



WORLD MIGRATION REPORT 2018:
CHAPTER 6

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Cover photo: Syrian refugees take a moment to photograph the sunset at 30,000 feet. For many, this is their first time on a plane as they fly to Toronto, Canada. In late 2015, IOM facilitated the resettlement of over 35,000 Syrian refugees to Canada in a matter of months. Syrians living in countries such as Jordan, Lebanon and Turkey were flown to new homes in Canada. With some having waited for years to be resettled, the flight across the Atlantic marked the beginning of a new lives for them.

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MOBILITY, MIGRATION AND TRANSNATIONAL CONNECTIVITY¹

Introduction

In an age of information overload and online connectivity, there is a sense that we are more closely linked globally than ever before. Routine activities in everyday lives are testament to a modern-day transnationalism. For example, e-mails written by people displaced by conflict can reach relatives in safer lands in real time, providing news of escapes and reassurance. Hard-earned money transferred back to family thousands of kilometres away buys much-needed food and supports access to education for the next generation. These types of everyday activities – sending e-mails, wiring cash, video-conferencing on smartphones, and downloading apps – have become an integral part of many people's lives in recent years, dramatically increasing our access to information, places, capital, goods, people and ideas. More is available at our fingertips than ever before. Yet the degree of access and interconnectedness between and within communities and people varies significantly.

At the same time, current public and political discourses abound with talk of an increase in anti-globalization sentiment, of communities and people feeling left behind and of some societies finding it increasingly difficult to reconcile global advancement, human development and public expectations. This has become particularly pointed and highly relevant to emigration and immigration processes – how they are analysed, how they are discussed and debated, and how they are responded to – within a broader context of global trends that have altered fundamental aspects of daily life in many parts of the world. Alongside recent changes in the overall tone of the discussion on globalization, there exists a rich and diverse body of work on the topic, its meaning, its impacts, its benefits and its costs.²

What is globalization?

Globalization is a set of processes resulting in the growing breadth, intensity, speed and impact of worldwide interconnectedness as a result of:

- the stretching of social, political and economic activities across political frontiers, regions and continents;
- the intensification or increased magnitude of flows of trade, investment, finance, migration, culture and so on;
- the speeding up of global interactions and processes; and
- the deepening impacts of global interactions, such that the effects of distant events can become highly significant elsewhere, blurring the boundaries between domestic matters and global affairs.

Source: Held et al., 1999.

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2 Lechner and Boli, 2015; Steger, Battersby and Siracusa, 2014.

Migration processes are profoundly affected by globalization, which, after all, fundamentally involves interactions that span multiple geographic places, transcending nation states. These interactions involve ideas, capital, goods, services and information, as well as people who virtually and actually connect with others across boundaries. The links between international migration and complex processes of greater interconnectedness are of growing importance for several reasons. Firstly, a better understanding of the linkages provides some insight into the broader global dynamics affecting populations likely to move, including those at risk of displacement and/or irregular migration. Secondly, it can help us appreciate the role and limits of policies in influencing and shaping migration trends and patterns. Thirdly, greater interconnectedness can present considerable challenges to better managing unsafe, irregular migration. Fourthly, the recent advances in transportation and telecommunications technology have heralded massive change already, which appears to be part of a longer-term trend that is unlikely to change course. Examinations of transnational connectivity, mobility and migration are relevant now and will remain so well into the future.

In this chapter, we examine one specific aspect of globalization: transnational connectivity, which we define as both physical and virtual connectivity between people. We focus specifically on changes to transportation and telecommunications technology over time, and on international migration rather than internal migration. The second section provides a brief overview of the key advances in transportation and telecommunications technology globally. The third section discusses how transnational connectivity is affecting migration processes. The fourth and final section briefly discusses the implications for migration governance.

The evolution of transportation and telecommunications technologies

The significant increase in international mobility has been spurred by increased transportation links and the rapid growth in telecommunications technology. The transport revolution (from sail to steam and the development of railroad), starting in the nineteenth century, dramatically increased the intensity and velocity of international flows of people³ and, in the latter half of that century, emigration became a mass phenomenon.

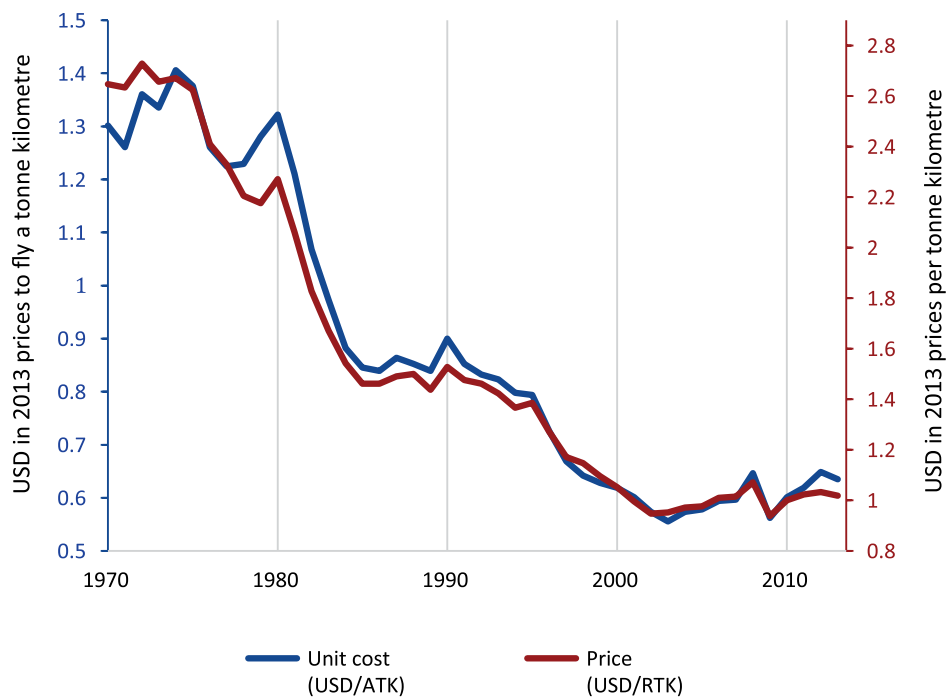
By the mid-1960s, rapid technological changes in aviation, such as the development of the jet engine, resulted in the boom of air transportation. These advances allowed aircrafts to reach far-off destinations and at much lower cost, thus leading to greater changes in cross-border movements of people and goods.⁴ With the availability of air transport, long-distance and real-time telecommunications, globalization has allowed transnational communities to flourish. The falling costs of ocean freight, transatlantic telephone calls, air transport and satellite charges have resulted in a “death of distance”.⁵ Recent data show a continuing downward trend of travel costs (see figure 1) and an increase in international tourist arrivals (see figure 2). While tourist arrivals are only one facet of international mobility, the data show that the volume of movements around the world is increasing and shows no signs of abating.

