.53%)**	(61.91%)
1990	**10027359**	**33705860**	**41502977**	**52274193**	**4358038**	**1.42E+08**
Africa	**85.27%**	1.77%	5.17%	9.09%	3.24%	11.41%
	(6.61%)	(58.94%)	(76.63%)	(21.51%)	(41.23%)	(18.83%)
Americas	0.97%	**47.38%**	0.88%	3.42%	4.38%	12.98%
	(-28.19%)	**(50.04%)**	(155.22%)	(10.88%)	(37.52%)	(45.27%)
Asia	4.15%	20.46%	**74.52%**	20.37%	21.20%	35.11%
	(-13.80%)	(73.31%)	**(12.89%)**	(47.02%)	(114.74%)	(26.00%)
Europe	9.51%	29.85%	19.32%	**66.76%**	58.74%	39.82%
	(-23.18%)	(-8.70%)	(11.99%)	**(10.33%)**	(1.94%)	(5.47%)
Oceania	0.09%	0.55%	0.11%	0.35%	**12.44%**	0.68%
	(-31.43%)	(26.45%)	(182.67%)	(29.20%)	**(40.97%)**	(37.49%)
2000	**12169488**	**46815503**	**44907980**	**58062992**	**5010099**	**1.67E+08**
Africa	**87.37%**	2.72%	5.76%	8.56%	4.48%	11.79%
	(24.35%)	(113.43%)	(20.63%)	(4.60%)	(59.20%)	(21.65%)
Americas	1.06%	**52.33%**	1.86%	5.70%	4.29%	17.36%
	(31.81%)	**(53.41%)**	(130.25%)	(85.16%)	(12.57%)	(57.47%)
Asia	3.65%	23.73%	**76.44%**	25.58%	28.37%	37.23%
	(6.64%)	(61.15%)	**(11.00%)**	(39.46%)	(53.82%)	(24.78%)
Europe	7.79%	20.49%	15.68%	**59.64%**	48.52%	32.73%
	(-0.59%)	(-4.66%)	(-12.20%)	**(-0.78%)**	(-5.05%)	(-3.28%)
Oceania	0.14%	0.73%	0.25%	0.52%	**14.34%**	0.89%
	(73.09%)	(84.58%)	(139.00%)	(64.72%)	**(32.54%)**	(54.12%)

Table A9b Inter-regional and sub-regional migrant stock allocation (shares and growth rates), 1960-2000

Origin-Destination	Africa	Americas	Asia	Europe	Oceania	Total
1960	**9103523**	**19753968**	**32450001**	**29564614**	**2142143**	**93014249**
Africa	**69.09%**	0.29%	1.38%	4.42%	1.51%	8.74%
Eastern Africa	*30.08%*	*0.04%*	*0.06%*	*0.16%*	*0.22%*	*3.03%*
Middle Africa	*6.07%*	*0.03%*	*0.01%*	*0.12%*	*0.00%*	*0.64%*
Northern Africa	*6.11%*	*0.12%*	*1.25%*	*3.76%*	*0.80%*	*2.27%*
Southern Africa	*4.61%*	*0.05%*	*0.03%*	*0.21%*	*0.47%*	*0.55%*
Western Africa	*22.22%*	*0.05%*	*0.03%*	*0.18%*	*0.01%*	*2.25%*
Americas	2.11%	**23.91%**	0.32%	2.95%	2.28%	6.39%
Caribbean	*1.51%*	*6.25%*	*0.00%*	*1.03%*	*0.01%*	*1.80%*
Central America	*0.02%*	*4.42%*	*0.00%*	*0.04%*	*0.01%*	*0.95%*
Northern America	*0.54%*	*7.74%*	*0.31%*	*1.30%*	*2.19%*	*2.27%*
South America	*0.05%*	*5.50%*	*0.01%*	*0.57%*	*0.07%*	*1.36%*
Asia	2.97%	6.00%	**81.52%**	8.97%	5.48%	32.98%
Central Asia	*0.02%*	*0.22%*	*1.30%*	*4.48%*	*0.04%*	*1.93%*
Eastern Asia	*0.27%*	*2.74%*	*17.12%*	*0.26%*	*1.30%*	*6.70%*
