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Working Paper

Return, Circular, and Onward Migration Decisions in a Knowledge Society

CESifo Working Paper, No. 7913

Provided in Cooperation with:

Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

Suggested Citation: Constant, Amelie F. (2019) : Return, Circular, and Onward Migration Decisions in a Knowledge Society, CESifo Working Paper, No. 7913, Center for Economic Studies and Ifo Institute (CESifo), Munich

This Version is available at:

<https://hdl.handle.net/10419/207304>

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Impressum:

CESifo Working Papers

ISSN 2364-1428 (electronic version)

Publisher and distributor: Munich Society for the Promotion of Economic Research - CESifo GmbH

The international platform of Ludwigs-Maximilians University's Center for Economic Studies and the ifo Institute

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Editor: Clemens Fuest

www.cesifo-group.org/wp

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Abstract

This chapter provides a state-of-the-art literature review about research that aims to explain the return, repeat, circular and onward migration of the highly-skilled migrants around the world. After it describes the status quo in the knowledge economy and the international race for talent, it presents the relevant theories and concepts of migration in the social sciences and how these theories accommodate the phenomena of return, repeat and onward migration. A special section is devoted to selection. The chapter then summarizes, evaluates, and juxtaposes existing empirical evidence related to theoretical predictions. Observables such as education, income, gender and home country as well as unobservables such as ability, social capital and negotiating skills play a strong role in influencing return, repeat and onward migration decisions. Yet, there is no consensus on the direction of the effect. The chapter discusses shortcomings and limitations along with policy lessons. It concludes by highlighting holes in the literature and the need for better data.

JEL-Codes: F220, J150, J180, J200, J610.

Keywords: return, circular, onward, international labor migration, knowledge economy, high-skilled, public policy.

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I. Introduction

The pressure to be “a knowledge economy/society” and ready for tomorrow’s jobs erupted in the 21st century, and knowledge became a commodity every country on earth wanted. Instead of physical or natural resources knowledge societies now want advanced technologies, scientific breakthroughs and intense innovation, which require research, intellect, and expertise. Meanwhile, OECD (2009) predicted rising shortages of highly-skilled labor until 2030, and PCAST (2012) warned that for the U.S. to retain its preeminence in knowledge society, it will need about 1 million more STEM workers than the country produces at the current rate over the next decade.

Short-run labor shortages can be overcome by hiring skilled/knowledge migrants under temporary, circular schemes, while adjusting to long-term labor market needs. Strong demand for skilled migrants, the majority of whom comes from developing countries, over the last twenty years has created new trends and patterns on top of the traditional migration. While we know a lot about the policies and regulations countries implement to attract talent, we know very little about the policies to retain and grow talent and their effectiveness. Research on the return migration of the highly-skilled, their inventiveness and entrepreneurial endeavors, their onward or repeat migration will greatly help policymaking.

A pillar of human and economic geography, migration used to have a uni-directional “place” component, viewed as the movement from one place, the homeland, to another, the host location. Its “time” component ranged from long-term (staying in the new place for at least 12 months), to short-term (staying between three and 12 months). But towards the later decades of the 20th century, scholars observed return, repeat, circular, and onward migration patterns and started theorizing about them.

In the 21st century, return, repeat, and circular migration are even more pronounced, offering new time-space dynamics and intensifying research interest. Estimates, varying by host country, document that 20-75% of immigrants leave the host country within the first five years after arrival (OECD, 2008). For example, 40% of skilled immigrants in Canada left within ten years after arrival, and those who arrived during recessionary periods had even higher return rates (Aydemir and Robinson, 2008). The return rates of foreign students five years after receiving their Ph.D. in the U.S. ranged from 25% in computer science and engineering to 49% in social sciences (Finn and Pennington, 2018).

Re-immigration or repeat migration rates in Norway were over 50% among the Pakistani immigrants who returned to Pakistan and re-immigrated to Norway (Bratsberg et al., 2007). In Germany, over 60% of the immigrants from guestworker countries were actually repeat or circular migrants (Constant and

Zimmermann, 2011) and about 80% of the migration transitions between host and home countries were about re-returning to Germany (Constant and Zimmermann, 2012). Considerable de facto circular migration exists between Bangladesh and Saudi Arabia, or other Arab countries and the oil-rich Gulf countries (Newland, 2009). Therefore, a good part of international flows is by return and repeat migrants.

Onward migration is not trivial either. Of the immigrants who left Sweden, 20-28% moved onward (Nekby, 2006; Monti, 2018). In Norway, some immigrant groups such as the Vietnamese had onward rates of 66% (Bratsberg et al., 2007). In Canada, 37% of immigrants moved onward to the U.S. (King and Newbold, 2007). In the U.S., about 15% of the high-skilled migrants came from a country different than their birth country (Artuç and Ozden, 2018). While immigrants who migrate to countries with similar living-standards to their homeland are more likely to return, immigrants who migrate to richer than their home countries are more likely to migrate onwards (OECD, 2008). Forced migrants and those from politically more unstable regions also migrate onward (Monti, 2018).

Knowing and understanding how return, repeat, or circular migrants behave and why can improve the ability to forecast trends in migration. This knowledge is valuable to host countries that want to design sound immigration policies and effectively implement them. As decisions to recruit and retain skilled immigrants have implications for domestic labor markets, economic growth, the education system, etc., there is no room for unintended consequences. Understanding the determinants of onward migration, especially when countries recruit permanent migrants and bear the costs associated with their arrival, is equally important. What is more, comprehending the psyche of returnees can reduce undocumented or irregular migration.

Home countries on the other hand depend on the remittances of their expats. At the same time, they count on the returnees' financial investments, their upgraded skills and knowledge, and their enlarged social capital. Knowing the underlying behavioral mechanisms of return, onward, and repeat migration, is particularly useful to home countries, who often suffer from brain drain. Accordingly, they can take appropriate measures to lure their talent back, by catering to the returnees' needs offering them material and non-material incentives and ensuring their successful reintegration. They can launch institutional reforms that promote the country's economic growth and social development.

This chapter focuses on international cross-border movement of economic return, repeat, circular, or onward migrants emphasizing the highly-skilled. It aims to provide the state of the art on the subject and answer the basic questions of who, why, when, and where. It starts with typologies (Section II), and continues with a depiction of the knowledge society (Section III), which is followed by the theoretical foundations of different migration moves (Section IV). Section V examines the theories of self-selection. Section VI presents an anthology of the empirical literature and discusses shortcomings. Section VII concludes with policy recommendations.

