SKILLS MAPPING THROUGH BIG DATA

A CASE STUDY OF ARMENIAN DIASPORA IN THE UNITED STATES OF AMERICA AND FRANCE

IOM
UN MIGRATION

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This publication was made possible through support provided by the IOM Development Fund within the framework of the “Enhancing Development through Diaspora Engagement in Armenia”. The opinions expressed herein are those of the author and do not necessarily reflect the views of the IOM Development Fund.

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This publication has been issued without formal editing by IOM.

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Layout and Cover Page: © Aram Urutyan

International Organization for Migration (IOM) 2021. *Skills Mapping through Big Data. A Case Study of Armenian Diaspora in the United States of America and France*. IOM, Armenia.

ISBN 978-92-9068-945-4 (PDF)

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PUB2021/032/R

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December 2019

IOM UN MIGRATION

IOM DEVELOPMENT FUND
DEVELOPING CAPACITIES IN MIGRATION MANAGEMENT

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Abbreviations

ACS	American Community Survey
ADOS	Armenian Diaspora Online Survey
ADS	Armenian Diaspora Survey
INSEE	Institut National de la Statistique et des Études Économiques
IOM	International Organization for Migration
OECD	Organistion for Economic Co-operation and Development
ORCID	Open Researcher and Contributor ID
UN	United Nations
UN DESA	United Nations Division of Economic and Social Affairs (Population Division)

Executive Summary

Purpose: To profile the Armenian diaspora in two target countries, the United States and France using "Big Data" mining techniques. Databases are analysed to create demographic and skills profiles containing identifiers such as education level, and field of employment and field of study. To better understand skilled diaspora communities and how they might be reached for development through knowledge transfer initiatives, interviews with key stakeholders, experts, and diaspora members supplement quantitative analysis.

Design and Methodology: A mixed methods approach melds field work, literature review, and analysis of mined databases and registers for a holistic picture of diaspora communities. A unique mining method analyses select databases to identify diaspora representatives of the business and academic communities. It then drills down into a subset of diaspora defined as highly skilled under the OECD understanding of the term (Chaloff and LemaStre, 2009, p. 11). Qualitative analysis of previous studies on the diaspora, literature reviews, as well as key stakeholder interviews and focus groups in Boston, Los Angeles, New York, Paris and Marseille contribute to overall research. Quantitative analysis of datasets for onomastic recognition of Armenian names provides our proxy for skilled diaspora. Analysis of web-analytics data from Armenian news outlets supplement analysis of general communities with additional features such as interests, affinities, and top stories of importance disaggregated by zip code.

Key Findings: Emigration patterns of skilled diaspora reveal a preference for higher education in the Russian Federation and the United States, though Germany is a more popular country of destination for professional experience.

Interviewees in the beginning and end-stages of their careers were the most interested in diaspora affairs, with those stable in their jobs and not looking for other enriching activities seeing little benefit to engagement.

As it was revealed, French-Armenians reading news online trend considerably younger than Armenian-American or global Armenian diasporas, with 19 per cent of readership identified as 18–24 and 34 per cent as 25–34 years old. In comparison, readers of Armenian news in the United States are 6 per cent 18–24 year olds and 16 per cent 25–34, having significant implications for engagement strategies for youth in both countries

Principal Recommendations: The Government of Armenia should engage directly with institutions, cities, and professional associations in areas where diaspora are shown to have large representation. It should do so using extant networks, feeding into a coordinated, inclusive strategy, first focusing on sectors with low barriers to entry and existing diaspora initiatives, serving as an incubator and facilitator. Areas of demonstrated increased online engagement (such as spikes in readership from youth in France) should be explored for best practices to bring to other communities. Top cities of destination for student and labour migrants should be the focus of temporary return initiatives and knowledge transfer opportunities.

Introduction

In 2016, a full-page call to action appeared in the New York Times targeted to the Armenian Diaspora. Co-signed by prominent billionaires, cultural figures, academics and NGO-leaders, the open letter outlined the need for sustained engagement in Armenian development and affairs (Sanamyan, 2016). Entitled "The Future for Global Armenians is Now", it called for engagement characterized by partnership and coordination, for inclusive, collective action leveraging the pooled resources of the diaspora.

The letter puts into focus several key issues plaguing diaspora organizations and initiatives and hoped to punctuate a turning point in diaspora involvement in Armenia. Despite a large, relatively wealthy, and highly skilled diaspora, heavily involved in homeland affairs, impact to date has been underwhelming. Major criticisms of the field are that the diaspora is at times fatally fractured, reactive, and too focused on immediate outcome to achieve long-term impact. Some have described a welfare diaspora-State relationship characterized primarily by philanthropy directed at "feel-good" or patriotic initiatives. Consensus within the diaspora is rare, but most agree that resources are inefficiently deployed and utilized.

Diaspora Armenians primarily live in highly educated, wealthy and developed countries such as the United States, Canada, France and the Russian Federation with higher standards of living than their counterparts in the Republic of Armenia. Despite the establishment in many cases of Armenian communities centuries ago, diaspora maintain strong connections and linkages to the contemporary Republic of Armenia, returning often for cultural and familial visits, organizing Armenian groups and clubs at home, participating in fundraising efforts and facilitating transnational business ties. Given the highly engaged, educated and relatively wealthy nature of the diaspora, the sluggish development path of Armenia relative to States with comparable diaspora interest and engagement (such as Israel, India, Ireland, etc.) is a great priority.

This study investigates the knowledge potential of the Armenian diaspora and how it might be better visualized, understood, and utilized. It works toward this effort by first understanding the composition of the overseas knowledge bank. To that end, it aims to provide a snapshot of the skills, education, and professional positions of diaspora to better understand how and where they might contribute to development of the knowledge economy in Armenia. This data may then be used to examine areas where Armenia's diaspora might stimulate economic growth through transfusions of knowledge and skills, taking as best practices the experience of global knowledge-remitting diasporas.

Reworking the Diaspora Engagement Model

Since the establishment of a diaspora abroad, people, goods and ideas have circulated between old homes and new. Decades of financial inflows in the forms of remittances, humanitarian aid and diaspora-financed development initiatives have supported the economy of the Republic of Armenia, helping it weather the shocks of the 20th century. Major diaspora organizations still in play today were formed in the late 1800's to early 1900's, while many others were initiated after 1900's. Among them there are organizations, initiated by natural disasters and political transformations of the late 1980's and early '90's.

A wave of NGOs and charities were incorporated following a devastating earthquake in Spitak, Armenia in 1988, mobilizing diaspora members and finances to immediate deployment. For example, in the days following the earthquake, the Armenian Medical Union of France formed a delegation including the Mayor of Marseille to provide immediate attention to the worst natural disaster in Armenian history (Fonds ARAM, 2019). Since independence, hundreds of millions of USD have transferred from diaspora in the United States alone, primarily focused on infrastructure projects, small and medium enterprise grants, and restorations (Gevorkyan and Grigorian, 2003, p.5). Since then, there has been no scarcity of causes to mobilize the diaspora, whose involvement intensifies or peaks during national emergencies (Tölölyan, 1999). A simmering war on Armenia's borders, economic crises, conflicts affecting Armenian communities across the Middle East, and persistent gaps in medical and humanitarian conditions have sustained numerous philanthropic initiatives.

This diaspora support has been invaluable in filling the gap in goods and services provision during transition. For decades, diaspora have functioned as a de facto safety net, reacting to crises and quickly deploying aid. However, a tendency toward altruistic, welfare-type assistance has characterized and overtaken diaspora involvement, resulting in hundreds of organizations with similar objectives competing for the same resources, puzzling over ways to solve the same problem.

Failure to develop partnerships with other diaspora organizations and to pursue long-term, sustainable impact has resulted in a duplication of efforts and inefficient use of talent, skills and funds. The inefficiency of networks and overcrowding of overlapping initiatives has been the single greatest flaw in diaspora efforts.[1] Where organizations have developed infrastructure for deploying short-term projects (through training implementing

partners, forming local partnerships or legal arrangements, for example) failure to collaborate with one another has slowed dissemination of knowledge and best practices and prevented other organizations from learning from one another's mistakes (Tölölyan, 1999).

Over the last five years, however, the diaspora-for-development landscape has shifted considerably, driven by two major trends. On a global level, diaspora mobilization projects and policies have evolved from charity-drives to collaborative partnerships with mutual economic benefit at their core (Larner, 2007, p. 335). Where diaspora engagement was once a unidirectional welfare effort exclusive to low-income States, they are now idealized as collaborative, inclusive partnerships undertaken to stimulate economic growth in middle income countries as well. The same transformation has taken place within Armenian diaspora-development organizations. Philanthropic initiatives reached their high point in the 1990s, and today's initiatives are moving toward favouring long-term personal and professional engagement over charity.

Secondly, States and development experts have begun only recently to relinquish the concept of "brain drain", the notion that talent cultivated at home is lost upon emigration. Instead of working to entice diasporas home, governments are exploring how emigrant networks and communities can be tapped to contribute skills and knowledge to their countries of origin without necessitating repatriation. Notable examples include initiatives in Scotland, Ireland, New Zealand and India. This concept is already developed and in place in Armenia, albeit to a lesser extent in the older, established diaspora organizations. Specialized networks have developed but are yet to be effectively operationalized by counterparts in Armenia or interconnected within the diaspora to share best practices.

[1] The last initiative to bring together independent organizations for common cause (separate from fundraising efforts), the United Armenia Fund was disbanded in 2015. There are no other major efforts to-date to pool both financial and human resources that we are aware of.

Literature Review

To inform an evidence-based strategy for harnessing diaspora talent for development, one first needs an accounting of the occupational fields and skillsets of Armenian communities (Agunias and Newland, 2012, p. 28). As a founding case of the term "diaspora" itself and of the journal by the same name, one struggles to identify gaps in studies on the Armenian case. Many ideas have been proposed to put diaspora skills to use in Armenia (such as diaspora bonds or development banks, for example), though a select few studies are grounded in hard evidence, owing to the sheer breadth and diversity of the diaspora.

Nonetheless, ambitious surveys have been completed in a number of academic disciplines, where the majority take an anthropological or ethnographic focus. Quantitative data are difficult to find, and existing works often direct attention to identity and preservation of memory. A comparative study of Armenians in the Republic of Armenia and Krasnodar Krai in the Russian Federation is one such example, exploring ethnological sentiments between Russian-Armenians and those in Armenia (Beberyan and Tuchina, 2018). In the United States, several analyses have explored sub-groups of diaspora, such as Iranian-Armenians and Lebanese-Armenians in Los Angeles using census data (see Bozorgmehr, Sabagh and Der-Martirosian, 1990). Notable surveys with large response-rates are that of Bakalian in 1986 (a mail-in survey of 584 participants) however the questionnaire again centers on identity and assimilation.

Annual surveys from Caucasus Research Resource Centre (CRRC) also bear mentioning, gathering primary data on opinions and socioeconomic statuses of seasonal migrants, returnees and Armenian households through the annual Caucasus Barometer survey. These data capture residents alongside short-term migrants, however it does not address time spent abroad, and primarily reflects labour migration to the Russian Federation.

Local directories held by religious institutions, government entities or compiled by enthusiastic community members such as the Armenian American Almanac are infrequently updated (the last version of the Almanac was released in 1995) and methodologies for their compilations are unclear.[2] Voluntary registrations such as mailing and membership lists from diaspora organizations might provide a layer of geographic and basic demographic data as well as an

[2] The Armenian American Almanac, Hamo Vassilian (ed). is an extensive state-by-state account of Armenians and their businesses, churches, associations, non-governmental organizations, schools and museums in the United States and Canada. Unfortunately, the author could not be reached for this study and the methodology behind the identification of so many Armenian-origin businesses and citizens is unknown.

indication for the proportion of engaged diaspora in an area, but for the most part we rely on surveys to gather insights.

Two recently completed studies have significantly advanced the concrete knowledge-base on the diaspora, the Armenian Diaspora Survey (ADS) and the Armenian Diaspora Online Survey (ADOS). The former is a pilot effort completed in four cities with large diaspora presence in 2018: Cairo, Marseille, Pasadena and Boston (Armenian Diaspora Survey). The ADOS was completed from 2015-2018 (Gevorkyan, 2019).

The two projects set out to capture the opinions and demographics of the global Armenian diaspora with differing motivations. The ADS is unique in its extensive field presence and annual rotating city selection (14 cities in Argentina, Canada, Lebanon and Romania have been selected for the 2019 version), and the ADOS in its unique line of questioning asking respondents about their involvement and interest in contributing to development in Armenia. Due to the quality and breadth of these field projects, insights from both surveys are discussed against our own qualitative interviews and focus groups in this paper.[3] Apart from aspects of the ADOS, to our knowledge, no study specifically focused on the skills, education profiles and professions of diaspora has yet been attempted. This study seeks to add to the conversation with a contemporary map of skilled diaspora using big data.

