

Geographical Mobility of Talent

Juan José Fernández Domínguez, Ana María Castro Franco
(University of León, Spain)

Abstract: Account of the causal, numerical and locative conditions in transnational migrations of those who accredit a highly demanded qualification in the labor market. List of the elements of loss and gain for workers and States of origin and destination that would guide the international legal response and, also, to rectify some national regulatory approaches.

Key words: geographical mobility, brain drain, brain waste, brain gain

JEL codes: J, K

1. The Importance and Expressions of an Unstoppable Phenomenon

Development, demography and democracy are the famous “3Ds” whose associative property with the framework of factors on which the phenomenon of globalization is based (trade, transport and communications, investments, etc.) come to justify, in one way or another, the two most characteristic types of emigration (Ellerman D., 2004), both “forced” (associated with the negative circumstances of the place of origin) and “of opportunity” (aimed at covering, through geographical relocation, the difference between what one has and what one aspires to) (Gibson J. & McKenzie D., 2011). Within the latter, the one that affects highly qualified people makes specific sense, understanding as such those with a minimum number of years of training culminating in a university degree; always with the necessary corrections coming from accrediting the necessary “educational quality” (Parsons C. R. et al., 2014; Czaika M. and Parsons C. R., 2017), discriminating according to the demand for certain types of training or professional qualifications and leaving a margin open to those who, without such a background, accredit a notable specialization in practice, appreciable entrepreneurial spirit (Borjas G. J., 1987) or what is generically considered as “singular abilities” (Schiff M., 2017). It is talent, in the end, the ultimate factor that has driven and favoured their mobility at any territorial level and at any time, even when everything points to the fact that at present (and in particular in periods of crisis) the phenomenon is growing exponentially and will tend to become a current that will be difficult to restrain in the future (Biavaschi C. et al., 2018).

Writing in terms of probability is motivated by the need for more detailed studies (INAP, 2009) (or to eradicate some others based on unreliable sources or inappropriate data, often with the aim of creating a self-interested alarm (Docquier F. & Marfouk A., 2004; Vinokur A., 2008), at the risk of confusing cases of mere circulation, or of reinforcing internationalization, with assumptions of real migration (Santos Ortega A., 2013; Ermólizva E. & Kudéyárova N., 2014; González Ramos A. M., 2011). Aware of this shortcoming, it is necessary

Juan José Fernández Domínguez, Professor, University of León; research areas: labour and social security law. E-mail: jjferd@unileon.es.

Ana María Castro Franco, Spanish Ministry of Education Grantee, University of León; research areas: labour and social security law. E-mail: anacastrofranco7@gmail.com.

to seek greater accuracy in figures and percentages through the methodological combination used by the World Bank and the OECD, the result of which is the first widely accepted basis for assessing the phenomenon of brain drain, aggregating data from the censuses of different OECD countries. Thus, since 2008, this organization has published the most widely used reference for all studies, the DIOC (*Data Base on Immigrants in OECD Countries*), which since 2010, thanks to the collaboration of the World Bank, has included a study that extends to non-member countries (*DIOC-E*). Interpreting this pattern, several data can be corroborated: first, that the brain drain also affects -and with increasing intensity- developed countries, as talent seeks destinations in others with an even higher level of progress (in particular the United States, Canada and Australia); second, migration among qualified scientists can reach a base of variation of up to 25% (Czaika M. & Parsons C. R., 2016); finally, and with specific reference to the Spanish case, the incidence of the phenomenon is notably lower than that observed in neighbouring countries, even though its volume has increased significantly in recent years (Franzoni Ch., Scellato G. & Stephan P., 2012). On this occasion, however, it is regrettable that the issue has only been considered at international level, when its incidence is undoubtedly also within the borders of each State, as is paradigmatically the case in the author's country of origin (González Laxe F., Martín Bermúdez F. & Martín Palmero F., 2013; González Leonardo M. & López Gay A., 2019; Fernández Fernández R., 2010).

The process increasingly starts at an earlier age, in the heat of educational and training offers facilitated by historical connections (links over time between the states of origin and destination, such as colonial ties or common ancestors providing cultural, linguistic, religious affinity and a sense of familiarity), prior knowledge of the language (including the encouragement of the "acculturation process" often linked to such specific learning or upgrading at destination) and the granting of all sorts of advantages — no entry fees or scholarships and other incentives- to attract the most promising young people in the hope that, once they have joined the "knowledge industry", access to new lifestyles, economic advantages and more satisfactory personal and career development prospects will keep them in that initially temporary destination (De Voretz D. J., 2006).

Rich, ageing countries and a young population that is more and more educated and lacks expectations for adequate progress in their country are the indexes on the basis of which high qualification breaks down spatial-temporal limits, causing "the world to shrink" (Commander S., Kangasniemi M. & Winters L. A., 2004) (without prejudice to a first option to move to places closer or with better communication with the origin (Artuc E. et al., 2015), to offer a panorama marked by two characteristic notes: on the one hand, it's much more accentuated incidence — in qualitative terms — in small and/or less populated countries (De La Croix, D., Docquier F. & Schiff M., 2020); on the other hand, a clear preference for "central" or "main" destinations, leaving the "peripheral" ones for those with less education (Constant A. F., 2012).

Secondly, and although in general terms there is still a preference for moving to nearby places (with clearly emerging destinations for their neighbours, such as, for example, Russia or India), which are expected to be better, in the case of talent the "shrinking of the world" is becoming increasingly important — to the point of even postulating a reinterpretation of the geographical economy model — thanks to transport and communication technologies, capable of reducing spatio-temporal limits; This, in turn, serves to account for another threefold dynamic which has a particular impact on skilled workers: on the one hand, their impact or incidence — in qualitative terms — is more pronounced in small or less populated countries; on the other, a clear preference (with the obvious example of what is happening within the European Union) for "central" or "main" destinations, leaving the "peripheries" of the various regional areas for those with less training; finally, the greater receptiveness to talented emigrants from "less equal" countries than to those from "more equal" States, insofar as

they seem to assimilate wage differences better than the natives (Bastani S., Blumkin T. & Micheletto L., 2015).

From the perspective of population studies, a final remark must be added: although certain natural phenomena associated with natural disasters of physical (earthquakes, floods, hurricanes, droughts, etc.) or biological origin (plagues, phytosanitary and socio-sanitary problems or diseases with the clear example of AIDS in Africa) act as triggers for mass movements of people, money and talent draw a line between the richest and the most capable, so that only these have the margin -to a certain extent- to choose their destination (Drabo A. & Mbaye L. M., 2015).

In addition to this elementary conditioning factor, others take on a singular importance in driving this selective emigration, such as the existence of wars or civil, regional or international conflicts from which people try to flee by taking advantage of personal convenience (Kecmanovic M., 2013; Christensen J., Onul D. & Singh P., 2018; Dreher A., Krieg T. & Meierrieks D., 2011); to the same extent, the desire to “breathe freedom” or the “search for freedom” which pushes a large number of people to emigrate, but with a specific emphasis on the most qualified. And this is not only in the extreme cases of totalitarianism that even force asylum applications or situations of forced exile (Luchilo, L., 2007), but also in those less drastic but equally oppressive environments of lack of respect for human rights and public freedoms and political instability, insecurity, corruption and/or social fracture (Docquier F. et al., 2016). Other social motives without direct political connections, which are fortunately defined under the generic allusion to “gaining happiness”, linked to the desire to develop fully as a person; or, in addition to strictly professional reasons, other interests related, for example, with being able to live with one’s family or in the protective care of a diaspora that reproduces in the distance the environment of its origins (De La Croix D., Docquier F. & Schiff M.), should not be disregarded.

But while the above factors are important for talent mobility, the fundamental catalyst is undoubtedly provided by the economic and labour reasons which, from the outset, separate ordinary migrants from the most highly skilled: The former are usually a flexible workforce, willing to work for wages and conditions below the national average of the host country, but above the country of origin; the latter move, beforehand — the final results are another matter — for skilled positions, based on highly sought-after skills and with the aim of contributing to the improvement of local productivity (Commander S., Kangasniemi M. & Winters L. A., 2004).

