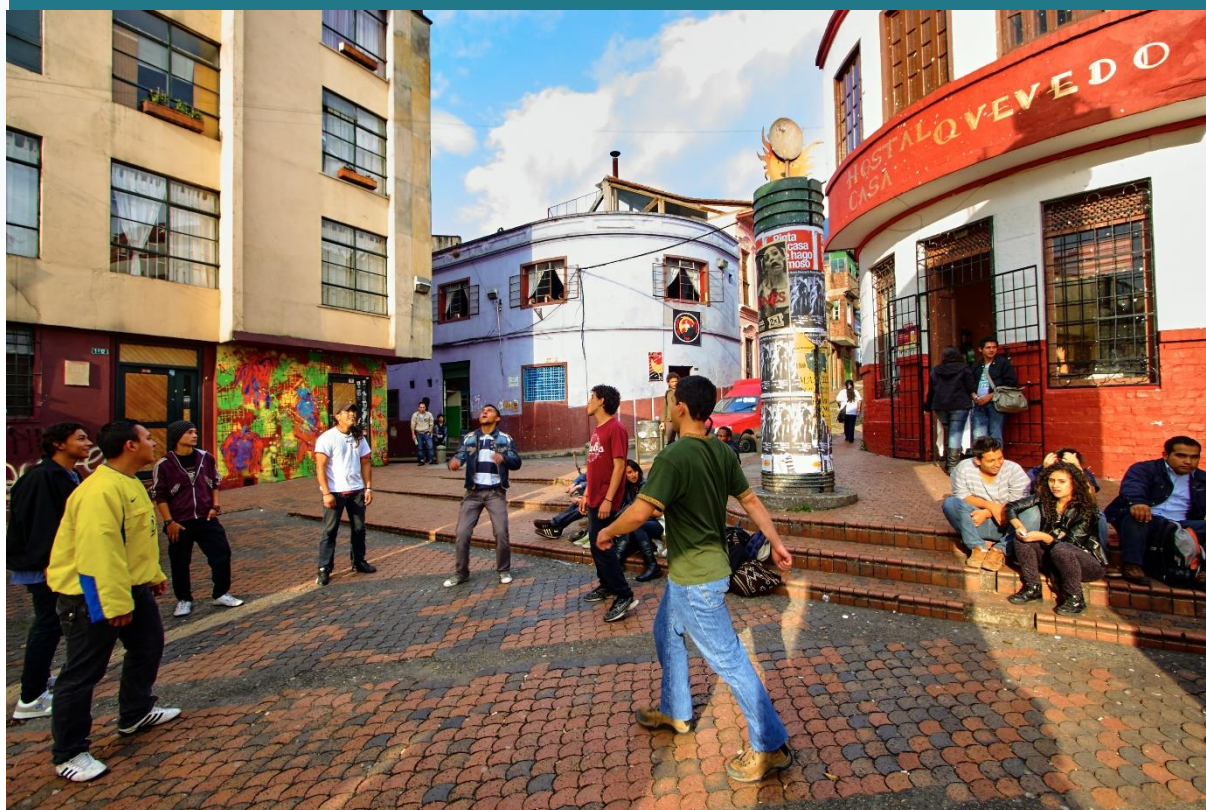


Attracting and retaining talent in Colombia: Towards a global future

WORKING PAPER



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Authors' note

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ACRONYMS

BLI	Better Life Index
CAN	Andean Community
CIAT	International Center for Tropical Agriculture
CONPES	Consejo Nacional de Política Económica y Social
DANE	Departamento Administrativo Nacional de Estadística
DNP	Departamento Nacional de Planeación
EIU	Economist Intelligence Unit
FARC	Fuerzas Armadas revolucionarias de Colombia
GAT	General Agreement on Trade in services
GII	Global Innovation Index
GDP	Gross Domestic Product
GIFMM	Grupo Interagencial sobre Flujos Migratorios Mixtos
GIZ	German International Co-operation Agency
GTCI	Global Talent Competitiveness Index
GTI	Global Talent Index
HCLI	Human Capital Leadership Institute
IT	Information Technology
IMD	Institute of Management Development
LAC	Latin America and the Caribbean
MSME	Micro, small, and medium enterprises
OECD	Organisation for Economic Co-operation and Development
OCyT	Observatorio Ciencia, Tecnología e Innovación
PEP	Permiso especial de permanencia
PISA	Programme for International Student Assessment
Prosur America	Forum for the Progress and Development of South America

PND	Plan Nacional de Desarrollo
R&D	Research and development
R4V Migrants from	Inter-Agency Coordination Platform for refugees and Venezuela
Ruta N	Centro de Innovación y Negocios de Medellín
STEM	Science Technology, engineering, and mathematics
STI	Science, Technology, and Innovation
SNCTel	Sistema Nacional de Ciencia, Tecnología e Innovación
US	United States of America
UMIC	Upper Middle-Income Country
WIPO	World Intellectual Property Organization
WTO	World Trade Organisation
WTR	World Talent Ranking

Executive Summary

Colombia has emerged as a stable and dynamic economy. It has enjoyed positive economic growth and the lives of its inhabitants has steadily improved over the last 20 years. But its potential to adapt and adopt new technologies has not kept up with its success in creating growth and improvements in livelihoods. To continue its positive growth path, Colombia needs a fresh injection of skills, which vary and depend on the path Colombia will take and its strategy for the future. Many skills are now being developed in Colombia, following investments in education and training, in line with high-level strategies on the country's relative advantages.

But it may not be enough. There continues and will continue to be key shortages in the labour market. Investments in education and skill upgrading take time to bear fruit, and Colombia still lags behind in key technological fields and a substantial share of its researchers work outside of the private sector, where most innovation happens.

Colombian policymakers must therefore find innovative ways to fill those gaps, by looking more broadly at finding talent. Three paths are available to policymakers:

- Making it easier for foreigners already in the country to contribute to the socioeconomic growth and well-being of the country;
- Working more closely with the Colombian diaspora, to invest and possibly return and fill talent gaps;
- Looking more broadly and making Colombia even more attractive as a place to work.

The paper lays out a research plan, by proposing five policy recommendations:

1. Connect migration and the need for skills in Colombia to a broad national narrative

Broadening the policy discourse in Colombia is the starting point – not only to ensure coherence, but also because creating the right conditions for attraction and retention requires competencies beyond those related strictly to migration and labour.

2. Facilitating smoother migration to Colombia

For Colombia to take further steps into attracting and retaining talent, it will need to tackle and ensure migration procedures to its country – by establishing a one-stop-shop for instance.

3. Enabling integration and the sustainability of migration

Making it simpler to migrate to Colombia is a crucial step but ensuring that integration is successful, and expectations are met is another challenge.

4. Creating the systems and data necessary for decision-making

Better data sharing and harmonisation can help minimise skills shortages and mismatches. As such, Colombia's role in creating platforms for better data sharing not only between employers and education institutions, but also between line ministries, private sector, civil society, and local governments across different countries on key indicators of the future of work landscape will be essential.

5. Fostering dialogue and establishing partnerships

To implement the research elements above, more dialogue and partnerships must be established. Dialogue is needed with diaspora members and migrants themselves, across governmental line ministries, and with civil society and private sector actors.

1. INTRODUCTION

The global labour market is in transition. Countries are increasingly facing a technologically changing landscape, and a growing number of emerging economies are expanding and diversifying their labour markets and moving toward more capital- and technology-intensive industries. The change in the nature of the economy and the labour market will directly affect the future demand for skills in these countries, and by extension, international migration flows (Box 1). For this reason, immigration, and re-integration policy, including how to attract specific sets of skill and talent, need to be higher on the policy agendas in low-and-middle income countries (OECD, 2016). Migration between and to low- and middle-income countries is still an under-researched area of policy, and questions abound: who moves, why, through which channels, where, what is the integration experience and what is the impact on the host country (Gagnon and Khoudour-Castéras, 2011; OECD, 2017; OECD/ILO, 2018)?

Shifting and re-aligning skills development policies has become critical for emerging economies as advancements in science are increasingly rapid and sophisticated (Banco Interamericano de Desarrollo, 2020). Skills in demand are slated to be more technologically relevant, built on STEM fields, and steeped in a diverse set of soft-skills that complement automated and technologically-driven jobs – skills that are often less desired by prospective students or hard to define (Gagnon and Gagnon, 2021).

BOX 1. THE GROWING GLOBAL NEED FOR NEW SKILLS

A global skill shortage of 85 million is expected by 2030 (Korn Ferry, 2018). Skills shortages slow down the potential for an economic transformation across the globe. Clean energy is a key employer surpassing fossil fuel industries since 2021, much of which needs highly specialised skills that cannot be outsourced (IEA, 2023). Industries supporting the transition like construction and manufacturing already face shortages, including carpenters, plumbers, and electricians. The global green skills gap is expected to grow to seven million in 2030, the gap is especially acute for solar, wind, and biofuel jobs (BCG, 2023). In OECD countries, demand for jobs with green tasks is rising faster than overall labour demand (OECD, 2023). Vacancies are especially found in manufacturing, professional, scientific, and technical activities, and wholesale and retail. However, around 60% of organisations surveyed by the World Economic Forum expect skill gaps to limit the ability of businesses to transform and adapt (WEF, 2023). Analytical thinking, creativity, and technological literacy are considered across industries as increasingly important.