The project works in relative terms, using large databases and registries to craft two national profiles. The study first looks at online analytics data gathered from news organizations to identify patterns in diaspora interests and demographics, providing a global overview. It then uses onomastic analysis of two databases to map the locations and skill profiles of diaspora in the United States as captured by databases of academics (ORCID) and professionals (ZoomInfo). Armenian-origin names as identified by onomastic analysis are then compared against official population figures provided by the American Community Survey (ACS) and INSEE. We provide two in-depth profiles of the United States and France in addition to a broader global overview to plot out the geographies and top industries of diaspora Armenians.

This non-traditional methodology differs from previous approaches to studying the diaspora and seeks to augment existing studies and data with digital footprints. Moreover, it hopes to add to this field by presenting a method for capturing anonymized and disaggregated education and employment data to inform policymakers. This approach combines traditional mapping techniques, such as participant observation, interviews, and focus groups, with analysis of big data to approximate characteristics of skilled diaspora members.

[3] The Armenian Diaspora Survey, (ADS) intends to select new cities each year to provide a global diaspora survey going forward, and is a project of the Gulbenkian Foundation. www.armeniandiasporasurvey.com. The Armenian Diaspora Online Survey (ADOS) was initiated in 2015 by economist Aleksandr Gevorkyan, www.agevorkyan.com/diaspora-survey.

Defining Diaspora

Defining the Armenian diaspora requires a melding of classical and contemporary interpretations of the term. Taken alongside the Jewish and Greek diasporas as one of the capital 'D' diasporas, the traditional definition refers to a group scattered by persecution, hardship or victimhood. Today's diaspora reflects this historical base as well as recent emigrants from the Republic of Armenia. A distinction is made in regard to "old" and "new" diasporas, sometimes signalling a linguistic preference (Eastern or Western Armenian), geographic origin, and push factor (Gevorkyan, 2003). For our purposes, both old and new diasporas are considered under the same umbrella classification of transnational populations holding real or imagined connections to the Republic of Armenia. Tangible connections may be economic, citizenship-based, rooted in property or familial ties, or intangible such as a cultural or ethnic link.

The origins of old and new Armenian diaspora groups are clear, but who belongs to them considerably less so.[4] Generally speaking, the old diaspora refers to those who emigrated as refugees, or as a result of the genocide in the early 20th century or even before. The old diaspora, due to their far removal from Armenia and through generations of high integration in their countries of destination, often hold more similarities socioeconomically and in regard to values with citizens in their home countries than to Armenians living in Armenia today.

The new diaspora typically references those who left Armenia at the fall of the Soviet Union as well as those comprising the current population of labour migrants and students. New diaspora are more likely to have familial ties to Armenia, and may be sending monetary remittances with intent to return. The dichotomy of the old and new diaspora often provokes a debate within the community itself on topics of belonging and assimilation as the two differ in priorities. As Vertovec (2005) observes, "a previous generation of migrants may have had very limited communication with, or knowledge about recent events in the homeland, although they still have ethnic pride. They may have little in common with a fresh wave of highly politicized refugees or exiles who are wholly absorbed with cultural and political changes in the homeland". The diversity of the community is readily apparent through an examination of one small swath of Armenian Los Angeles, which may contain

[4] Interviews revealed a strong difference in perception of the term diaspora and who might belong to it. Diaspora born in the Russian Federation, for example, considered "old" diaspora as too far removed from Armenia, almost to the point of being "out of touch". Perception among new diaspora are that their counterparts have lived outside Armenia for such a lengthy period of time to have assimilated properly in their host countries.

Syrian–Armenian refugees, second or third-generation Lebanese-Armenian families, French–Armenians, 4th generation or older Armenian–Americans, and those born in Armenia, attending the same festival or holiday celebration.

Total diaspora figures vary from 6 to 8 million globally. Estimates place the largest community in the Russian Federation with 1.9 million, 850,000 in the United States, followed by Georgia (400,000), France (250,000), Ukraine (150,000), and under 100,000 in Lebanon, the Islamic Republic of Iran, Syrian Arab Republic, Argentina and Turkey respectively (Tölölyan, 2006, p. 8). Ter Minassian (1997, p. 115) estimates the figure of Armenian diaspora in the United States at 900,000, in the EU at 500,000, of which 350,000 live in France. According to the Foreign and Commonwealth Office's estimation, the Armenian diaspora in the Russian Federation 2.3 million, in the United States 1.5 million, France–400,000, Lebanon–230,000. These figures are close to the numbers, mentioned in Armenian diaspora encyclopedia (Armenian diaspora encyclopedia, 2003), where the Armenian diaspora in the RF is estimated 2.2 million, in the United States–1.2 million, France –450,000, Georgia–350,000, the Islamic Republic of Iran–80,000, Argentina–70,000, Lebanon–70,000–80,000, etc. It's worth mentioning, that in the case of the Armenian diaspora in France, the French Government mentions about more than 500,000 Armenians living in the country,[5] while French–Armenian diaspora organizations mark down about 600,000 Armenians, living in France.[6]

As Diaspora editor Khachig Tölölyan notes, in every diaspora community there are those who passively identify as Armenian, those who participate in national holidays and little else, and a very small proportion who engage as activists for the Armenian cause (2006, p. 9). In many respects, the ability of diasporas to thrive depends on the "host" nation and its receptivity to ethnic diversity – favourable conditions for assimilation in the United States and Canada allow Armenian schools and associations to flourish. Concentrations of diaspora range from the vibrant, established communities of Los Angeles, Watertown and Marseille, to dwindling numbers in Addis Ababa and Kolkata. Numerous historical waves of migration nurture diversity in common identification, adherence to tradition, religion, socioeconomic status, and political views. While some commonalities endure, a rich history makes quantifying and describing the Armenian diaspora very difficult. Several large waves of emigration are identified by scholarship as far back as the year 1604 with deportations from Persia. Followed by the genocide in the 1910's, the diaspora formed from a post-independence exodus, repatriates-turned-expatriates of the 1940's and 1980s, and finally the conflict-affected Armenians in Lebanon, Egypt, Iraq and the Syrian Arab Republic to name a few (Tölölyan and Papazian, 2014).

5 Déclaration de M. François Hollande, Président de La République, sur le Génocide Arménien, à Paris le 24 Avril 2014// www.elysee.fr/francois-hollande/2014/04/24/declaration-de-m-francois-hollande-president-de-la-republique-sur-le-genocide-armenien-a-paris-le-24-avril-2014.

6 Les Arméniens en France//Le Point//www.lepoint.fr/societe/les-armeniens-en-france-22-12-2011-1411512_23.php#.

Defining Skilled Work

States have always had a vested interest in recruiting and retaining talented migrants to contribute to their economies and societies. Returned scholars have spearheaded national breakthroughs by establishing space programmes, technological advancements, and bringing national industries up to international standards. In China for example, 81 per cent of the Chinese Academy of Sciences, and more than half the Academy of Engineering had at one point been educated overseas (Kapur, 2010, p. 126). Foreign expertise and education have been shown to have numerous positive effects for sending and receiving communities and are the first steps in a potentially virtuous cycle (see Kuznetsov, 2008, Kuznetsov and Sabel, 2006).

Skilled migration is defined by OECD through the overlapping fields of education, occupation and pay scale. Generally, high skilled migrants are considered to have post-secondary education, including vocational certificates, bachelor's degrees and higher (Chaloff and LemaStre, 2009, p.11). Countries with high immigration rates have varying criteria for accepting skilled migrants: Canada and Australia measure education level, the United Kingdom maintains a minimum salary threshold for skilled labour, and France and New Zealand refer to a list of in-demand professions. Kuznetsov frames skilled diaspora in terms of talent and creativity, identifying "individuals of high impact" as the movers and shakers of economies Kuznetsov (2008, p. 267).[7] Referred to as the "creative class" by urban economist Richard Florida, these individuals are more highly educated and highly paid, and courted aggressively by cities and countries to attract knowledge-workers to innovate their economies (Florida, 2006).

Analysis of migration of high skilled individuals in the United States suggests knowledge workers concentrate in areas with high cultural amenities and diverse, tolerant societies (Florida, 2014 and OECD, 2008). The cities in the United States attracting (and retaining) the most knowledge workers are Seattle, San Francisco, Washington, Denver and San Jose. Some argue the factors influencing migration of high skilled workers vary by vocation, for instance scientists may value working with a prestigious colleague where engineers may place greater value on competitive salaries and living conditions (Mahroum, 2001). Quality of facilities, environment, workplace transparency, favourable mobility policies and economic outlook in countries of destination are also shown to have an influence (OECD, 2008, p. 26).

[7] Lacking quantitative measures for high impact individuals, tertiary education is used as a proxy.

In defining highly skilled migrants, the creative class, or individuals of high impact our intention is not to place a greater value on one type of labour. High skilled labour typically has several distinguishing features including higher wages, strict requirements on employment history, advanced skillsets, and higher education. Low skilled labourers typically earn less, require a high-school diploma or less, and receive on-the-job-training. Low skilled vocations are often characterized by higher rates of physical labour and health or safety risk than higher skilled jobs. Potential contributions of skilled migrants to countries of origin as well as destination are similar to those conferred by high skilled and educated populations overall, in that migrants are able to transfer valuable intangibles or tacit knowledge such as education and experience earned abroad. They have the potential to act as accelerants to the knowledge economy, to innovation, entrepreneurship and creativity – translating best practices and scientific advancements to local contexts. Access to information and professional networks stewarded by high skilled workers has the ability to link countries of origin to global networks of knowledge and trade.

Literature on the Armenian diaspora spans a wide array of issues including identity construction, integration, historical memory, ethnography and genocide studies. A database recently compiled contains 368 titles in Eastern and Western Armenian, English, French, Turkish and Russian, and gives a glimpse into the diversity of studies on the diaspora (Aslanov 2018). It notes the varied approaches to similar topics across languages and countries. American works appear more analytical in nature featuring hard social science methodologies, whereas French works are descriptive, personal and narrative. French inquiries were also found to focus more heavily on identity and language (Aslanov, 2018).

The demand for data on the Armenian diaspora is high, given its the high priority and value in national strategies. Global best practices and piloted programmes on recent diasporas are abundant, however the majority are positioned in the framework of recent emigration, discussing the outmigration of skilled professionals from developing countries. While this is applicable to the Armenian context, the long arc of the diasporas' involvement and dispersal complicates development models focused around populations that may be better described as expatriate – those born in the country of origin and not their descendants per se.

This study does not delve too far into the history of the diaspora, as the subject is extensively well-documented and investigated from a variety of perspectives. This list is far from exhaustive, and apart from academic scholarship, countless online articles, artistic collaborations, books and magazines are dedicated to examining identity, community and history. More granular studies examine socioeconomic characteristics in different locales. Many are time-bound, taking for example the Armenian community in Isfahan, the Islamic Republic of Iran from 1587 to 1722 (Gregorian, 1974) or integration in Alfortville, a suburb of Paris from 1920 to 1947 (Ananian, 1999). Documentation of the Armenian space in American culture draws heavily on participant observation, census data and small-scale surveys. In the last several decades, studies of the United States (Mirak, 1983, Bakalian, 1993, Wertsman 1978) in California and Massachusetts have provided historical context.

Diaspora Development Nexus: Moving Past Philanthropy

Gevorkyan looks at the diaspora from a macroeconomic perspective as a resource for economic growth. He characterizes the current wave of involvement as part of the post-Spitak push, wherein organizations sprung up to assist in humanitarian and cultural efforts. He examines these perspectives to advocate for stronger economic and business developments between diaspora and Armenia, while noting that cultural efforts have been well-served in the past, and that great contributions made by diaspora should not be diminished. However, to be prosperous and sustainable, long-term economic links must be nurtured and the fundraising model done away with. Relative consensus has formed around this perspective among diaspora leaders. Over the last several years, the University of Southern California has held an annual "TED Talk"-styled conference titled Innovate Armenia, focused not on generating funds for medicines or schools, but on collaborating and incubating ideas and partnerships. This type of event is indicative of a larger push for diaspora to shed patriotic motivation in favour of mutually beneficial partnerships between diaspora and Armenia.

Appeals to self-interest over patriotism are reflective of global best practices in engaging diasporas. Kuznetsov (2008) describes motivations behind the most successful diaspora initiatives as self-actualizing, in that individuals will pursue the course most beneficial to their personal interest and development. More often than not, this coincides with a favourable national outcome. However, the individual and their self-actualization should be prioritized and kept in mind as the key motivating factor over patriotism or philanthropy. Survey data confirms these hypotheses. The Armenian Diaspora Online Survey (ADOS) captured several preferred avenues of engagement from diaspora for knowledge transfers and skills exchanges. The most commonly cited reason why initiatives remain unimplemented is for a lack of time. Framed in a mutually beneficial context rather than altruistic or extra-curricular, personal development of diaspora might align with national development of Armenia, if effectively marketed as a desirable place for education, professional experience and investment.