When we go deeper into this driving force, the objective of maximising profits, based on the skills they accredit and allow them to aspire to a notable increase in income, appears as the first and most documented objective (Chiswick B. R., 2005; Bandick R., Görg H. & Karpaty P., 2014). Alongside this, job stability and professional development are aspirations that have to do with achieving full enjoyment of all the advantages of the Welfare State (Ivlevs A., 2015), moving away from the lack of resources and facilities, the excess of bureaucracy or the scarcity and fragmentation of knowledge (Grossman V. & Stadelmann D., 2011); in many cases, particularly as it concerns the scientific elite, openly following in the wake of investment in research and development (Hunter R. S., Oswald A. J. & Charlton B. G., 2009), historical connections (Córdova Alcaraz R., 2012), prior knowledge of the language (Isphording I. E. & Otten S., 2014) or — in favour of young people — the existence of scholarship programmes and other incentives aimed at attracting the most promising ones in the hope that, once settled, the provisional destination will become definitive (Booth A. L. & Kee H. J., 2011).

It is precisely the nuanced difference in motives that also introduces significant variations in the pattern of movement of the highly qualified. Thus, if the mobility of workers as a whole obeyed a pattern with five outstanding characteristics (northwards, permanent, under the protection of the rules in force, initially almost exclusively by men and of people with little training), today these characteristics have mutated and reached “a

more complex profile”, because apart from the proliferation of irregular migration -here of less interest (Ferrie J. & Hatton T. J., 2013) — new factors are redefining the global panorama:

The South-North direction is no longer the absolutely dominant one, with a diversification of flows or multidirectional process with different stages and levels. This prevailing direction is followed by and is visibly increasing in the collective that attracts attention — the North-North current, to support — or reopen — questions such as the fear of the enormous power exhibited by the United States (Grossmann V. & Stadelmann D.), the need to analyze the behaviour of the absolute elite as a subgroup with its own dynamics within the talented (Hunter R. S., Oswald A. J. & Charlton B. G.), the creation of highly developed areas, the territorial imbalance in the major economic regions (with Europe as a clear example (Hasselbach, J. A., 2019)) or, finally, the important emergence of new destinations such as South Africa, the Persian Gulf or the Asian enclaves of Hong Kong and Singapore (Artuc E. et al.).

The changes in destination are accompanied by two other equally or more significant variations related to their typical formulas and the groups involved. The first one, contrary to long-term movements with a view to permanent settlement, refers to the fact that among talented people there is an increasingly clear predominance of temporary stays with variants such as “circular emigration” (which, from the outset, contemplates the return after a training, productive or mixed period, when dual residence is not maintained (Gaillard J., Gaillard A. M. & Krishna V. V., 2015)); that which obeys a prior strategy that includes the use of a third State (in which, even, the necessary nationality and education can be acquired) as a springboard to reach another that appears as the ultimate objective or destination (De Voretz D. & Pivnenko S., 2008); the one attentive to the strategy of certain States that promote emigration while planning, from the outset, the objectives of return or recovery of human capital (with China as an example (Constant A. F. et al., 2013)); not to mention the option of those who, aware of their value, are willing to engage in “multilateral brain circulation”, following the local alteration of those who value their presence the most, such as large multinationals (Kone Z. L. & Özden C., 2017).

As far as the second variations are concerned, they affect young people and women in particular. Those, the most skilled, whom the powerful countries are looking for at an increasingly younger age, (*cherry picking*), in the hope that their incorporation into the “knowledge industry” will allow them to adapt more quickly and smoothly, and that, once they are specialized and integrated, they will be of benefit to the host society (Booth A. L. & Kee H. J., 2019). To this end, competition is clearly unbalanced when the most powerful can resort to multiple and massive marketing strategies, emphasising cultural, historical or linguistic links with world-renowned institutions, assistance to the student in preparing for departure and at destination, provision of suitable tutors, entry and stay facilities (such as automatic renewal of visas), “internationalization” of studies, possibilities to study two programmes at the same time or to make training and part-time work compatible, substantial scholarship policies and, of course, promises of a future contract after completing the preparation period (Fernández Fernández R., 2014).

Women have to be taken into account under what can be seen as a radical transformation, for while their role as migrants used to be secondary, subordinate to the family (linked to family reunification and to continuing a traditional role in the household), in the case of those with talent their ultimate purpose lies in working and they move almost always independently, often with the aim of overcoming the “women’s rights gap” between the State of origin and the State of arrival, measured in the flight from marginalization, violence or the absence of such basic political, social and economic rights as working without requiring parental or spousal consent, having access to property or credit, or being able to take the initiative in divorce and to have a say and vote (ILO, 2007).

This is a fact which, in itself, prompts us to pay attention to the gender issue in the mobility of talent with the singularity it requires, based on disaggregated analyses of both the statistics and the different emigration and immigration policies. Various other data call for this specific perspective; among others, and as the most outstanding, the following four: 1) The obvious ageing of the population in the country of origin when the emigration of women reaches a certain level, as it usually entails a decrease in fertility (Beine M., Docquier F. & Rapoport H., 2008). 2) Family fragmentation due to the disappearance of that element of cohesion which in many cultures is assumed by women, and, for the same reason, the increase in the lack of social protection for minors and the elderly, as they lose the person who was the main caregiver (Dumond J. Ch., Martin J. P. & Spielvogel G., 2007). 3) Although the phenomenon of over-qualification is a fairly common consequence, its effects are multiplied in a worrying way for the most educated women, because in addition to having to fight against prejudices and inertias that are unjustified but firmly anchored, it is not infrequent for them to have to face the consequences of having to work in the informal sector (Elo M., Aman R. & Täube F., 2020), They often have to submit their qualifications and accreditations to more exhaustive examinations or face much more rigorous selection processes, and they are much more vulnerable to the waste of their training in segmented national markets, which relegate them, because of their gender, to jobs “suitable for women” (Pfeifer L. et al., 2007). 4) Finally, given the initial conditions, when women have had to overcome strong obstacles in order to emigrate, and the inequality that they would have to continue to endure in their country of origin is obvious, their resistance to any incentive that could be established as a reward for their return is logical (Docquier F. et al., 2012).

2. Brain Drain or Brain Gain?

The first literature to analyze the geographical mobility of talent, in the context of the emigration of European scientists to the United States, did not hesitate to describe it with the striking term “*brain drain*”, even though the authors and users of the term themselves, of a liberal ideology with hardly any fissures, considered its effects to be “negligible” from an economic point of view, on the understanding that, as was the case with the free movement of goods and capital, the free movement of highly educated people could only benefit the world economy, and its concrete impact on states had to be considered “neutral” (Docquier F. & Rapoport H., 2012).

The continuation of the trend, as well as its higher quantitative and qualitative incidence in the terms mentioned, caused the sign of the studies to change and the majority discourse presented the phenomenon as a question of “winners and losers”, opposing the benefits of the destination countries, usually the wealthiest and which in this way found a new way to reaffirm their predominant position, to the undoubted losses of those who had invested in the qualification of their citizens and whose productive capacity and future growth were seriously compromised by their emigration (Beine M., Docquier F. & Rapoport H.).

This trend lasted until the end of the century, because “in the 1990s a new paradigm managed to gain a foothold in scientific discourse. The ‘*brain gain*’ burst in with the legitimization, power and stability of the most developed countries, proposing it as a means, and no longer as an end, for the advancement of the initially less favoured territories” (Nathan M., 2014). In this way, a very powerful neoliberal current does not hesitate to proclaim the “*beneficial brain drain*” in the movement of talent (Kuhn P. J. & McAusland C., 2009) or, in a play on words that now seeks a counterpoint, the existence of a real brain gain, to highlight how, far from confirming the significant loss, and at least under certain circumstances — turning the variable element into a real condition for the final result — the emigration of qualified people is in a position to open a movement in which everyone

wins (Haupt A. & Janeba E., 2004).

Curse or blessing? (Docquier F., 2007). This is a dilemma that continues to separate those who believe that a social reality cannot be condemned in advance when there are many mechanisms capable of compensating (even partially) for the initial imbalance (McAusland C. & Kuhn P. J., 2011), but neither can the accusation of “narrow-mindedness” of the opposing approaches be accepted without further ado for the mere fact of not adopting an “internationalist” perspective, when their arguments are based on real data on unemployment, loss of qualifications or job insecurity. A review of the arguments of both sides leads us to focus on the fundamental arguments on which their discourse is built.

2.1 The Elements of Loss in Brain Drain

Although often neglected in their analysis, the main element of loss in the country of origin should also be added to that which may be suffered by the migrant him/herself, or even by the host country.