The increasing automation and digitalisation of economies driven by information and communication technologies (ICT), as well as the need to shift towards a greener economy, is reshaping what skills are needed across occupations (OECD, 2022). Digital skills and technologies spread beyond manufacturing and mechanical sectors to services and health care.

A strong basis of fundamental competencies such as literacy and mathematics is crucial to attain more specialised skills later in life. A wide range of skills is required, ranging from skills needed for green jobs to life skills, combining hard industry skills with soft skills (Kwauk and Casey, 2021)..

Workforces also need to develop soft skills to support the current transitions. Soft skills describe intangible intra- and inter-personal capabilities, including socio-emotional competencies necessary for the social environment of the workplace and personal development (Robles, 2012; Kechagias, 2011).

With the speed of technological innovation, a digital workforce must be adaptable, collaborative, able to communicate, think critically, solve problems, and embody awareness and self-direction (van Laar et al., 2017). Similarly, many of the green skills identified require soft skills, such as leadership, communication, or people management skills. This is why the most important workforce skills identified globally are soft skills, and many employers specifically search for soft skills in candidates (IFC, 2019; LinkedIn, 2019).

With this perspective, Colombia is at a critical crossroad. Forging and harnessing deeper connections with the rest of the world is at the very heart of Colombia's 2021 *Internationalisation Mission*, an initiative managed by Colombia's Department of National Planning (DNP), with long-term objectives regarding international trade, technology, global value chains, natural resources, and skills. Specifically, Colombia aims to become a leader in the Latin American region in the field of science, technology, and innovation (STI), and leverage STI towards better and more sustainable social, economic, and environmental development outcomes (DNP, 2021b).

The focus on human capital, and specifically on skills, is fundamental. It requires a strategy for attracting, selecting, and retaining talent in Colombia, drawing on comprehensive whole-of-government migration policies that regularly map the supply and demand for STEM skills, leverage existing skills inside the country and promote and attract skills from outside of it. A broader analysis is therefore needed on matching supply and demand of a wide range of skills necessary to reach the objectives set in Colombia's national vision, centred on:

- Attracting and retaining new talent from abroad;
- Attracting the Colombian diaspora to contribute productively back home; and
- Leveraging immigrant talent already existing in the country.

This paper sets the stage for further research, aimed at providing recommendations for attracting and retaining the global talent pool in Colombia. It draws on a literature review, key informant interviews (KIIs) and an experts meeting to propose a research and policy agenda¹. Section 1 discusses Colombia's need for talent, section 2 presents a profile of migrants in and out of Colombia, section 3 discusses Colombia's current ability to attract talent, section 4 summarises the discussions from the key informant interviews and the experts meeting, while section 5 discusses current gaps in knowledge, and proposes ways to fill them through a future research agenda.

2. COLOMBIA'S EMERGING ECONOMY AND THE NEED FOR TALENT

Colombia is an emerging economy, enjoying healthy levels of growth and stability over the past decade. It has an abundance of national resources and an educated and growing middle class (OECD, 2015). It also has an accomplished record of prudent macroeconomic and fiscal management, an inflation-targeting regime, a flexible exchange rate, and a rule-based fiscal framework, which have all enabled the economy to grow uninterrupted since 2000, while providing enough policy space to respond to the COVID-19 crisis (World Bank, 2021). Colombia's GDP grew positively in recent years, driven by private consumption and investment, buoyed by fiscal support in the near term and underpinned by continuous improvements in confidence (OECD, 2021). Since the 2016 peace agreement between the government and the Revolutionary Forces of Colombia (FARC), Colombia has experienced a significant decrease in terrorist activity and the security conditions have been improving in metropolitan areas (U.S. Department of State, 2021).

Several challenges remain for Colombia, however. Its economy, for instance, is not particularly diversified and remains of low complexity. Mining, for instance, accounts for 80% of its exports. Manufacturing has shrunk to half the share of GDP it had in the 1980s (Misión internacional de Sabios, 2019). Total factor productivity (TFP) has lagged and been a drag on economic growth over the past twenty years (World Bank, 2021) and did not contribute to economic growth from 2000 and 2016, a phenomenon directly associated with low investment in research and development (Misión Internacional de Sabios, 2019). Moreover, although inequality improved from

¹ The paper also draws on interviews, including with authorities in Colombia, conducted in the context of a project on how countries have shifted their approach towards addressing forced displacement (Gagnon and Rodrigues, 2020).

2010 to 2018, Colombia remains one of the most unequal countries in Latin America and its trending decline has stagnated.

There is also the risk that Colombia is falling victim to an innovation paradox – the notion that despite the opportunities for high technological catch-up growth, innovation stagnates. The long-held belief that developing countries can benefit from a boost in innovation by “catching-up” and adopting technologies developed elsewhere, has not yet occurred in Colombia, as major global and regional technological hubs and innovation centres continue to be situated in higher income countries. This paradox has been explained by a range of conditions, such as barriers to accumulating physical and human capital, low firm capabilities, and weak government capacity (Cirera & Maloney, 2017).

Nevertheless, there is an opportunity for Colombia to become a global leader in technology, by focusing in areas such as biotechnology, creative industries, and Industry 4.0², taking advantage of its land, water, biodiversity, solar radiation, geographical location, cultural diversity and the capabilities of its leading universities and graduates. Chief amongst its resources is its links with its diaspora, particularly those in top-level research entities (Misión Internacional de Sabios, 2019). As it increasingly integrates and plays a significant role in the region and in the global economy, Colombian policymakers need to ensure that the country has the right human and social capital to continue capitalising on regional and global opportunities.

The development of new industries and proprietary technologies, by drawing on industrial policy, is a key element for Colombia’s economic growth (UNIDO, 2020). Investing in innovation generates beneficial effects on local productivity, which can then be disseminated throughout the rest of the economy and generate positive externalities for others (Elnasri and Fox, 2017). Developing human resources is a key element of such policies and constitute a factor for the development of the economy and well-being of a country, as they generate innovation, but also because contribute to the development and dissemination of knowledge that benefits present and future generations (OCyT, 2020).

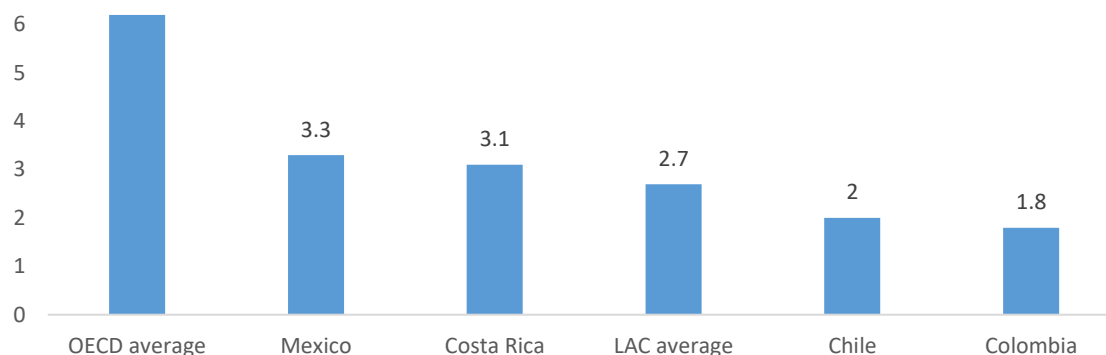
INVESTING IN EDUCATION AND SKILL DEVELOPMENT

Education, training, and skill development in Colombia needs a boost. From 2015 to 2018, Colombia fell in all areas of the OECD's Programme for International Student Assessment (PISA) ranking tests, including in science (from 57 to 62), reading skills (from 54 to 58), and in mathematics (from 61 to 69) (OECD, 2018). Moreover, 51 % of Colombian students did not reach the minimum level expected in science in 2018 (Instituto Colombiano para la Evaluación de la Educación, 2020). A gap has

² The fourth industrial revolution, or industry 4.0, represents “the combination of cyber-physical systems, the Internet of Things, and the Internet of Systems” (Bernard Marr, 2019).

been established between Colombia, and its neighbouring countries in terms of human capital formation in areas of Science, Technology, Engineering, and Math (STEM)

FIG 1. COLOMBIA IS LAGGING IN UNIVERSITY ENROLMENT IN KEY TECHNOLOGICAL FIELDS



Notes: Share of student enrolment in programmes in mathematics, science, and statistics (2020, %)

Source: OECD 2020b

skills. Only 1.8 % of higher education students in Colombia are enrolled in areas related to mathematics, science, and statistics, while the average enrolment in such fields in OECD countries is 6.2 %. The share in Colombia is also notably lower than in neighbouring Costa Rica and Mexico (Figure 1).