Precedent for Big Data in Diaspora Mapping

Several interesting studies on diaspora and migrant communities mapping have been undertaken in the last decade using innovative technologies. The D4I project from the European Commission, a segment of which is referenced in this report, uses highly granular (100x100 square meters) microdata on residencies to map hotspots of immigrant communities in large cities. After exhausting population and census data on national and international levels, researchers are increasingly looking to social media and digital footprints to identify migrant populations. One case examines the distribution of the Basque diaspora through analysis of Facebook groups (Smith, 2000), and others have used the social platform Twitter to track popular hashtags surrounding events of importance in home countries to measure diasporas in European states (Jones M. and al., 2011).

Migrant stocks are traditionally approximated using figures of foreign-born residents of states gathered through national census data. Armenia's acquisition of statehood in 1991, long history of emigration, and simmering conflict, complicates diaspora mapping using this technique. UN DESA puts the figures of Armenians living abroad in 2017 at 952,600, though experts put this figure much higher.[8] As the bulk of the diaspora were born in, or descended from Armenian citizens of the Soviet Union, data from the Russian Federation proves more useful in this regard. The 2010 All Russia Population Census estimated 1,130,491 persons of Armenian ethnic origin living in the Russian Federation.[9]

[8] The United Nations Population Division within the Department for Economic and Social Affairs (UN DESA) releases a report on International Migrant Stock every 5 years and is the most comprehensive source on international migration data. Migrant stocks refer to "the total number of international migrants present in a given country at a particular point in time" (UN SD 2017). It should be noted that while it is the best global approximation of diaspora populations and the most comprehensive data sources available to researchers and policymakers, figures are unable to capture the group which we would consider "old diaspora", those who are not foreign-born including the descendants of migrants.

[9] Embassy of the Russia Federation to the United Kingdom of Great Britain and Northern Ireland/ Population Data// www.rusemb.org.uk/russianpopulation/

Methodology

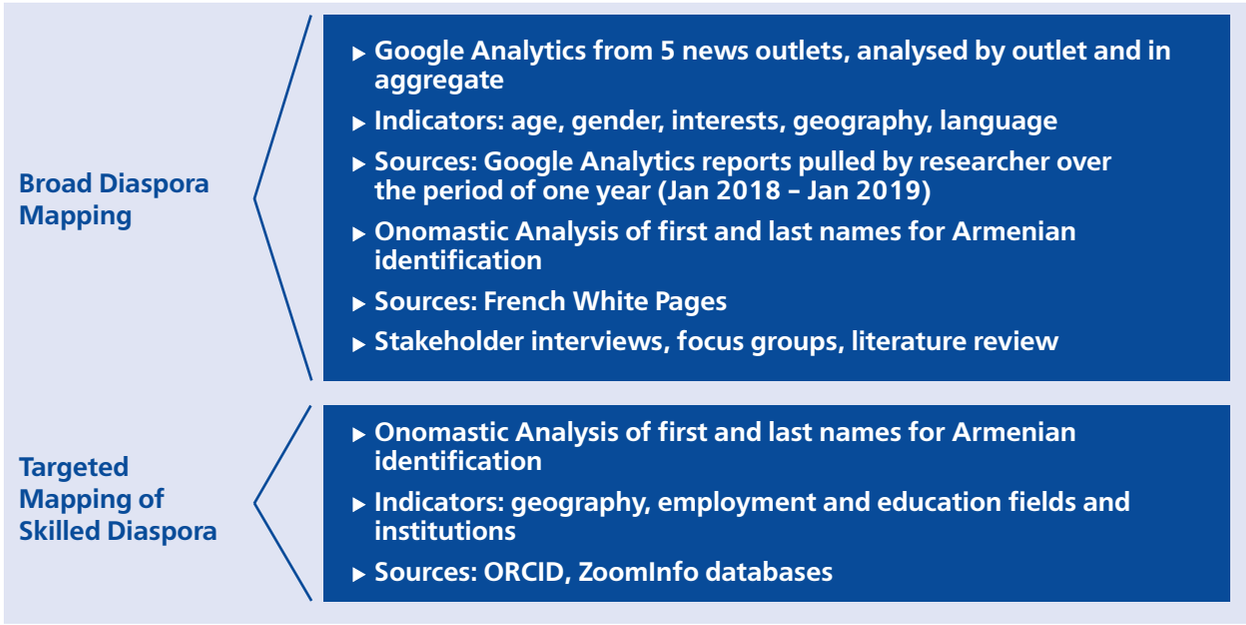
Our mixed-method approach to mapping diaspora follows two paths: first we identify communities in relative terms, creating a map of the total diaspora detailed by zip code. Next, we examine the profiles of skilled diaspora members identified through the ORCID and ZoomInfo databases. This is accomplished through analysis of web traffic from Armenian news outlets and name recognition of profiles in databases with a combined collection of 261.2 million records.

Data is then measured against official national figures of migrant stock in relative terms to tease out patterns and anomalies. Where applicable, national demographic data on population density, average wealth, and housing costs is included to enrich analysis. Next, we select databases of professionals in a variety of fields to identify geographies of those considered to be highly skilled through the NamSor API.* Results are first examined on the global level, followed by national profiles of the United States and France. Using the first approach we propose a profile of the global diaspora population, its demographic composition, interests, marketing affinity categories, as well as stories of interest by metropolitan area. By mining a professional and an academic database, we are then able to construct profiles of the skilled diaspora by metropolitan area, gathering the following data: gender, place and years of education, name of institution, fields studied, degrees obtained, job title, job location, managerial level, and occupational field. In our discussion of United States' and French-based diasporas, we include results of our field work exploring interest and engagement in knowledge transfer initiatives.

Onomastic analysis and web analytics are supported by traditional mapping activities such as focus groups, key stakeholder interviews and desk research. Field research was carried out in the cities of Boston, New York, Los Angeles, and Paris in April and May of 2019, interviewing over sixty diaspora community members in the United States and France, as well as key stakeholders and experts from Armenia, the Russian Federation and United Kingdom. While a top country of destination for the majority of new diaspora, in-depth analysis of the Russian Federation is intentionally excluded from this study in favour of brevity.

* NamSor SAS is a specialized “big data” mining software, which helps to conduct various types of onomastic analysis. Onomastic analysis is applied to mine “big data” and categorize personal names according to various taxonomies (such as gender, linguistic and cultural and ethnic origin). NamSor uses this technology of applied onomastics for diaspora mapping and targeted diaspora engagement initiatives.

Figure 1: **Data Analysis Methods and Databases used to Produce Community Profiles**

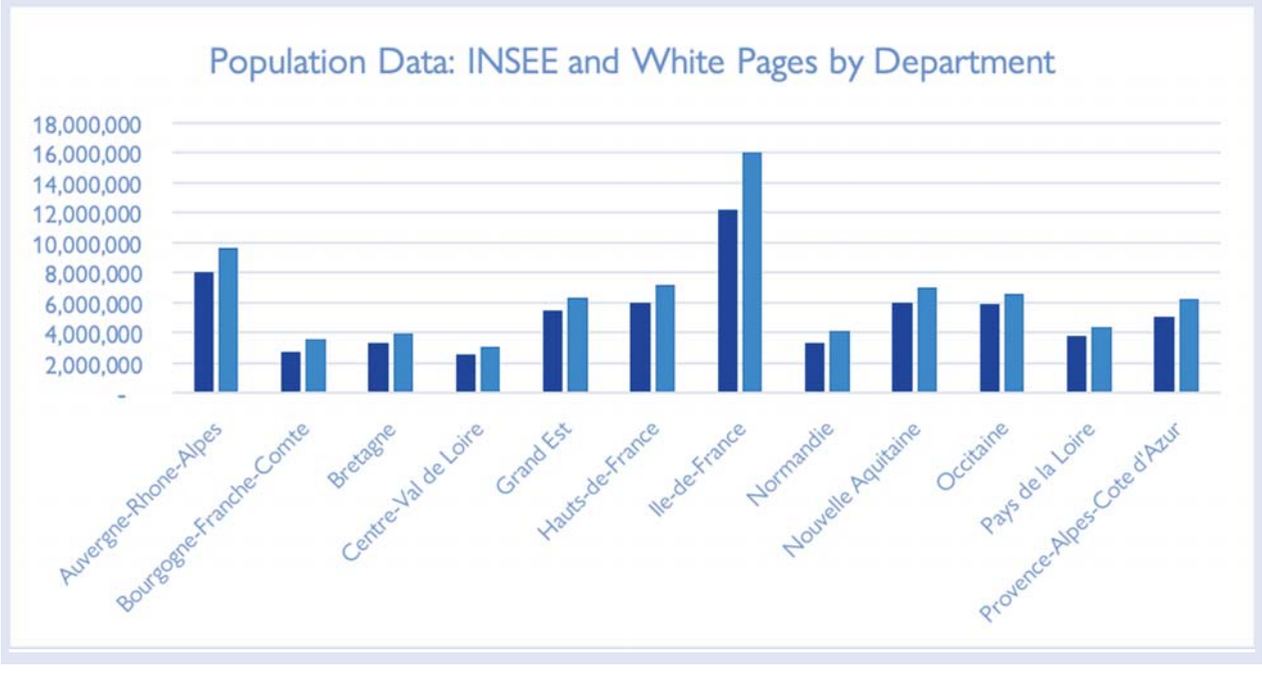


Database Characteristics

ZoomInfo is a major business-to-business (B2B) registry maintained by a private firm in the United States. The majority of profiles are generated through a mutual exchange between ZoomInfo and other companies, who subscribe for access to the full network, providing information in exchange from their own company directories. Users do not create their own profiles but have the right and opportunity to opt-out and have their record erased. ZoomInfo also pulls from public registers, cross-checked against national databases and LinkedIn data. The database contains 156 million records.

ORCID is an identification and attribution mechanism. The acronym refers to an Open Researcher and Contributor ID, a unique identifier for researchers. Users may opt-in by registering online for an ID which is then used and linked to their publications. Details on education and work history are supplied by the user to enrich their profile, gain exposure to others in their field and connect with potential collaborators. The ID aims to make the process of researcher attribution easier and more accurate through unique identification. There were 5.2 million ORCID records at the time of our analysis.

Figure 2: **INSEE Population data** (2018, dark blue) **contrasted against French White Pages data** (light blue) **by Department**



The French White Pages provides an additional layer of onomastic analysis to our broad mapping exercise. While impossible to segment out skilled populations from larger population data, this directory is comparable to the national census in sample size, representing over 100 million residential addresses. The population of France hovers around 66.9 million, and duplicates in this database are attributed to multiple homes per person or multiple telephone lines per household. In addition, the records reflected in the White Pages are highly correlated with population trends in France, mirroring population centers (see Figure 2).

Applied Onomastics

Onomastics is a branch of sociolinguistics examining the morphology of names. The use of onomastics can be applied to mining large datasets and sorting given names and surnames according to various taxonomies such as gender, linguistic and cultural origin. NamSor, a vendor of specialized mining software, processed major datasets to identify individuals of Armenian origin for this project. NamSor's classifier first learns name features (including name frequency, morphology and termination) and is then validated against a mailing list from a global Armenian diaspora organization provided under a strict non-disclosure agreement, which is then in turn checked by a human researcher. Further insight into the NamSor methodology is referenced in a full report found in the Annex.

Google Analytics

We chart a course through web browser data to first confirm age and gender dimensions by geographic location, as well as preferred language and viewing medium. Next, we look at user behaviour when interacting with the news site. Media outlets for this study were contacted by the researcher and the IOM office in Armenia. To protect organizations, outlets are not referred to by name in this report, and are replaced with an identifier A—E. A variety of news media were invited to participate in the study, with attention paid to operations based in the diaspora and those based in Armenia, political affiliation and ideological leaning to gather the widest possible sample. Outlets were given the option to provide data either via instruction or by granting temporary access to their Google Analytics accounts.

The researcher then examined all data from the period of 1 January, 2018 to 1 January, 2019 for each of the five sources individually and in aggregate. Variables such as browser language, geographic location, and demographics were measured against "users" and "page views" where applicable. Data was segmented into four geographic categories: all users, all diaspora users (defined as all users less those browsing from Armenia), all users in the United States and all users in France. This allowed for further detailed analysis of interests, demographics and language preferences by region compared against the total population. No advertising data was analysed.