3 Lucassen, Lucassen and Manning, 2010.

4 Hoovestel, 2013.

5 Cairncross, 1997.

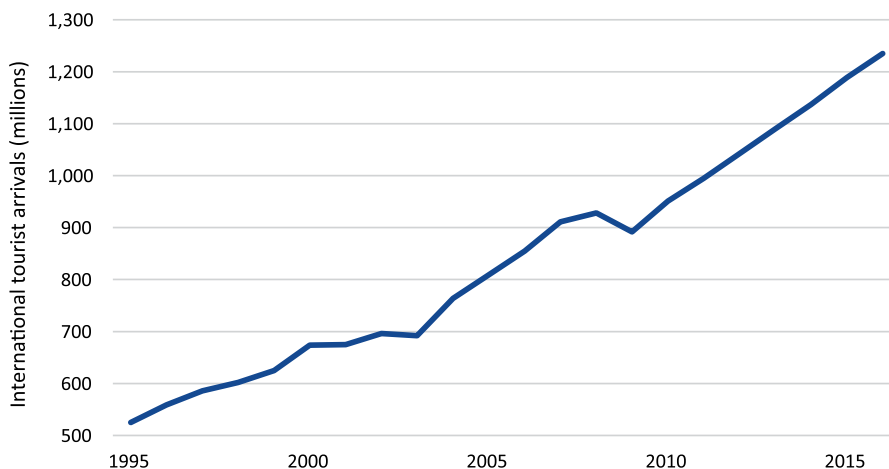
Figure 1. Unit cost and price of air travel, adjusted for inflation



Source: IATA/Tourism Economics Air Passenger Forecasts (2014); available from www.iata.org/pax-forecast.

Note: RTK = revenue tonne kilometres.
 ATK = available tonne kilometres.

Figure 2. International tourist arrivals (millions), 1995–2016



Source: UNTWO, 2017.

Importantly, it does not follow that geography and space constraints have vanished. They remain of fundamental importance with regard to mobility, including the movements of people that are variously circumscribed, such as the cross-border movements of people fleeing armed conflict, disasters or those embarking on perilous sea journeys in search of better lives elsewhere. This is demonstrated, for example, by the number of foreign-born residents globally, which shows that people who move to another country are much more likely to remain within their immediate region than move further afield (as discussed in chapter 3 on the regional dimensions of migration). Furthermore, geographic proximity has long been acknowledged as a central factor underpinning migration patterns and processes, as far back as Ravenstein's "laws of migration".⁶ Advances in technology, however, mean that more people than ever before can overcome the issue of distance. The volume of cross-border movements being managed by many countries around the world is continuing to increase. In the United States, it is estimated that up to 390 million cross-border movements occurred in 2016,⁷ which was up from 225 million in 1980.⁸ In Australia, 14.5 million cross-border movements were recorded in 1996–97, compared to 31.6 million in 2011–12.⁹ The current estimate is that, by 2020, Australia will experience 50 million movements per year across its borders.¹⁰ In Japan, estimates of selected cross-border movements¹¹ indicate an increase from 7.2 million in 1985 to about 36 million in 2015.¹²

In recent decades, advances in telecommunication technologies have also been pronounced, particularly in the last decade (see text box on key telecommunications advances), although not uniformly. Access to mobile telephones appears to have increased dramatically, as can be seen in figure 3. Global Internet usage has also grown rapidly, although it is unevenly distributed. There is a digital gender gap with higher Internet access rates for men than for women in all regions of the world; globally, men's access rate is 51 per cent and women's is 44.9 per cent.¹³ Indeed, increased user rates alone do not necessarily reflect an even take-up of new technologies. Differential access by class, gender and ethnicity are factors in technological engagement.¹⁴ Furthermore, there is a digital divide between developed and developing countries, with 81 per cent of individuals using the Internet in developed countries, compared to 40 per cent in developing countries and only 15.6 per cent in the least developed countries.¹⁵ The number of mobile broadband subscriptions in developing countries, however, is growing at a fast rate. In Myanmar, for instance, there was a dramatic increase of 4 million new mobile phone subscribers in the third quarter of 2016, following a recent liberalization of the national telecommunications network.¹⁶

6 Ravenstein, 1885.

7 US Customs and Border Protection, 2017.

8 White House, 1998.

9 ABS, 2007; Australian DIBP, 2012.

10 Australian DIBP, 2012.

11 In the context of Japan, selected cross-border movements include the number of foreign nationals entering Japan and the number of Japanese departing Japan. These figures have been summed up to provide global estimates of selected cross-border movements.

12 Statistics Bureau, 2016.

13 ITU, 2016.

14 Panagakos and Horst, 2006.

15 ITU, 2016.

16 Ericsson, 2016.

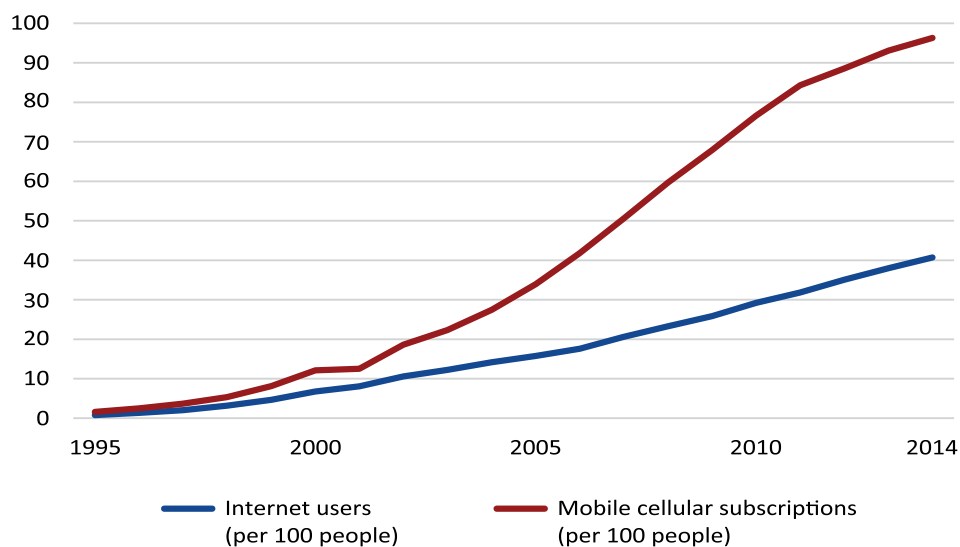
Key telecommunications advances

- 1876 Telephone
- 1890s First radio wave experiments
- 1920s First television transmissions
- 1930s Invention of the modern computer
- 1960s E-mail entering use
- 1980s Cellphone and GPS available for public use
- 1993 Internet is shared in the public domain
- 1994 Start of blogs and social networks
- 2001 Start of 3G smart phones
- 2004 Facebook is launched
- 2006 Twitter is launched
- 2007 Cloud computing – first iPhone is launched
- 2010 First iPad and rapid growth of tablet usage
- 2017 197 billion mobile applications (Apps) downloads worldwide, estimated to grow to 352.9 billion in 2021. Approximately 70,000 new blogs created each day, nearly one every second.