Recently, the Colombian doctoral education system has been strengthened with resources from the General Royalty System (Spanish acronym: SGR)³. A new policy promoted the increase in the number of doctoral graduates per million inhabitants in Colombia, from three in 2008 to more than 12 in 2016 (Misión Internacional de Sabios, 2019). Colombia increased its offering of 84 doctoral programs in 2007 to 382 in 2018 (Ministerio de Educación Nacional 2019). This sits at the highest of governmental priorities. Colombia's 2018-2022 National Development Plan (PND) proposed the creation of 3,680 doctors in the country, and the employment of at least 800 of them (DNP, 2018). The Colombian Ministry of Science, Technology, and Innovation (Minciencias) also established a goal of granting 800 sponsorships for internships and had achieved 56% of that goal by 2021 (Minciencias, 2021). In 2019, the National Council for Economic and Social Policy (Spanish acronym: CONPES) established a system to promote doctoral studies abroad through educational credits for 1 200 Colombian professionals over four cohorts from 2019 to 2022 on one hand and facilitate the linking of 600 doctors into entities of the National System of Science,

³ According to article 360 of the Colombian constitution, the exploitation of non-renewable natural resources entitles the states with an economic compensation in the form of a royalty. The income, allocations, organs, procedures, and regulations involved in this procedure, constitute the General Royalties System.

Technology and Innovation (SNCTel) through the development of postdoctoral stays on the other (DNP, 2019).

The efforts of Minciencias are bearing fruit. Between 2009 and 2019, more than 165k professionals graduated from master's programs in the country, of which 19% graduated in 2019. In 2019, Colombia graduated the highest number of Ph.D. students in a decade (OCyT, 2020). In addition, the Minciencias recently invested 9 200 on better linking human resources and labour market demand. Its policies led to an increase in the number of graduated doctoral students.

BANKING ON SCIENCE, TECHNOLOGY, AND INNOVATION (STI)

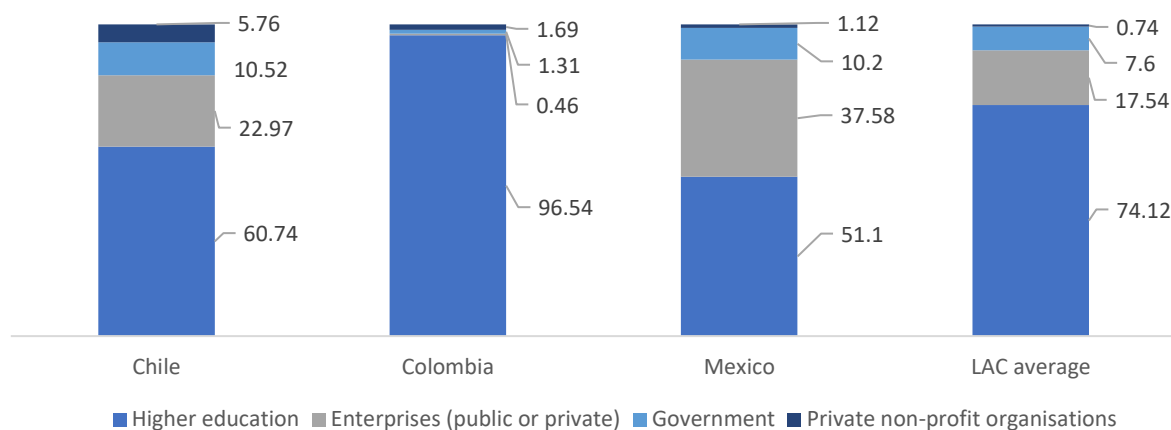
The 2018-2022 PND reaffirms the country's commitment to boosting investment in STI. Specifically, it highlights a pact for science, technology, and innovation to build knowledge and establishes a set of actions to double investment in STI-related activities from 0.6% to 1.5% of GDP, by 2022. Other objectives of this pact are to develop integrated and effective national and regional innovation systems, develop technology and research for productive and social development, and strengthen institutional conditions to promote public innovation and remove barriers to its development.

Colombia's total investment in research and development (R&D) stood at 0.3% of GDP in 2020 (OCyT, 2021). According to the Global Innovation Index (GII), it ranked 67th of 132 countries in 2021, below other Latin American countries such as Brazil, Chile, Costa Rica, Mexico, and Uruguay (WIPO, 2021). Between 2016 and 2020, the country invested 0.3% of its GDP in R&D on average, placing it below the OECD average of 2.4%, and the Latin American and Caribbean average of 2.4% (OECD, 2020a; World Bank, 2020). Private sector investment in R&D is also low, as only about 7% of investments in companies are slated for R&D or technological transfers (DNP, 2021c). Innovation therefore remains scarce, and little private sector investment is channelled towards adopting or transferring technology or knowledge (Consejo Privado de Competitividad, 2021).

A major and related challenge in Colombia has been leveraging more human resources into STI, particularly increasing employment in both public and private sectors. According to the GII, Colombia has had a continuous decline in knowledge-intensive employment, falling from 57th to 86th from 2013 to 2019 (WIPO, 2019). Few researchers in Colombia work outside of academia. In 2017, only 14% of Colombian researchers were working outside of higher education, much lower than in Chile (39%) and Mexico (49%) (Figure 2). In 2019, only 2% of Colombian researchers were working in the private sector, while on 18% did so on average across Latin America and the Caribbean (RICYT, 2022). In addition, only 29% of companies in the

manufacturing sector reported people working on STI-related activities in 2020, representing 2.3% of all human resources (DANE, 2021a).

FIG 2. FEW RESEARCHERS IN COLOMBIA WORK OUTSIDE OF ACADEMIA



Source: RICYT (2022)

The incentives and instruments aimed at the insertion of doctors in the private and public sectors have been deemed insufficient (DNP, 2021a). Teachers with doctoral-level education are low in higher education institutions (HEIs). Only 11% of all teachers in higher education institutions had a doctoral degree in 2021 (Ministerio de Educación Nacional, 2022). This figure is also lower than that of other countries in the region, such as Chile (16.1% in 2021) (Subsecretaria de educación de Chile, 2022).

There have been many efforts to fill the shortages of STI-specific human capital in Colombia. From 2013 to 2019, the DNP published 737 STI-related recommendations, but more than 50% of these have either not been or had a low level of implementation (DNP, 2021b). Colombia has also encouraged investment in science and technology, through tax credits for micro, small and medium enterprises (MSMEs) (Colombian Law 1955 of 2019), tax benefits for the employment of human resources with a doctoral degree (Decree 1011 of 2020) and tax deductions and tax benefits for donations to R&D. Even though financial support was allocated to innovation programs across the country, only 15% of firms knew about the existence of the various fiscal incentives available to them (Cirera & Maloney, 2017).

Three overarching initiatives have recently paved the way forward:

- In 2019, the *International Mission of Wise Men*, a research group commissioned by the Colombian government, drew a roadmap for the development of science, technology, and innovation in Colombia. They identified the need for the development of domestic capabilities in basic sciences and technology and rapidly

adopt frontier technologies to diversify the Colombian economy with the latest technologies, to develop the country's potential and to modernise the economy as a main structural weakness.

- In 2021, the Colombian government created the Internationalisation Mission, under the joint leadership of the Vice Presidency of the Republic and the Ministry of Commerce, Industry and Tourism (MinCIT), who, in turn, established a Steering Committee led by Harvard University Professor Ricardo Hausmann and comprised of other renowned national and international economists and experts from academia and the private sector. The mission concluded that Colombia was unable to adopt and adapt technologies at the same speed as it was developing, making it challenging to close its technological gap vis-à-vis global leaders (DNP, 2021a). It proposed increasing public investment in STI and education to 1.5% of GDP (Misión internacional de sabios, 2019).
- In 2021, a national STI policy set out new objectives, with the aim of making Colombia one of the three leading countries in Latin America in the field, by investing 1% of its GDP in R&D by 2031 (DNP, 2021b). The new policy led to the creation of a tool to identify high-level training needs in the country and its regions.

This is further in line with the 2020 recommendations by the Colombian Private Council on Competitiveness on recruitments and staff exchanges between universities or public research centres and companies around specific research projects (Consejo Privado de Competitividad, 2021). In 2021, the Education Ministry launched an online Ph.D. directory to give visibility to Colombian researchers and their field of expertise, as well as encourage their employability. By December 2021, there were more than 1600 professionals included in the directory.

Given its great need for talent, and its challenges in filling the gaps in skills domestically, human mobility lies at the heart of the path forward. In fact, the new National STI policy outlines an increase in international co-operation in STI. It proposes an internationalisation policy and science diplomacy agenda that promotes scientific and technological co-operation on priority issues for the country, as well as the mobility of researchers and work internships. This includes fostering global research and innovation networks, technological transfer networks, the exchange of experiences and good practices (South-South and triangular co-operation) and harnessing Colombia's scientific diaspora. It also proposes joint international STI projects. For this reason, Colombia will need to leverage more migrant talent, beginning with a better understanding of who their immigrants and diaspora members are.