Table 1: Total Users Analysed from 1 Jan 2018—1 Jan 2019, by News Source

A	B	C	D	E
6,612,380	10,783,660	2,871,928	9,537,182	33,245,273

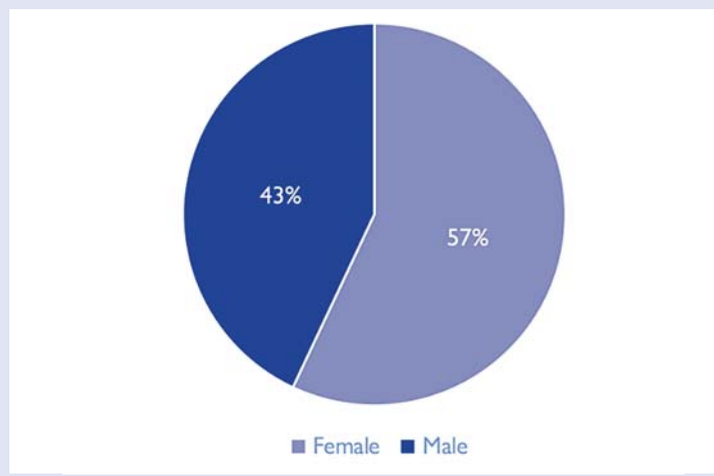
Table 1 displays the varying total readership and reach of each outlet. All future figures from Google Analytics in this paper are presented in relative terms, as double-counting remains a high issue amongst the five sources. It is highly likely that a user who frequently reads source E will also consume stories from source C, for example. Google does collect IP addresses through which users might be matched to control duplicates, however this data is not provided to end users. Therefore, to reduce potential effects of duplicates, we analyse each source separately for trends before reviewing in aggregate.

Focus Groups and Key Stakeholder Interviews

For complementary qualitative data, the researcher used participant observation and interviews during key events and festivals over the course of five months inside diaspora communities in the United States and France. Special events and commemorations such as days of genocide commemoration, independence, national holidays, conferences and gatherings of intellectuals and businesspersons were attended by the researcher to gather a larger sample of diaspora members from varied social and economic strata.

Interviewees were asked for basic demographic details such as age, gender, education level, place of birth and diaspora generation. In our analysis, the term first–generation diaspora member refers to a person who is part of the first family generation to be born outside of Armenia. To avoid confusion with the term, participants not born in the Republic of Armenia were asked for the last family member to come from Armenia and coded manually by the researcher. Interviewees with a 0 were born in Armenia, those with a 1 have parents born in Armenia, a 2 have grandparents born in Armenia, and so on.

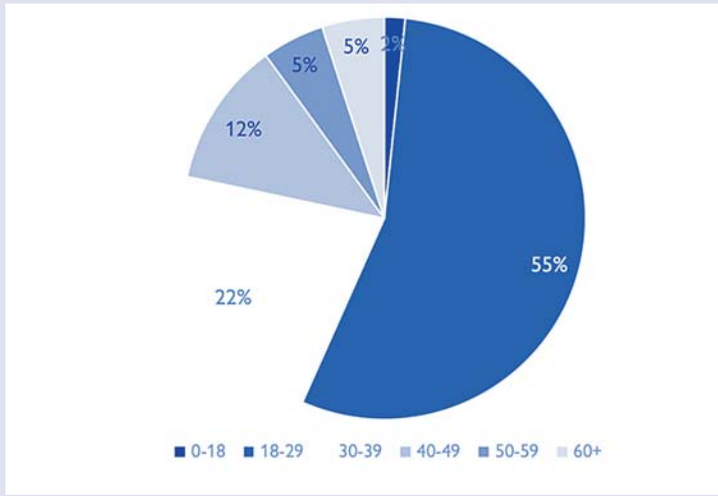
Figure 3: Interviewee Demographics: Gender



The overwhelming majority of interviewees between the ages of 18–29 identified as 2nd generation diaspora at 76 per cent for that group, with 14 per cent identifying as 3rd generation. The most mixed age group was between 40 to 49, with 42 per cent first generation, 36 per cent "generation zero", and 17 per cent second generation. For the entire

group, owing to many first generation and generation zero diaspora interviewees, the median generation score was 1.5.

Figure 4: **Interviewee Demographics: Age**



There were no discernable patterns between location of birth or interview and generational divide or gender. The overall gender ratio held relatively steady to our overall, rising to 68 per cent female in Paris and 63 per cent female in Los Angeles, dipping to 40 per cent in Boston. As qualitative interviews utilized a snowball sampling technique, the sample is weighted toward the 18-29 and 30-39 age bracket in Boston and Los Angeles (comprising 76 per cent of participants for each city) and toward the 40—49 and 50—59 age brackets in Paris (72%). Seventy per cent of in-person interviews took place in the United States to 30 per cent of in-person interviews in France.

Interviewees were asked probing questions under the following topics, re-ordered or modified slightly for each interview based on context and conversation: reason for engagement with diaspora, affinity to the diaspora and to Armenia, willingness to engage in diaspora activities, visits to Armenia, opinions on Armenia, professional development, and willingness to participate in development activities. Organizations were interviewed along the same lines of questioning on an institutional level. Younger interviewees often volunteered their family's reason for emigration as a key part of their Armenian identity and migration history, though it was not part of our line of inquiry. Students in particular identified as descendants of genocide survivors, though we found no correlation between these responses and location. Those in older age brackets in both the United States and France were less likely to share such information unprompted, and typically identified community as formative to their diasporic identity.

When working with such a large and diverse diaspora, compiling a representative sample is the most daunting task. However, as the focus of our research is on big data, we use qualitative interviews of community members and key stakeholders as a supplement to guide interpretation and recommendations. To augment insights from our own interviews, we take the results of the latest large-scale surveys (ADS and ADOS) under consideration in our analysis.

Challenges

The multitude of datasets analysed in this report present numerous challenges in comparing across widely-varying sample sizes and geographic granularities. Each source employs different data collection methods and captures different segments of the population. To address this flaw, at the introduction of each data source we provide a side-by-side comparison with official data from the United States' Census Bureau and the French Statistical Bureau INSEE. We hope to confirm the presence of diaspora communities accepted as common knowledge with this method, and to uncover potential new patterns.

While the United States collects data on languages spoken at home, country of birth, and self-reported ethnicity and ancestry, France does not collect or release any data on ethnicity, religion or language by law (Loi nº 94–664). This presents a particular challenge in estimating migrant and diasporic populations. Two datasets are used in place of census data to measure communities in France: the publicly-accessible White Pages and the "D4I" data set by the Joint Research Centre (JRC) of the European Commission. The D4I provides information on migrants based on country of birth, where the White Pages affords data on all residents, analysed by name. We would therefore consider the White Pages to be a more effective and reliable reference, and it is used as our predominant source for analysing France.

Unfortunately, access issues prevented major news outlets with specific bases in the diaspora from being included in our analysis. The study made efforts to extract data from online news sources explicitly based in the United States and France, but we were unable to secure permissions. However, four of five outlets analysed provide reporting in another language and all are accessed internationally. Therefore, the Google Analytics portion of this study should be received as one looking at diaspora interest in Armenian news, rather than a mapping of the overall global Armenian community.

Known biases

The ZoomInfo database is heavily weighted toward users located in the United States, with the United States, the United Kingdom, Canada, India and Australia comprising 74 per cent of the overall database. Controlled for Armenian ancestry, these same countries comprise 80 per cent of the database. In both the general population and the Armenian population, the United States accounts for over 55 per cent of records. In distribution of genders, Armenian–origin males are slightly more prevalent in the database with a 59:41 ratio, compared to 56:43 in the overall population (see Figure 5). Country by country, significant gender biases exist, but are not present in countries indicating high Armenian populations.[10]

Figure 5: **Gender Ratio**

Source: ZoomInfo Database.

Databases used in this study have varying degrees of representativeness, with some aligning very closely to general population figures. Data from the French White Pages

[10] Saudi Arabia, Pakistan, Afghanistan, Yemen and Libya each figure above 80 per cent male in the database for overall population.

examined against INSEE official census data indicates a high correlation between geographic data points, with a p-value of .00001 and r-squared of .857. Global-level datasets used such as the Google Analytics, ORCID and ZoomInfo databases have stronger biases and are ill-suited to regression analysis. Biases are more evident in the ZoomInfo and ORCID databases. However, as these are registries of professionals, we do not expect them to follow overall population projections and do not attempt to measure them as such. ORCID is weighted toward hard sciences, and among the Armenian diaspora, the database shows high concentrations in the medical and health science fields, in natural science, physics, chemistry, math and engineering. These fields together account for 69 per cent of all skilled diaspora professionals.

Privacy

A primary consideration and responsibility in harnessing big data lies in the privacy, rights, and security of those whose data is accessed. In recognition of the potential of data innovation to contribute to sustainable development, the United Nations has a number of resources and guidelines of which this report has made use. The project was executed in line with the guidance note on big data for achievement of the 2030 Agenda published by UN Global Pulse (2018) as well as the Guide to Data Innovation for Development (2016). Key features of these efforts are data minimization, security, transparency, and due diligence for third party collaborators.

All data provided in this report has been aggregated and anonymized in full. No personal data of any individual (including geographies and employment histories connected to names) resulting from the analysis is disclosed in this report or to its partners. In the event of highly granular levels of analysis (such as career trajectories of skilled workers, analysed on page 46, Expatriates, Returnees and Diaspora) where identification of individuals may be at risk, data has been omitted. Specific care was taken in the implementation of this research to maintain confidentiality for all participants, with data processed and disposed of in a secure manner. Data security was reinforced by decentralization of work, and no names or locations of individuals have been made available to the principal researcher, IOM, or the Government of Armenia by NamSor.

Future applications

The use of big data mining in population studies is limited only by scope and data source characteristics and can be applied in any number of contexts. Future inquiries might look at city-level residential data or patent permits, for example. While there was not sufficient time within the frame of this project to include the American White Pages as a dataset, a comparative analysis with the French version could serve as a valuable resource. The methodology might be employed to map understudied or underserved populations, as well as those who do not meet the threshold for inclusion on a census.

The Armenian community is in many ways an ideal subject for testing mapping methodologies, owing to the high visibility of diaspora communities and ease of validating trends through community leaders or organizations. For example, preliminary analysis of Google Analytics data revealed a significant population in a previously unknown location: Coffeyville, Kansas. A small town of under 10,000 residents, the town has no Armenian organizations, grocers, churches, or any distinguishing outward features to suggest that more than 50 per cent of the population would be of Armenian origin as data suggested. The local newspaper from the town was contacted to assist in validating the analytics, which had never published a story on the diaspora and which was unaware of any particular ethnic communities in the area. Regional diaspora organizations were also contacted to discuss membership and activity in the area. By leveraging the high visibility of Armenians in the United States, inquiries uncovered that the anomaly stems from Coffeyville's position in the geographic middle of the United States, resulting in it serving as the default location to which Google attributes unplottable values in the country.

Results

This section proceeds as follows: we first plot out the general diaspora as indicated by web analytics data, unsegmented by skill or education level. This is done first at global and national levels, focusing on the cases of the United States and France. We then move to the skilled diaspora by sharing insights from two databases of professionals representing the academic and business communities, ORCID and ZoomInfo. This is also analysed at the global level followed by the national. We then tie things up with city-level profiles, examining in closer detail where talented diaspora members concentrate and what their levels of education might be. Web traffic data represents an average of all five sources unless otherwise specified.

Global Overview

Diaspora population estimates have notoriously high degrees of variance and dependability. With no singular source of reliable data, they are often inflated by institutions, politicians or academics toward various aims, repeated often by those who come after them. As methods are rarely divulged, estimates continue to circulate, potentially harming policy initiatives targeted to the diaspora by focusing heavily on one geography and leaving others underserved. In the Armenian diaspora, a plethora of well-developed institutions, organizations, religious communities and networks help maintain an up-to-date accounting of diaspora activities globally. The most commonly cited figure of diaspora size lands at 8 million, with 700,000 to 1 million in the United States (Bulbulian, 2001). The Russian Federation is said to hold 1.9 million (though it should be noted the 2010 All Russia Population Census approximates 1.1 million), 400,000 in Georgia (Tölölyan 2006) and 500,000 in France.

While the methodologies behind these figures are unclear, they likely leverage historical migration figures adjusted against growth in countries of destination over time, cross-checked by diplomatic representations and communities on the ground. In a world of increasing mobility, however, official statistics are inherently unable to keep pace. Conflicts, economic crises, migration policies and opportunities abroad have all affected established communities long-understood to be diaspora strongholds. Therefore, any analysis of diaspora cannot simply look at heritage, but must also consider the degree to which diaspora members align and concern themselves with homeland affairs. By measuring interest in activities, news, finance and politics in the Republic of Armenia, we hope to capture the subset of diaspora which is neither new nor old per se, but rather engaged in some manner with the Republic of Armenia or, at the very least, demonstrate a regular interest in current affairs in the Republic of Armenia. Estimates are examined in the tables below, ranked by official data sources against web analytics insights. In reviewing the acquired analytics data, each outlet displayed varied readership demographics as well as top countries of readership. For all countries, Armenia was the top source of readers, with an average of 1.9 million users. To control for biases from individual news outlets, both the average of all outlets and their ranges are provided for reference in Table 2.

Apart from the Russian Federation, Ukraine and Greece, readership on the whole correlated with expected diaspora populations according to international figures. The wide range of readership between outlets displayed in the final column indicate potential holes in our base data in the Russian Federation and Ukraine, and it should be noted that no exclusively Russian or Ukrainian language publications were included in the study. It may also be the case that diaspora in the former Soviet Republics are less interested in Armenian news outlets, preferring national news sources. Four of the sources analysed offer news in Armenian, English and Russian, and one in Armenian and English. Unfortunately, the project was unable to acquire data from any French language publications.