Mobile apps, social networks and mobile operating systems that did not exist in 2006 include: WhatsApp, Uber, Airbnb, Android, Instagram, Snapchat, Tumblr, WeChat and Facebook Messenger

This summary of key dates is based on several sources including The Library of Congress, Statista and The Encyclopaedia Britannica.

Figure 3. Global Internet and mobile telephone access



Source: Adapted from data extracted from World Bank World Development Indicators on 21 October 2015 (see: www.data.worldbank.org). A similar version of this graph was published by the Brookings Institution on 25 February 2014 (see: www.brookings.edu/research/interactives/2014/snapshot-6-rorschach-tests-international-order).

Note: By 2016, the mobile phone subscription penetration rate was over 100%, which means there are now more subscriptions globally than people (Ericsson, 2016).

Globally, it appears that the number of smartphone¹⁷ subscriptions has now surpassed those for basic mobile phones, accounting for 55 per cent of all mobile subscriptions.¹⁸ With the increase in smartphones and broadband connectivity, access to social media is growing – to the point that smartphones are now often the platform for people’s first experience with the Internet. It is important, however, not to overestimate the impact of newer communications technologies. Although the Internet is considered a global communications medium, access is still limited in many locations. Accurately measuring the Internet’s level of influence is difficult.¹⁹ While there are considerable cross-country and cross-regional variations, we can also see that, in recent years, even the least developed countries have experienced great leaps in connectivity. In Afghanistan, for instance, according to estimates, mobile telephone subscriptions increased from 1.2 million people (4.8%) in 2005 to almost 20 million people (61.6%) in 2015.²⁰

Some communities and people face the anomaly of virtual connectivity and physical immobility. Brownkey Abdullahi, a blogger and activist in the Dadaab refugee camp, shared her perspective on the limits of globalization (see text box below). While Brownkey Abdullahi is *virtually* connected globally, she remains *physically* isolated.

The world is not as globalized as you think

As someone who was born and raised in the world’s oldest and largest refugee camp, I’m here to tell you the world isn’t as globalized as you think.

Opened in 1992 and originally intended to provide temporary sanctuary for 90,000 people, Dadaab is the world’s largest and oldest refugee camp. Today, almost half a million people call it home. Like many people in the camp, I was born here, and it is the only place I have ever known. I have never left Kenya, the country where I was born, raised and educated, but have no right to citizenship.

Thanks to radio stations and spotty internet access, we can still connect with the world we are not able to experience first-hand. We stay in the loop with global developments, and thanks to social media I can now meet (if only virtually) people from other countries through a temperamental internet connection on my mobile phone.

These are but small tastes of the benefits of globalization that many people take for granted, but they have made an enormous difference. For several years now I have been campaigning in my camp against gender-based violence and female genital mutilation. What little internet access we have has allowed me to share that message with a larger international audience through my blog.

Source: Abridged excerpt of an article by Brownkey Abdullahi published by the World Economic Forum on 6 July 2016 (Abdullahi, 2016).

17 Smartphones, using third-generation (3G) technology (and beyond), are mobile phones that have an integrated computer, an operating system, Internet access and the ability to run “Apps”. Basic mobile phones, using second-generation (2G) technology, did not have Internet access.

18 Ericsson, 2016.

19 Rabogoshvili, 2012.

20 ITU/World Bank, 2017.

Transnational connectivity and migration actors

Even though innovations in transport and telecommunications technology have increased interconnectivity and facilitated movement, they have not always resulted in more migration, although they may alter the underlying migration processes. This section explores how increased interconnectivity is affecting migration processes and different migration actors.

Current estimates of international migrants over time show that migration is increasing, although the proportion remains small, rising from 2.2 per cent in 1970 to 3.3 per cent in 2015, within the context of a substantial increase in the world's population. According to UN DESA estimates, in 2015, 244 million people were living in a country other than their country of birth – almost 100 million more than in 1990 (153 million), and over three times the estimated number in 1970 (84 million). Migration patterns have not been uniform, however, with two thirds of all international migrants currently residing in high-income countries.²¹

An examination of some major works on migration (such as *The Age of Migration*;²² *Global Migration Governance*;²³ *Global Migration: Old Assumptions, New Dynamics*;²⁴ and *The Routledge International Handbook of Migration Studies*²⁵) shows that, while they all acknowledge the increase in transnational connectivity, there is not much discussion on the role played by connectivity's most rapidly changing aspect: telecommunications. In this section, therefore, we examine how transnational connectivity is shaping migration processes. In doing so, we focus on three main sets of migration actors – migrants, non-State actors and States – with particular reference to geography (origin, transit journeys and destination). Our discussion provides examples of how transnational connectivity can affect these different migration actors.

Transnational connectivity and migrants

In countries of origin, migrants and their communities are experiencing increasing connectivity in a multitude of ways, including in the form of social contact, remittance flows and the migrants' return to their country of origin, such as for significant holidays and events. The impacts can be many and varied, depending on the circumstances of the origin country (economic, social and political) as well as the situations of the migrants themselves. Recent research, for example, focusing on the economic determinants and impacts of migration identified a "positive effect of broadband on migration flows between 1995 and 2009 [...] by improving the flow of information about the host, which affects migration decisions from the origin".²⁶ This needs to be viewed in a broader (structural) context, however, as increased information through greater connectivity may not necessarily result in decisions to migrate and, therefore, higher levels of migration.