From the first point of view, and although the possibility of return is often invoked as a primary corrective element, the fact is that the qualified person often has to face a clear mismatch between the level of knowledge he or she accredits and the occupation performed “mismatched skill”. The reason lies in the fact that the qualification or specialization acquired in origin is not recognized or used to the full extent at destination, with a particular serious impact in the case of regulated professions, whose training is not recognized or is subject to a specific examination. Often as a result of imperfect or asymmetrical information (Dequiedt, V. and Zenou, Y., 2013), there is a “chronic under-utilization of qualified labour” which often leads to the need to accept unwanted jobs for which they are clearly over-qualified, to endure professional regression “downshifting”, to neglect their talent or even to have to keep it hidden “hidden brain drain” in order to access or remain in the country that was their goal, with the consequent frustration of their expectations of fulfilment or social integration (Blanchflower D. G. & Shadforth Ch., 2009).

As for the impact on the destination State, the negative impact on employment or wages, as well as higher dependency or social protection consumption, are far from being confirmed (Kahanec M., 2013); however, there is virtually unanimous agreement on the problems caused by their integration, as cultural barriers persist (Isophording I. E. & Otten S.). In this sense, and although for the more qualified, the elements of procrastination are certainly less pronounced, they take on more subtle forms (De Coulon A., Radu D. & Steinhardt M. F., 2016), which may well give rise to outbreaks of xenophobia if a clear and sustained institutional policy to this effect is not pursued (Guzi M., Kahanec M. & Kureková L. M., 2015). Similarly, it has been argued on various occasions, on the basis of figures that leave no room for doubt, that incentives for nationals to attain higher qualifications have disappeared, particularly when the incorporation of foreigners has covered the needs and does not lead to a reduction in the purchasing power of those who do not aspire to higher qualifications either (Regets M., 2001).

Although the above aspects have unquestionable importance, the literature highlights that the main victims of the loss of the talent they have trained are the emigrants’ States of origin, insofar as the decrease in human capital made up of the most valuable people can significantly reduce the capacity to promote or sustain economic and social development, erode the critical mass and limit the possibilities for innovation, not in vain, in an economy based on knowledge, the presence of talent is an essential condition for competitiveness (Estébanez Estébanez P., 2018). Three scenarios would support this conclusion:

A) The one, on which most emphasis has been placed, concerns the significant public investment made to nurture talent and which, when they leave the country (at least if they do so in a high percentage (Schiff M., 2018),

will have no social return whatsoever (Chiswick B. R.). This is detrimental both to the present generation and to what is known as the “intergenerational transmission of talent” (Smith J. P. & Delaney L., 2015). This will also lead to a continued decrease in the efforts of those who live off the remittances sent by migrants (Antman F. M., 2012).

A twofold reaction is to be expected. Firstly, the “demotivation” of the public authorities, which will take these to reduce investment in education, believing that it is not a general problem (Checchi D., De Simone G. & Faini R., 2007) while those who aim to get it will consider that the offer is insufficient, or lacks the required quality, motivating them to decide to study abroad (Dreher A. & Poutvaara P., 2013). Secondly, an attempt to maintain the level of education as a fundamental asset, even if this means making an enormous effort to reduce expenditure in other areas (Poutvaara P., 2008); and also, to assume other clear risks, such as the fear that many citizens may decide to make an effort in education for the sole purpose of emigrating, which would lead to an accumulation of talent that may not have an outlet.

The second more tangible effect is the lack of protection in which not only the dismembered family unit, but also the surrounding social collectives suffer when those who could help the most migrate en masse; those who, in addition, served as a unifying factor for the community. Thus, the emigration of qualified people in the field of education and health care, has been described as a “fatal movement”, a “catastrophe” or a “crime”, when those to whom they provided this care are left to fend for themselves (Adovor E. et al., 2021). Without ever denying the right of those concerned to flee disasters and pandemics, or to secure a better future for themselves, it is a better future, what is obvious is that their emigration seriously hinders or conditions any semblance of progress.

Although, with statistical data in hand, the relationship between the emigration of doctors and the state of health in the poorest countries, for example, is not fully accredited, since other structural factors could be invoked which could lead to the same result, and of course their right to flee from disasters and pandemics or to ensure a future for themselves, could always be invoked, this decision implies the abandonment to their sad fate of a large part of the population precisely by those who could help the most, with the consequence of depriving them of a binding factor of reference, as is the case when those who emigrate are highly qualified women, whose repercussions on those who stay behind are -by comparison with men- much more negative (Drabo A. & Mously Mbaye L., 2015, pp. 767-768).

C) Finally, it will be necessary to pay attention to the macroeconomic effects, which — as has been assessed — turn those countries that support the emigration of their best educated citizens into “clear candidates for victims” (Marchiori L., Shen I. L. & Docquier F., 2013, p. 1582), although their impact will vary depending on the sector, location and specific skills of the migrants (Gibson J. & McKenzie D., 2019, pp. 344-347; Pasichnyk N., 2019, p. 19). Among the considerations that lead to this conclusion, three fundamental ones are worth mentioning:

a) With the failure in many cases of an adequate replacement rate, the technical and managerial skills needed to continue many ongoing or feasible projects in the short term will be lacking, significantly hampering productivity; moreover, given the complementarity between skilled and unskilled labour, the imbalance between the two will naturally lead to a reduced ability to produce in quantity and quality (Agrawal A. et al., 2011, pp. 43-55). This situation is all the more serious when the production of the State of origin is specialised in a small number of sectors (“fatal but usual coincidence”), as the high vulnerability to market fluctuations will undoubtedly result in the loss of such specific personal skills (De La Croix, D., Docquier F. & Schiff M., 2011, pp. 124-125).

b) This emigration will leave a vacuum of talent to be able to create (given the obvious correlation between

training and capacity for innovation), and even to adapt advances (Kaiser U. et al., 2018, pp. 1935-1939), particularly when the regulation of intellectual property always associates the product with the ingenuity of the individual, and only on marginal occasions with how many factors drove it regardless of the worth of the subject (Marchori L., Shen I. L. & Docquier F., 2013, pp. 1587-1588). This is linked to the trend of decreasing investment in research and development, seriously compromising the opportunities of future generations and the competitiveness of exports, affected by the lack of originality and variety (Schiff M. & Wang Y., 2013, pp. 399-414).

c) Finally, and closely related to the two preceding circumstances, the loss of stimulus for foreign investment can be appreciated, thus entering a “virtuous (or vicious) circle” whereby skills and investment are mutually reinforcing, being clearly complementary or associated factors, so that the presence of talent attracts and moves R&D flows, and money encourages citizens to attain the highest level of training to access the best jobs (Checchi D., De Simone G. & Faini R., 2007, pp. 6-7).

2.2 Benefit Factors Associated with Talent Mobility

The discourse presents a different face when the positive effects on the interested party are projected (as a reversible operation of a conscious and desired option which, furthermore, will always allow them to have added a useful experience to their professional and life trajectory), to the receiving State (not in vain most of them do leave the door permanently open to those who can accredit such an asset, trusting in their potential to boost productive efficiency, the ease of accessing unique talents to expand their knowledge or the viability of creating synergies that lead to strategic enclaves of technology and research) or, in particular, the State of origin.

In the latter case, a five-fold advantage is claimed to compensate for the initial deficit:

1) With regard to the public model of education, far from discouraging the continuation of the endeavour, there are important incentives to reorient and promote investment in this area, in order to satisfy the natural increase in demand and prevent young people from emigrating in order to be able to study (Mok K. H. & Han X., 2016, pp. 369-389). In this way, not only will graduates and postgraduates not decrease, but they will multiply, and human capital will be able to find adequate replacement, even for the most outgoing individuals (Batista C., Lacuesta A. & Vicente P. C., 2008, p. 3; Smith J. P. & Pelaney M. A., 2016, pp. 1227-1248; Djajic S., Docquier F. & Michael M. S., 2019, pp. 271-303). To this should be added the behaviour of those who remain in the country, as they have shown a clear interest in achieving a high degree of preparation, seeing the opportunities enjoyed by those who have gone before them (Haapanen M. & Böckerman P., 2017, pp. 8-26); also, and in the heat of what is demanded in practice, they will require and orient their studies towards those more “mobile” (engineering, health sciences, international trade, etc.), as opposed to the more “static” or traditional (humanities and social sciences), making employability the ultimate educational goal (Poutvaara P., 2005, pp. 591-608).