II. Typologies and Definitions

While interconnected and interdependent, return, repeat and onward migration are distinct phenomena. Their definitions differ among social sciences, countries, and time frame. Nostalgia and the fantasy about returning to the homeland are an integral part of immigrants' life, permeating even the diaspora. Yet, even though immigrants swear that they will return to the homeland one day, not all of them do. Some move on to another host country, while others go on a circle of back and forth between host and home in regular or irregular intervals.

Return migration is the movement of persons, who have been living abroad – either short or long-term – back to their country of citizenship and who plan to stay in their country for one year or more (UNSD, 1998). In reality, people may naturalize in the host country and keep both citizenships, or may be forced to renounce their birth citizenship in the process. IOM (2004) provides a looser definition of return migration: “the act of going back from a country of presence (either transit or destination) to the country of previous transit, or origin” (p. 11).

The implicit assumption is that return or repeat migration pertains to first generation immigrants. However, return migration applies to second, third, or third-plus generations as well as to the diaspora (Constant and Zimmermann, 2016). Turkish children born in Germany, who may or may not be German citizens upon birth, are return migrants when they relocate to Turkey (Constant and Massey, 2003; Constant and Zimmermann, 2003, 2011, 2012). The term equally applies to other second generation immigrants with conflicted and opposing identities, who feel that their home country is the birth country of their parents, rather than the one they have been born in and raised.

I define return migration as the relocation of first or higher generations from a country that is the host country of the first generation or one's immigrant ancestors to the birth and citizenship country of the first generation/ancestors planning to stay for more than one year. To the definition of return migration I include the following variations: (i) repatriation, a static and one-time move back to the homeland and (ii) re-return or one-time circle static move from home back to the host country.

Circular or serial migration are repeated sequential moves such as repeat migration between home and host in a dynamic framework; but they could involve a third country as well. They stem from a different time-space strategy than return. Constant et al. (2013) view circular migration as the systematic and regular movement of migrants between their homelands and foreign countries typically seeking work. While repeat migration can be a form of corrective migration due to unmet expectations, circular migration is a strategy chosen by the migrant as s(h)e shares their life between two locations. Circular migration can be seasonal or non-seasonal.

Circular migration is ‘the fluid movement of people between countries, including temporary or permanent movement which, when it occurs voluntarily and is linked to labor needs of countries of origin and destination, can be beneficial to all involved’ (GFMD, 2007): http://www.migrationpolicy.org/research/MPI-GlobalForum_circularmigration.pdf). It is then understood as a “win-win-win” scenario; the matchmaker of international demand for and supply of labor that contributes to an efficient

allocation of resources with minimum disruptions. Kourtit et al. (2017) emphasize temporary circular migration as an organized mechanism for regional or national labor markets.

Onward migration, is a repeat migration with a twist. It denotes an exit from one host country and a further move to a third host country, also called secondary migration, transit migration, step-wise migration, circuit migration or a three-way move. Onward migration could be a corrective move because of miscalculation, but it could also be pre-calculated and predetermined. Migrants from developing countries, who cannot go directly to the host country of their choice due to high entry restrictions, may go to other countries first, and use them as a means to an end.

Talent, skilled or knowledge migrants are a special sub-category, mostly hired under demand-driven schemes on a temporary basis. They can move with greater easiness and shop around for the best location for them and their families. For them we use the term brain circulation. Scientific diaspora, transferring knowledge, norms, and social remittances are considered new approaches to counteract brain drain (Constant and Zimmermann, 2016). Virtual research collaborations and other permutations that the digital economies allow, are related to the migration of the highly-educated. Outsourcing is another cheaper alternative that developed economies use when faced with labor shortages.

The typology described here, assumes that migrants undertake these moves out of their own free volition as they try to take advantage of each location. Assisted Voluntary Return (AVR), imposed by the host country, offers help to immigrants to return to their home country through financial rewards or assistance with repatriation. AVR can target immigrants who are legally in the country as was the case of Turk guestworkers in Germany in the late 1970s. Note that this program failed, because money is not sufficient for a voluntary return; many Turks took the money but did not leave Germany. AVR can also target irregular immigrants or those who were denied asylum and were ordered to leave. Forced return is equivalent to expulsion or deportation and does not involve any assistance.

III. Skilled Migration, the Knowledge Society, and Return/Repeat Migration

The global race for talent over the last two decades has more and more countries pursuing policies to stimulate innovation and entrepreneurship, to be on the forefront of the knowledge economy, and to ensure competitiveness. It is a race¹ because the sought after know-how and competencies cannot be immediately satisfied by the domestic workforce but needs to be recruited from the global labor market. High-skilled or knowledge migrants are a readily available group to fulfill such short-run shortages, especially in aging societies and when labor markets are not flexible. To attract highly-skilled migrants, countries started modifying their policies, developing new strategies or initiating new policies such as flexible admission criteria and attractive residence pathways.²

¹ For example, to attract high-skilled migrants, Canada has been going after those denied the H-1B visa in the U.S. by advertising on U.S. billboards (Kerr et al., 2016).

² OECD (2009) provides a useful summary of policies for high-skilled immigrants in the OECD.

Skilled migrants have, typically, tertiary education, that is, a minimum of a formal two-year college education. Occasionally, it is the occupation that defines the skilled migrants, each host country having a detailed list to choose from. Some governments use both education and occupation when they define skilled migrants to issue visa. A sub-category of skilled migrants is the international students who graduate from the host country's universities. Understanding their value, host countries have created new provisions to keep them.

Medical personnel, scientists, academics, managers, specialists, and investors, are under the skilled rubric. Science, Technology, Engineering and Mathematics (STEM) majors are in highest demand among the skilled and have the highest rates of mobility. STEM includes computer scientists, IT, biologists, and scientific inventors. Interestingly, the demand for the highly-skilled has continued during and after the great recession and policies have not become more restrictive (Zaiceva and Zimmermann, 2016).

Arguments for skilled migration emphasize that in the production process, skilled migrants are not close substitutes to skilled natives, because of specialization, while they are complements to the less-skilled and to physical capital. Thus it is difficult to displace the natives, and wages are less likely to be affected. Skilled migrants bring knowledge, increase productivity, and economic growth through innovation and creativity, they raise living standards, create jobs, make positive net fiscal contributions to the system, and integrate faster in the labor market (Constant, 2014). Similar arguments apply to circular migration (Zimmermann, 2014). Kourtit et al. (2017) find evidence of a triple-win for skilled immigrants in the Netherlands.