21 UN DESA, 2015.

22 Castles, de Haas and Miller, 2014.

23 Betts, 2011.

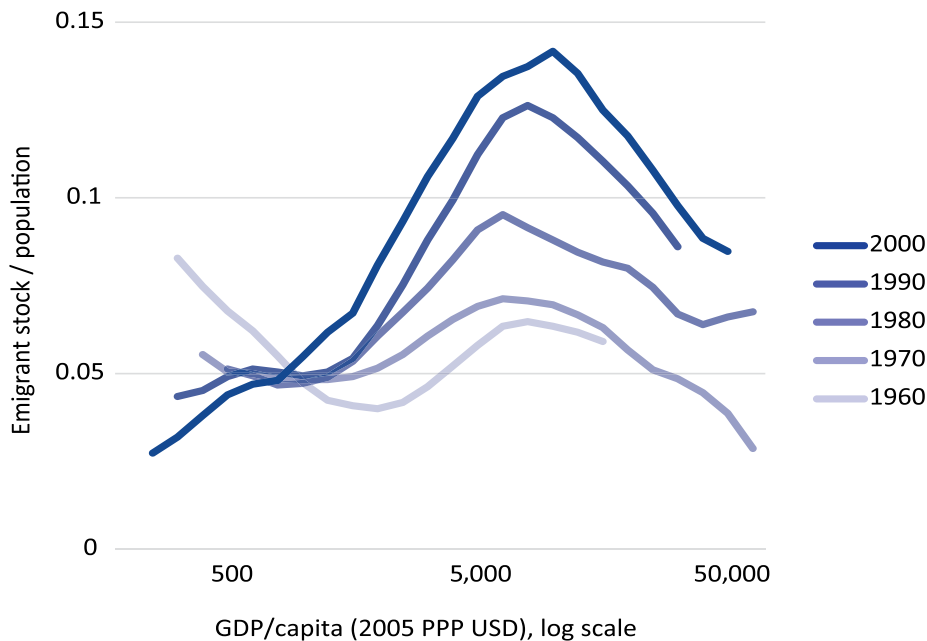
24 Acosta Arcarazo and Wiesbrock, 2015.

25 Gold and Nawyn, 2013.

26 Unver, 2015. The study was based on flows to OECD countries: "The main host countries here are Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Luxembourg, Netherlands, Norway, Poland, Spain, Sweden and the UK. The selection of both OECD and non-OECD origin countries [is] based on the magnitude of the flows, examining those with a minimum number of 100 people" (Unver, 2015).

There is a substantial body of research and analysis on the determinants of migration that has identified multiple factors underpinning migration patterns and processes, including those related to economics and trade, social and cultural links, demography and demographic change, safety and protection, as well as geography and proximity.²⁷ One line of research on the links between “maturity” of migration and human development, for example, shows that, at a certain point, higher incomes enabling increased emigration can then become a stabilizing influence and reduce outward migration. In other words, as GDP per capita increases, emigration initially increases and then decreases. This phenomenon, depicted in figure 4,²⁸ has been referred to by some authors as the “mobility transition” or the “migration hump”.²⁹ The complex processes of migration and development need to be viewed in the context of broader globalization dynamics, as highlighted by Held et al.,³⁰ including the acceleration of transitions enabled by much greater connectivity.

Figure 4. Mobility transition



Source: Adapted from Clemens, 2014:7–8.

Note: Clemens found that overall higher economic development (higher incomes) is associated with reduced emigration. Refer to Clemens (2014) for further discussion of data analysis.

27 See, for example, writings on cumulative causation (Massey, 1990), neoclassical economics (Todaro, 1989), world system theory (Portes and Walton, 1981), social capital theory (Massey, 1987), new economics of labour migration (Stark and Bloom, 1985), and social network theory (Boyd, 1989).

28 Clemens, 2014.

29 Zelinsky, 1971; Clemens, 2014.

30 Held et al., 1999.

Increased telecommunications between migrants and their families and communities – depending on the migration and development interactions within the origin country – can affect (but may not necessarily increase) the migration of family members left behind. Greater social and financial contact can have a stabilizing effect on many families and communities that otherwise might be under pressure to also migrate. In Sri Lanka, for example, remittance inflows have steadily increased over the last 30 years, rising from 1.9 per cent of GDP (USD 60 million) in 1979 to 8.7 per cent in 2015 (USD 7 billion).³¹ They play a significant and stabilizing role in helping households meet their basic needs and increase their ability to cope with adverse shocks (such as in the aftermath of the 2004 Asian tsunami), but they also enable them to purchase land, releasing households from indebtedness, promoting small-scale enterprise development, and increasing investment in education and health.³²

The enhanced and extended connectivity for the transfer of capital, similar to the flow of information, can support or stabilize populations. Importantly, some people in origin countries have been more vulnerable to exploitative money transfer practices, due to their geographic isolation from formal and reliable banking systems. Mobile money technology, however, has seen the geographic barriers to better money transfer services dissipate and the costs of remitting decrease.³³

Mobile money has become a significant phenomenon in recent years, largely due to “the convergence of advanced mobile communication technologies and the ability to use it for data services in mobile money transfer”.³⁴ In their recent review of mobile money and technology trends, MIT researchers Shrier, Canale and Pentland drew on a range of data to find that:

Of the 2.5 billion people as of 2012 that did not have a financial account, 1.7 billion had a mobile phone. As of 2012 there were more mobile money accounts than traditional bank accounts in Kenya, Madagascar, Tanzania and Uganda.³⁵

Telecommunications technology has also proved to be an important factor enabling migrants to access information in real time while in transit countries.³⁶ The large-scale movement of people to Europe from Turkey in 2015, for example, highlighted in a very visible manner the application of smartphone technology in the migration of refugees and other migrants and the operations of smugglers³⁷ (see the text box on the “appification” of migration). Real-time connectivity enables information to be sourced and verified, particularly where migrants are likely to undertake unsafe journeys or rely on smugglers.³⁸

31 World Bank, 2017.

32 Sri Lanka Ministry of Foreign Employment Promotion and Welfare, 2013.

33 Shrier, Canale and Pentland, 2016.

34 Tobbin and Kuwornu, 2011.

35 Shrier, Canale and Pentland, 2016.

36 Kuschminder and Koser, 2017; McAuliffe, 2013.

37 McAuliffe and Koser, 2015; Zijlstra and van Liempt, 2017.

38 Triandafyllidou and Maroukis, 2012.

The “appification” of migration: lessons from the 2015 Mediterranean maritime migration flows

The world has changed fundamentally in the almost 70 years since the largest refugee crisis in Europe following the aftermath of World War II when the Refugees Convention was being developed and refugee movements beyond war-torn Europe were regulated by states (including under the United Nations). The UN coordinated repatriation, returns and resettlement of refugees to third countries. In today’s terms, movements were slow, highly regulated and very selective. Information for refugees was largely the monopoly of states and opportunities for migrating to other regions were limited to formal channels. Things are very different now.

Some 70 years on conflict and persecution may still be occurring at frustrating and tragic levels but the context has changed. The ‘appification’ of migration has taken off, making migration processes fundamentally different in specific but important ways. Firstly, mobile phone technology has become the norm, linking migrants to family, friends, humanitarian organisations and smugglers, but equally linking smugglers to agents, corrupt officials, and their networks of fellow smugglers in dispersed locations.^a The telecommunications revolution is enabling the creation of unregulated migration pathways that are fast and affordable for an increasing number of people. There are many apps available for people travelling to and through Europe. For example, *InfoAid* has been set up by a Hungarian couple to provide real-time advice on how to cross borders. Other apps help refugees integrate, such as *Refugermoney* and *Arriving in Berlin*. Connectivity is supporting movements to safer regions for many but pathways are often extremely dangerous and at times deadly.