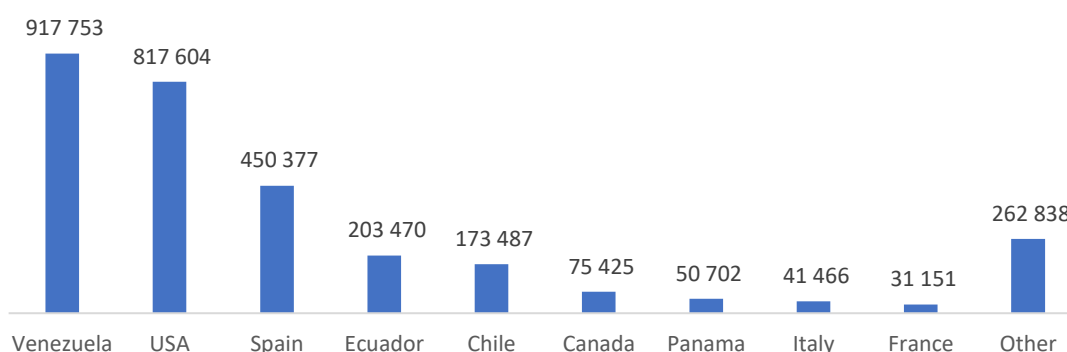
3. PROFILING MIGRANTS AND THEIR SKILLS, INSIDE AND OUTSIDE OF COLOMBIA

While Colombia currently deals with several types of migration flows, including immigration and transit migration, historically it has been a country of emigration. In recent times, Colombia experienced a significant demographic change, on account of migration (IOM, 2020). This section describes Colombia's diaspora as well as its immigrant population.

COLOMBIA'S DIASPORA

The emigration of Colombians has been considerable since the beginning of the second half of the 20th century. Initially Colombians mainly migrated to Ecuador, the United States (US) and Venezuela, and later diversified their destinations to include Argentina, Chile, Mexico, and Spain (Mejía, 2018). The reasons behind the emigration from Colombia have been diverse, ranging from economic issues and conflict in Colombia to the attraction of specific destination countries (Castro, 2016). Colombia therefore has a large diaspora today, which has evolved in sometimes fast and unpredictable ways. According to the United Nations, which largely calculated its figure based on people that were born in Colombia and living in another country, the number of Colombian migrants stood at about three million, or about 6% of the population in Colombia (Figure 3). But that figure may be much higher, when one considers other ways of counting migrants, including individuals who have Colombian nationality and second-generation Colombians. According to the Colombian Ministry of Foreign Affairs, for instance, there were 4.7 million Colombians living abroad in 2020, corresponding to about 9% of Colombia's population (Ministerio de Relaciones Exteriores, 2020).

FIG 3. COLOMBIA'S DIASPORA IS CONCENTRATED IN FEW COUNTRIES



Number of Colombians living in other countries (2020)

Source: UNDESA (2020)

In 2020, Colombia's diaspora remained very concentrated, as more than half of its diaspora (57%) is found in two countries: Venezuela and the US. With the current wave of Colombians leaving Venezuela, it is possible that the US has overtaken Venezuela as the primary country of residence of Colombian migrants today, with an estimated 818k Colombians living there in 2020. The Colombian diaspora in the US is geographically concentrated mainly in California, Florida, New Jersey, and New York, and are considered culturally, racially, and linguistically homogeneous and well-integrated in American society (Nedelkoska *et al.*, 2021). A study commissioned between September 2020 and March 2021 found that Colombians living in the US had integrated well in the most competitive entrepreneurial circles (including Silicon Valley) and had achieved senior positions in major firms (Nedelkoska *et al.*, 2021; Obando, *et al.*, 2020).

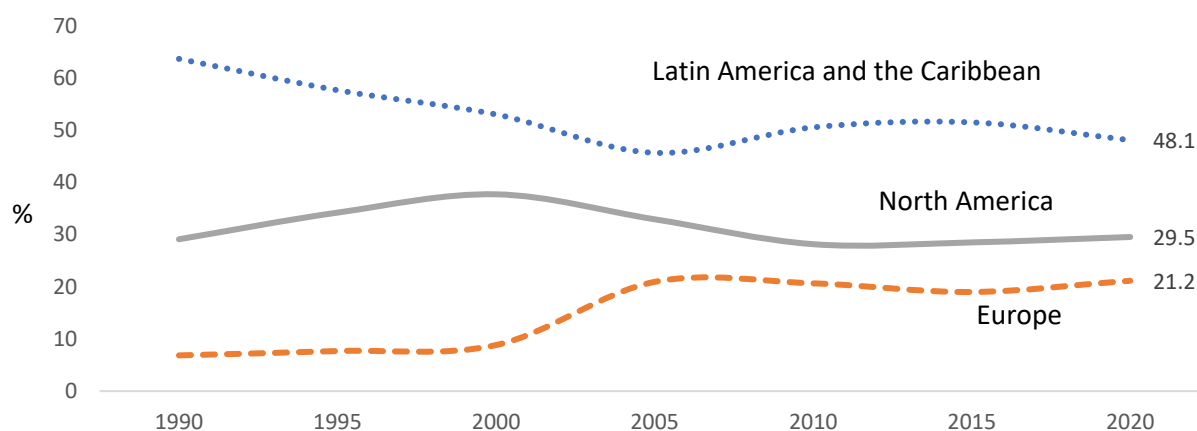
Colombians are also almost as likely as American citizens to work in a professional setting or occupy managerial occupations (MPI, 2015). They are relatively young and have a high degree of formal education: 35% of all Colombians in the United States in 2021 were aged 25 or older and had at least a bachelor's degree. In a 2021 survey, about half of the Colombians interviewed were currently acquiring graduate or professional degrees, and another 22% were enrolled in undergraduate studies (Nedelkoska *et al.*, 2021).

Besides the US, Spain has become a key destination country for Colombians in recent years, where the size of the diaspora has grown quickly from 13k in 1990 to 450k in 2020 (UNDESA, 2020), making it Colombia's third largest destination country⁴. A study found that many Colombians in Spain live in the Autonomous Communities of Catalonia and Valencia (Bermúdez, 2021). While Colombians in Spain are of working age, their labour force participation and the level of jobs they obtain is considered relatively of low level (Nedelkoska *et al.*, 2021). Many Colombian migrants arriving in Spain continue their journey to other countries in Europe such as France, Italy and the U.K.

Apart from the US and Europe, Colombians also migrate to other countries in Latin America, besides Venezuela. While some Latin American countries become steppingstones for migration to Europe (Argentina, Chile, Venezuela, and Ecuador), and the US (Mexico), they are also attractive in their own right for professional reasons. According to the UN, nearly half (48%) of all Colombian migrants live in other Latin America and Caribbean (LAC) countries (Figure 4).

⁴ Other sources estimate the Colombian diaspora in Spain to be as high as one million (Nedelkoska L, Assumpcao *et al.*, 2021).

FIG 4. NEARLY HALF OF COLOMBIAN EMIGRANTS LIVE IN THE LAC REGION



Share of Colombians emigrants by region over total (% , 2020)

Source: UNDESA (2020)

Ecuador and Panama were the primary countries receiving Colombians during unrest in Colombia in the early 2000s. According to the migratory movements reported by Panamanian authorities, Colombians represented the second largest number of migrants entering and leaving Panama, corresponding to 24% of all migrants in Panama (about 45k) (Gobierno nacional de Panamá, 2022).

More recently, Chile has become an attractive pole for Colombians. The Colombian community in Chile grew from 3.9k in 2000 to 174k Colombians in 2020 – the largest rate of growth of any country of destination over that period. Recent migration to Chile has been qualified as particularly complex given the discrimination that many Colombian migrants have had to face based on stereotypes that associate Colombian migrants with negative phenomena such as drug trafficking and violence (Gissi et al., 2019). Even if the Colombian diaspora in Chile is considered lower educated, data suggests that many Colombians in Chile also work as professionals in areas such as engineering, business administration, agriculture, and medicine (Nedelkoska et al., 2021).

PROMOTING THE CONTRIBUTION OF THE COLOMBIAN DIASPORA

In recent years, Colombia has increased its interest in building a relationship of trust with its diaspora. A major reason is the financial potential for investment in Colombia. In 2021, the World Bank estimated that remittances to Colombia totalled USD 6.9 billion, equivalent to 2.7% of Colombia's GDP – and steadily increasing from the 1.6 billion remitted in 2000 (1.6% of GDP) (KNOMAD/World Bank, 2022). However, diasporas also bring a wealth of knowledge and social (and potential trade)

ties. The focus has therefore been on the creation of projects that stimulate investment in Colombia with an emphasis on knowledge and technology transmission to Colombia (Santamaria-Alvarez and Śliwa, 2016; Obando, et al., 2021).

Drawing on a global database of over 400 million companies (Orbis), Nedelkoska *et al.* (2021) identified 557 directors and senior managers of Colombian nationality affiliated with at least one company outside Colombia, across 1616 companies working on a broad range of activities and countries. There is noticeable interest from the diaspora in getting involved in Colombia's development, as nearly 60% of diaspora members interviewed and not yet involved in Colombia's development expressed interest in doing so in activities that would benefit Colombia's development. However, Colombians that were interviewed identified several barriers in doing so, including language proficiency, the shortage of managers with international experience, the difficulty of opening and closing businesses in Colombia, and the tax system (Nedelkoska *et al.*, 2021).