Continuous dependence on skilled migrants may, however, be harmful to the host country, preventing it from developing its own skilled labor force. Dependency on foreign labor creates economic as well as national security and sovereignty issues. Lindsey and Findlay (2001) propose policies to ensure the return migration of the skilled. Concerns about the integration of temporary migrants and their access to a permanent status are growing.

From the perspective of the home countries that are usually developing, the topic of skilled workers is related to brain drain.³ Skilled migrants typically arrive with their families, and assuming assortative mating, this could exacerbate brain drain.⁴ Remittances can alleviate some of the brain drain, as do technology transfers. The return of the skilled would balance brain drain. However, this is a delicate matter because developed countries may not want to lose their skilled migrants, developing countries may not be ready to receive these migrants, and immigrants may not want to return but move onwards.

In addition to responding to wage differentials, skilled migrant workers care about other aspects relating to research opportunities, work conditions, and access to infrastructure. For example, while salary and labor market conditions were on the top of the engineers' and technicians' list, scientists and researchers cared more about the research environment, the nature of the work, and the prestige of the institution

³ For the impact of skilled emigration on developing countries and the policy options of developed countries see Lowell and Findlay (2001).

⁴ However, skilled emigration from developing countries is generally not a major cause of skilled shortages (Clemens, 2013).

(OECD, 2016b). Similarly, skilled migrants want to be able to bring their family with them and have a path to permanent residency. As dual-career couples are very common among skilled migrants, the option for the spouse to work is equally important. Skilled workers from countries with failed markets value welfare benefits very high and may be more likely to choose host countries that offer social security, not necessarily because they need them but as a safety net.

In Europe, it was the 2000 Lisbon Directives that shook the EU-states and prompted them to invest in R&D and hire highly-skilled immigrants. In this spirit, the EU28 initiated the Blue Card (BC), a work-permit for non-EU high-skilled workers. The EU28⁵ adopted the BC directive in 2009 (ratified in 2013), which only sets minimum regulations and lets each EU-state to fine-tune them according to their needs. The BC has more requirements for admission than the individual EU-states, it is only from one to four years, and it is much more difficult to obtain.

EU-states have also their own schemes to admit non-EU skilled workers such as specific quotas, which are configured in relation to the labor force, the resident population, the business cycle, etc. EU-states require a job offer and a minimum salary. These schemes, were coupled with other stringent conditions and did not always offer a path to residency. Thus, less than half of the expected migrants went to the EU. Overall, compared to other OECD countries, the EU attracts fewer higher-educated migrants, hosting only 30% them (OECD, 2016a). But recent OECD (2017) projections for the EU show that the share of higher education individuals among the working-age population will increase to 34% in 2030 (up from 26% in 2015).

The U.S. hires temporary skilled migrants through the H1-B program, since 1990. The program sets annual numerical ceilings; the current statutory cap is 65,000. H1-B is a non-immigrant visa program, valid for three years and renewed for another three as migrants can change employers at will.⁶ A 2017 report by the American Migration Council documented that the share of foreign-born workers in STEM occupations grew from 11.9% of the STEM workforce in 1990 to 24.3% in 2015.

Both the H1-B and the BC programs allow employers to attract the highly-skilled by sponsoring their visas. Korea and Japan have analogous systems. They are all demand-driven systems that guarantee a job upon arrival. Some countries have also created occupational shortage lists, which facilitate recruitment and cut down on red tape. All countries try to ensure that migrants do not hinder the employment prospects of the native labor force.

Canada, Australia, and New Zealand employ points-based systems and offer skilled immigrants and their families' pathways to permanent residency. These systems are supply-driven, pertain to permanent migration, and are not necessarily targeting the highly-skilled. They grant points for young age, education, intended occupation, language, etc., but do not require a bachelor's degree. To attract more highly-skilled migrants, Canada reformed its system in 2002 and instituted the Express Entry program in 2015. The latter is similar to New Zealand's 2003 program that brings together suitable employers

⁵ Except the UK, which introduced its own points-based system with different tiers in 2008, and Denmark and Ireland that have their own systems.

⁶ Lowell (2010) provides a good review of the admission system of foreign-born STEM workers in the U.S.

and skilled migrants, and invites top ranking candidates to apply for permanent residency. In Australia, eligible applicants must have an occupation on the Skilled Occupation List.

China is a successful paradigm of a home country's stratagem to bring back its talented people from abroad and reverse the brain drain. Constant et al. (2013) show that not only is China offering attractive packages to Chinese scientists and academics who are abroad, but it is also after other nationals who can help the country build its knowledge-based economy. Moreover, China is financing more and more Chinese students to study abroad with the provision to return, and, similarly, encourages foreign-students to go and study in China with the hopes to keep them. In 2008, the 'One Thousand Talents Scheme' aimed at attracting the most talented Chinese diaspora. The temporary return of Chinese talents to build the knowledge society is equally encouraged (Constant and Zimmermann, 2016).

In sum, attracting the highly-skilled and global entrepreneurial talent is often not enough for a country to fortify itself and compete in the digital economy. High return and onward migration rates can undermine talent recruitment efforts. To maximize benefits, a successful strategy should also consider enabling, growing, and retaining talent⁷ (INSAED, 2019). The latter correlates with quality of life. For example, Singapore ranks first in attracting talent, but 26 in retaining talent; Switzerland, on the other hand, ranks fifth in attracting talent, but first in retaining it.

IV. Theoretical Foundations of Migration Moves

There are several theories that offer answers to the question of why people move. Each discipline in the social sciences has its own theories which are not always compatible.⁸ However, fewer theories allow for return and repeat migration.⁹ Here I present a synopsis of the relevant theories that envision return/repeat migration, predict the self-selection of returnees, and show that they can complement one another.

Under Neoclassical Economics (NE) the decision-maker is a rational individual with full information, who performs a cost-benefit analysis over some time horizon, based on wage differentials and undertakes the move when the present value of the expected discounted net return is positive. Assuming homogeneous income, utility or income is maximized subject to constraints. The duration of residence abroad is also maximized, intending to settle permanently and bring family. Viewing migration as investment in human productivity, Human Capital Theory (HCT) can predict the characteristics of the migrants. People move to where their human capital is rewarded best.

While NE explains initial migration and secondary/onward migration, it perceives return and repeat migration irrational and not income maximizing, *ceteris paribus*. By definition, returnees are those who did not succeed in the host country and the human capital they obtained abroad is not always transferable. Because immigrants are in the host country for the long haul, they will not return

⁷ Together with attracting, they constitute the four pillars of the Global Talent Competitiveness Index.