Secondly, and for the first time in decades, large numbers of refugees and other migrants in transit and host countries such as Turkey are not sitting and waiting for resettlement or return. They are taking matters into their own hands, principally because they can. Information, advice and money can be shared quickly, and the constraints of geography more easily overcome. The massive and sudden growth in movements through the Eastern Mediterranean route to Greece in 2015 was aided by strong connectivity.

Telecommunications helped shape the size, composition, speed and geography of the European flows. Real-time coverage of movements and operations enable migrants – refugees, asylum-seekers and others – to access useful information on where, when and how to travel. The strong preference for Germany over other European countries is not by chance. It has been realised by migrants themselves as sharing of information increases. In the context of limited access to visas, unregulated asylum pathways risk becoming a funnel for refugees and non-refugees alike.^b

a Khalaf, 2016.

b McAuliffe and Koser, 2015.

Source: Abridged excerpt of an article that first appeared in ANU’s Policy Forum in January 2016 (McAuliffe, 2016).

In destination countries, the use of modern information and communication technologies (ICT) enables more and more migrants to “maintain remote relations typical of relations of proximity and to activate them on a daily basis”.³⁹ By compressing time and distance, telephone calls, voice and video chats, social media and

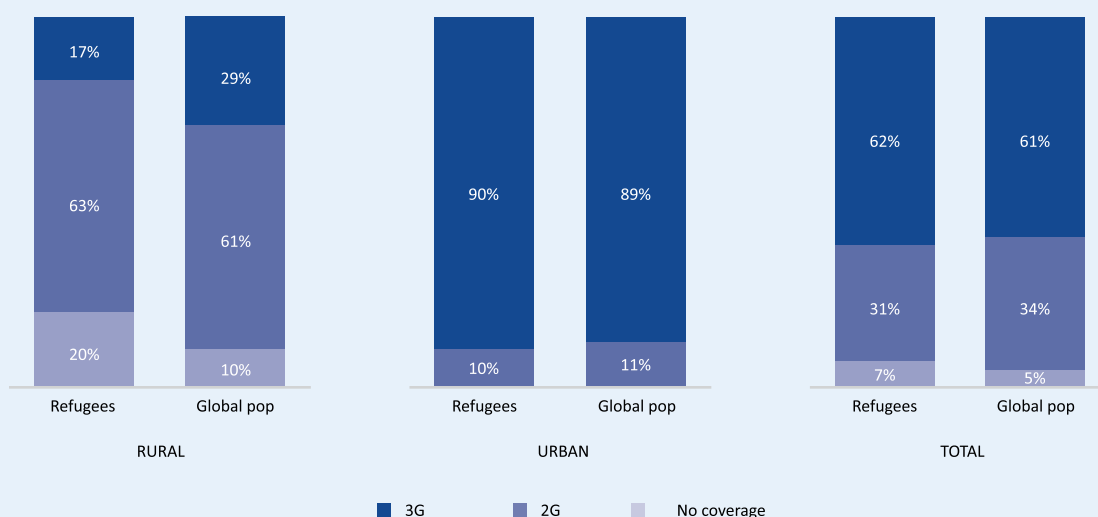
39 Diminescu, 2008.

e-mails enable migrants to stay connected with families and relatives, and to know what happens to them wherever they are, across national boundaries. For example, a recent study explored how young Koreans from transnational families in Canada choose and use different mobile platforms in different contexts.⁴⁰ The study found that they use global platforms (especially Facebook) to widen their peer networks in Canada, while using the Korean-based mobile platform of Kakao Talk to maintain their ties with the Republic of Korea and/or ethnic communities in Canada. Social connectivity is also important for displaced persons, including refugees. The United Nations High Commissioner for Refugees (UNHCR) is currently undertaking a project to improve refugee well-being through enhanced Internet and mobile connectivity (see text box below).

Connectivity for refugees

UNHCR carried out a global assessment of refugees’ access to, and use of, the internet and mobile phones where available, to help inform the development of a new UNHCR Global Strategy for Connectivity for Refugees.

One of the key findings of the research is that while 7 per cent of refugee communities lack the requisite digital infrastructure for internet access and mobile communications, most refugees in urban areas live in place that have 2G or 3G mobile coverage. For those in rural areas, however, the situation is far worse, with 20 per cent living in areas with no connectivity.



Source: Abridged excerpt from UNHCR, 2017, accessed on 5 April 2017.

While connectivity may benefit migrants by enabling them to stay connected with families and relatives, greater transnational connectivity – via mobile phones, especially – has also been found to amplify the pressure and demands on migrants in destination countries to send money home.⁴¹ These findings support

40 Yoon, 2016.

41 Hunter, 2015.

long-standing evidence suggesting that migrants can face considerable pressure to remit.⁴² In his study, Hunter found that pressures to remit were amplified by the use of mobile telephony.⁴³

Transnational connectivity and non-State actors

Just as we have seen significant changes in the day-to-day lives of migrants and their communities brought about by advances in technology and greater interconnectedness, non-State actors involved in supporting, facilitating or reporting on migration and mobility have been profoundly affected in a variety of ways. Broadly defined, non-State actors are groups, organizations or individuals that are not part of State structures yet may exert influence on national and international processes and systems. Examples of non-State actors include: migration agents; migrant smugglers and human traffickers; employers; civil society, non-governmental organizations (NGOs) and philanthropists; and international organizations.⁴⁴ Non-State actors are increasingly operating transnationally and their businesses and activities are much less confined by geography than ever before. As geography becomes less of an issue, migration processes are inevitably affected. This section provides examples of specific non-State actors and how they engage in migration processes.

Migrant smuggling and human trafficking networks are using ICT (especially smartphone technology) to organize international travel, connect with clients and (in some cases) extract ransoms from family back home.⁴⁵ Smugglers also use social media to connect with new clients and advertise their services. Facebook and other social media platforms provide information on smuggling services, including to certain destinations, which is changing the way in which irregular migration is occurring and smugglers operating.⁴⁶ Increased connectivity enables people to check smugglers, as it also extends the ability of migrants to transmit information to make others aware of smugglers to avoid.⁴⁷

The use of ICT has also become a dominant force in the emergence of the “mobility industry”, which is operating in response to increasing demands by the relatively wealthy wanting to temporarily or permanently migrate to lower-cost countries with good health care and other services.⁴⁸ The innovative use of blogging, social media platforms and other interactive online practices have tapped into and expanded a growing market – for example, for US citizens seeking to move to Mexico; in 2015 there were estimated to be around 1 million US citizens residing in Mexico.⁴⁹ Similar mobility and migration facilitators abound in various locations, including South-East Asia, Southern and Eastern Europe, and North Africa, typically offering a range of relocation services that include migration but extend well beyond this aspect into housing, study/education, health-care services and employment.