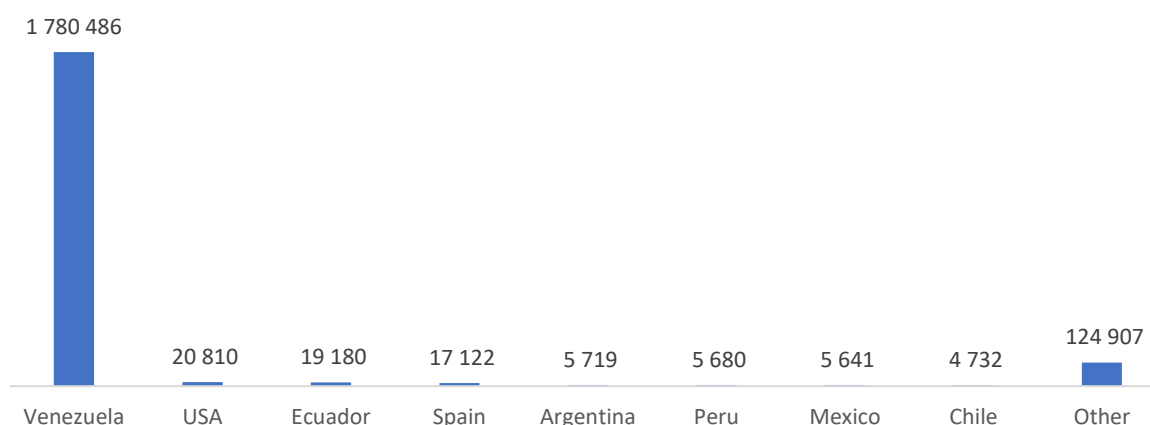
Given the lag and the lofty objectives of the Colombian government regarding STI, there is a clear potential in strengthening the links with the Colombian diaspora, encouraging it to invest in the country, stressing the importance of creating networks in order to interact, advise and help connect local businesses and other local stakeholders with available resources among the diaspora and their foreign partners (Nedelkoska *et al.*, 2021). Although the policy to connect to the Colombian diaspora has previously attempted to focus on the formation of networks as a strategy for reaching out to the diaspora, new initiatives should be considered based on updated knowledge of their interests and profiles, as well as well as modern technological facilities (Mejía, 2012; Aliaga Uribe *et al.*, 2019).

IMMIGRATION TO COLOMBIA

Until recently, Colombia had limited experience with immigration, in comparison with other countries in the region such as Argentina, Costa Rica, the Dominican Republic, Venezuela and Uruguay. Its historically restrictive immigration policy and the existence of an internal conflict had discouraged the arrival of migrants. The only notable migratory wave to Colombia in the past century took place during the 1964-1985 period when the number of immigrants in Colombia doubled from 82k to 165k people (Cárdenas y Mejía, 2006). Since 1985, the stock of immigrants steadily decreased, and in 2005, there were less than 100k immigrants in Colombia (IOM, 2010). The Colombian National Department of Statistics (DANE, according to its Spanish acronym) reported that in 2005 the number of immigrants in the country corresponded to 0.3% of Colombian population (DANE, 2005). Through trade and globalisation, and the changing labour demand and supply and the diversification of migratory routes, Colombia has become a transit country for migrants since the early 2000s. Such migration is often en route to the United States, sometimes from very distant countries such as Bangladesh, Nepal, and Nigeria (IOM, 2010).

In 2010, the IOM reported a total of 110k migrants living in Colombia, including from Venezuela, Ecuador, the US, and Spain (IOM, 2010). Since 2015, the situation has changed dramatically. The United Nations estimated the total number of migrants living in Colombia to have grown from 159k in 2015 to 1.9 million in 2020, with Venezuelans making up 93% of the total (Figure 5).

FIG 5. MOST IMMIGRANTS IN COLOMBIA COME FROM VENEZUELA



Number of total estimated immigrants in Colombia by country of birth (2020)

Source: UNDESA (2020)

The Colombian government's response to the inflow of Venezuelans into the country has been decisive. In 2018 a strategic regional response plan, The Refugee and Migrants Response Plan (RMRP), was developed and implemented in 2019. The RMRP helps ensure that humanitarian protection and integration needs of Venezuelans as well as their host communities are met. In November 2018, Colombia further adopted the Strategy for the Response to migration from Venezuela (CONPES 3950), which enumerates 69 specific actions around two pillars: integration and institutional capacity. Finally, Colombia's own 2018-2022 national development plan (Pact for Colombia, Pact for Equity) established the socioeconomic integration of migrants from Venezuela as a governmental priority.

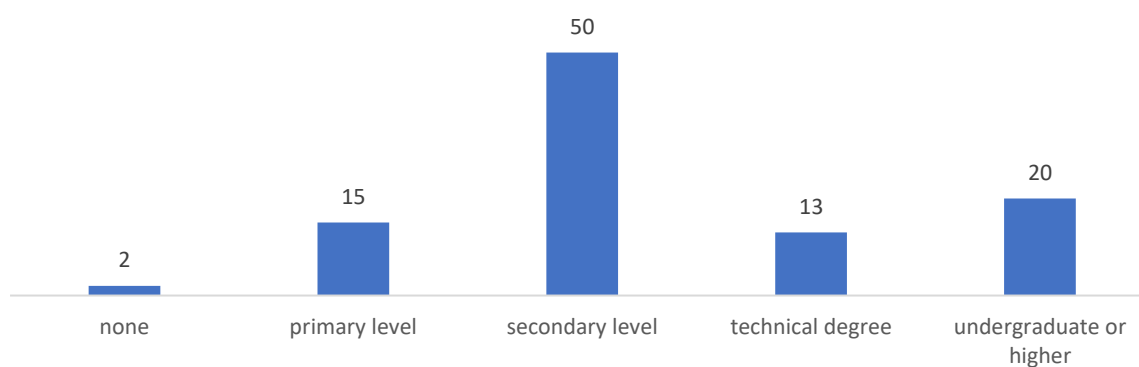
The reception and integration of Venezuelan migrants in Colombia poses challenges, including an increase in demand for services and the protection of rights of migrants at national and local levels. The Colombian response to the arrival of so many migrants has been considered innovative and ambitious, as it has opted for their regularisation and integration in the country. Initially this was done through temporary protection permits (the 2017 PPT, according to its Spanish acronym), permitting migrants to remain legally in Colombia for a renewable period of two years and granting migrants working permits and access to public health and education services. According to the Inter-agency Coordination Platform for Refugees and Migrants from

Venezuela (R4V), Colombia had granted 730k residents permits (PPT)⁵ and had 30.2k asylum claims pending as of January 2022 (R4V, 2022).

In 2021, the Government created a Temporary Protection Status for Venezuelans (TPS), which provides eligible Venezuelans with a 10-year residence permit, improving access and protection of rights and socio-economic integration (R4V, 2022). By January 2022, 476k permits had been delivered, and 1.7 million people had completed the registration process required to qualify for the permit (UNHCR, 2022).

The unemployment rate for Venezuelans in Colombia is 18%, which is higher than the national average of 15.8% (DANE, 2021b)⁶. In fact, migrants from Venezuela have little access to the formal labour market, and less than 20% of those employed have social security coverage (GIFMM, 2021)⁷. Most Venezuelans in Colombia are of working age, and relatively highly educated (Figure 6). Many Venezuelans in Colombia have strong skill sets, educational levels and professional experience but meet difficulties having their credentials recognised (GBAO, 2019; Selee and Chavez-Gonzalez, 2022). Venezuelan migrants disproportionately enter occupations that tend to employ less educated Colombian natives (Lebow, 2022). This limits not only their job opportunities but also deprives Colombia of essential skills.

FIG 6. VENEZULEAN MIGRANTS ARE RELATIVELY WELL EDUCATED



Breakdown of highest education levels attained by Venezuelans living in Colombia (2019, %)

Source: IOM (2021)

⁵ Data on residence and regular stay permits granted to Venezuelan migrants by country (<https://www.r4v.info/es/permisos-residencia>)

⁶ Further information on the Colombian labour market based on the Great Integrated Household Survey (https://www.dane.gov.co/files/investigaciones/boletines/ech/ech/bol_empleo_mar_21.pdf)

⁷ Full report of joint needs assessment of the Interagency Group on Mixed Migratory Flows (GIFMM) (<https://www.r4v.info/es/document/gifmm-colombia-evaluacion-conjunta-de-necesidades-junio-2021>)

Such results are consistent with recent historical data on Venezuelan skills from the OECD's Programme for International Student Assessment (PISA), which found that Venezuelan students performed better than Colombian students in a reading, math, and science literacy assessment in 2009 (Walker, 2011).

