LEVERAGING IMMIGRANT CONTRIBUTION AND RESILIENCE THROUGH BRAIN CIRCULATION

Marcia Carvalho de Azevedo, Ph.D. Federal University of São Paulo, Brazil marcia.azevedo@unifesp.br

Francine Schlosser, Ph.D.
Odette School of Business,
University of Windsor, Canada
fschloss@uwindsor.ca

Deborah McPhee, Ph.D. Goodman School of Business, Brock University, Canada, dmcphee@brocku.ca

Key words

Talent flow, brain circulation, immigrant worker, resilience, networks

Funded: Azevedo, M. (PI), Schlosser, F. and McPhee, D.M.— "Leveraging immigrant contribution and resilience through brain circulation". *Preston, V. PI, Belkhodja, C., Gabriel, C., Lochhead, C., Douglas, D., Dyson, D., Zikic, J., Hennebry, J., Shields, J., Veronis, L., Hynie, M., Mandell, N., Bhuyan, R., Ghosh, S., Azevedo, M. C. and collaborators. Migration and Resilience in Urban Canada - Immigration et résilience en milieu urbaine (BMRC-IMRU): Discovering Strengths and Building Capacity, Partnership Grant. Social Sciences and Humanities Research Council of Canada, SSHRC#896-2016-1004, \$2,499,525, 2016-2021. (Extended one year because of COVID).*

LEVERAGING IMMIGRANT CONTRIBUTION AND RESILIENCE THROUGH BRAIN CIRCULATION

The concept of a global workforce has aroused a growing interest and has been fostered by the dissemination of patterns of organizational processes and standardization of professional training pathways. Qualified professionals from different countries are increasingly prepared to work in a globalized environment, expected to quickly adapt and perform efficiently in foreign countries, with different languages and different cultures (Crowley-Henry & Al Ariss, 2016). Globalization has paved the way for a smoother transition for expatriated workers. It also has facilitated information access and the knowledge of different work and life conditions that have fueled different trends of workforce migration. Technological development, with its impact on availability and costs of transportation means and equipment has made it cheaper for people and information to move easily and quickly all over the world.

Migration flows of workers are composed by a mixed profile of professionals and the group of more qualified workers receives particular attention from governments and organizations, due to its particular contribution in a knowledge based globalized economy (Collings & Isichei, 2018; Kerr, 2019).

Migration can cause what is called brain drain, that occurs when the outflow of human capital is higher than the inflow. Brain drain by definition is unidirectional as it implicitly implies that when talent emigrate they will not be able to contribute in a relevant way with their country of origin. Developing countries are more prone to face brain drain processes since career opportunities, work and living conditions and wages usually are better in developed countries (Carr, Inkson, & Thorn, 2005; Docquier & Iftikhar, 2019; Latukha, Shagalkina, Mitskevich, & Strogetskaya, 2021). The brain drain phenomenon is not new, but is becoming more intense with worrying consequences for poorer countries, as they usually offer less interesting career opportunities for qualified workers, especially in technology intensive industries (Baruch, Budhwar, & Khatri, 2007; Clark, Stewart, & Clark, 2006; Resk, 2021). But migration can also drive the circulation of knowledge, a phenomenon associated with the concept of brain circulation, as migration can support knowledge transfer and development involving developed and developing countries. Governments, organizations and migrants themselves are all relevant actors shaping migration processes and its effects in sending and receiving countries. The contribution of migrants, both for country of origin and country of destination, will be influenced by government and organization policies and programs, and also by the individual characteristics, like a person resilience and capacity to fully integrate in a new living and work environment.

Developed countries are experiencing a process of decrease in fertility rates, and by the beginning of 21th Century many countries had birth rates below population replacement rate of 2.1 children per woman. Canada's birth rate is below 2.1 since 1972 and it reached 1.4 in 2020 (World Bank, 2020), a process with significant negative impact on the number of available workers, with worrying consequences for Canada economy. Canada, like some developed countries, face a scarcity of labor force in many areas, and has a well-established migration policy to attract immigrants, especially qualified workers. For 2022 the government set a target of 431.000 new immigrant permanent residents for 2022, and 1.3 million for the period of 2022-2024 (Financialexpress, 2022).

Migration flows are expected to increase in a highly connected world. Within this context, it is important to better comprehend relevant elements that foster and support brain circulation, like resilience, influencing the contribution immigrants are able to give to receiving and sending countries. This research will discuss the brain circulation phenomenon and its impact on qualified professional immigrant contribution and resilience, in a work environment highly interconnected by IT after the COVID-19 Pandemic experience.