In terms of the migration industry, migration-related agents and brokers have proliferated as opportunities for transnational labour recruitment have expanded. Even at a most basic administrative level, Internet-based visa application processes, for example, have become much more common over time, allowing for reduced visa counter services at embassies, and an expansion in Internet-based brokers and agents who can facilitate

42 Carling, 2008; Vargas-Silva, 2016.

43 Hunter, 2015.

44 For the purposes of this chapter, migrants (who are technically non-State actors) are discussed in the previous section.

45 McAuliffe and Laczko, 2016.

46 Brunwasser, 2015.

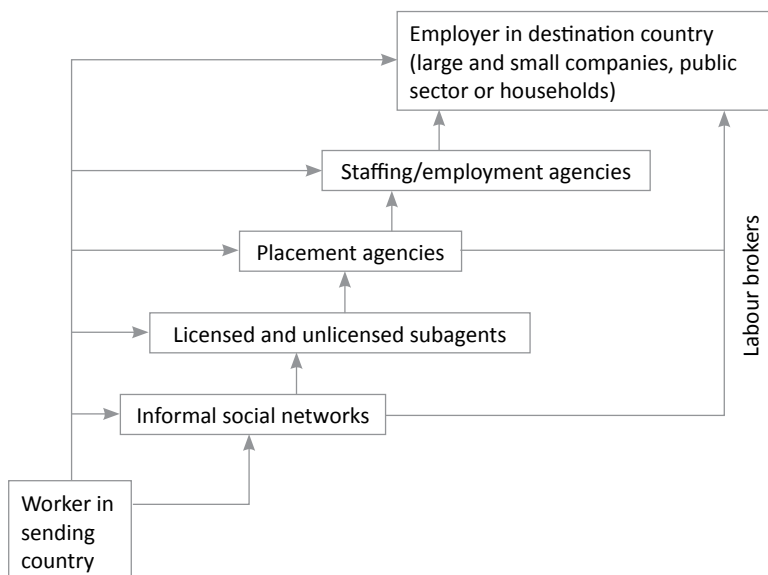
47 Triandafyllidou and Maroukis, 2012.

48 Bantman-Masum, 2015.

49 UN DESA, 2015; US Department of State, 2017.

migration through virtual means. Figure 5 shows the various layers involved in transnational recruitment practices, which are widely acknowledged as having increased in scale, complexity and speed, raising a raft of challenges for regulators.⁵⁰

Figure 5. Transnational labour migration brokers



Source: Pittman, 2013.

It is not uncommon to find fraudulent practices among unscrupulous private recruitment agencies offering non-existent jobs; misrepresenting conditions of work and wages; falsifying contracts; or confiscating documents. This puts increasing pressure on policymakers and governments to examine and regulate private recruitment practices. In some cases, however, digital technology advances enhance transparency and support better recruitment practices. The Filipino-based LBS Recruitment Solutions Corporation, for instance, is using online media and emerging social media applications to deal directly with employers and workers. The changes have had a positive impact and, in 2014, results showed that the company's supply chain of applicants had improved, advertising costs had decreased, and no recruitment violations or money claim cases had been reported.⁵¹

Other non-State actors are responding to migration in innovative ways through the use of technology. IOM, for instance, is developing a mobile phone application (MigApp) that aims to provide migrants with access to reliable and practical information on the migration process and on available services in destination countries – providing, for instance, updated information regarding visa and travel regulations, as well as a platform for interaction with legitimate service providers.⁵²

50 Pittman, 2013.

51 IOM, 2014.

52 IOM, 2017a.

Other recent initiatives have involved the emergence of philanthropists, NGOs and other individuals supporting migrants undertaking unsafe, irregular maritime journeys by providing humanitarian assistance en route. The use of drone technology to detect migrant vessels in distress and target humanitarian relief is an example of the application of newly accessible technology that was barely conceivable a decade ago.⁵³ The Migrant Offshore Aid Station, for example, is a registered foundation based in Malta that aims to save lives by assisting migrants who find themselves in distress on unsafe vessels. In 2016, it launched a mission involving two drones to patrol Mediterranean waters using day- and night-sensitive optics to send back high-resolution images.

Real-time connectivity is also being used in conflict and displacement situations where mass movements are taking place and tracking becomes important for a range of reasons, including population assessments to guide humanitarian service delivery, as discussed in the text box below. Biometrics technology is considered by several aid agencies to be highly efficient. UNHCR, for example, is using biometrics to register people in refugee camps and to monitor food and aid distribution to refugees to ensure that the amounts provided match the number of refugees. However, this needs to be balanced with concerns about the monitoring and surveillance of people and the authorities' usage of data against migrants. Technologies, such as biometrics, iris scans or fingerprints, used by States to monitor human mobility, are political tools that can violate privacy.⁵⁴

Biometrics in developing countries

If you follow the news of large-scale biometrics programmes, one fact becomes immediately obvious. A surprisingly large percentage of these initiatives are in developing nations. At least, it's a surprise until you start looking more closely at the context in which these programmes are being implemented. In many cases, the situation is ripe for such solutions because of both need and opportunity.

"Food and non-food aid provision, and food distribution, was one of the original use cases," says [Justin] Hughes, a procurement and supply chain expert for PA Consulting Group who has led the company's work with the United Nations.... "It's also a population fixing tool for when you've got mass migration, when you've got refugees streaming across a border. It provides the ability to create a database that doesn't necessarily identify an individual..."

It isn't just a case of biometric systems being more efficient than paper-based ones – sometimes there's little alternative. "When people flee a disaster zone or a conflict zone, they don't take papers with them, and they don't have the opportunity to bring any other form of documentation with them," says Hughes. "Or they may have discarded their papers intentionally, if they felt that carrying a passport identifying them as part of a particular group may have increased a risk. So for a number of different reasons, people will often not appear with what we would recognise as a traditional paper-based or card-based form of identification. With biometrics, you're carrying your identity card with you on your fingers or on your irises, so that's been the main advantage, and the fact that there is this level of technological rigour around it."

*Source: Abridged excerpt of Mansfield-Devine (2015), Biometrics in developing countries, *Biometric Technology Today*.*

53 Bryant, 2015.

54 Dijstelbloem, 2017.

State actors and broader implications for managing migration

While the growing convergence between the processes of globalization, social transformation and migration has been recognized,⁵⁵ it is difficult to provide a comprehensive assessment of the various ways in which States' migration policies and regulatory processes have been affected by the increase in transnational connectivity. The impact of increased connectivity on States is likely to be uneven, fragmented, diverse and dependent on a country's global migration status as country of origin, transit and/or destination.