2) Perhaps surprisingly, the analysis of intellectual property policies and the brain drain has traditionally been undertaken by separating the two phenomena (Agrawal A., 2014, p. 26). The above statement, which is easy to see, has begun to find an adequate response in recent years, prompted by different proposals for the regulation of intellectual property as a product and ideas as patents, since there is no doubt that the legal form of these policies influences the patterns of knowledge flows. In this respect, several factors must be weighed up, in particular the need for an international normative reference, since its absence clearly favours arbitrations that are quite favourable to the most powerful (Kuhn P. J. & Mcausland C., 2009, pp. 289-290). At the same time, the imposition by means of bilateral or multilateral agreements of rules that protect intellectual property to an

excessive degree (both in time and in material terms), which may well contrast with other very heterogeneous scenarios, such as the absence of any rules, the transfer of knowledge and technology through formal and informal networks (Naghavi A. & Strozzi Ch., 2015, pp. 150-161), or the proliferation of “free ideas”, insofar as they involve the “expropriation of talent” (Hunter R. S., Oswald A. J. & Charlton B. G., 2009, p. 248).

3) Under the acronym “GRS”, the ILO advocates various initiatives in order to halt the negative effects of the massive brain drain which, in their most suggestive aspects, have in common the return (by one means or another) of the qualified people who once emigrated, or the limitation of absences, taking advantage of the benefits of means of transport and communication so that contact with the origin is never lost; moreover, so that it can act as a real “base of operations” for the talent in circulation (May K. & Peri G., 2009, pp. 1-52). Return or permanent contact will make it possible to bring back nationals with an accumulated base of knowledge and experience, who bring new ways of doing and thinking, links with the outside world or, given the transferable nature of pensions, continue to bring in income (Gibson J. & McKenzie D., 2011, pp. 110-113). To this end, a fundamental decision, followed by almost all States, to build a real citizenship abroad, which always provides for a “return reward” (relocation to better jobs, higher salaries or public aid) with the intention of recovering talent, must be taken into account (Latukha M. et al., 2020, p. 49).

The greater or lesser success of these initiatives depends on many variables, and in addition to strictly personal reasons, the loss of employment or the completion of studies, the following have been considered as the most important factors: the modification of some of the structural conditions that motivated the departure (political instability, economic insecurity, unsatisfactory social and cultural life or lack of work challenges) (Docquier F., 2009, p. 52), the better or worse reception given by the socio-occupational environment (Tharenou Ph. & Seet P. S., 2014, pp. 55-74), the intention at the time of departure to return or not, the age (as older people are more inclined to return, known as the “turtle dynamic” (Docquier F., 2009, p. 64), although it is generally the least interesting (Hussain S. M., 2015, pp. 310-322), the greater or lesser degree of success of these initiatives, the length of time spent abroad (as there is an “inertia effect” that tends to make it less desirable to return over the years), the maintenance or not of family ties, the gender (with women, for the reasons already mentioned, showing greater reluctance) or, not least, the degree of training and further training achieved abroad, given that a higher or more specialised qualification will make relocation more difficult (Güngör N. D. & Tansel A., 2012, pp. 208-226).

4) Considered as the primary direct benefit of emigration, remittances are the main source of income for a significant number of countries; that income is much more stable, moreover, than capital flows, which means that emigrants are not only precursors of knowledge and know-how, under the circumstances already described, but also providers of social aid and investment (Legoff M. & Salomone S., 2016, pp. 515-516). In terms of size, they are the second largest source of financing (after foreign direct investment) in developing countries, and they also have the virtue of tending to increase in times of crisis (Gibson J. & McKenzie D., 2010, pp. 341-346). For this reason, their visibility, amount and “family” and “social” purpose (to repay the investment made by the family unit, preventing others from having to emigrate or, on the contrary, in the case of “strategic remittances”, to help others to do so (Piracha M. & Saraogi A., 2016, p. 102) and, in any case, increasing the standard of living — and spending — at home (Constant A. M., 2012, p. 52) should not, however, lead to conformism, at the risk of turning them into a “double-edged sword” (Piracha M. & Saraogi A., 2013, pp. 116-120). In this sense, they should not imply the abandonment or reduction of official development assistance by the wealthier States; at the same time, they should not constitute an alternative to the indispensable national efforts in favour of progress: “since emigration alone does not solve the problem of a country’s growth” (Chiswick B. R., 2021, p. 43).

Three key aspects acquire particular importance in this discussion and are the subject of ongoing reflection:

a) The clear positive profile of remittances has very often been associated with the symptoms of the so-called “Dutch disease”, i.e. its use to maintain balance of payments equilibrium, with the consequent discouragement of domestic activity, making it the greatest competitive advantage in the international community (Beine M., Docquier F. & Rapoport H., 2010, p. 143). At the individual level, its conversion into a clearly unproductive item, as it is entirely dedicated to private spending, without any savings or investment, giving rise to experiences of compulsive consumption and reluctance to carry out any productive activity (Faini R., 2007, p. 177).

b) Secondly, the beneficial effects of this item are often endangered by the lack of honesty and discipline in the recipient countries’ finances. As a result, the pillars on which one should aspire to improve its results, namely good macroeconomic policy, social stability and a favourable environment for the transfer, will fail (Berdiev A. N., Kim Y. & Chang C. P., 2013, pp. 182-185; IVLEVS, A. and KING, R. M., 2017, pp. 389-408). Solidarity remittances, whereby for every dollar invested by a migrant for social benefit, the government pledges to contribute more to education and health, have been positively evaluated in the states where they have been implemented (Pineda S. & Ponce P., 2020, pp. 96-103).

In relation to the last aspect, it will be necessary to consider that their greatest impact on poverty reduction and development will be through aspects such as eliminating or reducing direct and/or indirect taxes on them; improving the security of sending and receiving them (including the eradication of corruption among officials, which is so unfortunately frequent); recognizing its character as a private resource belonging to the displaced and their families, with no scope for the state to appropriate it in part or impose excessive regulations on it; and reducing costs and increasing the transparency of the financial services through which it is exported (Ivlevs A., & King R. M., 2017, p. 398).

c) Finally, the most thorough analyses are aimed at measuring the amount and variations according to the state, type of emigration and characteristics of the individual, the family and the community (Piracha M. & Saraogi A., 2013, p. 105). In particular, the question of whether, comparatively speaking, they send more or less remittances is controversial, and there is a line of analysis which, while not denying that they send more, considers that, in proportion to their earnings, they are less significant (Niimi Y., Ozden C. & Schiff M., 2010, pp. 123-142). However, others insist that the amounts they send are notoriously higher (Bollard A. et al., 2011, pp. 132-156), without education having a significant impact on the percentage of what they remit to those who remain in the state of origin (Liacuanan V., Mahmoud T. O. & Steimayr A., 2015, p. 94) (even stating that the amount is greater when they have left tragedies behind (Bettin G., Presbitero A. F. & Spatafora N. L., 2014, p. 6) or migration policy is more restrictive (Docquier F., Rapoport H. & Salomone S., 2012, pp. 817-828), so that the variation should be sought in other parameters (Bredtmann J., Martínez Flores F. & Otten S., 2019, p. 1455), such as gender (women send more and for longer (Docquier F., Lowell B. L. & Marfouk A., 2009, pp. 299-301), the passage of years (which leads to a significant decrease in contributions (Bollard A. et al., 2009, pp. 141-147)), the intention or not to return (taking into account that the “purchase of one’s own insurance” leads to larger amounts when there is such an intention (Docquier F., Lowell B. L. & Marfouk A., 2007, p. 300), or the greater or lesser growth of the economy in the State of origin (which means that the prosperity translates into a lesser need for external contributions (Gibson H. & McKenzie D., 2010, p. 341). In the end, this is a variable that must be carefully considered and does not allow for simple rules.

5) Communities of individuals settled in different states, who share common interests (territorial, religious, cultural, economic or labour) and use networks of various kinds to consolidate solidarity beyond national borders

(Agrawal A., Comola M. & Mendola M., 2015, pp. 592-618); Diasporas no longer have the clear ethnic profiles of yesteryear, but are more open from an economic, social and cultural point of view (Mitra A., Bang J. T. & Wunnava P. V., 2014, pp. 201-204).