Migration of talent

The scarcity of talent is a problem worldwide, specially is some specialization areas, leading to an intense global competition for a skilled workforce (Gallardo-Gallardo, Thunnissen, & Scullion, 2019; Tarique & Schuler, 2010). The percentage of highly-educated migrant workers has been rising in recent years and reached 35 percent in 2016 (d'Aiglepierre et al., 2020). Emigration rates increase along educational levels, individuals with higher education have an emigration rate three times higher than the rate for people with secondary education (Kerr, 2019). Based on OECD and IOM data it can be estimated that the number of qualified migrant professionals working in OECD countries was almost 50 million in 2020 (d'Aiglepierre et al., 2020; IOM Global Migration Data Analysis Centre (GMDAC), 2021). Specifically, the group of OECD countries is the main destination, having 54 percent of migrants worldwide choosing the region as their destination (d'Aiglepierre et al., 2020).

In a context where knowledge is the most valuable resource, brain drain can impair less developed countries and organizations to be competitive (Agrawal, Kapur, McHale, & Oettl, 2011; Ilic & Milosavljevic, 2017). Some countries have a very high rate of emigrants among tertiary educated professionals, reaching more than 70 percent of the total population in a few small countries in Central and South America (Ngoma & Ismail, 2013b). It can have harmful effects, as migration of qualified professionals not only deprives a country of origin from a well-prepared workforce that drives a knowledge-based economy, but also can function as a transfer of financial resources from developing to developed countries, since a significant prior investment has been made, in the process of training a skilled worker. In many less developed countries education is financed by governments (Landau, 1986), as a result brain drain can cause a perverse transfer of funds between less developed countries to more developed ones, raising concerns about ethics and sustainability in a global perspective.

Migration processes are however, complex phenomena and can also have positive effects for the stakeholders involved. Alongside brain drain, some researchers are also analyzing possible positive consequences resulting from the migration of talent from developing to developed regions, including concepts as brain gain, brain bank, brain circulation and talent flow in the discussion (Carr et al., 2005; Chand, 2019; Latukha et al., 2021; Lien & Wang, 2005; Singh & Krishna, 2015). A person's knowledge and competencies are intangible assets, and can be accessed even if the person is not physically close. Talent flow and brain circulation are concepts that are more aligned with the dynamic, fluid and mobile characteristics of knowledge, particularly in an environment interconnected by IT (Carr et al., 2005).

Talent migration could also be beneficial for source countries. Emigration of educated professionals has been associated as an incentive for the overall population to pursue further education, in order to have access to better opportunities (Beine, Docquier, & Rapoport, 2008; Stark, Helmenstein, & Prskawetz, 1997). The return of emigrants can drive what is called brain gain, as workers usually have their skills increased after international experience, and when they get back to their country of origin they can have a positive impact on the economy (Clark et al.,

2006; Dustmann, Fadlon, & Weiss, 2011). A more punctual, but additional positive effect, is the remittance of financial resources for their country of origin by emigrants (Beine et al., 2008).

Migration of qualified workers can also facilitate access to knowledge accumulated abroad and significantly promote and support international professional networks, fostering innovation and productivity (Agrawal et al., 2011). The participation of immigrants in personal and professional networks with members from their country of origin can also be very beneficial to destination countries, as significant social connections help to foster immigrant resilience, and might also be a factor that contributes to immigrants' competencies and capabilities building and development. A pivotal element that foster circulation of ideas and knowledge, that are central to brain circulation processes, is the participation on personal and professional networks. Networks are increasingly mediated by IT tools, and now individuals have the opportunity to be part of valuable networks where they even don't know many of the participants. COVID-19 pandemic increased the importance of such environments for personal and professional connections.

In summary, the loss of human capital and young qualified workers are the most significant negative impacts and the facilitated access to technology, knowledge and information, by contact with emigrants or by the return of emigrants to their home country, are the main positive impacts related with talent flow (Marchiori, Shen, & Docquier, 2013).

As previously discussed, the emigration of talent from developing to developed countries can lead to both negative and positive outcomes. A situation that raises ethical and social responsibility concerns (Clark et al., 2006), making primordial to discuss the mitigation of possible negative effects and the fostering of the positive ones. Analogously, global talent management should contemplate the sustainability concept for the design and implementation of strategies, what requires that countries and organizations work together to align human resource policies and programs that promote knowledge circulation and talent flow on a global context. Usually the positive impact of immigrant contribution is considered from the receiving country perspective, but it can also have a positive impact for the country of origin. Considering all the stakeholders involved, the resilience of the immigrant themselves is a key element for the promotion of knowledge circulation that migration processes can impel.

Sustainability

Sustainability is a concept that developed along the years in different schools of thought and areas of knowledge. Definitions of the sustainability concept generally use social, economic and environment perspectives (Purvis, Mao, & Robinson, 2019). The most common visual representation of the three-pillar conception places sustainability at the center of three intersecting circles and was first presented in the 1980 decade by Barbier (Barbier, 1987). The three-pillar conception reflects the comprehension that in order to attain sustainability it is necessary to consider at the same time social, environment and economic aspects, also referred as the "3Ps" of people, planet and profit (Montiel & Delgado-Ceballos, 2014).