⁸ For an excellent review and a theoretical synthesis see Massey (1999).

⁹ An exception is Dierx (1988) who developed a theoretical life-cycle model analyzing the impact of the spatial distribution of a family's stock of human capital on its migration decision, including repeat migration.

immediately after they fail, but will stay and spend time looking for a new or a better job. Returnees will be negatively selected in all economic outcomes (Constant and Massey, 2002), and may be negative selected in unobservables such as ability or fortitude.

More flexible NE models allow for a combination of theories to explain return and repeat migration. Note that non-pecuniary benefits such as occupational prestige, joining family and friends, feeling part of the majority culture, finding sentimental stability with a region, and political regimes are included in total benefits. Likewise, non-pecuniary costs such as opportunity costs (income foregone while moving) and psychic costs (the psychological toll of separating from family, leaving familiar surroundings, and experiencing cultural shocks) are part of total costs (Constant and Massey, 2002 and 2003). Accordingly, return, repeat and onward migration can be explained by adding assumptions to the model and other variations.

For example, assuming that immigrants have a strong preference for home-country residence, Hill (1987) could explain the U.S.-Mexican repeat migration through a life-cycle model of immigrant behavior that maximizes net lifetime income. His model also accommodated the number of trips made and the total time spent working in the host country, although these two variables do not necessarily move together. Thus, if crossing the border is difficult and costly, the migrant will make fewer trips and border traffic will fall. Time spent in the host country is unclear because the substitution effect is of unknown sign. But the income effect will induce the migrant to stay in the host country longer.¹⁰

The New Economics of Labor Migration (NELM) has the family as the decision-maker. Migration is a strategy to minimize risk through diversification. Economic uncertainty, failed capital markets, the non-existence of social security and unemployment benefits, prompt households to disperse family members to different locations. While wage differentials are not necessary, improving income in absolute and relative terms is important; income is not homogeneous. Immigrants are target savers, they remit, and do not stay abroad forever; they return when their goals are achieved, as winners. When abroad, immigrants improve their skills thus commanding higher wages upon return. Returnees are negatively selected with respect to work effort and if they are unemployed; they are positively selected with respect to earnings (Constant and Massey, 2002).

NELM predicts repeat migration, which may be initiated by economic development in the home country. The position of the family across the income distribution is critical. Conspicuous consumption of the returnees and relative deprivation can cause a self-feeding cycle of migration that induces return migration even if wage differentials exist. Returnees alter the distribution of income and wealth in the home communities and induce further migration.

Migration is demand-driven in the Segmented Labor Market (SLM) theory. Countries with structural inflation, bifurcated labor markets, and occupational hierarchies need cheap and flexible labor from

¹⁰ Dustmann and Weiss (2007) explained return migration from the UK by allowing for the marginal cost of being abroad to be greater than the diminishing marginal utility of wealth. Dustmann (2003) modeled the optimal migration duration and assumed that immigrants' accumulated savings in Germany had higher purchasing power in their home country. Using endogenous return intentions the study found an inverse relationship between host country wages and completed migration durations.

abroad to fill lower tier jobs. Migrants are typically recruited for specific jobs in a temporary framework and are expected to return to their country when they are not needed. They can be re-hired under rotational schemes. Wage differentials are not necessary or sufficient. The Bracero program in the U.S. and Guestworkers in Germany are paradigms of demand-driven migration. Ethnic enclaves, as a third sector in the host country, also demand these types of workers, while solidarity and social networks support and perpetuate the situation. SLM is compatible with remitting and target saving behavior. In SLM immigrants accept menial and odious jobs abroad because their reference point is the home country and the status or prestige or the money power these jobs afford them at home. But returnees are hardly successful winners. On-the-job-training and human capital acquired abroad are irrelevant and cannot increase their earnings when they return. Likewise, savings accumulated abroad are not enough for a permanent return, spurring a constant need to repeat migrate.

Other temporary and demand-driven migration schemes target the highly-skilled and are incorporated in labor market policies. Highly-skilled foreign workers are sought to satisfy short-run labor market shortages in industries or occupations. Employers submit request to the government and hire immigrants directly or through specialized ethnic firms. Such are the U.S. H1-B and the EU BC schemes. Fulbright visiting scholarships, visiting researchers/scholars, and exchange visitors, can also fall in this category. They all have obligatory return migration embedded in them. Self-selection is not relevant in demand-driven migration because employers do the selection.

The Networks theory refers to intangible resources such as social/migration capital that predict initial, return, and repeat migration. Interpersonal networks are maintained and reinforced by the circulation of people, goods, capital, and information between home and host countries (Massey 1987). Both the individual and the family can be involved in the migration decision. Networks facilitate utility maximization and risk diversification. The ties and relationships migrants keep with both countries propagate with each new migrant. Through cumulative causation, migration brings about changes that in turn incite more migration over time and becomes self-sustained and self-perpetuating (Massey, 1990). The probability to undertake an additional trip increases with the number of trips already made (Massey and Espinoza, 1997; Constant and Zimmermann, 2012). Belonging to networks is voluntary, based on commonality of interests, and does not depend on the diaspora or on economic profits (Cassarino, 2004).

The theory of return migration is similar to the theory of first migration from a home to a host country, albeit with three important differences. First, because immigrants have already been through one migration experience, they are inherently more prone to move again. Second, return immigrants have more accurate information about the wage distribution, cost of living, and culture in both the host and home countries and they have a social circle in both countries. Third, familial and cultural considerations are relatively more important in return decisions making higher wages and employment opportunities at home neither necessary nor sufficient (Constant and Massey, 2003).

In general, networks minimize the risks and lower the costs of migration, and can be easily converted into monetary benefits (Massey, 1990). However, networks may be less valuable for the migration of the skilled and high educated, who have better access to information and can process it more efficiently.

These migrants can mobilize their own resources, they speak the language of the host country, they often receive a job offer before arrival, and their skills are easily transferable. Migrants are mostly selected in unobservables such as likeability, affability, perspicacity, and savviness in keeping relationships.

Structuralists argue that it is structural relations within the political economy that cause migration, and return migration is a social as well as an individual issue. While there may be a core/periphery dichotomy, migrants return because of nostalgia. However, migrants can return to the same place, but cannot go back in time, thus “home” is no longer the same. Even when immigrants have been planning to return, they may be ill-prepared if they have not kept up with the home country while abroad. They face reintegration challenges that can affect the entire community and may be ill-received by their compatriots, causing a social rupture (Cassarino, 2004). The realization that the home country has changed and that they themselves have changed may lead to repeat migration.