It's very rich and active role can be condensed — always at the risk of oversimplifying and leaving out substantial aspects of its work — into four fundamental aspects: a) Helping to organize emigration networks both for study and work purposes, paving the way for the fastest and safest possible transfer, with greater opportunities and appropriate channels for integration, by doing so first and foremost in that related community (Gaillard J., Gaillard A. M. & Krishna V. V., 2015, pp. 270-275; Comola M. & Mendola M., 2013, pp. 594-597). b) Promoting the so-called “doors of entrepreneurship” (Chiswick B. R., 2005, pp. 87-89), i.e., trade and investment in the European Union. Through its intermediation, it can redirect commercial activity, creating interconnected links (e.g. through contracting and subcontracting or directing the interests of multinationals towards its own territory (Parsons Ch. & Vezina P. L., 2014, pp. 210-234), facilitate the opening of businesses (Docquier F. & Rapoport H., 2012, p. 687) and influence the directions of straight foreign invasion or of exports and imports (Agrawal A., 2017, pp. 7-11). c) Contributing to an improvement of education and research in the State of origin, by creating appropriate, institutional and/or informal connections to that effect (Marchiori L., Shen I. L. & Docquier F., 2015, pp. 1586-1588). d) making an influence in the social and, above all, political way, because apart from the positive effect of giving significant leaderships to the returnees, they constitute an active group in the normative changes and reforms of all kinds ordered to the defence of the institutional quality and the respect to universal values and human rights (Docquier F. et al., 2016, p. 209; Mercier M., 2016, pp. 76-91).

3. International Anomie and National Regulations for the Protection and Attraction of Talent

The clear difference between ordinary migratory flows and the mobility of the most talented people can be condensed in the contrast between quotas and the “*brain battle*”, which alludes to a clear selection or “positive screening on the basis of education” (Biavaschi C., 2018, pp. 5-8). As a result, Art. 13 of the Universal Declaration of Human Rights leads, in practice, to a clear asymmetry in the right to emigrate, in the sense of recognising and protecting the right to do so, but not generating any obligation for the potential receiving state that entails the correlative “right of immigration” (Chiswick B. R., 2005, pp. 86-87).

This should lead to unconditional support for the ILO's efforts to try to reverse the phenomenon of brain drain through a variety of initiatives (ILO, 2007) which, however, cannot lead -as it is happening in practice- to the extreme of limiting mobility in the event of insufficient talent being available in the country, or to the creation of a kind of compulsory personal benefit of minimum stay in the country of origin after studying abroad (Obermar K., 2013, p. 427). Only in exceptional cases, of conflicts that could affect, among others, the duty of care (in a paradigmatic example, that which concerns health professionals), will it be possible to establish certain limits to the mobility of those who hold such a precious accreditation (Ferracioli L. & De Lora P., 2015, pp. 601-619).

On the other hand, the assertion of the sovereignty of the host country cannot make the agreements it adopts or signs “immune to moral considerations” (Ferracioli L., 2015, pp. 99-115); in this sense, a double yardstick of freedom is used: very broad when it comes to goods or investments, and very strict or selective when it comes to people, with the exception of those who possess the skills demanded by the market, in which case defensive strategies against emigration turn into facilities to “take”, “catch”, “capture” or “steal” talent, in a context that is

posed as a “competition”, “hunt” or “battle” for the best and the brightest (Kapur D. & McHale J., 2005, p. 36).

Following the failure of the GATT Mode IV, which authorizes states to impose restrictions but only contains non-specific provisions aimed at facilitating entry, the rules of the various states will try to make their offers more attractive and create appropriate exceptions to the ordinary rules on immigration in the interests of the market that inspire the policies of OECD members- without hesitating to give wide latitude to behaviour such as anticipating wages, showing the state of their market when unemployment rates and their duration are low, reducing taxation, providing information on the importance of economic activity in general or in a specific sector, showing the technological advances made available to them, guaranteeing long-term settlement or compatibility with maintaining a dual residence or making available attractive reception conditions both in material (housing, transport, neighbourhood) and social terms (facilities for children's schooling, participation in cultural or sporting activities of interest, etc.), “because in an untidy competition -almost- everything has its place” (Beine M., Docquier F. & Rapoport H., 2008, p. 743).

The American H-1B or EB-3 Visa or, following their example, the measures adopted in Canada, Australia, Great Britain or Germany are clear examples of the above dynamics (Beine M., Docquier F. & Rapoport H., p. 633)¹, as is also (the inspiration of the Schroeder Plan 2000 is clear) Council Directive 2009/50/EC of 25 May on the conditions of entry and residence of third-country nationals for the purposes of highly qualified employment, in its desire to promote what has rightly been considered as “opportunity migration” (Grütters C. & Strik T., 2013, p. 27). This serves to show how the principle of subsidiarity is almost meaningless — the European Commission itself put forward a proposal for its repeal and the introduction of better regulation — when national policies are more interested in competing than coordinating (Ushakova T., 2019, pp. 162-163; Modrego A. et al., 2019, pp. 3-4).

In the face of this aggressive and selective policy of the more developed countries, the poorer states can put up little resistance (hence the relative failure of national recovery plans, including the implicit or explicit “return prize”); moreover, even some of them — for there are also very marked degrees of development — have serious difficulties, as in the case of Canada or the European Union, both in attracting foreigners and in retaining the best prepared or getting them to return — even with formulas for developing strong links between colleagues of different nationalities. Formulas such as the initiative designed in 2000 to become a pole of reference through the *European Research Area* (Constant A. F. & D’Agosto E., 2008, p. 249), or the reform of the Canadian points system, have been an interesting attempt, but have not succeeded in slowing down the exodus to the United States to the desired extent.

As has been explained, in the absence of an international regulation of intellectual property that would solve some of the above-mentioned problems, hopes are still pinned on a supranational regulation that could correct the disadvantage suffered by many countries as a result of the transfer of talent. Thirty years later, and after hundreds of writings questioning its unnecessary nature or its technical unfeasibility (Mitra A., Bang J. T. & Wunnava P. V., 2014, p. 199), the proposal for an international tax on talent, known by its author's name (“Bhagwati tax”) continues to be continuously revisited as a formula that, despite the difficulty of its implementation, deserves to be weighed with the necessary interest (Schiff M., 2018, p. 14), even if only as a first -but fundamental- step towards the correction of obvious externalities (Straubhaar Th., 2000, p. 39).

¹ Favoured by the failure of GATT’s Module IV, which leads to unregulated competition of which valuable examples are provided in each of the above-mentioned which provide valuable examples, in each of the above-mentioned orders.

However, their initial thesis has never been refuted, and could even be considered partial in the light of the above, insofar as there is an obvious fiscal externality: the education received by the highly qualified is financed, for the most part, through taxes paid by the citizens of their country, and with emigration they cease to contribute to the common fund, causing a loss of net taxpayers. If we add the disruption to labour markets this “flight” causes, reductions in the tax base or inefficiencies in the tax system linked to the possibility of reducing or eliminating the tax burden from the financial transfer, not to mention the factors related to the decline in economic activity whose influence is evident in terms of the resources available to the public purse, the initial distortion is obvious (Egger H., Fackinger J. & Grossmann V., 2012, p. 81; Fernández Domínguez, J.J., 2019, pp. 27-29).

On the basis of these data, it is worth describing the political, administrative and practical problems of all kinds raised by its implementation, which in the original approach was to be collected under the auspices of the United Nations with the help of the authorities of the destination country (in its reformulation, using a model similar to that of the United States, basing taxation on citizenship and not only on residence) with a temporary extension of ten years from the time of movement and re-entry into the states of origin “unless they were corrupt or dictatorial”. All of these obstacles are obvious, both in terms of making the migrant bear the burden (administrative costs that are difficult for poor nations to meet) and in terms of turning to international institutions (the design and implementation of a new tax regime, with all that this entails) (Tosun M. S., 2011, p. 23). Nevertheless, and in line with the approach taken, it should not be disqualified simply because it reduces the advantages associated with ultraliberal postulates, as it reveals clearly positive elements that would require further reflection: a model for controlling emigration and redistributive justice, intergovernmental cooperation for efficient aid to education or correction of the significant externalities generated.