The sustainability debate has been growing significantly during the last decades, and organizations are being questioned about their contribution regarding the promotion of a sustainable world from a long-term perspective. Szekely and Knirsch (Székely & Knirsch, 2005) related sustainability for business as

sustaining and expanding economic growth, shareholder value, prestige, corporate reputation, customer relationships, and the quality of products and services as well as adopting and pursuing ethical business practices, creating sustainable jobs, building value for all the stakeholders and attending the needs of the underserved. (p. 628).

Human resource management (HRM) has an important role in a sustainable management perspective as it deals with all workers, ultimately the decision makers of organization actions. Organizations with an HRM that is aligned with the sustainability concept should supports the management of people that at the same time take profit (when necessary) and the preservation of the planet in consideration in their daily activities. Global warming has made clear that a sustainable world depends on the integration of actions from countries all over the world. The COVID-19 pandemic also exposed the limitation of isolated solutions for complex problems, as programs to control the pandemic in specific regions were ineffective because the SARS-CoV-2 virus kept circulating in other regions and continue to mutate, making vaccines already developed less effective.

As world population and the use of natural resources keep growing, it becomes more difficult to use and manage resources in a sustainable way. Qualified professionals are, as many others resources, valuable and finite, and sustainability is a concept that should be considered in its management. From a global perspective the access to qualified professionals and their knowledge to all countries is a central element for a sustainable world.

Migration factors

Self-directed expatriation has become more common, resulting in the migration of a higher number of qualified workers than corporate expatriation. It is usually linked with the desire to have access to better career opportunities and improved quality of life (Baruch et al., 2007). But emigration decisions are based on a wide range of factors, both from the country of origin and destination country. Literature classifies the factors in push: that lead professionals to leave their home country and in pull: that attract professionals to a chosen destination. Many pull and push factors are linked, being the opposite positions of the same dimension, like wages. For example, when they are low they act as a push factor, and the connected pull factor are higher wages (International Organization for Migration, 2003; Latukha et al., 2021).

The factors can be divided into six groups: career, economic, political, social, cultural and family. They are wide-ranging, complex, and interconnected (Carr et al., 2005; Chand, 2019). Most of the factors associated with migration are related with common characteristics of less developed regions, but their order of importance is heavily influenced by the characteristics of the country of origin (International Organization for Migration, 2003). Government actions can impact all factors related with migration movements, but organizations can also influence migration decisions, through its organization and human resource management strategies and structures (Wanniarachchi, Kumara, & Jayawardana, 2020). Governments and organizations together influence migration in different ways, being able to take actions that are able to both facilitate and hinder immigration and emigration movements.

Career Factors are related with career perspectives and advancement and are also among the most cited and valued by qualified professionals. Frequently mentioned pull factors are associated with career and development opportunities, better working conditions, better research facilities and more funds for research (International Organization for Migration, 2003; Kerr, 2019; Marchiori et al., 2013; Ngoma & Ismail, 2013a). For some migrants, underemployment situations, where they are unable to fully utilize their professional abilities in their home country, or not being able to be realized professionally at home, become important push factors for migration (Korobkov & Zaionchkovskaia, 2012). Work conditions that enable professionals to have autonomy, a meaningful work and experience work-life balance are significant pull factors for this profile of

professionals (Horak, Farndale, Brannen, & Collings, 2019). Career factors are heavily influenced both by organization environment and governments actions.

Economic factors, such as the value of wages, value of currency, and the cost of living, are particularly important to a group of qualified workers, as they usually receive significantly higher wages in developed countries. Economic factors are affected by a country macroeconomic context, and also by organizational remuneration policies.

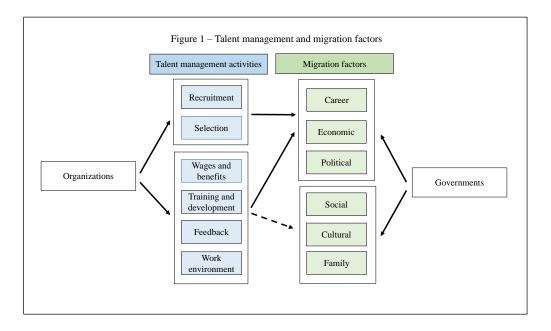
Political factors can be divided in country politics and organizational politics. Country political environment push factors refer to political instability, lack of intellectual freedom and existence of corruption (Docquier, Lohest, & Marfouk, 2007; Ngoma & Ismail, 2013a). Push factors associated with organizational political environment are discrimination in appointment and promotion and perceived organizational politics (Wanniarachchi et al., 2020). Political factors have different characteristics regarding country and organization politics, but both may influence emigration decisions.

Social, cultural and family factors are impacted mainly by governments. But, organizations can also have a human resource management strategy that support employees and communities to improve different aspects of their social and the cultural environment.

Social factors can influence the desire to emigrate of talented workers. Social environment includes many aspects related with infrastructure, that are very important in everyday life, like access to good health services, quality education for children, adequate public transportation, public security, among others. Social factors have a significant impact in a person's overall quality of life. For example, many migrants mention wanting to have access to high-quality services as a relevant reason for the emigration decision. The wish to live in global cities (like New York and Dubai), with a rich scientific and a good infrastructure, make immigration to developed regions appealing. Many emigrants mention the aspiration to have a better quality of life in general as a pull factor.