Table 2: Diaspora Population Estimates by UN DESA Migrant Stock, OECD Foreign-Born Population, and Google Analytics Data

Diaspora Population Estimates by Source					
Rank (Google Analytics)	Country	Average Number of Readers, Google Analytics	Minimum and Maximum Number of Readers, Google Analytics	UN DESA International Migrant Stock (2019 Revision)	OECD Stat International Migration Database [i]
1	Russian Federation	277,210	109,368–431,866	527,163	511,150*
2	United States of America	153,247	122,649–174,750	101,757	90,946
3	France	67,246	26,939–92,455	21,012	29,631*
4	Germany	34,432	24,055–44,527	21,263	9,000*
5	Peru[ii]	20,296	0–36,129	0	..
6	Georgia	19,896	9,969–31,319	12,736	..
7	Ukraine	13,565	5,759–27,299	47,780	..
8	Spain	11,793	6,291–17,438	9,860	10,836
9	Belgium	11,778	7,821–15,372	1,607	1,530
10	Canada	11,694	6,523–14,224	4,419	3,500*

[i] Stock of foreign-born population by country of birth, 2017
iii Potential outlier
* Last available figure

Source: Google Analytics.

The table above ranks top countries according to Google Analytics in columns one and two less Armenia, contrasted against official figures (columns three and four). Tallies from Google Analytics display average readership followed by minimum and maximum figures between outlets, which vary considerably. Official statistics contrasted against Google Analytics data present potential insights into measuring the older diaspora, who are not reflected in migration statistics. Where official figures capture persons of foreign birth, or new diaspora, interest in local news as measured by Google Analytics can help determine where both migrants and their descendants might be living. In the cases of Belgium and Canada, a diaspora population above UN DESA figures is highly likely, given historical migration and large diasporas in neighbouring countries of the United States and France.

However, the fifth result of Peru as a top diaspora destination seems quite unlikely and represents a likely outlier in our data. In this instance, official figures from UN DESA and OECD

help to validate our figures, as it is likely that Brazilian, Uruguayan or Argentinian-Armenian diaspora numbers would likely overshadow any other presences in Latin America. As Peru ranks highly in four of five sources (with one source registering no traffic), the numbers may indicate traffic from bots.[11] Otherwise, a peak of interest in Armenian news in Peru may be a result of increased business interest between the two countries, temporary work placements, or diaspora relocation from other Latin American countries.

[11] Naturally, we cannot exclude the possibility of interference by non-human actors such as web crawlers, bots, or virtual private networks, or VPN services. Used to mask online activities by rerouting a user's IP address through a different country, VPNs are increasingly employed by persons living under repressive regimes or media environments to access websites banned by governments and maintain privacy in online communications.

Demographics

Table 3: **Age Snapshot, U.S., France and Total Diaspora**

Ages	United States	France	Total
18–24	6%	19%	7%
25–34	16%	34%	25%
34–44	30%	27%	31%
45–54	20%	10%	18%
55–64	17%	7%	13%
65+	10%	3%	6%

Source: Google Analytics.

Global diaspora readership of online media outlets trends younger (as indicated by Table 3 above) with 56 per cent of users identified as between the ages of 25 and 44. On a national level, however, there is a significant shift among the younger generation of diaspora in the United States and in France. Diaspora between the ages of 18—24 in France account for a share more than 3 times the size of their American counterparts. Inversely, those over the age of 55 in the United States are considerably more active consumers of Armenian news than the same age group in France.

Our core assumption in reading web analytics data is that those who seek out Armenian news will be more interested in engagement with the Republic of Armenia. Therefore, data suggests younger diaspora in France are more plugged in to homeland affairs than the young Armenian-American diaspora. Similarly, readership above the age of 45 in the United States represent almost half of the total population, contrasted with 20 per cent in France and 37 per cent in the total diaspora. These findings blend well with those of the Armenian Diaspora Survey (Tchilingarian H. (Ed), 2019), which found 43 per cent of respondents over the age of 55 to sometimes or often volunteer with Armenian organizations (26). Similarly, the survey found that 43 per cent of older diaspora in the United States (specifically in Boston) were likely to follow current events in Armenia. Targeted analysis of engagement with older populations in the United States and youth in France may reveal additional insights on best practices for communicating with these diaspora groups.

Table 4: Gender Breakdown by City, Global Diaspora

City, Country	Female	Male
Moscow, Russian Federation	34%	66%
Los Angeles, United States	33%	67%
Glendale, United States	37%	63%
Krasnodar, Russian Federation	35%	65%
Paris, France	41%	59%
Saint Petersburg, Russian Federation	41%	59%
Tbilisi, Georgia	51%	49%
Sochi, Russian Federation	41%	59%
Rostov-On-Don, Russian Federation	38%	62%
Oslo, Norway	35%	65%
London, United Kingdom	38%	63%
Burbank, United States	37%	63%
New York, United States	30%	70%
Global Average	**53%**	**47%**

Source: Google Analytics.

As outlined in the table above, gender distributions vary by city of readership but maintain a fairly equal ratio globally at 53 per cent female to 47 per cent male. Higher male populations in Moscow and Krasnodar may owe to their popularity as labour migration destinations, though even splits in Saint Petersburg and Sochi are noted. In top cities of readership men are more prevalent overall, though considering the entire dataset as a whole, figures level off to favour females slightly.

Language

Google determines what languages a user speaks, reads or understands using the settings on a user's browser, phone, search history, or according to advertisements they have clicked on in the past (Google, 2019). On a personal computer or phone, the language preference is set by the user during initial setup or modified manually. Armenian script is widely used and supported across browsers and is legible on all operating systems, however it is notable that Apple products do not support Armenian as a phone language. Therefore, if a user visits a site on their Apple phone or tablet their default language will likely be either English or Russian, the top preferred languages. Therefore, a possible explanation behind lower levels of Armenian language knowledge could be a result of low viewership of Armenian language content by diaspora.

Globally (including Armenia), Russian is the preferred language with an average of 48 per cent of users, followed by 38.3 per cent English, 4.2 per cent French, and 2.8 per cent German. Outlets had varying linguistic preferences for users, alternating preferences for Russian or English, and indicating a diverse readership along news outlets. English ranged from 32 per cent to 51 per cent of readership depending on outlet, and Russian from 36 to 51 per cent.

In the diaspora (excluding Armenia, reflected in Table 5) German appears more popular than both French and Armenian. American readership appears to be the least diverse linguistically, with only 8 per cent speaking a language other than English, though Russian is the second most common. In contrast, the French population indicates a slightly stronger command of the Armenian language, and a Russian language-speaking population three times that of the United States. Interestingly, diaspora readers in France show an equal affinity for French and English at 40 per cent. On a global level the Russian language dominates the linguistic landscape, an unsurprising finding considering high rates of labour migration to the Russian Federation from Armenia as well as historic ties between the two countries.

Table 5: Language Preferences of News Readers by Country

	United States	France	All Diaspora
Russian	**6.6%**	**18.4%**	**68%**
English	**92.4%**	**40%**	**25%**
Armenian	**0.7%**	**1.4%**	**2.3%**
French	**0.1%**	**40%**	**1.4%**
German	**0.05%**	**0.2%**	**2.8%**

Source: Google Analytics.

The Armenian Diaspora Survey identifies language as one of the core defining features of diaspora identity, with 74 per cent of 1st generation, 62 per cent of 2nd generation, and 47 per cent of 3rd generation respondents indicating language to be a major element of their identity (Tchilingarian H. (Ed.). 2019, p. 11). Abilities vary by community and age group, and the survey found 80 per cent of respondents with some level of Armenian language knowledge. Our own field research in the United States yielded slightly different results, with 5 in 10 interviewees being able to speak Armenian. Among our interviewees the number was markedly higher in younger groups living in southern California, with 73 per cent of interviewees younger than 25 having some knowledge of basic Armenian.

Groups were relatively evenly split on having attended specialty schools, with those in the public – school system typically picking up Armenian at home with older relatives, with school societies or, less commonly, at religious groups. Interviewees between the ages of 30 and 49 were less likely than those 29 and under to speak Armenian (32%) unless born outside the United States. Sixty-six (66) per cent of emigrants from the Middle East and Russian Federation were able to understand some Armenian in interviews both in the United States and France. Almost all of our interviewees under 35 years old lamented not having stronger Armenian language skills and marked it as a priority for personal development should they find free time.

Interests

Google Analytics segments users into unique buckets for advertising and marketing purposes, known as affinity categories, in-market segments, and other categories. These segments are best understood as a funnel, with "other categories" as the most specific and granular dimension. Affinity categories are described as similar to the way in which television audiences are categorized, and in-market segments provide insights on product purchase interests, indicating those most likely to consume specific content based on browsing behaviour (Google Analytics, 2019).

Figure 6: Sample Google Analytics Categories

Source: Google Analytics.

A selection of categories and segments of interest are outlined below in Table 6, disaggregated by users in the United States, in France, and the wider diaspora which consists of all users less Armenia. Without a baseline, it is difficult to differentiate wider cultural trends from those within the diaspora. For example, do Armenian Americans take more beach vacations than French Armenians, or do Americans take more beach vacations than the French? Football ranked higher among French Armenians than Armenian Americans by 3:1, but as the sport is less popular in the United States, a sample of major United States' and French outlets covering general populations would be necessary to confirm the trend.

According to data, French Armenians are nearly 7 times more likely to travel to the Asia–Pacific than their American counterparts, though Americans are more likely to travel to Moscow. Twenty-seven (27) per cent of French Armenians are categorized as frequent travellers, searching for car rentals, air and rail tickets, and hotel accommodations contrasted with 15 per cent of Armenian Americans, suggesting less travel abroad from America. Google Analytics finds French Armenians to be more family-focused, on a 2.3:1 ratio with the rest of the diaspora. French Armenians are also more likely than the American segment to be avid news readers, though both groups are below the total average. Selected categories used by

marketers to determine the best audience for their product, as defined by Google Analytics are outlined in the table below with trends of note.

Table 6: Select Affinity Categories, In-Market Segments and Other Categories

	United States	France	Total Diaspora
1. Affinity Categories	**6.73%**	**9.53%**	**4.13%**
Family-focused	**6.73%**	**9.53%**	**4.13%**
Avid Investors	**1.04%**	**0.56%**	**0.82%**
Business Professionals	**6.11%**	**7.58%**	**7.62%**
Avid News Readers	**10.6%**	**15.93%**	**20.8%**
2. In-Market Segments			
Travel (destinations below as per cent of total travel)[12]	**15%**	**26.5%**	**18.28%**
- *Asia – Pacific*	**23.5%**	**94.4%**	**51.7%**
- *Europe*	**11.3%**	**4.7%**	**31.2%**
- *North America*	**47.4%**	**0%**	**6.8%**
- *Middle East and Northern Africa*	**13.9%**	**1.0%**	**8.5%**
Education			
- *Foreign Language Study*	**0.46%**	**0.13%**	**0.58%**
- *Study Abroad Programmes*	**0.07%**	**0%**	**0.07%**
- *Post-Secondary*	**0.85%**	**0.14%**	**0.85%**
Real Estate	**3.85%**	**9.24%**	**8.53%**
Financial Services	**5.29%**	**17.91%**	**12.98%**
Banking Services	**0.64%**	**9.06%**	**5.60%**
Employment	**6.17%**	**9.35%**	**7.30%**
3. Other Categories			
Language resources	**0.42%**	**0.78%**	**0.54%**
Law and Government	**3.18%**	**0.34%**	**1%**
Jobs and Education	**1.06%**	**0.29%**	**0.91%**
Universities	**0.57%**	**0.15%**	**0.25%**
News (Politics)	**5.34%**	**0.87%**	**5.35%**
Social Networks	**2.46%**	**2.41%**	**4.14%**

Source: Google Analytics.

Section 1 in the above table, Affinity Categories, reflects terms which Google Analytics uses to sort and advertise to users. From this information, we can see that American users are more interested in investment opportunities than the average diaspora Armenian, and nearly twice as interested as those in France. Reflecting a person's interests and habits as measured by online activities, several insights may be useful for diaspora engagement:

[12] Using the UN M49 coding system, Armenia falls geographically under Western Asia, and most broadly under Asia—Pacific.

- French Armenians are twice as likely to be interested in media and entertainment such as music and movies. Cultural activities focusing on these mediums will gain more traction in France (20%) than in the United States (7.7%) or elsewhere (10%).
- While diaspora in France are thought to be more avid news readers, those in America are more interested in books, though less-so than in music and television.
- United States – based diaspora are five times more likely than those in France to read political news and twice as likely to read the business section, however French diaspora are more likely to read a physical newspaper than their American counterparts.

Section 2 or In-Market Segments examines what users are researching or planning (Google Ads, 2019). This may reflect products searched for online or articles read with intent to purchase a product or service.