Transnationalism provides a framework for the durable links between home and host countries over time, as well as for the influence of networks on the identity of migrants (Cassarino, 2004). The theory refers to settled immigrants. While ideological reasons are the motivation for return and family bonds are vital to this decision, global capitalism also motivates return and transnationalism. Ethnicity, religious affiliation, kinship and solidarity among the diaspora is what sustains the networks. Through regular visits, migrants are well prepared for their return and can exploit their human capital from abroad for upward mobility at home. Transnationals return as winners when conditions in the home country are favorable, but do not return permanently. They maintain links that facilitate cross-border mobility and can negotiate their place in society, while they convey knowledge and information. Migrants live in dual spaces that extend across the nation-state, while the involved communities exert considerable social, economic, and political power (Cassarino, 2004).

V. Conceptual Framework and Empirics about Self-Selection

This section examines the self-selection of migrants in terms of skills, ability, and income as well as other characteristics.¹¹ Self-selection is inherent in any migration move. The individuals who emigrate from their home country to go abroad are a self-selected sample of their compatriots who stay behind. They have something different that makes them undertake the move. These differences can be observed and measured, but they can also be unobserved. Ability, entrepreneurial spirit, creativity, inventiveness, risk aversion, beliefs, attitudes, expectations, personality traits, non-cognitive skills, empathy, etc. are unobservables that can contribute to a successful or unsuccessful migration. Return migration is a double selection that intensifies or accentuates the initial self-selection.

When the best, healthiest, brightest, and richer people emigrate, they are positively self-selected and vice-versa. Knowing the type of selection of return and repeat migration is extremely useful to policymakers who design migration policies. It is equally useful to scientists who grapple with

¹¹ Selection applied by host countries who screen potential immigrants is not discussed. For an overview of migrant selection by visa category see Aydemir (2013).

assimilation issues, be it earnings, occupations, education, or health and communicate their results to policymakers. Even the best longitudinal studies suffer from return migration bias, because they are based on the immigrant population that lives in the host country at the time of the survey.

HCT conceptualizes that human capital is embedded in workers, makes them more productive, and can be rented out to employers for a higher remuneration. HCT predicts that the better-educated individuals are more likely to migrate first, because they have a broader vision of the available possibilities abroad, they are less risk averse, and perceive the future differently. They also have more information, command higher wages abroad, have the means to travel, and prefer to be around more educated people in the western developed societies. HCT can equally predict positive selection when migrants move onward. However, HCT cannot explain selection in return and repeat migration, *ceteris paribus*.

The networks theory à la Massey, predicts that the first migrants will be from the middle and upper distribution, because they will be the ones who have the knowledge, connections, and the means to migrate. However, migrant selectivity varies over the different stages of individuals' migration careers (Garip, 2012). It is up to empirical studies to test hypotheses and identify the characteristics that prompt return or onward migration and feed repeat migration. By mixing and matching competing theories, researchers try to mimic the complex interconnected reasons that prompt immigrants to return or circulate.

In their study on the probability of return under a critical comparison of the NE and the NELM, Constant and Massey (2002) raised the issue of return migration being negative time-dependence, indicating negative selection in skills that are unobservable. The authors found that immigrants remain in Germany irrespective of the wages and status they attain, so long as they have a stable job and no social attachments that raise the costs of returning. As the process of return migration is not unitary the authors caution against over-reliance on single theories. They underline that remittances are a critical determinant and not including it creates serious omitted variable bias.

The theory of self-selection à la Roy (1951) relates earnings and skill distributions of the host and home countries. Specifically, if some countries have a more compressed or more equal income distribution than others, this can trigger the migration of specific workers. For economic migrants who maximize their wealth, the theory predicts that they will be negatively (positively) selected with respect to unobservables such as ability when the home country has a wider (narrower) dispersion in its income distribution than the host country. Furthermore, migrants will be negatively (positively) selected with respect to observables such as education if returns to education are higher (lower) in the home country than in the host country. This theoretical direction of selection is confirmed for international migrants to OECD countries (Grogger and Hanson, 2011), for Romanians to different host countries (Ambrosini et al., 2015), and for high-skilled German graduates to countries with different earnings distributions (Parey et al., 2017).

The theory, as employed by Borjas and Bratsberg (1996),¹² equally applies to return migration. Thus, if the initial immigration selection was negative, selection in return migration must be positive and vice versa. These two double selection outcomes are known as the “best from the worst” and the “worst from the best.” The return of Finnish from Sweden lends support to the theory: Finnish émigrés to Sweden were less educated than Finnish native-stayers, but Finnish returnees had two more years of education than other Finnish immigrants who stayed in Sweden (Rooth and Saarela, 2007). The authors could not confirm selection with respect to unobservables. Romanian returnees were also positively selected in education, compared to non-migrants and negatively selected in unobservables (Ambrosini et al., 2015).

Overall, selection in return migration with regards to education depends on context and data. While Carrion-Flores (2006) found that it was the highly-educated Mexicans who returned to Mexico from the U.S., Kaestner and Malamud (2014) did not find selection in observables or unobservables among Mexicans who returned from the U.S. Yet others found that Mexican returnees from the U.S. were negatively selected with respect to both human capital and wages (Lindstrom and Massey (1994). Highly-educated were also returnees from Denmark (Jensen and Pedersen, 2007) and Sweden (Nekby, 2006).

Studying life-cycle events, Constant and Massey (2003) found no self-selection in education among return immigrants in Germany. Instead, these returnees were negatively selected with respect to speaking German, stable full-time employment, and occupational prestige in Germany. Remitting, having family in the home country, and retirement increased the probability of return, which was the highest during the first five years since arrival; family in Germany, German citizenship, owning a home in Germany, and feeling German decreased the return probability.¹³

High-skilled immigrants from other EU-countries in Germany were significantly more likely to return, compared to the medium-skilled; but there was no skill selection among returnees from the “other” immigrant group nor for Turks who were mainly family immigrants¹⁴ (Kuhlenkasper and Steinhardt, 2017). While Reagan and Olsen (2000) found no evidence of a skill bias in return migration, they found that immigrants with a college degree were more likely to leave the U.S. Those with higher potential wages, who arrived at younger ages, had more years in the U.S., and had participated in social welfare programs had a lower probability of emigration. Mexicans were more likely to leave.