Cultural factors are inserted in social environment in general, but are mentioned separately by migrants. Similar cultural characteristics, like compatible customs, habits, and religion, in destination countries, are perceived as a pull factor (Carr et al., 2005; International Organization for Migration, 2003; Richardson, 2006).

Family is also a very important stakeholder for professionals when they consider migration opportunities. Strong extended family ties can be a push factor when they stay in the country of origin (Richardson, 2006), or a pull factor when professionals migrate to reunite with family members that already live abroad (Kerr, 2019). But nuclear family may act as a particularly relevant pull factor, as workers migrate motivated by better opportunities in the destination countries, pursuing a better life, education and professional perspectives, especially for their children (Carr et al., 2005; Richardson, 2006).



The set of factors that influence the decision to stay abroad is diversified and related with individual, organizational, and national level environments (Carr et al., 2005). National and organizational policies and practices can influence many of the factors previously discussed. However, there are some migration trends identified in the literature, that cannot be managed. Demographic and geographic characteristics might also impact on migration flows, with population size in a source country and distance to a destination country being negatively associated with skilled migration (Ngoma & Ismail, 2013b).

More educated people, with higher income levels, are better prepared to deal with economic crises in their country of residence, but they also face less economic constraints enabling them to engage in migration to other countries (Crowley-Henry & Al Ariss, 2016). Further, many developed countries have an aging population and are experiencing a reduction of the workforce (Beechler & Woodward, 2009). As a result, different countries have implemented specific migration policies and programs to attract highly skilled foreign professionals, as it can be a very interesting alternative to make up for the lack of workers, especially in some technology intensive areas (Beine et al., 2008; d'Aiglepierre et al., 2020; O Estado de São Paulo, 2021), 2021).

Due to COVID-19 pandemic in 2020 there was a decrease of almost 30% of the expected growth of international migrants, but pandemic impact on migration was not homogeneous among different profile of workers (United Nations, 2020). The pandemic impacted significantly the work environment, especially regarding IT technology and work space, and the group of qualified workers was particularly affected. Changes in the work environment can influence migration factors and the pandemic experience have reinforced some push factors in developing regions and potentiated pull factors of more developed regions, especially among qualified professionals (Resk, 2021).

This research will focus the brain circulation phenomenon among qualified professionals to better understand relevant factors that foster immigrant contribution and resilience, investigating specifically the relevance of personal and professional networks. The research context will be a work environment highly interconnected by IT after the COVID-19 Pandemic experience. A Brazilian-Canadian example will be used to reflect on brain circulation, resilience and talent flow from under-developed countries to developed countries. From 2014 - 2019, the number of new

Canadian permanent residents from Brazil tripled, from 1,730 in 2015 to 5,290 in 2019. The COVID-19 pandemic created a larger influx of Brazilian immigrants to Canada because immigration to many other Western countries was restricted, and in the first half of 2020 Brazil rose from a rank of 12 to 7 in terms of immigration to Canada (Singer, 2020). A recent study found Brazilian immigrants are likely to start businesses if they are older and have spent more time in Canada (Falcão, Cruz, Paula, & Machado, 2022). This finding suggests the development of resilience over time but is silent on the development and maintenance of professional networks with Brazilians in Canada and Brazil. The resilience of Brazilian immigrant professionals will also have an impact on successive generations. For example, (Fadden, 2004) discovered that second generation Brazilian youth mourned the loss of the affective Brazilian culture, often chose to live longer with their parents, and had difficulties "inserting into a new social and cultural universe" (p. 203).

Brazilian context: talent inflows and outflows

According to the Brazilian ministry of foreign affairs the country had 4.2 million people living abroad (in a population of 213 million inhabitants) and emigration has been rising steadily since 2014, when a financial crisis began (Lellis, 2021). The Global Talent Competitive Index (GTCI) 2020 placed Brazil in the 80th position of a list of 132 countries (INSEAD, 2020), far behind many developed and also developing countries. In agreement with the GTCI Index, the country has been watching the emigration of talent increasing over the last 10 years (Moreira, 2021).

Traditionally emigrants who legally left Brazil were single and emigrated due to economic reasons linked to their careers and compensation. However, there is a significant difference in the profile of the new wave. Among more recent emigrants there has been an increase of entire families emigrating with no intention to return. Such emigrants are described as having at least one member with a higher education degree, and many times with both spouses holding a higher-education degree, and graduate degrees are not rare (Nakagawa, 2021). It is not uncommon that individuals with a doctoral, and even post-doctoral degree do not find a permanent position and are able to find a job overseas (O Estado de São Paulo, 2021).

The motives mentioned by professionals that migrated recently include economic crises, urban violence and a lack of control that occurred in some moments of the COVID-19 pandemic (Pereira & Jansen, 2021). The global pandemic was an additional factor for many professionals to emigrate, especially in the health sector, looking for professional recognition, better wages and work conditions, and a better quality of life, as they felt that there was a mismanagement of the pandemic by the government (Resk, 2021).