South-Eastern Asia	*0.05%*	*0.79%*	*2.51%*	*1.13%*	*1.45%*	*1.44%*
Southern Asia	*1.44%*	*0.21%*	*56.04%*	*1.44%*	*1.66%*	*20.24%*
Western Asia	*1.19%*	*2.05%*	*4.55%*	*1.65%*	*1.04%*	*2.69%*
Europe	25.73%	69.45%	16.74%	**83.36%**	84.52%	51.55%
Eastern Europe	*0.26%*	*13.93%*	*15.20%*	*63.25%*	*6.93%*	*28.55%*
Northern Europe	*3.77%*	*16.07%*	*0.24%*	*4.84%*	*47.24%*	*6.49%*
Southern Europe	*5.37%*	*26.99%*	*1.07%*	*7.73%*	*17.67%*	*9.49%*
Western Europe	*16.33%*	*12.46%*	*0.22%*	*7.54%*	*12.68%*	*7.01%*
Oceania	0.09%	0.34%	0.04%	0.31%	**6.21%**	0.34%
Australia / New Zealand	*0.09%*	*0.20%*	*0.04%*	*0.30%*	*4.63%*	*0.27%*
Melanesia	*0.00%*	*0.01%*	*0.00%*	*0.00%*	*0.61%*	*0.02%*
Micronesia	*0.00%*	*0.11%*	*0.00%*	*0.00%*	*0.17%*	*0.03%*
Polynesia	*0.00%*	*0.03%*	*0.00%*	*0.00%*	*0.80%*	*0.02%*
Origin-Destination	**Africa**	**Americas**	**Asia**	**Europe**	**Oceania**	**Total**
1970	**8979336**	**20979048**	**34239468**	**38482829**	**3034269**	**1.06E+08**
Africa	**78.41%**	0.71%	2.16%	7.15%	1.98%	10.16%
	(11.93%)	(157.52%)	(65.61%)	(110.58%)	(86.24%)	(32.06%)
Eastern Africa	*32.49%*	*0.12%*	*0.20%*	*0.40%*	*0.49%*	*3.01%*
Middle Africa	*6.52%*	*0.03%*	*0.02%*	*0.23%*	*0.00%*	*0.65%*
Northern Africa	*4.91%*	*0.32%*	*1.82%*	*6.10%*	*0.94%*	*3.32%*
Southern Africa	*4.88%*	*0.10%*	*0.02%*	*0.18%*	*0.52%*	*0.52%*
Western Africa	*29.61%*	*0.15%*	*0.10%*	*0.24%*	*0.03%*	*2.67%*
Americas	0.71%	**31.82%**	0.37%	2.97%	1.90%	7.63%
	(-66.64%)	**(41.35%)**	(19.39%)	(30.98%)	(17.76%)	(35.75%)
Caribbean	*0.09%*	*10.28%*	*0.00%*	*0.79%*	*0.16%*	*2.34%*
Central America	*0.02%*	*6.28%*	*0.01%*	*0.21%*	*0.02%*	*1.33%*
Northern America	*0.53%*	*7.94%*	*0.33%*	*1.47%*	*1.57%*	*2.31%*
South America	*0.08%*	*7.32%*	*0.03%*	*0.50%*	*0.15%*	*1.65%*
Asia	5.14%	8.47%	**77.13%**	10.63%	6.33%	31.15%
	(70.60%)	(49.75%)	**(-0.17%)**	(54.22%)	(63.47%)	(7.33%)
Central Asia	*0.02%*	*0.17%*	*2.12%*	*5.15%*	*0.07%*	*2.60%*
Eastern Asia	*0.48%*	*3.82%*	*15.19%*	*0.25%*	*1.34%*	*5.85%*
South-Eastern Asia	*0.10%*	*1.62%*	*3.26%*	*0.50%*	*2.35%*	*1.63%*
Southern Asia	*2.34%*	*0.85%*	*49.95%*	*1.48%*	*1.39%*	*17.12%*
Western Asia	*2.20%*	*2.01%*	*6.62%*	*3.25%*	*1.19%*	*3.95%*
Europe	15.62%	58.58%	20.31%	**78.96%**	82.85%	50.65%
	(-40.12%)	(-10.42%)	(28.01%)	**(23.31%)**	(38.85%)	(11.68%)
Eastern Europe	*0.32%*	*11.26%*	*18.79%*	*52.03%*	*5.91%*	*27.46%*