- Those in France are more likely to travel (26.5%) than Americans (15%). However, they are unlikely to purchase travel packages (0.1%) to which Americans and overall diaspora are more amenable (0.5%).
- Armenian Americans are the most likely to search the internet for career consulting services or advice.
- French Armenians are the most likely (17.9%) to research financial services such as banking or investment services, compared with 5 per cent of those in the United States.
- Armenian Americans show a higher interest in studying a foreign language (0.46%) than French Armenians (0.13%) and are slightly more likely to research study abroad programmes.
- Americans are more likely to travel to Israel, which accounts for one-third of all Armenian-American travel to the Middle East and Northern Africa, but just one-tenth of total travel to Israel for the entire diaspora. No interest in travel to Israel was identified for French readers.

Analytics provides several indicators of interest concerning specific travel destinations such as Israel and Jordan, however Armenia is not available as a data point. Interestingly, no interest in travel to Egypt, Jordan or Lebanon registered for either American or French segments but was recorded for the full diaspora. This may indicate a lack of connectivity between North American and Western European diasporas with those living in the Middle East.

Finally, Section 3 of Table 6 gives our most targeted and specific levels of Google Analytics data.

- French diaspora is slightly more interested in language resources than overall diaspora at 0.78 per cent, which could indicate either lack of need for or interest in those resources.

- High interest in law and government as well as political news from Armenian Americans (5%) indicate a more politically active population than that in France or the overall diaspora. Americans are also more interested in financial markets, news on the economy, and the business section.
- Social network use is twice as prevalent in the overall diaspora than in the United States and France.
- Americans are more likely to conduct online research on universities and higher education than the rest of the diaspora.

Implications for Diaspora Engagement

Any diaspora engagement strategy might leverage the above insights for investment and financial programmes, cultural programming, tourism development, or communications outreach. For example, it might prioritize travel packages to promote tourism in Armenia to Americans, and offer access to diaspora networks for career counselling through targeted engagement in the United States. Outreach to diaspora in France might focus more heavily on activities connected through culture and the arts, such as music festivals, or promote knowledge-transfer initiatives through advertisements on radio or at Armenian film festivals. With demonstrated interest in financial services, any diaspora bond or investment programme may be best directed at French diaspora, keeping in mind that long-term financial planning instruments (such as estate or retirement) are more popular among Americans. When designing diaspora financial programmes, these insights should inform directions for focus groups and qualitative research inquiries.

Google Analytics also provides some insight on the methods through which diaspora are best accessed. French readers are twice as likely to prefer a physical newspaper format for their news than Americans, who are more likely to prefer cable or broadcast news. Social media appears to be more popular with diaspora outside the United States and France, and a targeted study of diaspora based in the Russian Federation, Egypt or Lebanon might confirm social sites as a better way to reach those groups. In addition, given strong interest in the Armenian language and varying levels of fluency, support to existing language learning initiatives and incubation of their expansion can serve as a promising method of outreach.

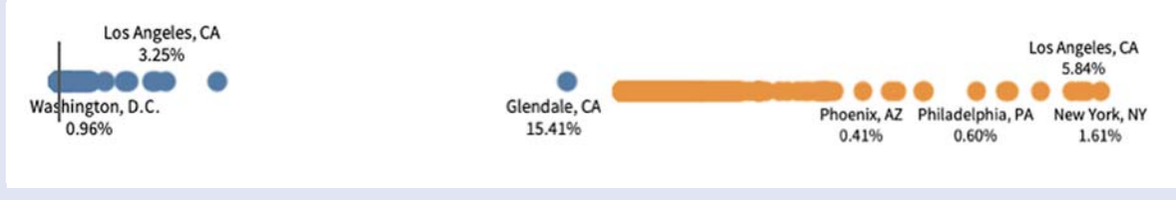
French readership was observed to have higher interest in employment than the average diaspora member, more so than American readers by 3:2. The unemployment rates in countries of readership roughly reflect this figure (French unemployment fell to 8.5% in the third quarter of 2019, alongside 3.6% in the United States)[13] however it is unclear from terminology whether Google suggests these users to be unemployed or merely looking for new opportunities (OECD, 2019). As such, short-term exchange programmes with companies and institutes in France and Armenia should be explored.

[13] Eurostat, Bureau of Labor Statistics.

Diaspora Profile: United States

We now move to a broad profile of the Armenian diaspora in the United States, using the American Community Survey (ACS) to provide a baseline for Google Analytics data. While the sample size is smaller than the National Census, the ACS collects annual data typically only included in decennial iterations of the Census, such as ancestry as reported by the respondent. The figure below illustrates variance between the general United States' population density (right, in orange) and the Armenian-origin population (left, in blue). The overall United States' population is distributed considerably more evenly than that of the Armenian diaspora, which is concentrated primarily in southern California. The top cities of residence are Los Angeles, Fresno and Pasadena. The famous diaspora hub of Glendale is visible at the end of the spectrum, a suburb of Los Angeles where Armenian-Americans account for 15.4 per cent of the total population and constitute a strong minority with active community involvement.

Figure 7: **Population Density, Armenian American and National**



Source: ACS 2013 - 2017.

The ACS estimates the total Armenian-American population at 465,344 (ACS 2013 – 2017). Nine of the top ten cities of residence are in California, as outlined in Table 7. Washington, D.C., comes in a tie with La Crescenta, California. Google Analytics data presents a slightly more diverse picture alongside ACS figures, with higher variance in states and cities of residence. Compared with the general population of the United States, Armenians are disproportionately represented and have a strong preference for the states of California and Massachusetts, as outlined in Table 8.

Table 7: 10 Cities with Largest Armenian-Origin Populations in the United States

American Community Survey		Google Analytics [14]	
City	Per cent of total Armenian-American population	City	Per cent of total Armenian-American population
Glendale, CA	15.41%	Los Angeles, CA	29.68%
North Hollywood, CA	4.82%	Glendale, CA	11.87%
Los Angeles, CA	3.25%	Cambridge, MA	10.46%
Van Nuys, CA	2.97%	Kansas City, MO	4.91%
Burbank, CA	2.83%	New York, NY	4.76%
Fresno, CA	2.11%	Burbank, CA	3.32%
Pasadena, CA	1.99%	El Cajon, CA	2.79%
Tujunga, CA	1.41%	Boston, MA	1.27%
La Crescenta, CA	0.96%	San Francisco, CA	1.24%
Washington, D.C.	0.96%	Washington, D.C.	1.07%

Source: ACS 2013-2017, Google Analytics.

Analytics displays notably higher presence in cities outside of California, such as Cambridge, Kansas City and New York. In analysing cities with Google Analytics, a number of outliers seemingly correlated with the presence of large data processing centers emerged, addressed in footnote 12. Kansas City is unlikely to have a higher diaspora Armenian population than New York City, or Washington, D.C., but cannot be fully omitted from analysis due to known diaspora presence. Interestingly, Google Analytics and the ACS nearly agree on figures for Washington, D.C., coming very close on Burbank and Glendale, California. Suburbs of Los Angeles differentiated in the ACS (such as Van Nuys, North Hollywood) help account for the disparity in ACS and Google Analytics data.

Google Analytics figures mirror official statistics remarkably well, particularly in the states of California, Texas, Washington and Virginia. At the State-level, California accounts for more than half of the Armenian diaspora in the United States, followed by Massachusetts and New York in both the ACS and Google Analytics. Interestingly, web traffic indicates double the official concentration in Massachusetts, and less than half (1.01%) of the ACS figure in Florida. Missouri appears much higher than official data suggest, reflecting the higher findings in Kansas City.

Of the hubs of diaspora activity in the country, Glendale California and Watertown Massachusetts are considered to be major centers, and are home to the headquarters of a number of diaspora organizations. Other communities of note are found in Washington, D.C. (0.96%), New York City (0.89%), Las Vegas (0.69%), Philadelphia (0.33%), Chicago (0.26%) and Seattle (0.25%). (ACS 2013–2017).

[14] In tables 7 and 8, a number of towns and cities have been removed as identified outliers. Coffeyville, Kansas is referenced under "Future applications" (see page 19) as a Google data error, while Ashburn, Virginia is known to house one of the largest data servers in the United States. Given its close proximity to Washington, D.C., it is likely Ashburn has an Armenian population, but given its significant deviation from other sources we determine the traffic to be irregular. Similarly, towns of Devault, Pennsylvania and Boardman, Oregon were omitted as hosts of large data centers with disproportionate population estimates. Unfortunately, Los Angeles is also host to large data centers though we are unable to identify and omit these from analysis.

Table 8: **10 Most populous states in the United States with Armenian-Origin Populations**

American Community Survey		Google Analytics	
State	Per cent of total Armenian-American population	State	Per cent of total Armenian-American population
California	59.78%	California	59.50%
Massachusetts	6.12%	Massachusetts	13.54%
New York	4.56%	New York	6.05%
Florida	2.59%	Missouri	5.18%
New Jersey	2.35%	Virginia	1.56%
Michigan	2.35%	New Jersey	1.55%
Pennsylvania	1.95%	Texas	1.44%
Texas	1.49%	Washington	1.19%
Washington	1.37%	District of Columbia	1.07%
Virginia	1.36%	Pennsylvania	1.05%

Source: ACS 2013-2017, Google Analytics.

New York

The diaspora population in New York City is reflective of both the diversity of the metropolis and the diaspora itself. Analysis by zip code using the ACS indicates the highest presence (0.16%) in the Brighton Beach neighbourhood of Brooklyn, an area with historically high proportions of immigrants from the former Soviet Union.[15] The next highest group appears in Manhattan in the affluent Upper East Side at 0.05 per cent.

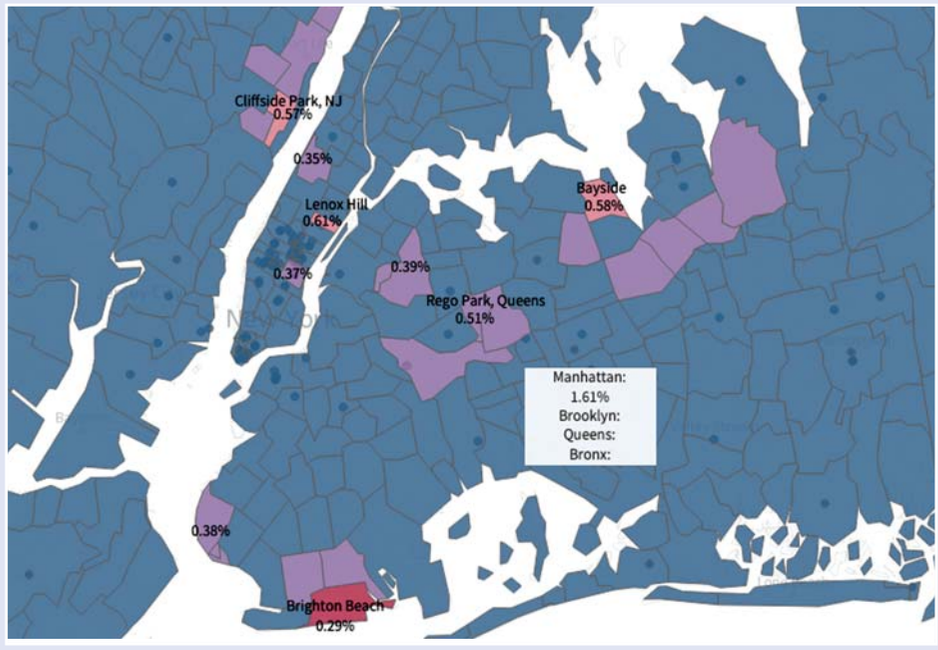
Table 9: **Socioeconomic Characteristics of Armenian-Origin Neighbourhoods in New York City**

Zip Code	Neighbourhood	Armenian-origin population	Per cent of total Armenian-origin in the United States	Per cent foreign-born	Median income level	Median monthly housing costs (occupied housing units)
11235	Brighton Beach, Brooklyn	1,328	0.29%	63%	$ 49, 653	$1,241
10021	Lenox Hill, Manhattan	408	0.09%	22%	$ 123,842	$2,110

Source: American Community Survey 2017.