During the last decades emigration trends have become more diverse now including more young qualified professionals, with good living conditions in their home country (International Organization for Migration, 2019). Meanwhile some countries, like Brazil, are also experiencing a significant rise in emigration among educated individuals with work experience, from middle and upper class, that migrate with their nuclear families (Pereira & Jansen, 2021), a process also experienced by other developing countries. COVID-19 pandemic will leave a legacy of many changes regarding the way our societies and economies are structured, including organizational and work environment.

Strategies for sustainable global talent management

There are different strategies that countries have been implementing trying to deal with emigration of qualified workers. Some strategies are more aligned with the brain drain concept, in the sense

that they try to keep talent living in the country of origin, aiming to keep in the country or bring back qualified professionals. There are countries that established laws and regulations making emigration a more complicated and expensive process, to avoid that workers emigrate. Results of this type of action are not consistent and strategies with focus to prevent migration seems not to be effective to reduce talent emigration. It also raises concerns regarding the right that individuals have to decide to move and change place of residence (Clark et al., 2006). Other actions are directed to bring back emigrants to live in their country of origin, supporting the voluntary resettlement. Usually the results obtained are much lower than the initial targets (Biondo, Monteleone, Skonieczny, & Torrisi, 2012; Kenney, Breznitz, & Murphree, 2013; Korobkov & Zaionchkovskaia, 2012).

But a different scenario has been emerging with the COVID-19 pandemic experience. Restrictions to social interaction in general had a profound impact in daily work conditions. The need to work remotely accelerated technological developments and transitions that were already taking place, and as a result, the IT transformation fostered by pandemic will have a permanent impact in work settings and networks (Boland, De Smet, Palter, & Sanghvi, 2020).

Policy makers can redirect strategies that focused on preventing professionals from emigrating by negative consequences associated with it, toward strategies that back up professionals that want to stay in their home country, by investments in country technological infrastructure, that support remote work, enabling individuals to work for a company abroad while living in their own country. Organizations can also have policies that enable foreign workers to stay in their country of origin while working remotely. A situation where qualified workers actually contribute to organizations abroad, and don't contribute directly with the business environment of their country of origin. But they live their everyday life, interact socially, and their daily expenses stay in their origin country. It is a model that more easily accommodates dual earnings families and can enable organizations to have access to a wider base of talent. As the daily life of the individual remains in the home land, this kind of job also facilitates that along the career the person participates in national professional networks, interacting more intensively with other professionals in their country of origin.

In developed countries work arrangements are also becoming more diversified and organizations are utilizing many different types of work arrangements to compose its available workforce, like temporary international assignments to non-employees. The traditional long-term migration, associated with corporate expatriation, has been complemented by arrangements that enable organizations to have access to mobile talent pools (Collings & Isichei, 2018).

Other strategies are more aligned with the concepts of brain circulation and talent flow, and consider the advantages of the circulation of talent among countries in order to create knowledge spillovers, which result in stronger professional ties and shared know-how (e.g., (Saxenian, 2005). There are many initiatives that embrace the perspective that qualified workers abroad can collaborate with their country of origin in many different ways. The establishment of networks that connect professionals in the country of origin and abroad can be an effective way to facilitate access to knowledge, international networks, contributing with innovation (Kerr, 2019; Korobkov & Zaionchkovskaia, 2012), and can also be a relevant factor to support immigrant resilience. Government institutions can act in a proactive way, functioning as a hub to connect and facilitate interaction between the diaspora abroad and talent that stayed in their country of origin, promoting interaction of local and global professional communities. They can finance initiatives that establish virtual networks that include education institutions, like universities, organizations and qualified professionals. IT has been a central element to support a fast and rich information flow between

network participants. It is important to underline that information exchange through IT technology has an insignificant cost for this group of professionals, as they usually already have access to the necessary equipment and softwares.

Governments could also create research funds aimed to finance projects that involve citizens that stayed in the country and citizens that emigrated, fostering talent networks and the collaboration between individuals and groups (Chand, 2019). It is important to align talent management initiatives with a broader national development strategy, in order to promote the development of knowledge in priority areas for the country.

Governments can implement policies that promote the construction and expansion of industries and entrepreneurial ecosystems, connecting local talent, professionals that eventually returned, with an extended network of qualified workers (Kenney et al., 2013).

Organizational talent management strategies oriented to reduce talent emigration and promote brain circulation have been less investigated. But some results indicate that organizations can impact emigration processes through their talent management systems. (Wanniarachchi et al., 2020) Wanniarachchi et al. (2020) identified that growth opportunities and incentives are important conditions for talent retention. At the same time perceived organizational politics is negatively associated with retention and organizations should avoid it. (Latukha et al., 2021) Latukha et al. (2021) also found that industry and individual-level factors influence migration intentions. The offering of training, development, jobs and internships opportunities and the possibility to participate in national and international professional networks can all be part of an organizational integrated talent management strategy that is composed of diversified activities for the attraction, development and retention of qualified workers in less developed countries.