Northern Europe	*4.97%*	*13.34%*	*0.30%*	*6.59%*	*45.62%*	*6.87%*
Southern Europe	*2.75%*	*22.87%*	*0.77%*	*13.66%*	*20.38%*	*10.58%*
Western Europe	*7.58%*	*11.11%*	*0.45%*	*6.69%*	*10.94%*	*5.74%*
Oceania	0.11%	0.42%	0.04%	0.29%	**6.94%**	0.41%
	(28.54%)	(29.24%)	(-6.76%)	(24.01%)	**(58.39%)**	(38.58%)

Australia and New	*0.11%*	*0.23%*	*0.03%*	*0.29%*	***4.81%***	*0.31%*
Melanesia	*0.00%*	*0.01%*	*0.00%*	*0.00%*	***0.77%***	*0.02%*
Micronesia	*0.00%*	*0.12%*	*0.00%*	*0.00%*	***0.20%***	*0.03%*
Polynesia	*0.00%*	*0.06%*	*0.00%*	*0.00%*	***1.16%***	*0.05%*

Origin-Destination	Africa	Americas	Asia	Europe	Oceania	Total
1980	9894503	26161855	35931355	44540920	3564718	1.2E+08
Africa	**81.05%**	1.44%	3.38%	8.78%	2.80%	11.34%
	(13.91%)	(151.78%)	(64.26%)	(42.21%)	(66.08%)	(26.84%)
Eastern Africa	*25.92%*	*0.30%*	*0.19%*	*1.09%*	*0.82%*	*2.68%*
Middle Africa	*6.76%*	*0.07%*	*0.02%*	*0.45%*	*0.01%*	*0.75%*
Northern Africa	*5.79%*	*0.53%*	*3.02%*	*6.43%*	*1.05%*	*3.91%*
Southern Africa	*5.20%*	*0.14%*	*0.02%*	*0.15%*	*0.87%*	*0.55%*
Western Africa	*37.38%*	*0.39%*	*0.13%*	*0.65%*	*0.06%*	*3.45%*
Americas	1.37%	**40.68%**	0.40%	3.62%	3.89%	10.55%
	(111.40%)	**(59.42%)**	(13.32%)	(41.23%)	(141.08%)	(57.13%)
Caribbean	*0.11%*	*11.65%*	*0.00%*	*1.21%*	*0.04%*	*3.00%*
Central America	*0.02%*	*12.12%*	*0.00%*	*0.05%*	*0.04%*	*2.66%*
Northern America	*1.04%*	*7.18%*	*0.34%*	*1.48%*	*2.77%*	*2.38%*
South America	*0.21%*	*9.73%*	*0.05%*	*0.88%*	*1.04%*	*2.51%*
Asia	4.88%	15.21%	**76.25%**	16.26%	12.07%	32.92%
	(4.71%)	(123.95%)	**(3.74%)**	(77.10%)	(124.04%)	(20.05%)
Central Asia	*0.03%*	*0.09%*	*2.50%*	*5.29%*	*0.03%*	*2.73%*
Eastern Asia	*0.35%*	*6.13%*	*13.65%*	*0.46%*	*1.94%*	*5.67%*
South-Eastern Asia	*0.10%*	*4.56%*	*3.69%*	*1.13%*	*4.83%*	*2.67%*
Southern Asia	*1.51%*	*2.25%*	*46.75%*	*2.06%*	*2.21%*	*15.43%*
Western Asia	*2.89%*	*2.17%*	*9.66%*	*7.33%*	*3.07%*	*6.41%*
Europe	12.55%	42.12%	19.93%	**71.02%**	70.44%	44.60%
	(-11.49%)	(-10.34%)	(3.00%)	**(4.09%)**	(-0.10%)	(0.03%)
Eastern Europe	*0.38%*	*6.92%*	*18.46%*	*46.66%*	*4.99%*	*24.51%*
Northern Europe	*4.47%*	*9.53%*	*0.36%*	*5.83%*	*40.00%*	*5.90%*
Southern Europe	*1.94%*	*16.33%*	*0.58%*	*12.20%*	*16.74%*	*8.91%*
Western Europe	*5.76%*	*9.34%*	*0.54%*	*6.32%*	*8.72%*	*5.27%*
Oceania	0.14%	0.56%	0.05%	0.32%	**10.79%**	0.58%
	(35.56%)	(66.12%)	(35.42%)	(25.42%)	**(82.53%)**	(61.91%)