Evidence of strong selection in both education and unobservables was found by Breschi et al. (2018). Based on data on patents and inventors in the U.S., the return probability of Indian inventors was

¹² The Borjas-Bratsberg model assumed portability of skills and constant gains from migration on the returnees’ home-country wages. Bratsberg et al. (2007) used similar Roy-models as did Dustmann et al. (2011) who considered a two skills model.

¹³ Compared to immigrants from EU-countries who enjoy free mobility, Turks and guestworkers from the former Yugoslavia had the lowest odds of leaving Germany.

¹⁴ This is consistent with Borjas-Bratsberg, who predicted that family unification immigrants or chain immigrants are different than the initial economic immigrants and therefore selection issues are not as relevant; the self-selection of family returnees is most likely not clear-cut either.

conditioned on status upon arrival: namely, employment or education. The return of employment immigrants was positively associated with their propensity to patent while in the U.S., with age, and education from India. Conversely, the return of education immigrants, was negatively correlated with education obtained in the U.S. Evidence of negative time-dependence in the return hazard ratios of the employment returnees, indicates negative self-selection regarding unobservable skills acquired in the U.S. The authors speculated that those who stay longer in the U.S. may develop skills beyond those for R&D, which can help them become permanent residents easier. However, evidence of positive time-dependence of the return hazard ratios of the education returnees was less conclusive.

A clear polarized U-shaped return migration pattern associated with income and education was found by Klinthäll (2013), whereby return rates for both men and women immigrants over 55 in Sweden were associated with the lowest and the highest income and education categories. Return migration was most common among the less integrated in socioeconomic terms and among the high-earners. Target saving practices and returning for retirement explain these findings. Bijwaard and Wahba (2014) confirmed a U-shaped relationship between income and return migration for immigrants in the Netherlands, although the highest returns were among the lowest-income groups, and the intensity of return varied by home country.

The home country variable explained the wide variation in return rates among immigrants in the U.S. (Borjas and Bratsberg, 1996), the UK (Dustmann and Weis, 2007), Sweden (Nekby, 2006; Monti, 2018), Denmark (Jensen and Pedersen, 2007), and Norway (Bratsberg et al., 2007). Bratsberg et al. (2007) also found that variations in return migration by home country were closely related to the class of admission in Norway.

Most studies in the U.S. concur that immigrants, in general, who have lower earnings are more likely to leave the host country. Studies use selection equations and individual fixed effects to model return migration. Natural experiments, lifestyle characteristics, personality proxies, networking, capturing intangibles, reconstructing counterfactuals, and the virtual spread of knowledge and social norms are some of the innovations in estimation.

Selection in Repeat, Circular and Onward Migration

Selection patterns in return migration may further differ according to whether immigrants are permanent, first-time migrants, repeat or circular migrants. Therefore, an analysis that does not distinguish between different types of migration gives an incomplete perspective on the migration behavior of families (Dierx, 1988). However, we do not have appropriate data to study such selection. Poor knowledge about the triggers for each type of migration is another reason. If, for example, repeat or circular migration is a response to economic shocks, then selection in skills is irrelevant, as by definition, economic shocks and skills are statistically independent.

It is important to note the role of social capital, which is related to unobservables. As more social capital is created through circular migration, circular migrants should be positively selected in unobservables

such as having the ability to keep key contacts, a network to rely on, and the fortitude to withstand long-distance relationships and back-and-forth trips. Based on bi-national data, Massey and Espinosa (1997) established early on that migration between Mexico and the U.S. was indeed circular and more common than return or onward migration. Circular migration progressively increased with social capital, experience, occupational achievement, and the number of prior trips in the U.S. Among undocumented Mexicans, amnesty to a family member, increased the odds of taking an additional trip.

Distinguishing among first-time migrants, repeat migrants, and non-migrants, Garip (2012) found that Mexicans who repeat migrate to the U.S. were negatively selected in education, but positively selected on wealth and significantly better off than the first-time migrants and non-migrants. Moreover, among repeat migrants those with more trips were wealthier than those with fewer trips, suggesting that repeat migrants accumulate wealth through their trips.

Constant and Zimmermann (2003a, 2003b, 2011, 2012) were the first to model circular migration in economics. Among immigrants in Germany over 60% were repeat or circular migrants (Constant and Zimmermann, 2011). While immigrants from EU-states were significantly more likely to repeat migrate and stay outside Germany for longer, Turks and Yugoslavs were less mobile both in their exit frequencies and number of years out; so were males, the single, the renters, and the middle-aged. Immigrants with German passports exited more frequently; the higher-educated exited less. Attachments to the labor market and speaking German fluently reduced repeat moves and time outside Germany, but family back home kept immigrants longer outside Germany. The policy lesson here is that when immigrants feel secure about coming back to the host country and can freely go in-and-out of the host country, they are more likely to leave (Massey and Pren, 2012; Constant and Zimmermann, 2012).¹⁵

Through a dynamic Markov Chain model, Constant and Zimmermann (2012) identified factors that generate single migration moves, circular migration and absorption states. Accordingly, newly arriving migrants to Germany were more likely to leave shortly after they arrive and when they have social and familial bonds with the home country. Speaking German well and having a job in Germany deterred return migration, which was high among men. However, the probability to re-immigrate to Germany depends on remittances and having family in Germany. Education obtained in Germany in the form of vocational training was a strong determinant of repeat and circular migration, which increased with age. For circular migrants from Thailand to Brunei, Hong Kong, Israel, Taiwan, Singapore, and Korea, Lee et al. (2011) confirmed self-selection in being male and saving, but not in remitting, compared to first-time migrants.

Significant differences between the earnings of permanent and repeat first generation immigrants in Sweden were affirmed by Aradhya et al. (2017). Overall, repeat migrants had about 40% lower incomes compared to permanent immigrants. Interestingly, repeat migrants had the lowest incomes when YSM was calculated as the total elapsed time since first entry. But when YSM was calculated as the actual number of years physically spent in the country, repeat migrants had lower incomes than the permanent

¹⁵ Monti (2018) confirms that Swedish citizenship actually increases the probability of return for forced migrants.

immigrants, but higher incomes than those in the first category. Lastly, when YSM was calculated as time since the last entry in Sweden, repeat migrants had the highest incomes. Plots of the log-income trajectories of these three YSM-groups of returnees, showed that the first two had flatter profiles, suggesting a slower integration process due to lower returns to each additional year in Sweden. The log-income profile of those in category three was very concave, indicating more skilled immigrants and unique assimilation processes for each groups.