4. THE ATTRACTIVENESS OF COLOMBIA

Colombia will be increasingly competing for scarce talent, including within Latin America (Silvanto and Ryan, 2014). Initiatives in several countries have already mobilised in attracting talent, creating programmes and policies favouring the immigration of skilled talent, including targeting returnees, and favouring their smooth (re-)integration (Ortega and Sparber, 2016).

WHICH FACTORS DETERMINE THE ATTRACTIVENESS OF A COUNTRY FOR TALENT?

There are several factors that determine the attractiveness of a country as a favourable place to work and live, including economic and other non-pecuniary reasons (Tuccio, 2019). Amongst those highlighted in Colombia, there are its geographical location (providing easy access other countries of the region), its institutional and political stability in comparison to other countries of the region and the stability, and consistency in its public policies and projects towards STI (Romero Torres, 2022). But how does Colombia measure up against other countries? Over the last decade, several initiatives have attempted to measure talent competitiveness, featuring different criteria and focus (Table 1).

TAB 1. SEVERAL INITIATIVES MEASURE GLOBAL TALENT COMPETITIVENESS

Name of Indicator	Author
Global Talent Pyramid	World Economic Forum
Global Talent Index	Economist Intelligence Unit (EIU) and Heldrick & Struggles
World Talent Ranking	Institute of Management Development

Global Talent Competitiveness Index	INSEAD, the ADECCO group and the Human Capital Leadership Institute (HCLI)
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Indicators of Talent Attractiveness	OECD
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Amongst the indicators, three have evaluated Colombia's attractiveness, ranking the country relatively poorly in comparison to others:

1. **The Global Talent Index (GTI):** In 2015, the GTI ranked Colombia 41st out of 60 countries, based on (a) development of talent, (b) attractiveness and (c) retention potential (Heidrick & Struggles, 2015). The ranking accounts for the country's potential to produce and develop talent, the working conditions for skilled labour, and the propensity of the country to foster competitive and internationally oriented businesses.
2. **The World Talent Ranking (WTR):** In 2021, the WTR ranked Colombia 56th of 64 countries evaluated, based on four criteria (IMD, 2021a):
 - a. Economic Performance (domestic economy, international trade and investment, employment, and prices), where Colombia ranked 56th out of 64 countries.
 - b. Government Efficiency (public finance, tax policy, institutional framework, business legislation and societal framework), where Colombia ranked 58th out of 64 countries;
 - c. Business efficiency (productivity and efficiency, labour market, finance management practices, attitudes, and values), where Colombia ranked 51st out of 64 countries.
 - d. Infrastructure (basic, technological, and scientific infrastructure health, environment, and education), where Colombia ranked 53rd out of 64 countries.

Colombia's economic performance suffered the greatest, falling from 52nd in 2020 to 56th in 2021. Government efficiency also fell from 56th to 58th in 2021. Business efficiency evaluation improved slightly from 52nd to 51st in 2021 and infrastructure saw the greatest improvement, increasing three spots from 56th in 2020 to 53rd in 2021.

3. **The Global Talent Competitiveness Index (GTCI):** In 2021, Colombia ranked 72nd out of 134 countries and 8th in the Latin America and the Caribbean (LAC) region based on (Lanvin and Monteiro, 2021):

- a. Enabling talent, including the quality of regulatory frameworks, the business landscape and labour market;
- b. Attracting talent, underlining its external and internal openness;
- c. Growing talent, including formal education, lifelong learning, and access to growth opportunities;
- d. Retaining talent, notably with regards to sustainability and lifestyle;
- e. Vocational and technical skills, primarily mid-level skills and employability;
- f. Global knowledge, focusing more on high-level skills and talent impact.

Notably, the pillar in which Colombia fared the worst was on attracting talent (where it ranked 105th out of 134 countries). Its best pillar was on the growth of talent (where it ranked 45th out of 134 countries and 6th amongst upper-middle income countries (UMICs)).

The indices and Colombia's rankings highlight a fundamental element of attractiveness: economic performance is not all that matters. The OECD's Better Life Index measures aspects of life quality in OECD countries, across 11 areas, each based on one to three indicators (OECD, 2022). Colombia ranks poorly in comparison to its peers in several criteria including income, jobs, education, health, environmental quality, social connections, civic engagement, and life satisfaction, although its assessment is like other countries from the LAC region, such as Brazil, Chile, and Mexico.

Much of Colombia's relatively poor ranking in the BLI is related to employment and education outcomes. About 58% of people aged 15 to 64 in Colombia have a paid job, below the OECD employment average of 66% but above what is reported for Brazil and Chile (57% and 56%). In terms of education, 59% of adults aged 25-64 in Colombia have completed upper secondary education, which is lower than the OECD average of 79%, but higher than it is in Brazil (57%) and Mexico. Colombia notably scores particularly low in comparison to OECD countries, in areas that are deemed important in attracting talent: work-life balance, safety, life satisfaction, civic engagement and quality of social support networks (OECD, 2022).

One of the main general concerns regarding Colombia is the perception of security in the country. Even in the context of an improved security concerns and a 2016 peace agreement with the FARC, recent events have marked a deterioration. In 2021, Colombia ranked 144th in the Global Peace Index (Institute for Economics and Peace, 2021), falling four spots from the previous year. This reflects a deterioration of security concerns in South America more generally, as six countries recorded deteriorations, driven by an increase in violent demonstrations.

COLOMBIA'S BUSINESS AND TECHNOLOGY SECTORS

Providing the right financial, work and connectivity conditions to become a global leader is key in attracting talent. Colombia is already considered a major tech talent hub in the LAC region, amidst a local presence of American tech firms, the volume of start-ups, the number of graduating STEM professionals, and local investment (Bermann, 2020). Given the growing demand for digitalisation, accelerated by the Covid-19 pandemic, Colombia can now seize the opportunity to become an even bigger reference in the field (Kearney, 2021). The ambition of the country is to become the Silicon Valley of Latin America. Such ambition has been exemplified through the 2020 National Entrepreneurship Policy (CONPES 4011 document – Law 2069). Latin America is also considered a strong regional digital hub according to the 2021 Kearney Global Service Location Index, which ranks digital hubs, by combining good financial attractiveness, skill supply, business environment and digital resonance⁸. The index ranks Colombia 13th, while Brazil is ranked 5th and Mexico 11th, out of 60 countries. Colombia ranks significantly lower in digital resonance, at 43rd of 60 countries.

A key strategy for Colombia has been working bottom-up, boosting the capacity for cities and sub-national regions to harness their role as technological hubs. Several Colombian cities and regions have comparative advantages with other countries in the LAC region in terms of political stability, project consistency and availability of talent in key sectors such as software. According to the World Bank, the experience of doing business in Colombia varies across the country, and easiest to do in the cities of Manizales, Pereira, and Bogotá (World Bank, 2017)⁹.

Colombian cities, such as Bogotá, Cali and Medellín, have been specifically highlighted as having top and affordable technical talent, and have attracted American companies in search of such talent (Bermann, 2020).

- More than 70% of Colombia's bilingual (Spanish-English) workers, most of the IT industry and much of its specialised talent live in the city of Bogotá. It is considered a business-friendly city offering good entrepreneurial environment in Latin America (Romero Torres, 2022).
- The city of Cali is home to the International Centre for Tropical Agriculture, making it a potential hub for entrepreneurs and tech talent focusing on innovations on the future of food, sustainable agriculture, and regenerative studies (Bermann, 2020).
- The city of Medellín is considered Colombia's fastest-growing tech hub, a remote work friendly city with an affordable talent market and home of several Colombian

⁸ According to the Kearney Global Service Location Index, important indicators of digital resonance include (1) deep and varied digital skills within the workforce, (2) the proven capability to nurture and support digital outputs and related business activities of all kinds, from start-up incubations to the expansion plan of Fortune 50 Tech giants and (3) a legal framework that protects intellectual property and enables entrepreneurship.

⁹ The World Bank Doing Business Indicator measures several aspects, including the ease of starting a business, obtaining construction permits, registering property and paying taxes.

start-ups (Bermann, 2020). The city envisions itself as the future software hub of the LAC region, particularly through the work of *Ruta N*, an innovation and business centre based in the city of Medellín. A promotion and attraction strategy was designed with the purpose of creating at least 52k new high skilled positions by 2023. *Ruta N* is founded on four pillars including¹⁰: developing talent, access to capital, business development and the creation of dedicated spaces conducive to innovation. Working with the private sector has also been fundamental for the success of Medellín. To create alliances with the private sector, *Ruta N* has developed a Pact for Innovation with more than 4800 signatory organisations (*Ruta N*, 2016).

5. KEY INFORMANT INTERVIEWS AND EXPERTS MEETINGS

To substantiate the analysis and reach a wider set of views, across different localities and from different stakeholders and levels of government, as well as to ensure a collective approach to understanding Colombia's attractiveness, the authors also ran key informant interviews and organised an online experts meeting. The outcomes of both the key informant interviews and the online experts meeting detailed below¹¹.