Australia/New Zealand	*0.13%*	*0.24%*	*0.04%*	*0.27%*	*6.94%*	*0.38%*
Caribbean	*0.11%*	*11.65%*	*0.00%*	*1.21%*	*0.04%*	*3.00%*
Central America	*0.02%*	*12.12%*	*0.00%*	*0.05%*	*0.04%*	*2.66%*
Central Asia	*0.03%*	*0.09%*	*2.50%*	*5.29%*	*0.03%*	*2.73%*

Origin-Destination	Africa	Americas	Asia	Europe	Oceania	Total
1990	10027359	33705860	41502977	52274193	4358038	1.42E+08
Africa	**85.27%**	1.77%	5.17%	9.09%	3.24%	11.41%
	(6.61%)	(58.94%)	(76.63%)	(21.51%)	(41.23%)	(18.83%)
Eastern Africa	*26.13%*	*0.46%*	*0.32%*	*1.09%*	*1.00%*	*2.48%*
Middle Africa	*7.35%*	*0.07%*	*0.03%*	*0.53%*	*0.02%*	*0.74%*
Northern Africa	*6.74%*	*0.58%*	*4.65%*	*6.36%*	*0.93%*	*4.35%*
Southern Africa	*7.22%*	*0.20%*	*0.07%*	*0.20%*	*1.23%*	*0.69%*
Western Africa	*37.82%*	*0.46%*	*0.11%*	*0.91%*	*0.06%*	*3.15%*
Americas	0.97%	**47.38%**	0.88%	3.42%	4.38%	12.98%
	(-28.19%)	**(50.04%)**	(155.22%)	(10.88%)	(37.52%)	(45.27%)
Caribbean	*0.16%*	*12.84%*	*0.01%*	*0.73%*	*0.10%*	*3.33%*
Central America	*0.04%*	*18.68%*	*0.01%*	*0.08%*	*0.25%*	*4.48%*
Northern America	*0.66%*	*5.51%*	*0.61%*	*1.25%*	*2.69%*	*2.08%*
South America	*0.12%*	*10.35%*	*0.24%*	*1.36%*	*1.34%*	*3.08%*
Asia	4.15%	20.46%	**74.52%**	20.37%	21.20%	35.11%
	(-13.80%)	(73.31%)	**(12.89%)**	(47.02%)	(114.74%)	(26.00%)
Central Asia	*0.02%*	*0.06%*	*3.25%*	*7.56%*	*0.10%*	*3.76%*
Eastern Asia	*0.28%*	*7.79%*	*12.17%*	*0.71%*	*4.89%*	*5.85%*
South-Eastern Asia	*0.06%*	*7.33%*	*5.71%*	*1.55%*	*9.84%*	*4.29%*
Southern Asia	*1.12%*	*3.26%*	*41.05%*	*2.53%*	*3.08%*	*13.89%*
Western Asia	*2.67%*	*2.02%*	*12.33%*	*8.02%*	*3.29%*	*7.33%*
Europe	9.51%	29.85%	19.32%	**66.76%**	58.74%	39.82%
	(-23.18%)	(-8.70%)	(11.99%)	**(10.33%)**	(1.94%)	(5.47%)

Origin-Destination	Africa	Americas	Asia	Europe	Oceania	Total
Eastern Europe	*0.34%*	*4.77%*	*17.26%*	***45.16%***	*4.52%*	*22.98%*
Northern Europe	*3.25%*	*7.24%*	*0.65%*	***5.25%***	*33.46%*	*5.10%*
Southern Europe	*1.49%*	*10.54%*	*0.55%*	***10.61%***	*13.28%*	*7.09%*
Western Europe	*4.44%*	*7.29%*	*0.87%*	***5.75%***	*7.48%*	*4.65%*
Oceania	0.09%	0.55%	0.11%	0.35%	**12.44%**	0.68%
	(-31.43%)	(26.45%)	(182.67%)	(29.20%)	**(40.97%)**	(37.49%)
Australia/ New Zealand	*0.08%*	*0.30%*	*0.09%*	*0.35%*	*7.61%*	*0.47%*
Caribbean	*0.16%*	*12.84%*	*0.01%*	*0.73%*	*0.10%*	*3.33%*
Central America	*0.04%*	*18.68%*	*0.01%*	*0.08%*	*0.25%*	*4.48%*