Methodology

We will be using a qualitative exploratory approach to take a closer look at a snowball sample of talented Brazilian professionals who, over the past 10 years have chosen to work in Canada. We examine their motivations and experiences, and their membership and continuing participation in personal and professional networks in Canada and Brazil.

Semi-structured interviews will be conducted virtually. Participants will be asked about their professional trajectory, reasons for emigration, experience living in Canada, professional and personal plans for the future and participation in personal and professional networks. We will also examine the stimulus that employers and government policymakers have provided for the establishment and fortification of Canadian-Brazilian network collaboration.

Specifically, we ask: What kind of virtual personal and professional networks connect Brazilian immigrants to their adopted country, Canada and to their home country of Brazil? After migrating, what is the varying impact of in person Canadian networks and remotely IT-connected Brazilian networks on the career resilience and professional activity of Brazilian immigrants in Canada? What are the implications for global talent managers?

Human Resource Implications for Organizations and Policymakers

Migration of talent has been rising, a trend that is expected to continue during the next years (Clark et al., 2006). Voluntary workers flow between countries is a complex phenomenon associated with many different push and pull factors. It is a process with possible losses and gains for all the parties involved, countries, governments and workers themselves. The brain drain phenomenon, the emigration of qualified workers, from less developed regions to developed regions, has been receiving a growing attention, alongside the intensification of the process in many regions of the

world. The discussion has been enlarged to include concepts as brain gain and brain circulation, exploring the possible positive effects resulting from the emigration of qualified workers

From the perspective of countries that experience significant emigration trends, it is important that governments and organizations implement strategies that support the permanence of the work force considered strategic to countries development and organizations performance. It is also equally important to promote networks and projects that establish and maintain connections between expatriates and their country of origin.

From the perspective of destination countries, it is very important to take actions in order to implement immigration policies that make the best possible use of qualified immigrants, and at the same time, consider ethical aspects. These actions could foster immigrant resilience and support brain circulation and talent flow, benefiting destination and sending countries, while minimizing the brain drain aspect associated with talent migration.

Concepts of brain drain, brain gain and brain circulation, should be considered together through the lens of the management of talent flow in a context of sustainability. The needs of countries and organizations that receive talent, and the needs of the countries and organizations that send talent abroad must be taken into account. In order to create government and organizational policies and practices that are ethical and sustainable, it is necessary to analyze the process in a larger context, with a better understanding of how the dynamics of immigrant participation in both face-to-face and remotely connected networks can bring relevant information.

Migrants bring their knowledge and skills and also their cultural, social and professional background. The promotion and maintenance of professional networks that connect migrants with qualified professionals from their country of origin can leverage their contribution to Canadian economy, and at the same time, strengthen migrant's resilience through the participation of migrants in relevant social and professional relationships.

The participation in personal and professional networks, boosted by IT, can be a valuable element and if this is overlooked, Canada may be losing an important contribution of migrant workers. As technological advancements enable new forms of interactions, new technologies might lay the foundations for expanding the dynamics of migration of qualified workers, from a win/lose and unidirectional perspective, to a brain circulation perspective. Governments and organizations from developed and developing countries must get serious about being involved or the global talent management war will act as one more factor to deepen economic inequalities.

Contributions to Theory

The brain drain phenomenon; the emigration of qualified workers, from less developed regions to developed regions, has been receiving growing attention. Using a Brazilian-Canadian example we build on theory related to talent inflows and outflows and include concepts such as resilience, brain gain and brain circulation, exploring the possible positive effects resulting from the participation of qualified immigrant workers in IT connected personal and professional networks.

References

Agrawal, A., Kapur, D., McHale, J., & Oettl, A. (2011). Brain Drain or Brain Bank? The Impact of Skilled Emigration on Poor-Country Innovation. *Journal of Urban Economics*, 69(1), 43–55. doi: 10.1016/j.jue.2010.06.003

Barbier, E. (1987). The Concept of Sustainable Economic Development. *Environmental Conservation*, 14, 101–110. doi: 10.1017/S0376892900011449

Baruch, Y., Budhwar, P. S., & Khatri, N. (2007). Brain drain: Inclination to stay abroad after