KEY INFORMANT INTERVIEWS

Twenty key informant interviews were conducted in February and March 2022, with public authorities and experts to gather information about:

- the need for talent in Colombia;
- the attractiveness of Colombia;
- the shortages and challenges faced by Colombia in attracting talent; and
- the strategies available to Colombia to foster its attractiveness and leverage existing migrant talent in its country.

The interviews were conducted online, lasting half an hour, and based on a semi-structured questionnaire. Most interviewed respondents were based in Colombia and had a governmental background (Table 2).

¹⁰ More and updated information on *Ruta N* is available at <https://www.rutanmedellin.org/rutan/acerca-de-rutan>.

¹¹ This section represents a summary of the key informant interviews and experts meeting and are not necessarily a direct reflection of the view of the authors on the subject.

TAB 2. NUMBER OF KEY INFORMANT RESPONDENTS, BY LOCATION AND PROFESSIONAL BACKGROUND

Based in Colombia		Based outside of Colombia	
17		3	

Academic	Government	Civil society and international organisation, private sector
8	5	7

All interviewed respondents agreed that Colombia is in need of skilled and talented individuals – but that Colombia was not alone in this search. Many countries are currently in shortage of specific skills. Making Colombia more attractive to foreign but also local talent is (and should be) considered a valuable tool to better leverage but also attract valuable talent to the country, with diverse and complementary knowledge and practices, helping foster cultural diversity and creativity in Colombia.

When asked which sectors could attract more talent, interviewees provided diverse ideas, homing in not only on specific sectors (such as the green economy, oil and gas, agriculture), but also specific skills:

- Interviewees raised the prospects of generally increasing the talent in the country by attracting academics, as well as increasing human capital in technologically sensitive sectors (digital economy, environment, and clean energies) and sectors in greatest demand in Colombia, even if they are more traditional sectors of employment (oil and gas, agriculture, pharmaceuticals, metalworking).
- Other respondents emphasised strategic sectors, which would make Colombia not only more competitive but make Colombia a comparative regional and possibly global leader in the future (health, cosmetics, cleaning products, plastics and paints, agro-chemicals, basic and intermediate chemicals).
- Some respondents emphasised out-of-box sectors, including services (those intensive in human capital), tourism, creative industries, the arts, and artisan cooking.

Beyond sectors, interviewed respondents also raised the challenge and the need for attracting specific skills, such as those related to science and technology, languages (English in particular), and soft skills, specifically those that help foster start-ups and entrepreneurship.

Interviewees suggested that other questions should be considered when analysing the sectors and skills in need in Colombia, such as:

1. Where specific talent is needed (rural areas, small or secondary cities, areas with specific shortages or sectoral niches, or areas that are lagging);
2. What are the greatest needs and where is the greatest demand;
3. Whether Colombian society can absorb such talent, and offer suitable job and living conditions;
4. How to ensure that such talent remains in Colombia.

Interviewees were also asked about the attractiveness of Colombia for skilled talent. Several respondents raised the potential attractiveness for Colombians currently living in other countries (the Colombian diaspora), highlighting the existence of family ties in Colombia (parents and grandparents), and homesickness - feelings that may have been accentuated during the Covid-19 pandemic. Social consciousness and sense of duty were also mentioned as opportunities, particularly in the case of older migrants, to return to their home country and live out the rest of their lives in Colombia.

Participants highlighted Colombia's recent political stability, in comparison to other countries in the region, its dynamism (through its people, their willingness to work and their skills), and its relative ease of doing business. These factors could make the country attractive for young professionals aiming to gain experience. Interviewees argued that Colombians were creative, recursive, and talented, key asset for projects requiring innovation.

Foreigners often consider Colombia as a country with a welcoming culture, including cities with good living conditions. Migrants arriving through formal channels and employment contracts often find a good quality of life in the country's main cities (culture, food, affordability). Participants pointed out Colombia's rich biodiversity and natural resources, the stable weather conditions, and its diverse geography, which could be attractive for professionals. Colombia's geographical position within Latin America was highlighted as also being attractive, providing easy connection to other countries on the continent. Besides the capital city of Bogotá, several Colombian cities have good airports and international connections.

Experts were then asked about existing challenges facing Colombia in attracting talent. Participants insisted on the security perceptions of the country and the need to continue working on the country's image. Others considered the currency's

devaluation against the USD over the last decade, as well as the country's sometimes poor and unmaintained infrastructure, including the lack of good road connections in some regions as well as the lack of a decent quality transportation infrastructure.

In general, participants highlighted the excess of administrative procedures and formalities in Colombia, including those needed to obtain a visa, the seemingly many discretionary decisions taken regarding procedures for visas, banking and migration decisions, as well as the presence of many administrative barriers to employment, such as reference checks for jobs (which may be difficult for returnees and migrants). Some procedures are not conceived with migrants or returnees in mind, including family-related concerns such as schooling for children and the application system for public universities. Regarding migratory procedures, interviewees considered them incomplete, and unarticulated with other ministries. The procedures are complex, especially for family members, who are often not provided the right to work. There are limited appeal procedures and many discretionary decisions taken. Respondents also indicated the existence of technical problems with the foreign affairs ministry platform.

Interviewees pointed out the specific difficulties for formal educational foreign credential recognition in Colombia, including the time it takes to obtain formal recognition, the associated bureaucratic procedures, and the cost. One challenge is the fact that certain foreign credentials do not have equivalents in Colombia. Some respondents mentioned that people are often obliged to work using lower credentials (such as their master's degree, rather than a PhD title), as credential recognition takes too long.

Labour conditions are deemed suboptimal, with particularly low capacity to absorb talented workers. This includes offering competitive salaries, but also the challenges related to precarious contracts for recent graduates (for instance, in the public sector and academia). Some interviewees mentioned that the financial costs often outweigh the benefits of moving to Colombia, which discourages people from coming to Colombia for work reasons. Experts stressed the lack of a scientific culture, the absence of sufficient resources for research academia beyond monetary ones, such as equipment and labs. The evaluation system for scholars was perceived as complex, inconsistent, and difficult to understand.

There is sometimes visible resistance to foreign labour in Colombia, especially from professional associations, perhaps due to the perception that foreign labour negatively affects local Colombian labour conditions. This is connected to barriers to obtaining professional credential recognition. Respondents raised the issue of a culture of professional jealousy or envy persisting in Colombia - technical and specialised talent is not fully appreciated. In the public sector, there is a perception that Colombian returnees are disconnected with the country's needs and realities. Interviewees also pointed out a lack of connection with Colombians living abroad, and the lack of trust from the diaspora, fuelled by previous return migration programs

(several interviewees referred to a former Colombian program called “*it is time to come back*”).

Finally, when questioned about what policy options Colombia should consider, interviewees provided a variety of answers. They first stressed the need to work more in identifying sectors in Colombia with the greatest need for skills and proceed by promoting those sectors.

There is a need for more emphasis on the diaspora and Colombian return migrants. To focus on the work with the diaspora, developing and fostering a national strategy is seen as a priority. Ideas provided include deepening knowledge about the diaspora’s interests and concerns as well building a good relation and working culture with the Colombian scientific diaspora. Interviewees stressed that it was important to consider second-generation migrants who might be interested in connecting with Colombia and contributing to its culture, economy, and society. For those who have already returned, there needs to be more collaboration and dialogue concerning the process of re-integration, and avoid that returnees emigrate from Colombia again. This can include aspects such as psychosocial support programs (socio-cultural reintegration) and assisting migrants in understanding the new social dynamics of the country, with which they may no longer be familiar.

Arguments around promoting mobility and improving migration procedures were often raised in discussions. Interviewees considered regional mobility to be a crucial factor and proposed to foster more regional mobility in the LAC region by promoting coordination across employment services of neighbouring countries. Interviewees considered the need to lighten migration and integration procedures in Colombia, including credential recognition processes (referring, for example, to Colombia’s Colciencias scholarship holders), visa processes, as well as everyday living considerations such as banking and language. The experience of *Estado Simple, Colombia Agil*, a strategic initiative promoted by several governmental partner institutions simplifying government procedures was highlighted. Designing a more consistent and predictable policy on immigration, including improving the visa application systems, was also raised.

Fostering alliances between the academic and private sectors in Colombia as well as abroad was stressed as important. Actions proposed included bringing together private sector actors, as well as education and training sector actors into dialogue, to build awareness of the need and benefits of attracting relevant and talented profiles to Colombia. Engagement with these sectors will help better match incoming skills with demand, including in secondary cities and rural areas. The discussions included improving the attractiveness of Colombian universities, and their ability to attract talent from emerging countries in Latin America but also from Africa and Asia, through scholarships accessible to foreigners and internships. Continuing with the private sector, participants raised the prospects of working more in advocacy

with professional associations, concerning their resistance to skilled migration and access to professional permits. Regarding working conditions, discussions focused on the promotion of remote work, with key terms such as digital nomads, relocated talent, short stays and intellectual mobility mentioned. Such concerns require more reflection and flexibility on social security and pension agreements.