The home country's role in re-return to the host country is evidenced in Bratsberg et al. (2007) for Norway. Re-immigration to Norway was higher when immigrants were from poorer home countries, probably related to differences in consumption cost levels, and when there were ongoing conflicts and turbulent political developments at home. Home countries are equally good predictors of onward moves by immigrants in Sweden (Nekby, 2006; Monti, 2018) and Norway (Bratsberg et al., 2007), where, onward migrants originate from poorer home countries that are also farther away from Norway; onward migration increases when there is a war at home.

Compared to return migrants, onward migrants are positively selected in education and negatively selected to income Nekby (2006). Those with tertiary education and previous migration experience (before arrival in Sweden) are linked to higher propensities of onward migration from Sweden (Monti, 2018). King and Newbold (2007) confirm selectivity among onward immigrants from Canada to the U.S., compared to immigrant-stayers in Canada and to Canadian-born immigrants in the U.S. They were primarily young, married, had a bachelor's degree, and earned at least USD100,000 in 2000.

VI. Relevant Literature on the Skilled: A Review and Appraisal

The first studies on the topic stemmed from the earnings assimilation literature, attempting to gauge bias in earnings due to return migration.¹⁶ Borjas' (1989) study on high-skilled foreign-born migrants in the U.S. was based on the longitudinal Survey of Natural and Social Scientists and Engineers. Estimating return migration from sample attrition, he provided evidence of negative self-selection in earnings for returnees and biased cross-sectional estimations. Those who left the sample had also lower initial earnings and earnings growth trajectories. Kaushal (2011) affirmed negative selection in earnings for foreign-born scientists and engineers in the U.S. who returned and biases in cross-sectional studies in her study based on the National Survey of College Graduates. However, the country where these highly-skilled immigrants acquired their education was not relevant for their return.

To model return propensities among high-skilled Indian immigrants in the U.S., Depew et al. (2017) employed firm-level employee data from six large Indian IT firms that operate in the U.S. and provide H-1B and L-1 visas to Indians. They showed that returnees were negatively selected in earnings and their behavior was affected by the downswing of the business cycle, and elucidated the important role

¹⁶ Lindstrom and Massey (1994), we were not able to find biases in cross-sectional earnings assimilation results due to selective emigration of Mexicans in the U.S. Constant and Massey (2003) confirmed that selective emigration among immigrants in Germany did not distort cross-sectional estimates of earnings assimilation in a relevant way.

immigrants play during changing labor market conditions because they adjust their labor supply.¹⁷ A policy correlate is that return can be an automatic counter-cyclical stabilizer of labor supply while visa quotas are inferior instruments that lag behind.

The limited role for income maximization in the migration decision of the very highly-skilled, was found by Gibson and McKenzie (2011) and their specific sample of Pacific Islanders. Initial migration was strongly associated with preference variables and choice of subjects in secondary school. The 40% return rate of these highly-skilled Pacific Islanders was strongly linked to family and lifestyle reasons. Interestingly, returnees were motivated by non-monetary benefits such as improving career opportunities, boosting poor academic research environments, having better funding for scientific laboratories, the removal of regulations, more transparency in government, and more democracy.

The above study corroborated previous work about the highly-skilled Italians living outside Italy. Constant and D'Agosto (2010) found that a desire to have adequate research funding and contribute to science in Italy were strong reasons for the return migration of the brainy Italians. Gaillard and Gaillard (2015) acknowledged such idealistic reasons among Moroccan scientists and engineers who returned home from Europe. Strong reasons for their return were helping their country to economic growth and a desire to be part of this development.

Investigating the return migration of foreign-born academics, who work in U.S. universities in chemistry, chemical engineering or biochemistry, Gaule (2014) concluded that returnees were positively self-selected in ability, but not in education and the majority of returnees took an academic position in their home country. The probability of return increased when conditions in the home country improved relative to the U.S. and decreased for those over 50, while men were more likely than women to return. Overall, only a small percentage of academics returned.

Long-distance research collaborations between scientists in different countries and international research-visits duration can shape knowledge circulation. Andújar et al. (2015) examined the role of co-publications and collaboration through formal participation on the return migration of Spanish scientists who are outside Spain. First, Spanish scientists who go abroad keep close contacts and collaborations with those who stay in Spain and these collaboration links persist over time. However, co-publication between other host scientists and Spanish at home is rather rare, both before and after the international stay abroad. Second, return probabilities diminish with longer stays abroad and with ongoing co-authorships. Formal participation in research projects, on the other hand, boosts the probability to return, compared to no collaboration. Interestingly, the most important variable for the return of young talented Spanish researchers abroad was receiving financial support for reintegration.

Significant differences in publication records exist among scientists who stay, return, or circulate. Based on scientists' publications, OECD (2016b) demonstrated that returnees and the more mobile scientists publish more in higher impact academic journals, compared to stayers.

¹⁷ They also found that there was a lot of movement among these firms, opposite to Kerr et al.'s (2015) argument that H1-B workers are "effectively tied" to the firms that hired them initially.

Finn and Pennington (2018), found selection in return with respect to the subject of study. Based on combined data about doctorate recipients from U.S. universities in science and engineering, they estimated 5-year and 10-year after graduation stay-rates for foreign students who had temporary visas at graduation. Compared to previous years, these stay-rates were at the highest level: 70% for the 5-year stay-rate and 62% for the 10-year stay-rate. Stay-rates also differed widely by discipline with the lowest rates recorded in social and related sciences. Computers and mathematics had the highest stay-rates. While the highly skilled from Europe and North and South America had very low stay-rates, those from China and India had the highest (90%).

Comunian et al. (2017) studied male and female graduates from UK universities 3.5 years after graduation. Overall, repeat migrants earned the most, followed by late migrants and university stayers. The only significant difference between genders was related to repeat migration which lead to a significantly lower premium for women. The authors offer an insightful explanation through the process of continuous negotiations for wage increases practiced by repeat migrants. This process favors men who are better at asking for higher salaries.