- studies. *Journal of World Business*, 42(1), 99–112. doi: 10.1016/j.jwb.2006.11.004 Beechler, S., & Woodward, I. C. (2009). The global "war for talent." *Journal of International Management*, 15(3), 273–285. doi: 10.1016/j.intman.2009.01.002
- Beine, M., Docquier, F., & Rapoport, H. (2008). Brain drain and human capital formation in developing countries: Winners and losers. *The Economic Journal*, 118(528), 631–652. doi: 10.1111/j.1468-0297.2008.02135.x
- Biondo, A. E., Monteleone, S., Skonieczny, G., & Torrisi, B. (2012). The propensity to return: Theory and evidence for the Italian brain drain. *Economics Letters*, 115(3), 359–362. doi: 10.1016/j.econlet.2011.12.046
- Boland, B., De Smet, A., Palter, R., & Sanghvi, A. (2020, June 8). Reimagining the office and work life after COVID-19 | McKinsey. Retrieved January 26, 2022, from McKinsey & Company website: https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/reimagining-the-office-and-work-life-after-covid-19
- Carr, S. C., Inkson, K., & Thorn, K. (2005). From global careers to talent flow: Reinterpreting 'brain drain.' *Journal of World Business*, *40*(4), 386–398. doi: 10.1016/j.jwb.2005.08.006 Chand, M. (2019). Brain Drain, Brain Circulation, and the African Diaspora in the United States. *Journal of African Business*, *20*(1), 6–19. doi: 10.1080/15228916.2018.1440461
- Clark, P. F., Stewart, J. B., & Clark, D. A. (2006). The globalization of the labour market for health-care professionals. *International Labour Review*, *145*(1–2), 37–64. doi: 10.1111/j.1564-913X.2006.tb00009.x
- Collings, D. G., & Isichei, M. (2018). The shifting boundaries of global staffing: Integrating global talent management, alternative forms of international assignments and non-employees into the discussion. *The International Journal of Human Resource Management*, 29(1), 165–187. doi: 10.1080/09585192.2017.1380064
- Crowley-Henry, M., & Al Ariss, A. (2016). Talent management of skilled migrants: Propositions and an agenda for future research. *The International Journal of Human Resource Management*, 29(13), 1–26. doi: 10.1080/09585192.2016.1262889
- d'Aiglepierre, R., David, A., Levionnois, C., Spielvogel, G., Tuccio, M., & Vickstrom, E. (2020). A Global Profile of Emigrants to OECD Countries: Younger and More Skilled Migrants from More Diverse Countries (Working Paper No. 239; p. 40). Paris: OECD. Retrieved from OECD website:
- https://www.oecd.org/official documents/public display document pdf/?cote=DELSA/ELSA/WD/SEM (2020) 4&docLanguage=En
- Docquier, F., & Iftikhar, Z. (2019). Brain drain, informality and inequality: A search-and-matching model for sub-Saharan Africa. *Journal of International Economics*, 120, 109–125. doi: 10.1016/j.jinteco.2019.05.003
- Docquier, F., Lohest, O., & Marfouk, A. (2007). Brain Drain in Developing Countries. *World Bank Economic Review*, 21(2), 193–218. doi: 10.1093/wber/lhm008
- Dustmann, C., Fadlon, I., & Weiss, Y. (2011). Return migration, human capital accumulation and the brain drain. *Journal of Development Economics*, 95(1), 58–67.
- Gallardo, E., Thunnissen, M., & Scullion, H. (2019). Talent management: Context matters. *The International Journal of Human Resource Management*, *31*(5), 1–17. doi: 10.1080/09585192.2019.1642645
- Horak, S., Farndale, E., Brannen, M. Y., & Collings, D. G. (2019). International human resource management in an era of political nationalism. *Thunderbird International Business Review*, 61(3), 471–480. doi: 10.1002/tie.21959

Ilic, D., & Milosavljevic, M. (2017). Brain drain: Propulsive factors and consequences. *Journal of Economic Development, Environment and People*, 6(4), 29–40. doi: 10.26458/jedep.v6i4.567 INSEAD. (2020). *The Global Talent Competitiveness Index* 2020. Fontainebleau, France. Retrieved from https://www.statista.com/statistics/1039195/global-talent-competitiveness-index-leading-countries/

International Organization for Migration. (2003). *World Migration Report 2003*. Geneva: International Organization for Migration (IOM). Retrieved from International Organization for Migration (IOM) website: https://publications.iom.int/books/world-migration-report-2003-managing-migration

International Organization for Migration. (2019). *World Migration Report 2020*. Geneva: International Organization for Migration (IOM).

IOM Global Migration Data Analysis Centre (GMDAC). (2021, October 5). Key Global Migration Figures, 2019—2021. Retrieved January 26, 2022, from Migration data portal website: https://www.migrationdataportal.org/resource/key-global-migration-figures

Kenney, M., Breznitz, D., & Murphree, M. (2013). Coming back home after the sun rises: Returnee entrepreneurs and growth of high tech industries. *Research Policy*, 42(2), 391–407. doi: 10.1016/j.respol.2012.08.001

Kerr, W. R. (2019). *The Gift of Global Talent: Innovation Policy and the Economy* (Working Paper No. 25875). National Bureau of Economic Research. doi: 10.3386/w25875 Korobkov, A. V., & Zaionchkovskaia, Z. A. (2012). Russian brain drain: Myths v. reality. *Communist and Post-Communist Studies*, 45(3/4), 327–341. doi: 10.1016/j.post comstud. 2012.07.012.