References

- Adovor E. et al. (2021). “Medical brain drain: How many, where and why?”, *Journal of Health Economics*, Vol. 76, p. 13.
- Agrawal A. (2014). “Diaspora networks, knowledge flows, and brain drain”, *Economic Research Working Paper*, No. 15.
- Agrawal A. et al. (2011). “Brain drain or brain bank? The impact of skilled emigration on poor-country innovation”, *Journal of Urban Economics*, Vol. 69, No. 1, pp. 43-55.
- Agrawal A. (2014). “Diaspora network, knowledge flows, and brain drain”, *WPO Economics & Statistic Series Economic Research Working Paper*, No. 15, p. 26.
- Antman F. M. (2012). “Gender, educational attainment, and the impact of parental migration on children left behind”, *Journal of Population Economics*, Vol. 25, No. 4, pp. 1187-1214.
- Artuc E. et al. (2015). “A global assessment of human capital mobility: The role of non-OECD destinations”, *World Development*, Vol. 65, pp. 6-26.
- Bandick R., Görg H. and Karpaty P. (2014). “Foreign acquisitions, domestic multinationals, and RS”, *Scandinavian Journal of Economics*, Vol. 116, No. 4, p. 1091.
- Barreiro González G. and Fernández Domínguez J. J. (dirs.) (2004). *Los convenios colectivos extraestatutarios: contenido y régimen jurídico*, Ministerio de Trabajo y Asuntos Sociales, p. 2010.
- Bastani S., Blumkin T. and Micheletto L. (2015). “Optimal wage redistribution in the presence of adverse selection in the labor market”, *Journal of Public Economics*, Vol. 131, pp. 54-57.
- Batista C., Lacuesta A. and Vicente P. C. (2008). “Consideraciones empíricas de la fuga de cerebros”, *Moneda y Crédito*, No. 226, p. 33.
- Beine M., Docquier F. and Rapoport H. (2008). “Brain drain and human capital formation in developing countries: Winners and losers”, *The Economic Journal*, Vol. 118, No. 528, pp. 631-652.
- Beine M., Docquier F. and Rapoport H. (2008). “Brain drain and LDCs’ growth: Winners and losers”, *Economic Journal*, Vol. 118, No. 528, p. 743.

- Beine M., Docquier F. and Rapoport H. (2010). "On the robustness of brain gain estimates", *Annals of Economics and Statistics*, No. 97-98, p. 143.
- Bénassy J. P. and Brézis E. S. (2013). "Brain drain and development traps", *Journal of Development Economics*, Vol. 102, pp. 15-22.
- Berdiev A. N., Kim Y. and Chang C. P. (2013). "Remittances and corruption", *Economics Letters*, Vol. 118, No. 1, pp. 182-185.
- Bettin G., Presbitero A. F. and Spatafora N. L. (2014). "Remittances and vulnerability in developing countries", *IMF Working Papers*, No. 13, p. 6.
- Biavaschi C. et al. (2018). "Taking the skill bias out of global migration", *UCD Center for Economic Research Working Papers*, 18/08.
- Blanchflower D. G. and Shadforth Ch. (2009). "Fear, unemployment and migration", *Economic Journal*, Vol. 119, No. 535, pp. F176-F178.
- Boc E. (2020). "Brain drain in the EU: Local and regional public policies and good practices", *Transylvanian Review of Administrative Sciences*, No. 59, pp. 23-39.
- Bollard A. et al. (2011). "Remittances and the brain drain revisited: The microdata show that more educated migrants remit more", *World Bank Economic Review*, Vol. 25, No. 1, pp. 132-156.
- Booth A. L. and Kee H. J. (2011). "A long-run view of the University gender gap in Australia", *Australian Economic History Review*, Vol. 51, No. 3, p. 254.
- Borjas G. J. (1987). "Self-selection and the earnings of immigrants", *American Economic Review*, Vol. 77, No. 4, pp. 534-536.
- Bredtmann J., Martínez Flores F. and Otten S. (2019). "Remittances and the brain drain: Evidence from microdata for Sub-Saharan Africa", *The Journal of Development Studies*, Vol. 55, No. 7, p. 1455.
- Brezis E. S. (2019). "Should individuals migrate before acquiring education or after? A new model of brain waste vs. brain drain", *The BE Journal of Macroeconomics*, Vol. 19, No. 2, p. 20.
- Casari M. et al. (2018). "Civicness drain", *IZA Discussion Papers*, No. 11955, p. 50.
- Checchi D., De Simone G. and Faini R. (2007). "Skilled migration, FDI and human capital investment", *IZA Discussion Papers*, No. 2795.
- Christensen J., Onul D. and Singh P. (2018). "Impact of ethnic civil conflict on migration of skilled labor", *Eastern Economic Journal*, Vol. 44, No. 1, pp. 18-29.
- Chiswick B. R. (2007). "High skilled immigration in the international arena", in: T. R. Shastri (Ed.), *Emigration: Economic Implications*, Icfai University Press, India, pp. 84-95.
- Constant A. F. (2012). "Sizing it up: Labor migration lessons of the EU enlargement to 27", in: Cortazar C. et al. (Eds.), *European Migration and Asylum Policies: Coherence and Contradiction — An Interdisciplinary Evaluation of the EU Programmes of Tampere (1999), The Hague (2004) and Stockholm (2009)*, Bruselas, Bruylant, p. 45.
- Constant A. F. et al. (2013). "China's latent human capital investment: Achieving milestones and competing for the top", *Journal of Contemporary China*, Vol. 22, No. 79, p. 109.
- Constant A. M. (2012). "Sizing it up: Labor migration lessons of the EU enlargement to 27", in: C. Gortázar, C. Parra, B. Segart, and C. Timmerman (Eds.), *European Migration and Asylum Policies: Coherence or Contradiction*, Bruylant: Belgium, pp. 49-77.
- Constant A. F. and D'Agosto E. (2008). "Where do the brainy Italians go?", *IZA Discussion Papers*, No. 3325, p. 249.
- Commander S., Kangasniemi M. and Winters L. A. (2004). "The brain drain: Curse or boon? A Survey of the Literature", in: Robert E. Baldwin and L. Alan Winters (Eds.), *Challenges to Globalization: Analyzing the Economics*, University of Chicago Press, pp. 235-278.
- Comola M. and Mendola M. (2015). "The formation of migrant networks", *Scandinavian Journal of Economics*, Vol. 117, No. 2, pp. 592-618.
- Córdova Alcaraz R. (2012). *Rutas y Dinámicas Migratorias Entre los Países de América Latina y el Caribe y entre ALC y la Unión Europea*, Bruselas, OIM, p. 35.
- Czaika M. and Parsons C. R. (2014). "The gravity of high skilled migration policies", *Demography*, Vol. 54, No. 2, pp. 604-607.
- Czaika M. and Parsons C. R. (2016). "High-skilled migration in times of global economic crisis", *IMI Working Papers Series*, No. 126, p. 31.
- De Coulon A., Radu D. and Steinhardt M. F. (2016). "Pane e cioccolatta: The impact of native attitudes on return migration", *Review of International Economics*, Vol. 24, No. 2, p. 253.
- De La Croix D., Docquier F. and Schiff M. (2014). "Brain drain and economic performance in small island developing States", in: Artal Tur A., Peri G. and Requena Silvente F. (Eds.), *The Socio-economic Impact of Migrations Flows: Effects on Trade*,