Central Asia	*0.02%*	*0.06%*	*3.25%*	*7.56%*	*0.10%*	*3.76%*
Origin-Destination	**Africa**	**Americas**	**Asia**	**Europe**	**Oceania**	**Total**
2000	**12169488**	**46815503**	**44907980**	**58062992**	**5010099**	**1.67E+08**
Africa	**87.37%**	2.72%	5.76%	8.56%	4.48%	11.79%
	(24.35%)	(113.43%)	(20.63%)	(4.60%)	(59.20%)	(21.65%)
Eastern Africa	***25.01%***	*0.76%*	*0.45%*	*1.42%*	*1.25%*	*2.69%*
Middle Africa	***8.47%***	*0.14%*	*0.04%*	*0.63%*	*0.02%*	*0.89%*
Northern Africa	***6.82%***	*0.76%*	*5.11%*	*5.12%*	*0.95%*	*3.90%*
Southern Africa	***4.76%***	*0.25%*	*0.04%*	*0.34%*	*2.15%*	*0.61%*
Western Africa	***42.30%***	*0.82%*	*0.12%*	*1.05%*	*0.11%*	*3.71%*
Americas	1.06%	**52.33%**	1.86%	5.70%	4.29%	17.36%
	(31.81%)	**(53.41%)**	(130.25%)	(85.16%)	(12.57%)	(57.47%)
Caribbean	*0.22%*	***11.79%***	*0.03%*	*1.64%*	*0.10%*	*3.90%*
Central America	*0.02%*	***25.80%***	*0.03%*	*0.21%*	*0.26%*	*7.32%*
Northern America	*0.69%*	***4.37%***	*0.90%*	*1.38%*	*2.62%*	*2.08%*
South America	*0.13%*	***10.37%***	*0.90%*	*2.47%*	*1.31%*	*4.06%*
Asia	3.65%	23.73%	**76.44%**	25.58%	28.37%	37.23%
	(6.64%)	(61.15%)	**(11.00%)**	(39.46%)	(53.82%)	(24.78%)
Central Asia	*0.02%*	*0.10%*	***2.87%***	*9.00%*	*0.02%*	*3.93%*
Eastern Asia	*0.48%*	*8.39%*	***11.64%***	*1.39%*	*8.06%*	*6.24%*
South-Eastern Asia	*0.11%*	*8.00%*	***10.08%***	*1.60%*	*11.89%*	*5.88%*
Southern Asia	*1.16%*	*5.04%*	***38.11%***	*3.77%*	*4.79%*	*13.20%*
Western Asia	*1.89%*	*2.20%*	***13.74%***	*9.81%*	*3.61%*	*7.97%*
Europe	7.79%	20.49%	15.68%	**59.64%**	48.52%	32.73%
	(-0.59%)	(-4.66%)	(-12.20%)	**(-0.78%)**	(-5.05%)	(-3.28%)
Eastern Europe	*0.36%*	*4.43%*	*13.33%*	*37.02%*	*4.05%*	*17.85%*
Northern Europe	*2.43%*	*4.43%*	*0.78%*	***5.70%***	*27.11%*	*4.42%*
Southern Europe	*1.27%*	*6.37%*	*0.39%*	***10.74%***	*10.81%*	*6.04%*
Western Europe	*3.73%*	*5.26%*	*1.17%*	***6.19%***	*6.55%*	*4.41%*
Oceania	0.14%	0.73%	0.25%	**0.52%**	14.34%	0.89%
	(73.09%)	(84.58%)	(139.00%)	(64.72%)	**(32.54%)**	(54.12%)
Australia/New Zealand	*0.09%*	*0.29%*	*0.21%*	*0.50%*	***8.57%***	*0.58%*
Melanesia	*0.05%*	*0.14%*	*0.01%*	*0.02%*	***2.22%***	*0.12%*
Micronesia	*0.00%*	*0.17%*	*0.03%*	*0.00%*	***0.49%***	*0.07%*
Polynesia	*0.00%*	*0.13%*	*0.00%*	*0.00%*	***3.06%***	*0.13%*

Notes: Decennial growth rates in parentheses. Intra-regional/-sub-regional stocks in bold numbers.