High-skilled female migrants outnumbered males in 2010 (Kerr et al., 2016). They are also migrating in greater proportions than comparable men and low-skilled women (IOM and OECD, 2014). Yet research on the return/repeat or onward migration of high-skilled women is undeveloped. For return migration, studies show that high-skilled women have the tendency to stay in the host country and not return (Grigoleit-Richter, 2017). He finds that although STEM female immigrants in Germany face barriers in the highly gender-segregated German technology industry, they develop strong ties with the locality and are more likely to settle than return.¹⁸

Boucher (2016) fills some gap in understanding gender bias within skilled immigration selection policies in the OECD, and shows that the global race for talent is gendered. But it does not have to be that way. The author argues that governments can design skilled immigration policies that ensure equal treatment between potential men and women migrants.

Limitations to the Literature

To guarantee reliability, validity, and generability studies need nationally representative longitudinal data, with low attrition rates, that are comparable across countries and have standardized definitions. Currently, such data do not exist. This is why, although researchers have calculated the optimal duration of migration and predicted the statistical probability of return or repeat migration using complex statistical and mathematical formulations, empirical studies only explain the movements of specific populations in specific countries.

¹⁸ Monti (2018) confirms that women are less prone to return migrate and to move onwards.

Democratic countries typically let their people emigrate or out-migrate freely.¹⁹ Naturalized migrants and those with dual citizenship experience a fairly free return and repeat migration also resulting in no data collection. The Scandinavian countries, require de-registration from population registers when natives or immigrants out-migrate and a new registration when they re-migrate. Home countries are accommodating to return and repeat migrants. Many have even instituted special provisions to encourage the return of their diaspora back home and benefit from their investments (Constant and Zimmermann, 2016). But they have no means or money to collect data on the returnees.

The second reason is that even when host countries are able to collect registered data, these data are not compatible or harmonized with other countries' data, because there are no consistent definitions about return or circular migration, not even among the EU28. Often there is no conceptual compatibility about who is a migrant; some countries abide by the law of blood and some by the law of soil. Besides, the EU-states that produce migration statistics such as Austria, Germany, the Netherlands, and Sweden use their own methodologies when it comes to circular migration. Additionally, while in theory return and repeat migration are distinct moves, in practice, they may be observationally equivalent to a mere static return if there are no data documenting the repeated moves/visits, but only document the initial and last move (OECD, 2008).

Currently, studies rely on censuses (that are not longitudinal), population registers (that under-cover return migration), social security data, labor force surveys (that lack other important information), other surveys, case studies (that have small samples), and rare bi-national surveys such as the MMP. An excellent suggestion for improvement, calls for multilevel datasets that integrate survey data with community-level variables such as the size of migrant networks and the availability of capital markets (Massey, 1990). While these two elements of community structure condition the efficacy of migration as a risk-diversifying strategy, they are extrinsic to decision-makers.

In brief, conceptual and empirical issues with data are that national statistical offices generally do not standardize their data, and there is no systematic tracking of migrants who move to different countries through an appropriate matching of the national data (see OECD (2008), OECD (2016b), UN (2016), Kourtit et al. (2017), Clemens (2013), and Newland (2009) for recommendations). Lastly, there are no comprehensive records about the flows and movements of researchers (MORE, 2010).

The literature has overlooked the role of the success/failure of immigrants who change status after their arrival and their return/repeat behavior. Much can be learned, for example, from studying the behavior of immigrants who arrive as temporary and become permanent, as a referee observed.

A hole in the return/repeat literature of the highly-skilled is the overlooked role of cities within a country. Cities have more flexibility in fostering entrepreneurship and an atmosphere of innovation and will be the entrepreneurial talent hubs of the future (INSAED, 2019). Studies that explore the variations and idiosyncrasies of the cities will offer valuable new insights about the return/repeat or onward migration of skilled migrants.

¹⁹ It is a normative question if democratic free countries should record the every move of their population, obliging them to reveal why they move, to which country, and for how long?

Lastly, there remain significant knowledge gaps in the literature regarding highly-skilled female migrants. While we have some rudimentary understanding about why highly-skilled women migrate, we lack any understanding about their socio-economic behavior and their return/repeat migration patterns. Given that women make different life-course choices and follow different career trajectories than men, this can render migration policies about skilled women inadequate (IOM and OECD, 2014). Needless to say that data and statistics must include a gender perspective.

VII. Conclusion and Policy Recommendations

A universal consensus from this chapter is that return, repeat, and circular migration are substantial in all countries and highly selective, but results on the nature of that selection are conflicting. There are no universal conclusions about the characteristics of immigrants who return, move onwards, repeat or circulate. Findings from empirical studies are tied to specific countries and populations.

Skilled immigrants are essential for knowledge societies and economies. As one of the inputs in the production function, skilled work cannot be viewed in isolation but together with less-skilled, physical capital, and land. Free and unfettered mobility increase benefits from return, repeat and circular moves for all parties involved. Migrants move to places where there is demand for their skills, and in the process they equilibrate labor markets and increase welfare. Government interventions such as border patrols, raids, and quotas for employment immigrants distort free flows, are expensive, counterproductive, and produce negative unintended consequences, i.e. increase of illegal immigrants who stay underground.

“Circular migration is not intrinsically positive or negative in relation to human development; its impact depends upon the circumstances in which it occurs, the constraints that surround it and—above all—the degree of choice that individuals can exercise over their own mobility” (Newland, 2009, p. 1).

Host and home countries should liaise and develop instruments to estimate as accurately as possible the stock of migrants in each country. Countries should develop mobility policies in the context of circular and temporary migration for skilled and non-skilled workers, with clear definitions and transparent regulations, and should involve international organizations. Existing regional programs that are quite successful in registering the high-skilled and their international mobility can be used as a guide. Such are Europe’s MORE and EURAXESS, Japan’s Bridge Fellowship Program, UN’s Digital Diaspora Network and TOKTEN, IOM’s MIDA program, and GATS’s Mode 4 elements.

Intergovernmental agreements can ensure the wellbeing of the migrants, eliminate the recruiting agencies, and safeguard the human rights of migrants. While bilateral and multilateral agreements are useful, engaging the host country’s employers would fortify such agreements, which should be revised often as the business cycle and labor market conditions change. Some effective policy tools for free mobility and circular migration governance are dual citizenship, flexible residential rights, pension portability, recognition of social and health benefits to foreign researchers, and provisions for the professional career of researchers’ spouses.

The idea of Global Skills Partnerships as a triple-win scenario is discussed by OECD (2018). Concrete measures for their feasibility are: “involving employers in both programme design and validation of migrants’ skills; acknowledging the diversity of approaches and situations across countries and sectors in how skills development and migration are combined; creating one-stop-shops for promoting skills mobility partnerships, supporting their implementation and conducting evaluation” (p. 1).

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