This section provides examples of how States have (re)acted in relation to changes in migration processes underpinned by transnational connectivity. As access to international movement has increased, States have sought to implement a range of strategies to manage this increase in scale, pace and diversity, and some States have sought to maximize the benefits of migration. Immigration and border management policies and practices have evolved rapidly to account for perceptions of risk associated with the movement of large numbers of people, such as those associated with migrant smuggling, human trafficking and irregular migration flows. Furthermore, as greater interconnectedness affects various aspects of migration, States have used technology to manage or facilitate migration more efficiently. Technological advances therefore affect the management of migrant populations in various ways.

ICT potentially provides powerful tools for enhancing the quality of life of people, especially those living in remote locations. An emerging practice between States and the private sector involves using the potential ICT and transnational connectivity offer to lessen migration pressure in rural or remote areas, such as outlined in the text box on the Digital Island project in Cox's Bazar.

Emerging practice: public–private partnerships to improve connectivity in rural/remote areas to lessen migration pressure – Moheshkhali GiGA Digital Island project in Cox's Bazar

In February 2016, Korea Telecom Corporation, one of the largest telecommunication service providers in the Republic of Korea, signed a tripartite memorandum of understanding with the Government of Bangladesh and IOM for a pilot project to enhance government services in hard-to-reach areas through better online connectivity. Reflecting a renewed emphasis on private–public partnerships and the importance of technology in development, the parties have come together to pilot a service provision model utilizing a high-speed Internet connection on Moheshkhali Island – a remote part of Bangladesh's Cox's Bazar region, one of the poorest areas in the country, with limited and low-quality access to services. The initiative is aligned with the Digital Bangladesh national development strategy (which is part of the government's "Vision 2021" initiative).

55 Castles, de Haas and Miller, 2014.

(...) In practice, the project will deliver social services, such as education and health care, relying on e-tools, such as online content and remote teaching, m-Health tools for diagnostics and e-consultations with specialists. Rural Bangladeshis may, as a result, feel less of a need to travel several hours to visit a doctor, and children may receive school lessons at home or at community centers. In addition, through facilitating market access through e-commerce platforms, rural Bangladeshis may also feel more confident about their sources of income and feel less pressure to migrate for better earnings.

Source: Abridged excerpt of IOM, ILO and UNDP, 2016.

For countries of origin, another way of supporting migrant populations lies in regulating overseas employment recruitment processes. In the Philippines, for instance, within the Department of Labor and Employment, the Philippine Overseas Employment Administration provides in real time, through their website, an updated list of overseas job openings as well as brokers' contact information, and the number of vacancies available. Furthermore, there is a mandatory deployment process, which includes pre-departure orientation seminars and the issuance of an Overseas Filipino Worker identification card. This process aims to provide Filipino migrant workers with information regarding their destination country and resources available to them at embassies or consulates, as well as financial management information (about remittances and the use of banks and ATM cards). Similarly, in order to tackle some of the challenges posed by private recruitment practices and to create a smoother and more transparent migration process, the Government of Nepal inaugurated in 2014 a "labour village" in Kathmandu – a complex that houses under one roof all the foreign-employment-related services, including country-specific offices that advertise jobs, NGOs and social welfare organizations, government agencies (such as the Foreign Employment Promotion Board), recruiting agencies, pre-departure orientation and skills training providers, a health centre and a guest house.⁵⁶ The Government is providing migrants with online services for banking and insurance and is looking into developing innovative services, including mobile and digital technology, so that households receive remittances faster, more cheaply and closer to their residence.⁵⁷

States also make use of increased connectivity and technological advances to manage migrant populations through enhanced border management. Increasingly sophisticated technology relying on real-time connectivity is being applied to border management to support the emergence of "virtual borders" by destination countries. Australia, for example, has progressively enhanced its virtual border since the introduction of the universal visa regime in 1975.⁵⁸ With the aid of real-time transnational connectivity, visa integrity, security and other checks of passengers travelling by air to Australia occur well before people board planes in origin countries. This multi-layered, geographically dispersed border processing model requires considerable technology involving multiple IT systems with increasing capacity to detect identity and other fraud.⁵⁹

56 Nepal Ministry of Labour and Employment, 2014.

57 Nepal Ministry of Labour and Employment, 2015.

58 ANAO, 2006.

59 Ibid.

Similar advances have been made in other parts of the world, with border processing systems, such as detection of false documents via X-ray and fingerprint scanning, e-passport scanning, automated e-gates and biometric visas, becoming increasingly sophisticated, particularly since 11 September 2001.⁶⁰ For example, in 2013, the European Union launched the Smart Border initiative, which aims at expanding and harmonizing automated border-crossing via the use of e-gates and real-time entry and exit information-sharing across the region. The information will be linked to fingerprint records and watch lists held by police and made available to border control and immigration authorities. Technology has also supported cooperation with airlines, such as through the development of agreements about the physical return of people refused entry at borders upon arrival, a key component of which is financial penalties imposed on airlines that incorrectly board passengers without conducting agreed checks.⁶¹ The extension of borders well beyond the physical border through the increasing use of technology to facilitate real-time checking has caused some commentators to raise concerns about the “relocation” of sovereignty through the extraterritorial application of norms⁶² and about the human rights impact of the indiscriminate sharing of personal data.⁶³

Important developments in managing and supporting migrant populations have emerged to enhance integration processes. Some State authorities have been using telecommunications technologies to better promote the integration of migrants in their communities. In the Netherlands and Sweden, for example, ICT with visual and audio learning methods are being used. Migrants have been able to develop their language proficiency faster, with ICT applications being used in the classroom to address the specific needs of each person and, outside of the classroom, providing opportunities for independent learning.⁶⁴ Germany recently launched a smartphone app called “*Ankommen*” [Arrive] to help migrants and asylum seekers integrate by offering a basic German language course, information on the asylum application process and on how to find jobs or training, as well as information on German values and social customs. The app – available in several languages – was jointly developed by the Federal Office for Migration and Refugees, the Federal Employment Agency, the Goethe Institute, and Bayerischer Rundfunk (a public radio and TV broadcaster).

Furthermore, thanks to the technological advances of the digital age, local governments can avail of a new array of tools for better understanding the needs of – and engaging with – the populations they serve. Web portals or mobile applications in different languages are to improve access to public services.⁶⁵ For instance, New York City has developed an interactive online self-service called NYC311 that is available in 50 languages. This web platform enables all residents to submit service requests, file formal complaints and access public information anonymously and confidentially.