Table A10 UN classification of world regions and sub-regions

World Region	World Sub-Region	Country name
Africa	Eastern Africa	Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Mauritius, Mayotte, Mozambique, Reunion, Rwanda, Seychelles, Somalia, Tanzania, Uganda, Zambia, Zimbabwe
	Middle Africa	Angola, Cameroon, Central African Republic, Chad, Congo, DR Congo, Equatorial Guinea, Gabon, Sao Tome and Principe
	Northern Africa	Algeria, Egypt, Libya, Morocco, Sudan, Tunisia
	Southern Africa	Botswana, Lesotho, Namibia, South Africa, Swaziland
	Western Africa	Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Saint Helena, Senegal, Sierra Leone, Togo
Americas	Caribbean	Anguilla, Antigua & Barbuda, Aruba, Bahamas, Barbados, Cayman Islands, Cuba, Dominica, Dominican Republic, Grenada, Guadeloupe, Haiti, Jamaica, Martinique, Montserrat, Netherlands Antilles, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Turks and Caicos, British Virgin Islands, U.S. Virgin Islands
	Central America	Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama
	Northern America	Bermuda, Canada, Greenland, Saint Pierre and Miquelon, United States of America
	South America	Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Falkland Islands (Malvinas), French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela
Asia	Central Asia	Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan
	Eastern Asia	China, Hong Kong, Japan, DPR Korea, Korea, Macau, Mongolia, Taiwan
	South-Eastern Asia	Brunei Darussalam, Cambodia, Indonesia, PDR Lao, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam
	Southern Asia	Afghanistan, Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, Sri Lanka
	Western Asia	Armenia, Azerbaijan, Bahrain, Cyprus, Georgia, Georgia, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Palestinian Territory, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates, Yemen
Europe	Eastern Europe	Belarus, Bulgaria, Czech Republic, Hungary, Moldova, Poland, Romania, Russian Federation, Serbia and Montenegro, Slovakia, Ukraine

	Northern Europe	Denmark, Estonia, Faroe Islands, Finland, Iceland, Ireland, Latvia, Lithuania, Norway, Sweden, United Kingdom
	Southern Europe	Albania, Andorra, Bosnia and Herzegovina, Croatia, Gibraltar, Greece, Italy, Macedonia, Malta, Portugal, San Marino, Slovenia, Spain
	Western Europe	Austria, Belgium, France, Germany, Liechtenstein, Luxembourg, Monaco, Netherlands, Switzerland
Oceania	Australia and New Zealand	Australia, New Zealand, Norfolk Island
	Melanesia	Fiji, New Caledonia, Papua New Guinea, Solomon Islands, Vanuatu
	Micronesia	Guam, Kiribati, Marshall Islands, FS Micronesia, Nauru, Northern Mariana Islands, Palau
	Polynesia	American Samoa, Cook Islands, French Polynesia, Niue, Samoa, Tokelau, Tonga, Tuvalu, Wallis and Futuna