- Remittance, Output, and the Labour Market*, Londres, Springer, 2014, p. 123.
- Dequiedt V. and Zenou Y. (2013). "International migration, imperfect information, and brain drain", *Journal of Development Economics*, No. 102, pp. 62-78.
- De Voretz D. J. (2006). "A history of Canadian recruitment of highly skilled immigrants: Cronica 1980-2001", *IZA Discussion Papers*, No. 2197, p. 43.
- De Voretz D. and Pivnenko S. (2008). "The immigration triangle: Quebec, Canada and the rest of the World", *Journal of International Migration and Integration*, Vol. 9, No. 4, pp. 363-382.
- Djajic S., Docquier F. and Michael M. S. (2019). "Optimal education policy and human capital accumulation in the context of brain drain", *Journal of Demographic Economics*, Vol. 85, No. 4, pp. 271-303.
- Docquier F. and Marfouk A. (2004). "Measuring the international mobility of skilled workers (1990-2000)", *World Bank Policy Research Working Paper*, No. 3381.
- Docquier F. et al. (2016). "Emigration and democracy", *Journal of Development Economics*, Vol. 121, pp. 209-223.
- Docquier F. (2007). "Fuite des cerveaux et inégalités entre pays", *Revue d'économie du développement*, Vol. 15, No. 2-3, pp. 89-96.
- Docquier F., Rapoport H. and Salomone S. (2012). "Remittances, migrants' education and immigration policy: Theory and evidence from bilateral data", *Regional Science and Urban Economics*, Vol. 42, No. 5, pp. 817-828.
- Docquier F., Lowell B. L. and Marfouk A. (2009). "A gendered assessment of the brain drain", *Population and Development Review*, Vol. 35, No. 2, pp. 299-301.
- Docquier F. and Rapoport H. (2012). "Globalization, brain drain and development", *Journal of Economic Literature*, Vol. 50, No. 3, pp. 681-730.
- Docquier F. et al. (2012). "Are skilled women more migratory than skilled men?", *World Development*, Vol. 40, No. 2, pp. 251-265.
- Docquier F. and Rapoport H. (2012). "Globalization, brain drain and development", *Journal of Economic Literature*, Vol. 50, No. 3, pp. 682-684.
- Docquier F. (2007). "Fuite des cerveaux et inégalités entre pays", *Revue d'Economie du Développement*, Vol. 15, No. 2-3, p. 49.
- Drabo A. and Mbaye L. M. (2015). "Natural disasters, migrations and education: An empirical analysis in developing countries", *Environment and Development Economics*, Vol. 20, No. 6, pp. 767-796.
- Drabo A. and Mously Mbaye L. (2015). "Climate change, natural disasters and migration: An empirical analysis in developing countries", *Environment and Development Economics*, Vol. 20, No. 6, pp. 767-768.
- Dreher A., Krieg T. and Meierrieks D. (2011). "Hit and (they will) run: The impact of terrorism on migration", *Economic Letters*, Vol. 113, pp. 42-46.
- Dreher A. and Poutvaara P. (2011). "Foreign students and migration to the United States", *World Development*, Vol. 39, No. 8, p. 1294.
- Dumond J. Ch., Martin J. P. and Spielvogel G. (2007). "Women on the move: The neglected gender dimension of the brain drain", *IZA Discussion Papers*, No. 2920.
- Egger H., Fackinger J. and Grossmann V. (2012). "Brain drain, fiscal competition and public education expenditure", *Review of International Economics*, Vol. 20, No. 1, p. 81.
- Ellerman D. (2004). "Policy research on migration and development", *World Bank Policy Research Working Papers*, No. 3117, pp. 42-43.
- Elo M., Aman R. and Täube F. (2020). "Female migrants and brain waste. A conceptual challenge with societal implications", *International Migration*, Special issue article, p. 130.
- Ermólizva E. and Kudéyárova N. (2014). "La movilidad internacional de recursos humanos cualificados: nuevas tendencias (el caso de España)", *Camino Real*, No. 9, pp. 39-55.
- Estébanez Estébanez P. (2008). "El elevado coste de la 'fuga de cerebros'", *Temas para el Debate*, No. 160, pp. 23-24.
- Faini R. (2007). "Remittances and the brain drain", *World Bank Economic Review*, Vol. 21, No. 2, p. 177.
- Fernández Domínguez J. J. (2019). "Algunas claves para la reordenación jurídica de la movilidad internacional del talento", *Documentación Laboral*, No. 118, pp. 27-29.
- Fernández Fernández R. (2013). "Movilidad geográfica y modificaciones sustanciales del contrato de trabajo", *Temas Laborales*, pp. 55-90.
- Fernández Fernández R. (2014). "La movilidad internacional de trabajadores altamente cualificados: Retos para los juristas a partir de la lectura de los Discussion Papers del Forschungsinstitut zur Zukunft der Arbeit", *Relaciones Laborales*, No.4, pp. 57-59.
- Ferracioli L. and De Lora P. (2015). "Primum Nocera: Medical brain drain and the duty to stay", *Journal of Medicine and Philosophy*, Vol. 45, No. 5, pp. 601-619.

- Ferracioli L. (2015). "Immigration, self-determination, and the brain drain", *Review of International Studies*, Vol. 41, No. 1, pp. 99-115.
- Ferrie J. and Hatton T. J. (2013). "Two centuries of international migration", *IZA Discussion Papers*, No. 7866, p. 47.
- Franzoni Ch., Scellato G. and Stephan P. (2012). "Foreign born scientists: Mobility patterns for sixteen countries", *NBER Working Papers*, No. 18067, p. 26.
- Gaillard J., Gaillard A. M. and Krishna V. V. (2015). "Return for migration and circulation of highly educated people: The never ending brain drain", *Science, Technology and Society*, Vol 20, Issue 3, pp. 269-278.
- Gibson J. and McKenzie D. (2011). "Eight questions about brain drain", *Journal of Economic Perspectives*, Vol. 25, No. 3, pp. 107-128.
- Gibson J. and McKenzie D. (2012). "The economic consequences of 'brain drain' of the best and brightest: Microeconomic evidence from five countries", *The Economic Journal*, Vol. 122, No. 560, pp. 341-346.
- González Ramos A. M. (2011). "Atrayendo talento: estrategias de movilidad de los profesionales altamente cualificados en España", *Sociología y Tecnociencia*, Vol. 2, No. 1, 2011, p. 72.
- González Laxe F., Martín Bermúdez F. and Martín Palmero F. (2013). "Deficiencias estructurales, emigración interregional y fuga de cerebros: el caso de Galicia", *Revista Galega de Economía*, Vol. 22, No. 2, pp. 9-30.
- González Leonardo M. and López Gay A. (2019). "Emigración y fuga de talento en Castilla y León", *Boletín de la Asociación Española de Geografía*, No. 80, pp. 1-31.
- Grossman V. and Stadelmann D. (2011). "Does international mobility of high-skilled workers aggravate between-country inequality?", *Journal of Development Economics*, Vol. 95, No. 1, pp. 88-94.
- Grütters C. and Strik T. (Eds.) (2013). *The Blue Card Directive: Central Themes, Problem, Issues, and Implementation in selected Member States*, Nijmegen, Wolf Legal Publishers, p. 27.
- Guzi M., Kahanec M. and Kureková L. M. (2015). "What explains immigrant-native gaps in European labor markets: The role of institutions", *IZA Discussion Papers*, No. 8847.
- Güngör N. D. and Tansel, A. (2012). "Brain drain from Turkey: Return intentions of skilled migrants", *International Migration*, Vol. 52, No. 5, pp. 208-226.
- Haapanen M. and Böckerman P. (2017). "More educated, more mobile? Evidence from post-secondary education reform", *Spatial Economic Analysis*, Vol. 12, No. 1, pp. 8-26.
- Hasselbach J. A. (2019). "Framing brain drain: between solidarity and skills in European labor mobility", *Review of International Political Economy*, Vol. 26, No. 6, pp. 1333-1360.
- Haupt A. and Janeba E. (2004). "Education, redistribution, and the treat of brain drain", *NBER Working Papers*, No. 10618, p. 34.
- Hunter R. S., Oswald A. J. and Charlton B. G. (2009). "The elite brain drain", *The Economic Journal*, Vol. 119. No. 538, pp. F238-F251.
- Hussain S. M. (2015). "Reversing the brain drain. Is it beneficial?", *World Development*, Vol. 67, pp. 310-322.
- ILO (2007). *Marco multicultural de la OIT para las migraciones laborales. Principios y directrices no vinculantes para un enfoque de las migraciones laborales basado en derechos*, Ginebra.
- INAP (2009). *La competición global por el talento: movilidad de los trabajadores altamente cualificados*, Madrid, p. 82.
- Isphording I. E. and Otten S. (2014). "Linguistic barriers in the destination language acquisition of immigrants", *Journal of Economic Behavior and Organization*, Vol. 105, pp. 30-50.
- Ivlevs A. (2015). "Happy moves? Assessing the link between life satisfaction and emigration intentions", *International Review for Social Science*, Vol. 68, No. 3, pp. 335-356.
- Ivlevs A. and King R. M. (2017) "Does emigration reduce corruption?", *Public Choice*, Vol. 171, No. 3-4, pp. 389-408.
- Ivlevs A. and King R. M. (2017). "Emigration, remittances and corruption experience of those staying behind", *Public Choice*, Vol. 171, No. 3-4, p. 398.
- Kahanec M. (2013). "Labor mobility in an enlarged European Union", in: Constant A. F. and Zimmermann K. F. (Eds.), *International Handbook on the Economics of Migration*, Cheltenham, Edward Elgar, p. 137.
- Kaiser U. et al. (2018). "Experience matters: The role of academic scientist mobility for industrial innovation", *Strategic Management Journal*, Vol. 39, No. 7, pp. 1935-19.
- Kapur D. and McHale J. (2005). *Give Us Your Best and Brightest: The Global Hunt for Talent and Its Impact on the Developing World*, Washington, Center for Global Development, p. 36.
- Kecmanovic M. (2013). "The short-run effects of the Croatian war on education, employment and earnings", *Journal of Conflict Resolutions*, Vol. 57, No. 6, p. 991.