Landau, D. (1986). Government and Economic Growth in the Less Developed Countries: An Empirical Study for 1960-1980. *Economic Development and Cultural Change*, *35*(1), 35–75. doi: 10.1086/451572

Latukha, M., Shagalkina, M., Mitskevich, E., & Strogetskaya, E. (2021). 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*, 1–30. doi: 10.1080/09585192.2021.1949374

Lellis, L. (2021, setember). Debandada de brasileiros ao exterior atinge recorde no governo Bolsonaro. *Veja*. Retrieved from https://veja.abril.com.br/brasil/debandada-de-brasileiros-ao-exterior-atinge-recorde-no-governo-bolsonaro/

Lien, D., & Wang, Y. (2005). Brain drain or brain gain: A revisit. *Journal of Population Economics*, 18(1), 153–163.

Marchiori, L., Shen, I. L., & Docquier, F. (2013). Brain drain in globalization: A general equilibrium analysis from the sending countries' perspective. *Economic Inquiry*, *51*(2), 1582–1602. doi: 10.1111/j.1465-7295.2012.00492.x

Montiel, I., & Delgado-Ceballos, J. (2014). Defining and Measuring Corporate Sustainability: Are We There Yet? *Organization & Environment*, 27, 113–139. doi: 10.1177/1086026614526413

Moreira, A. (2021, setembro). Número de brasileiros morando no exterior nunca foi tão grande como agora. Retrieved February 15, 2022, from Valor Econômico website:

https://valor.globo.com/eu-e/noticia/2021/09/03/numero-de-brasileiros-morando-no-exterior-nunca-foi-tao-grande-como-agora.ghtml

Nakagawa, F. (2021, July 12). Com crise e desemprego, mais de 130 mil brasileiros deixaram o Brasil em 2021. Retrieved October 12, 2021, from CNN Brasil website:

https://www.cnnbrasil.com.br/business/com-crise-e-desemprego-mais-de-130-mil-brasileiros-deixaram-o-brasil-em-2021/

Ngoma, A., & Ismail, N. (2013a). The determinants of brain drain in developing countries. *International Journal of Social Economics*, 40(8), 744–754. doi: 10.1108/IJSE-05-2013-0109 Ngoma, A., & Ismail, N. (2013b). The Impact of Brain Drain on Human Capital in Developing Countries. *South African Journal of Economics*, 81(2), 211–224. doi: 10.1111/saje.12014 O Estado de São Paulo. (2021, June 9). Fuga de cérebros—Opinião. Retrieved December 30, 2021, from Estadão website: https://opiniao.estadao.com.br/noticias/notas-e-informacoes,fuga-de-cerebros,70003740906

Pereira, P., & Jansen, R. (2021, December 19). Cresce número de brasileiros fora do país; classe média foge da crise e da violência. *O Estado de São Paulo*. Retrieved from

https://brasil.estadao.com.br/noticias/geral,cresce-numero-de-brasileiros-fora-do-pais-classe-media-foge-da-crise-e-da-

violencia,70003930388?utm_source=estadao:app&utm_medium=noticia:compartilhamento Purvis, B., Mao, Y., & Robinson, D. (2019). Three pillars of sustainability: In search of conceptual origins. *Sustainability Science*, *14*(3), 681–695. doi: 10.1007/s11625-018-0627-5 Resk, F. (2021, May 26). Fuga de talentos do Brasil aos EUA é a maior em 10 anos; saída de médicos tem "boom." *O Estado de São Paulo*. Retrieved from

https://saude.estadao.com.br/noticias/geral,visto-dos-eua-a-profissionais-excepcionais-do-brasil-cresce-36-com-boom-na-saida-de-medicos,70003725688

Richardson, J. (2006). Self-directed expatriation: Family matters. *Personnel Review*, *35*(4), 469–486. doi: 10.1108/00483480610670616

Singh, J., & Krishna, V. (2015). Trends in Brain Drain, Gain and Circulation: Indian Experience of Knowledge Workers. *Science Technology & Society*, 20, 300–321. doi: 10.1177/0971721815597132

Stark, O., Helmenstein, C., & Prskawetz, A. (1997). A brain gain with a brain drain. *Economics Letters*, (55), 227–234. doi: 10.1016/s0165-1765(97)00085-2

Székely, F., & Knirsch, M. (2005). Responsible Leadership and Corporate Social Responsibility: Metrics for Sustainable Performance. *European Management Journal*, *23*(6), 628–647. doi: 10.1016/j.emj.2005.10.009

Tarique, I., & Schuler, R. S. (2010). Global talent management: Literature review, integrative framework, and suggestions for further research. *Journal of World Business*, 45(2), 122–133. doi: 10.1016/j.jwb.2009.09.019

United Nations. (2020). International Migration 2020 Highlights. Retrieved March 18, 2022, from https://www.un.org/development/desa/pd/news/international-migration-2020

United Nations. (n.d.). The 17 goals | Sustainable Development. Retrieved February 2, 2022, from https://sdgs.un.org/goals

Wanniarachchi, H., Kumara, J., & Jayawardana, A. (2020). An organizational perspective on brain drain: What can organizations do to stop it? *The International Journal of Human Resource Management*, 1–37. doi: 10.1080/09585192.2020.1758745