Greater transnational connectivity also provides States with tools for providing consular services and assistance to migrants. For the Ministry of Foreign Affairs of Guatemala, for example, IOM Guatemala developed a mobile application to provide such services. Among its various features, the mobile app enables direct contact between migrants and Guatemalan consular agents, while also providing real-time data registration and reporting. Migrants will be able to use this tool to contact national authorities when natural

60 Jeandesboz, 2008.

61 Taylor, 2008.

62 Gammeltoft-Hansen, 2008; Godenau and Lopez-Sala, 2016.

63 Valkenburg and van der Ploeg, 2015.

64 Driessen et al., 2011.

65 Mattoo et al., 2015.

hazards, such as earthquakes or hurricanes, strike. Additionally, it seeks to enhance visibility of diaspora communities by establishing a digital mechanism for posting content and promote special activities.⁶⁶

While it is beyond the scope of this chapter to provide a comprehensive account of the multiplicity of State impacts and responses to migration and mobility stemming from and utilizing greater transnational connectivity, it has highlighted the diversity of those impacts and approaches, as well as the many ways technology is utilized in migration processes. In the context of empirical research showing how the globalization of migration has been skewed towards major destination countries,⁶⁷ the emerging paradox between the extent of State control and populist expectations takes on heightened importance. Over time, there has been a significant increase in State regulation in a variety of areas of economic and social life, resulting in higher expectations of State control. A historical perspective on the emerging regulation-expectation paradox is provided in the text box below.

The regulation-expectation paradox

As the capacity of modern nation States has grown—economically, socially and technologically—so too has the ability of States to regulate societies. Governance has increased while becoming increasingly sophisticated and complex. Areas that had long been regulated by nation States (and kingdoms, empires, tribes, etc., before them), such as taxation of citizens and residents, along with the regulation of aspects of business and social protection, expanded to cover areas previously unregulated, such as telecommunications, media and broadcasting, environmental protection/conservation, public health, among many others. As part of this expansion of regulation and increasingly sophisticated governance, international migration—immigration and (in some countries) emigration—has become increasingly regulated, with regulation involving the formulation of new legal-policy frameworks as well as the growing complexity of those frameworks. In Australia, for example, the original *Migration Act 1958* was 35 pages long and provided significant discretion to delegated decision makers. By 2005, the *Migration Act 1958* had expanded to 744 pages with the additional Regulations comprising nine volumes totalling an additional 1,993 pages,⁶ and clearly containing much greater details of the rules that applied to the administration of migration.

It is important, however, to recognise that the growth in regulation—both the number of issues being regulated and the increasing complexity of those regulations—is not specific to migration alone. As shown below, the number of pages of primary legislation in Australia has increased significantly in recent decades, and most particularly since the 1970s. This is mirrored, for example, by regulatory increases in other countries such as the United States (see below).

66 IOM, 2017b.

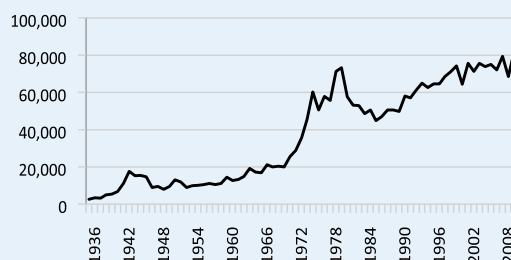
67 Czaika and de Haas, 2014.

Number of pages of federal legislation passed in Australia, 1901–2006



Source: Berg, 2008.

Number of pages of federal regulations added to the United States federal register, 1936–2010



Source: Crews, 2012.

An important consequence of increasing regulation—both in terms of its sophistication as well as its overall coverage—is the impact on perceptions of State control. The more States regulate aspects of social and economic life, the more they strengthen the perception that phenomena can be regulated and controlled, even those occurring transnationally and beyond the direct control of national or sub-national regulators. This ‘regulation-expectation’ paradox poses considerable challenges for States, not least of which involves explaining to citizens and societies the impact of globalization on a range of aspects of daily life, including migration. And yet in many countries, there remains the populist discourse that immigration can be ‘controlled’ when the reality brought about by increasing interconnectedness means that migration ‘management’ is far more applicable. Against this broader backdrop of the evolution of migration regulation, recent developments in transnational connectivity take on heightened relevance with potentially profound implications, including for the deepening of the regulation-expectation paradox.

c Kelly, 2005.

Source: Abridged excerpt of a book chapter on regulating international migration (McAuliffe and Goossens, 2017).

Conclusions

Globalization processes are altering aspects of daily life in the modern era. Recent advances in transportation and telecommunications technology have heralded massive changes in how we access information and interact globally in real time. Increasing transnational connectivity is shaping how people move internationally in ways that were not previously possible. While access to such technology remains uneven across the world, the continuing extension of advanced telecommunications means that greater numbers of people are connected online. This chapter has examined what this increasing transnational connectivity means for mobility and migration and how related processes are being shaped.

We have seen that transnational connectivity has uneven and varied impacts on migrants and States, in terms of shaping migration processes. However, it is perhaps clearer than ever before that non-State actors are playing an increasing role in migration through the application of advanced telecommunications and other technology (such as drones). While the expansion of non-State actors in international migration processes has distinct benefits, such as in the field of humanitarian assistance for migrants, it also has some potentially negative effects, such as facilitating the expansion of human trafficking networks transnationally.

The complex interactions between greater interconnectedness and international migration processes are of growing importance. While the drivers of migration may remain largely unchanged, the circumstances in which people are considering and making decisions about their migration options have changed considerably, and it is in this context that we highlight the following implications for policy.

- Continued investments need to be made in developing technologies that can be used by migrants to avoid dangerous and possibly deadly migration pathways as well as abuse and exploitation. **Innovative ways of using technology, social media and apps** (such as the mobile phone application, MigApp, by IOM to provide migrants with access to reliable and practical information on migration processes and on services in destination countries) **can support and facilitate safe, orderly and regular migration**.
- Such technologies need to be rolled out and made available on a more even basis. The recent improvements in global connectivity, even in some of the more remote and least developed countries, needs to be further supported so that new technologies and applications (such as those related to mobile money) can assist communities worldwide and reduce the risk of uneven implementation.
- While States have invested in technology based on real-time connectivity to enhance their ability to monitor borders and detect and prevent irregular entry into their territory, **similar investments in analytical capability are needed for a better understanding of the incremental shifts in migration processes**, including in relation to how migrants think about and assess their migration options.
- As globalization and transnational connectivity deepen, **further research on the impact on human rights of the indiscriminate sharing of personal data is necessary to support more effective policy responses**, including on global governance of migration.
- Finally, greater recognition of the role of technology in migration management will be central in the development of global responses, such as the 2018 global compact on migration. Although greater connectivity and the ability to move information, money and ideas in real time may pose challenges, especially in curbing illicit and unsafe migration activities, it is likely that some of the most effective responses can also be found in emerging technology.

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