[15] As of 2017, the Brighton Beach neighbourhood, zip code 11235, is 63 per cent foreign born. The neighbourhood is reportedly 16 per cent Russian ancestry, 10 per cent Ukrainian. (United States Census Bureau, 2013–2017, 5-year population estimates)

Figure 8: **Greater New York City Area, Armenian Origin Population**

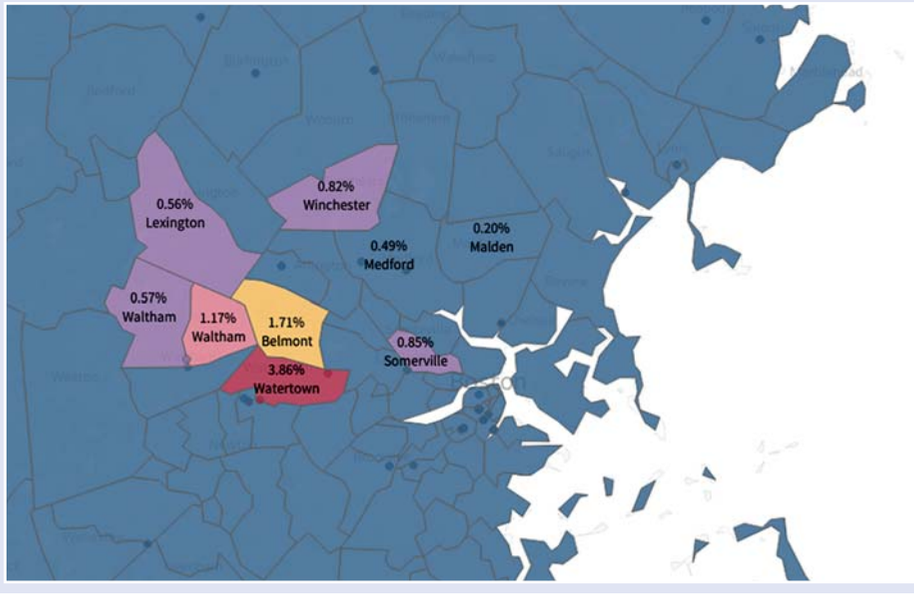


Source: ACS 2013 – 2017.

Boston and Los Angeles (Watertown and Glendale)

The vast majority of diaspora organizations, museums and print publications are found in the historically Armenian towns of Glendale and Watertown. Both cities are home to major universities, trending toward a younger population in nearby cities of Boston and Cambridge

Figure 9: **Boston area, Armenian–Origin Population**

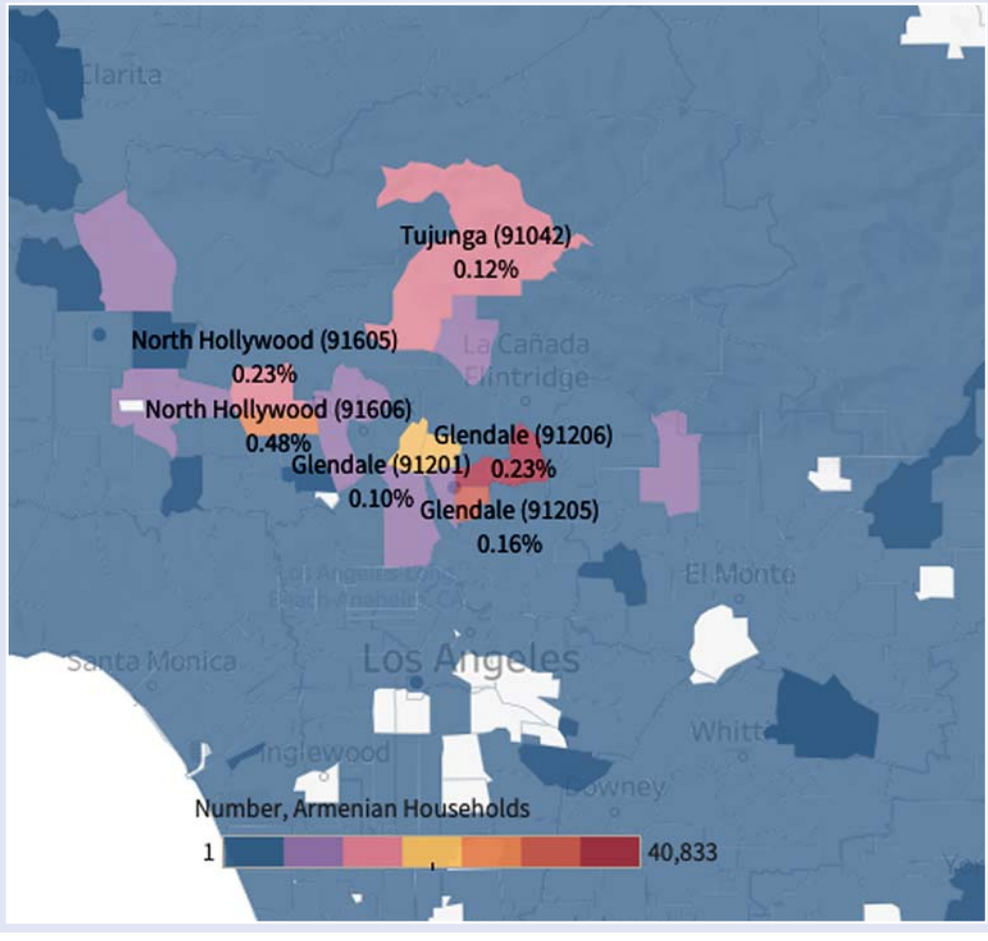


Source: ACS 2013 – 2017.

to Watertown, and Los Angeles to Glendale, albeit to a lesser extent. While both metropolitan areas are well-connected, interviewees in these areas under 35 years of age tended to have family living in these historic areas (87%), with others having family in different cities or suburbs within the same State. This subset of interviewees did not live in those areas themselves. This might be attributed to high cost of living and home ownership in Los Angeles, as well as the suburban nature of Watertown where fewer youth are settling down.

Interviewees in both cities were incredibly mixed in origin story and engagement with Armenia, with Los Angeles having a higher observed population of newer diaspora from Middle Eastern countries such as Syrian Arab Republic and the Islamic Republic of Iran. The chief observed commonality between both cities and among age groups was a lack of such. An even proportion of first and second-generation of migrants were interviewed as well as a comparable proportion of those who did not specify when their last ancestor arrived in-country. Generally speaking, men and women in beginning and end-stages of their working lives were the most interested in diaspora affairs, with those stable in their jobs and not looking for other enriching activities seeing little benefit to engagement.

Figure 10: **Armenian Communities in Los Angeles**



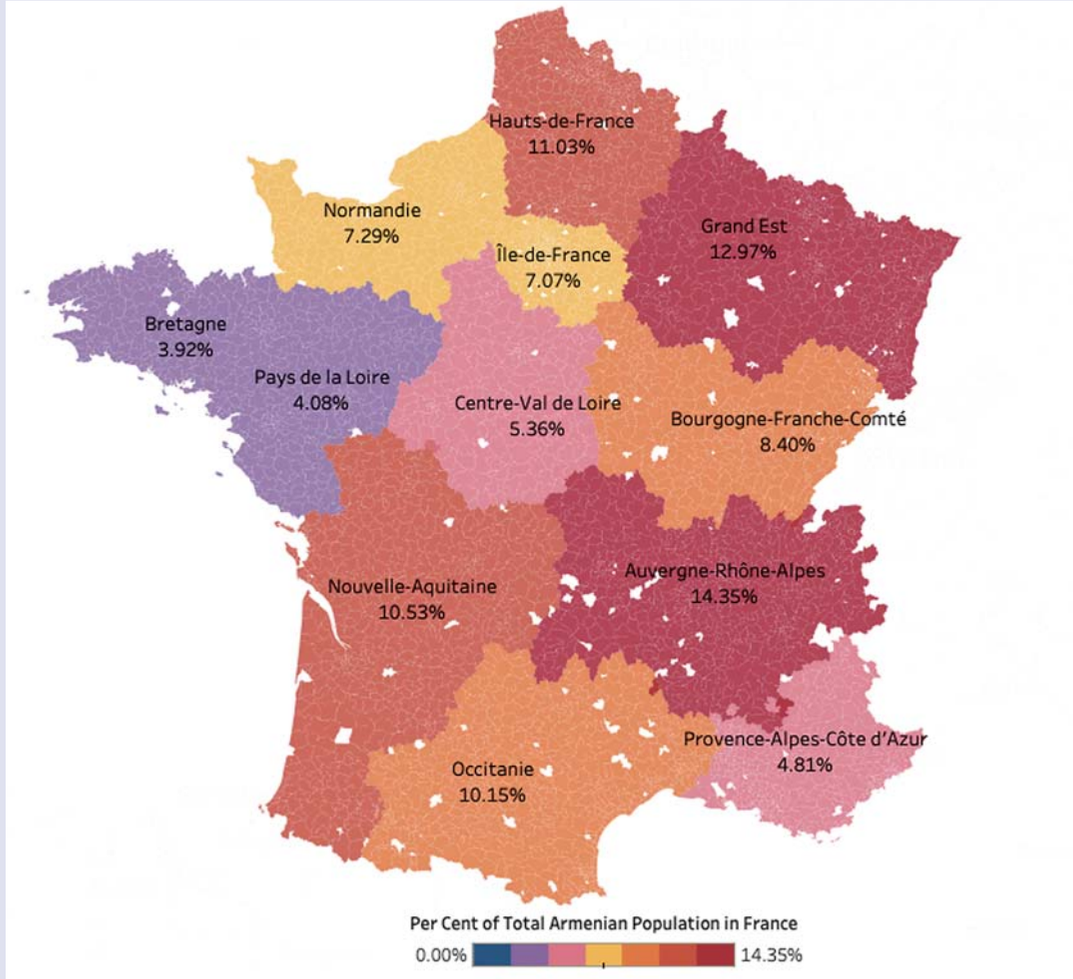
Source: ACS 2013-2017.

Diaspora Profile: France

French Little Armenias differ considerably from those in the United States. While in cities of high diaspora presence such as Marseille, France and Glendale, United States, citizens organize along diaspora communities in politics and communal affairs, American enclaves are typically more visually prominent and identifiable. Both cities have major street names with Armenian names such as Ararat boulevard, though the Armenian language and script is more prominently displayed in the United States. This may owe in part to the high proliferation of diaspora enclaves in the United States, where Hindi, Mandarin or Korean scripts on street signs and businesses from larger diasporas often pave the way for representation of other minorities. French and European cities with high Armenian populations typically list a place or business name in the local language first before employing the Armenian script or use the tricolours of the Armenian flag or transliterated Armenian store names to identify. This can be explained by the requirement of a law, adopted in France in 1994, according to which dictates the French language name of an establishment be placed first, before any translations into another language.[16]

[16] Toubon Law, or law 94-665, adopted as of 4 August, 1994.

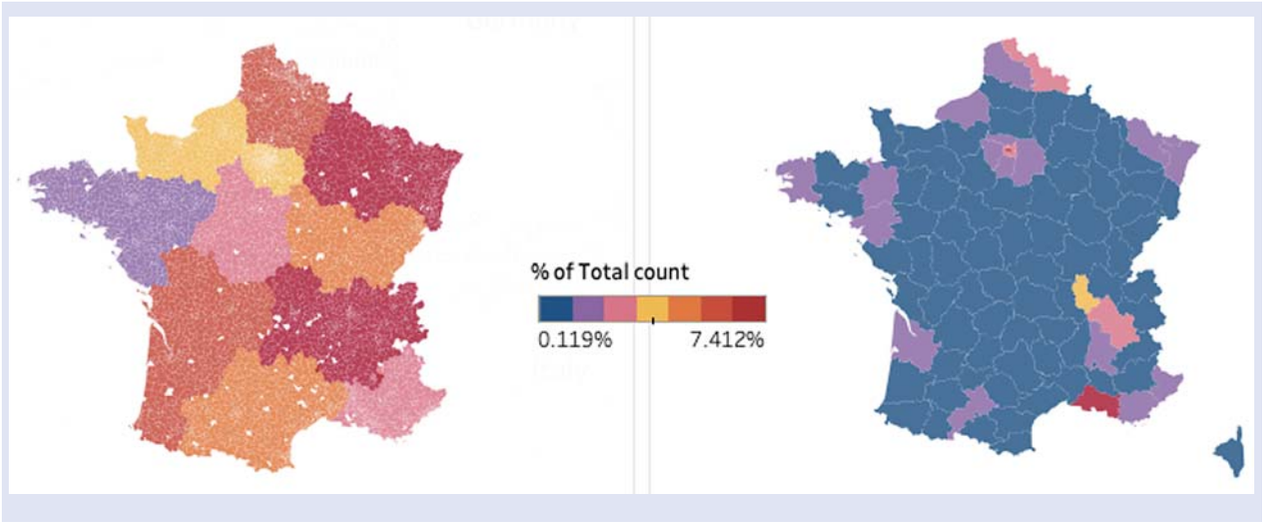
Figure 11: Armenian Origin Population Distribution in France by Region



Source: ACS 2013-2017.

At a regional level, the largest Armenian-origin population is in the Auvergne-Rhône-Alpes region with 14.4 per cent of the total population in France. The dispersion follows total French statistics to an extent, with Auvergne-Rhône-Alpes as the second most populous region in France after Ile-de-France. While the cities of Paris (Île-de-France) and Marseille (Provence-Alpes-Côte d'Azur) take the highest populations of 0.63 per cent and 0.24 per cent, high presence of Armenian names in the Grand Est region is notable considering it is the 6th most populous region.

Figure 12: **Armenian Origin Population in France by Department and Region**



Source: White Pages.