Discussions also focused on improving the country's image, including on strengthening capacity of all relevant ministries so that different strategies and plans connect to each other, and help foster a common attractiveness of the country. Examples provided included tying together the sectors of science and technology, mines and energy and agriculture. Moreover, strengthening Colombia's national skills framework to ensure that it fosters a more fluid labour mobility would be a logical and strategic starting point.

Creating a communication strategy was the final element raised, highlighting two aspects. The first was the need to create peer-learning opportunities, in which Colombia could learn from other countries facing similar challenges, such as the *Raices* program, an Argentinian initiative that encourages the Argentinian diaspora to development scientific co-operation and research networks in Argentina. Another point raised was to identify individuals that have found success abroad or in Colombia as migrants, to act as beacons, such as Elena Stashenko, a well-known Russian chemist who spent a large part of her life in Colombia. Learning from development co-operation can also be invaluable, for example through Germany's International Co-operation Agency (GIZ) programmes that support research and technological centres in Colombia. A second potential area of communication design is to work directly with the broader Colombian society by socialising knowledge and research and creating a deeper scientific culture.

EXPERT MEETINGS

To complement the key informant interviews, an online experts meeting was organised on 16 March 2022, with 39 participants (Table 3). The meeting lasted an hour and a half, and was conducted in roundtable form, mainly in Spanish, where the moderator asked questions, and participants were free to share their views, under Chatham-house rule.

TAB 3. NUMBER OF PARTICIPANTS IN THE EXPERTS MEETINGS, BY LOCATION AND PROFESSIONAL BACKGROUND

Based in Colombia		Based outside of Colombia	
27		3	
Academic	Government	CSO/international organisation	Private sector
5	18	12	4

Attendees to the experts meeting revisited many of the aspects highlighted during the key informant interviews. They questioned the notion of talent and whether it should only include people with a prominent level of qualification. It was quickly established that Colombia needs skills from all levels of qualification, including a diversity of (soft) skills. Some participants insisted on the need for talented profiles that could generate start-ups and entrepreneurship in general, but also in specialised areas such as biotech, healthtech and agrotech. Attendees agreed on the utility of attracting talent not only from Colombians living abroad, but also from a broader set of nationalities and migrant profiles, including those already living in the country.

The discussion led to a debate regarding the different regions of Colombia and the need for attracting talent to diverse parts, not only the main cities. Experts stressed that there was a need for skilled human capital across all regions of Colombia, including rural areas. In some regions, the need for talent is often on lower-level skills and not necessarily on high-qualified workers. In this sense, experiences were shared about attracting talent to rural areas to promote not only the exchange of knowledge and skills but also cultural exchanges. Such an example was shared from the Ministry of Education, in the Colombian Department of Cauca, in the Southwest of the country.

Some strategies not only to attract but also retain talent were considered such as strengthening monitoring of migrants and the talent pool in the country, in tandem with demands and future sectoral growth strategies. The Venezuelan experience of promoting education programmes for the specific oil and gas sector was highlighted as a good example of how the country may think about projects and promote educational projects for a specific national need. Retaining such talent in the future will also require a better reflection on the quality of life for migrants in the country, including access and quality of services such as schooling and healthcare.

6. CONCLUSIONS, GAPS AND FUTURE RESEARCH AGENDA

This paper provides a description of Colombia's need for skills considering changes in the global and local labour markets and its strategic future internationalisation objectives. It also highlights current existing initiatives to help fill its skills gap, including through the potential contribution from diasporas and migrants, and the ability for Colombia to attract more talent. Based on the review, as well as information collected through key informant interviews and an experts meeting, this paper suggests a research agenda for the way forward. The following are five identified areas where more research is deemed needed:

1. Connecting migration and the need for skills in Colombia to a broad national narrative

Broadening the policy discourse in Colombia is the starting point – not only to ensure coherence, but also because creating the right conditions for attraction and retention requires competencies beyond those related strictly to migration and labour. This requires strategic objectives for line ministries, local authorities, setting the modalities for work with academia, the private sector and civil society organisations – but also providing guidance on how attraction and retention of talent can be implemented and achieved.

The future of employment will affect the supply and demand of skills. Good preparation will require mapping exercises from several angles – understanding what skills already exist in Colombia, but also what employers in Colombia are currently and will be demanding in the future. Not only will Colombia need to develop skill portfolios and skill mapping of workers in coherence with its ambitions and its plans, but such programmes will also need to determine and define such skills, beyond those that are already well-known and defined today, and elaborate a plan to evaluate them, including ensuring training and re-training.

Research is needed on the extent to which national development, sectoral and thematic strategies have integrated aspects of immigration and integration to Colombia, including through the migration cycle, and at various levels of government. Objectives could include the creation of a skills strategy integrating the potential for diasporas and immigrants to fulfil skill gaps in Colombia. Adequate strategizing on future skills requires establishing various scenarios in which the situation can evolve over the next few years in Colombia.

2. Facilitating smoother migration to Colombia

Creating more predictable and easier to implement procedures for migration to Colombia is essential. For Colombia to take further steps into attracting and retaining talent, it will need to tackle and ensure migration procedures to its country – by establishing a one-stop-shop for instance. This entails understanding the migration cycle for potential talent to Colombia, from departure to integration, incorporating specific needs and expectations.

Research is needed in establishing the full protocol required to migrate and legally stay in Colombia, declined by nationality (is the targeted individual Colombian or not) and residence (is the person already living in Colombia or not)

3. Enabling integration and the sustainability of migration

Making it simpler to migrate to Colombia is a crucial step but ensuring that integration is successful, and expectations are met is another challenge. There are two key aspects to consider.

The first is ensuring that migrants, including returning diasporas, and their children, meet all aspects of private and professional life with ease. This includes housing, school, health, and other social needs.

The second is ensuring that skills are leveraged to their maximum in Colombia. Implementing migration mechanisms that ensure the recognition of existing education credentials by employers in Colombia. In addition to mapping and harmonising skills programmes, Colombia has a role in ensuring that credentials certifying general education or technical training are recognised – fundamental in laying the groundwork for a smooth transition of migration systems into the future of work landscape. Implementing mechanisms to recognise and value the skills acquired by migrants in their countries of origin can incentivise governments to invest more in development programs, as well as facilitate upskilling by migrants themselves, which will also benefit Colombia by filling skilled labour gaps. Such mechanisms should be implemented directly in national development strategies, as well as strategies explicitly pertaining to migration. An essential element in skills recognition will be the definition of soft skills in demand in the future.

Streamlining the credential recognition process would benefit migrants in the country, but also boost the Colombian economy, which is in need of high-skilled labour such as doctors, dentists, engineers, and teachers. One promising area is the establishment of a regional credential recognition mechanism, which would foster a dynamic flow of talent within the LAC region.

Integration matters must also reach further than Colombia's major cities. Conditions for skilled migrants in peripheral areas of the country must embrace conditions necessary to enable research and knowledge generation processes.

Research is needed on a better understanding of what makes integration successful, by mapping out several aspects of integration according to new migrants, long-term established migrants and returned migrants – including tying such aspects to life satisfaction. It also requires a better mapping of the Colombian talent pool, and the procedures and regulations on credential recognition, by credential type.

4. Creating the systems and data necessary for decision-making

The ability to effectively navigate the future of work landscape and the shifting demand in skills in Colombia will be enhanced with access to the right data and harmonising evidence-based planning. Better data sharing and harmonisation can help minimise skills shortages and mismatches. As such, Colombia's role in creating platforms for better data sharing not only between employers and education institutions, but also between line ministries, private sector, civil society, and local governments across different countries on key indicators of the future of work landscape will be essential.

Research is needed in understanding what data is needed, how to use it, how to systemise and feed databases, and how to make it comparable and coherent across ministries – with the objective of creating useful databases that can be accessed by relevant ministries to make informed decisions.

5. Fostering dialogue and establishing partnerships

To implement the research elements above, more dialogue and partnerships must be established. Dialogue is needed with diaspora members and migrants themselves, across governmental line ministries, and with civil society and private sector actors. For example, Colombia can gain from labour migration by establishing partnerships with other neighbouring countries to fill specific labour gaps. Such partnerships can leverage lessons learned from existing programmes in other parts of the world, including the PALIM programme between Belgium and Morocco targeting ICT workers. More collaboration and coordination between educational institutions and employers is also needed in Colombia, to reduce existing and potential future gaps in skills, including ill-defined soft skills. Employers will need to be more integrated in the education cycle, integrating apprenticeships and life-long learning concepts, across different migration profiles (diasporas, current migrants, future migrants). One area of immense potential for Colombia is the opportunity to forge a regional leadership on attracting skills, by further integrating the issue of skilled migration into current instruments such as the Pacific Alliance, Mercosur, and Prosur. Fostering a

better partnership with the private sector can lead to solutions on credential recognition and filling key skill gaps in Colombia (GBAO, 2019).

Research is needed on how to establish various levels of dialogue, within the government, at various levels of government, with different countries, across different local actors in Colombia, and most importantly, with diasporas and migrants themselves. How can the government connect with such actors, what platforms are needed to do so? How can a dialogue based on trust be established directly with the diaspora and with immigrants in the country.

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