- Kone Z. L. and Özden C. (2017). "Brain drain, gain and circulation", *KNOMAD Working Paper*, No. 19, pp. 14-18.
- Kuhn P. J. and McAusland C. (2009). "The international migration of knowledge workers: When is brain drain beneficial?", *Journal of International Economics*, Vol. 78, No. 2, pp. 287-291.
- Kuhn P. J. and McAusland C. (2009). "Consumers and the brain drain: Product and process designs and the gains from emigration", *Journal of International Economics*, Vol. 78, No. 2, pp. 289-290.
- Latukha M. et al. (2020). "From brain drain to brain gain: the agenda for talent management in overcoming talent migration from emerging markets", *The International Journal of Human Resource Management*, Vol. 32, p. 49.
- Legoff M. and Salomone S. (2016). "Remittances and the changing composition of migration", *World Economy*, Vol. 39, No. 4, pp. 515-516.
- Liacuanan V., Mahmoud T. O. and Steimayr A. (2015). "The drivers of diaspora donations for development: Evidences from the Philippines", *World Development*, Vol. 65, p. 94.
- Luchilo L. (2007). "Migraciones de científicos e ingenieros latinoamericanos; fuga de cerebros, exilio y globalización", in: *Claves del Desarrollo Científico y tecnológico en América Latina*, Madrid, Siglo XXI/Fundación Carolina, pp. 51-59.
- Marchori L., Shen I. L. and Docquier F. (2013). "Brain drain in globalization: A general equilibrium analysis from the sending countries' perspective", *Economic Inquiry*, Vol. 51, No. 2, pp. 1582-1602.
- May K. and Peri G. (2009). "Brain drain and brain return: Theory and application to Easter-Western Europe", *The BE Journal of Economic Analysis Policy*, Vol. 9, pp. 1-52.
- McAusland C. and Kuhn P. J. (2011). "Bidding for brains: Intellectual property rights and the international migration of knowledge workers", *Journal of Development Economics*, Vol. 95, No. 1, p.77.
- Mercier M. (2016). "The return of the prodigy son. Do return migrants make better leaders?", *Journal of Development Economics*, Vol. 122, pp. 76-91.
- Mitra A., Bang J. T. and Wunnava P. V. (2014). "Financial liberalization and the selection of migrants: A cross-national analysis", *Empirical Economics*, Vol. 47, No. 1, pp. 201-204.
- Modrego A. et al. (2019). "Informe sobre el Real Decreto-Ley 3/2019, de medidas urgentes en el ámbito de la Ciencia, la Tecnología, la Innovación y la Universidad", *Report COSCE-DECIDES 2018*, pp. 3-4.
- Mok K. H. and Han X. (2016). "From 'brain drain' to 'brain bridging': Transnational higher education development and graduate employment in China", *Journal of Higher Education Policy and Management*, Vol. 38, No. 3, pp. 369-389.
- Naghavi A. and Strozzi Ch. (2015). "Intellectual property rights, diasporas, and domestic innovation", *Journal of International Economics*, Vol. 96, No. 1, pp. 150-161.
- Nathan M. (2014). "The wider economic impacts of high-skilled migrants: A survey of Literature", *IZA Journal of Development and Migration*, Vol. 3, No. 4, p. 6.
- Ndiangui P. (2021). "From brain drain to brain gain: The battle against talent drain", *Journal of Culture and Values in Education*, Vol. 4, No. 1, pp. 34-41.
- Niimi Y., Ozden C. and Schiff M. (2010). "Remittances and the brain drain: Skilled migrants do remit less", *Annals of Economics and Statistics*, No. 97-98, pp. 123-142.
- Obermar K. (2013). "Can brain drain justify immigration restrictions?", *Ethics*, Vol. 123, No. 3, p. 427.
- Parsons C. R. et al. (2017). "Conceptualising international high-skilled migration", *IMI Working Papers*, No. 104.
- Parsons Ch. and Vezina P. L. (2018). "Migrant networks and trade: The Vietnamese boat people as a natural experiment", *The Economic Journal*, Vol. 128, No. 612, pp. F210-F234.
- Pasichnyk N. (2019). "Los efectos económicos de la emigración sobre el mercado laboral en el país de origen: Una visión teórica", *Atlantic Review of Economics*, Vol. 2, No. 2, p. 19.
- Pfeifer L. et al. (2007). "Gender in economic research on international migration and its impacts: A critical review", in: Morrison A. R., Schiff M. and Sjoblom M. (Eds.), *The International Migration of Women*, Nueva York, Palgrave MacMillan/World Bank, pp. 23-24.
- Pineda S. and Ponce P. (2020). "Efecto de las remesas en el índice de desarrollo humano", *Revista Económica*, Vol. 8, No. 1, pp. 96-103.
- Piracha M. and Saraogi A. (2017). "Remittances and migration intentions of the left-behind", *Migration and Development*, Vol. 6, No. 1, pp. 102-122.
- Poutvaara P. (2008). "Public education in an integrated Europe: Studying to migrate and teaching to stay?", *Scandinavian Journal of Economics*, Vol. 110, No. 3, pp. 591-608.

- Regets M. (2001). "Research and policy issues in high-skilled date from the United States", *IZA Discussion Papers*, No. 366, pp. 15-20.
- Santos Ortega A. (2013). "Fuga de cerebros y crisis en España: los jóvenes en el punto de mira de los discursos empresariales", *Área*, No. 32, 2013, pp. 126-130.
- Schiff M. (2017). "Ability drain: Size, impact and comparison with brain drain under alternative immigration policies", *Journal of Population Economics*, Vol. 30, No. 4, pp. 1337-1339.
- Schiff M. and Wang Y. (2013). "Brain drain and productivity growth: Are small States different?", *International Economic Journal*, Vol. 27, No. 2, pp. 399-414.
- Schiff M. (2018). "Beneficial brain drain and non-migrants welfare", *IZA Discussion Papers*, No. 11483, pp. 1-5.
- Schiff M. (2018). "Brain drain-induced brain gain and the Bhagwati tax: Are early and recent paradigms compatible?", *Global Labor Organization Discussion Paper*, No. 262, p. 14.
- Smith J. P. and Delaney L. (2015). "Acquiring human capital through the generations by migration", *Journal of Human Capital*, Vol. 9, No. 4, p. 579.
- Smith J. P. and Pelaney M. A. (2016). "Losing our minds? New directions on skilled migration and development", *International Journal of Manpower*, Vol. 37, No. 7, pp. 1227-1248. Smith J. P. and Pelaney M. A. (2016). "Losing our minds? New directions on skilled migration and development", *International Journal of Manpower*, Vol. 37, No. 7, pp. 1227-1248.
- Sovilla B. (2021). "Las remesas internacionales: ¿estabilizador automático o supermultiplicador de la política fiscal?", *Investigación Económica*, Vol. 85, No. 315, p. 43.
- Straubhaar Th. (2000). "Why do we need a general agreement on movements of people (GAMP)?", *HWWA Discussion Paper*, No. 94, p. 39.
- Tharenou Ph. and Seet P. S. (2014). "China's reverse brain drain: Regaining and retaining talent", *International Studies of Management & Organizations*, Vol. 44, No. 2, pp. 55-74.
- Tosun M. S. (2011). "Demographic divide and labor migration in the Euro-Mediterranean Region", *IZA Discussion Paper*, No. 6188, p. 23.
- Ushakova T. (2019). "El régimen de los trabajadores altamente cualificados en la UE: Entre la unidad y la diversidad", *Revista Internacional y Comparada de Relaciones Laborales y Derecho de Empleo*, Vol. 7, No. 1, pp. 162-163.
- Vinokur A. (2008). "De la mobilité des cerveaux", *Formation et Emploi*, Vol. 3, No. 103, pp. 9-21.