By department, the next smallest political subdivision of France, Bôuches du Rhone (encompassing greater Marseille) emerges as the largest concentration of the population with 8.3 per cent, followed by 7.9 per cent in Paris (Department 75). Along the city level down to neighborhoods, mapping of the White Pages in Marseille confirms several traditional neighbourhoods such as the 15th, 13th and 12th arrondissements. It also suggests a comparable population in Aix-en-Provence to the north, with the same figures as the 8th, 9th, and 11th arrondissements of Marseille.

Where departments and regions display a larger disparity in figures, onomastic analysis of the White Pages at the city level show similar levels of distribution (less than 1% in each city) among those with Armenian names and among the general population. Hard figures are highly inflated in Paris (45,034 from Google Analytics to 4,470 in the White Pages) but fall back in line with White Pages figures (under a few thousand) in major urban centres of Marseille and Lyon. Interesting deviations identified by Google Analytics include Strasbourg, La Roche-sur-Yon and Challans as top cities (see Table 10).

Table 10: 10 Cities with Largest Armenian-Origin Populations in France

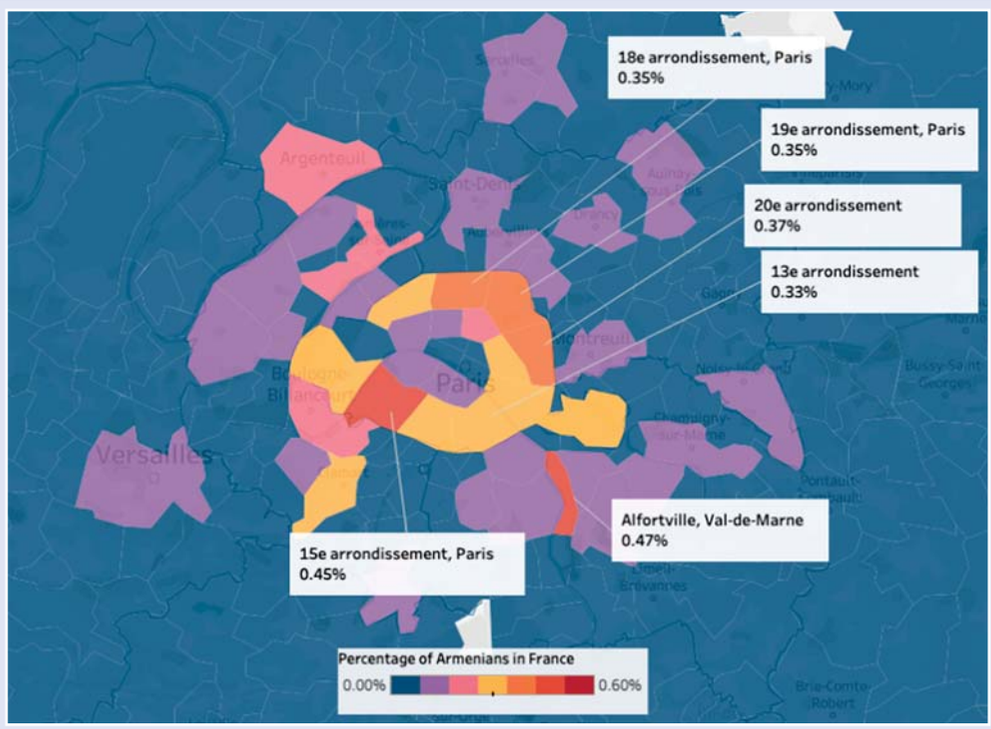
White Pages			Google Analytics		
City	Estimate	Per cent of total French Armenian population	City	Estimate	Per cent of total French Armenian population
Paris	4,470	0.87%	Paris	45,034	64.59%
Marseille	3,979	0.77%	Lyon	2,756	3.95%
Lyon	1,147	0.22%	Cologne	2,547	3.51%
Toulouse	711	0.14%	Marseille	2,445	2.21%
Alfortville	476	0.09%	Strasbourg	1,540	1.46%
Nantes	443	0.09%	Lille	927	1.09%
Villeurbanne	436	0.09%	La Roche-sur-Yon	855	0.95%
Aix-en-Provence	435	0.09%	Alfortville	800	0.80%
Valence	375	0.07%	Nice	758	0.69%
Lille	373	0.07%	Challans	752	0.67%

Source: White Pages, Google Analytics.

Paris

In Paris, the Armenian enclave in Alfortville is reflected as the top zip code just outside of the city at 476 persons, followed by the 15th arrondissement (461). Metropolitan Paris is not known

Figure 13: Armenian origin communities of Paris



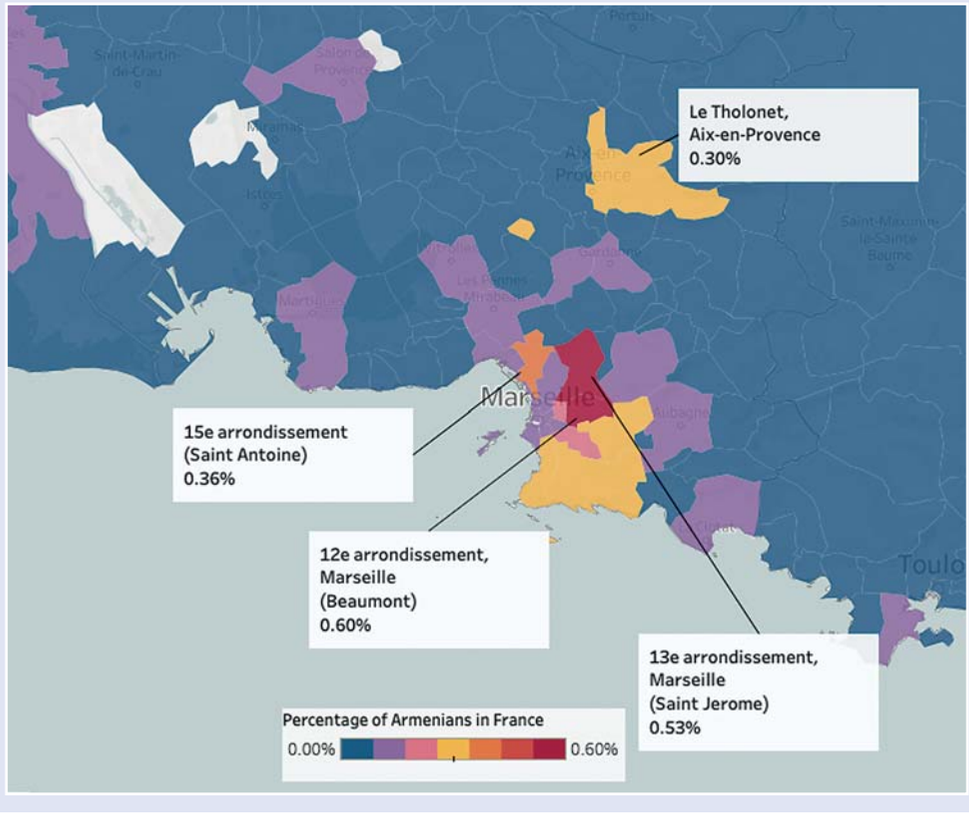
Source: White Pages, 2019.

for ethnic neighbourhoods, however the 9th is considered to be a large Armenian origin community. Our data reflect the 9th arrondissement as the 11th most populous Armenian zip code in Paris with just 0.13 per cent of total population in France, though several diaspora cultural institutions are based in this area. The 15th does not have any outward-facing characteristics of an Armenian neighbourhood, though it is a larger immigrant community with 20 per cent of residents born outside of France. This might indicate an influx of new diaspora born abroad or may simply be a general trend following housing market prices.

Marseille and Lyon

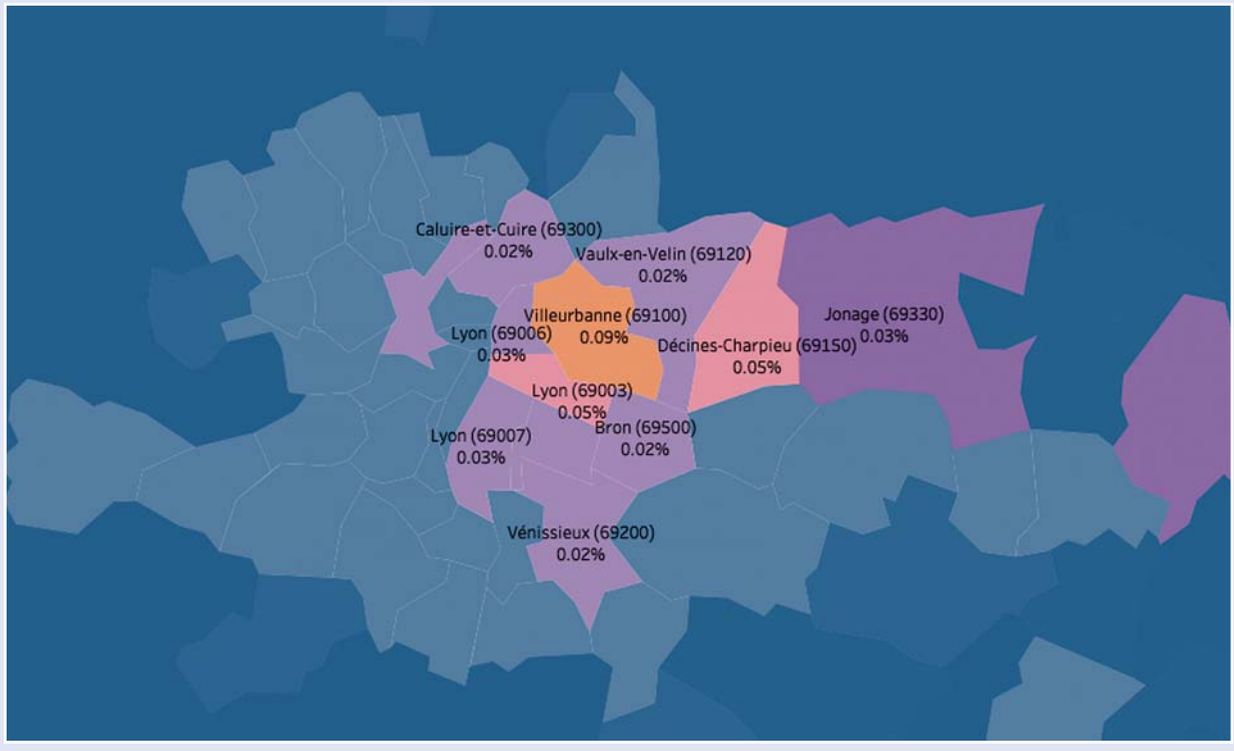
Marseille data confirm top neighbourhoods of Beaumont, Saint Jerome and Saint Antoine in the 12th, 13th and 15th arrondissements, as well as outside in Le Tholonet, a commune in Aix-en-Provence. These diaspora neighbourhoods are confirmed by literature on Armenians in France, (Belmonte, 1999; Temime, 2007; Le Tallac, 2001 and Hovanessian 1988) and deviate noticeably from concentrations of the general population. Analysis of Lyon, outlined in Figure 15, indicates high concentrations of diaspora in Villeurbanne and Décines, compared with 0.04 per cent and 0.01 per cent in each area for the general population. Therefore, while the neighbourhoods of Paris largely follow overall urban trends keeping with the total population, preferences do emerge in communities such as Marseille and Lyon.

Figure 14: **Armenian origin population of Marseille**



Source: White Pages, 2019.

Figure 15: **Armenian origin population of Lyon**



Source: White Pages, 2019.

Implications for Diaspora Engagement

Geographical data confirms many cities and towns known to have high diaspora presence such as Alfortville, Glendale, Watertown and Marseille. No significant surprises or outliers appeared in Google Analytics data for the United States or France in regard to geographies. Greater focus on and incubation of diaspora initiatives in Germany, Spain, Belgium and Canada should be explored in tandem with French initiatives. Additionally, as diaspora presence in the Russian Federation remains high despite poor economic outlook and devaluation of the Ruble in recent years, outreach to and study of the diaspora in the Russian Federation should be expanded. As economic and institutional challenges in the Russian Federation often more closely relate to those of the Republic of Armenia than the French or American experiences, expertise and knowledge transfer initiatives must be pursued in the Russian Federation as well.

Skilled Diaspora

As our two principal datasets for skilled diaspora (ZoomInfo and ORCID) provide varied layers of granularity and detail, they are analysed here separately. The business-to-business database provides records of those working predominantly in the private sector. Companies are for-profit, competitive, and often market-driven. For ease of reference to these records we employ the term “professionals” when discussing these findings. Similarly, as the ORCID database provides us with records of researchers and academics, predominantly in the higher education sectors, these findings are categorized as relating to the “academic community”, though one should also consider for-profit colleges and institutes as a part of academic analysis.

Professionals

Among the professional community, the top countries of residence are defined as the United States, Armenia, Canada, the United Kingdom, Australia, the Philippines, the Russian Federation and India. United States' records account for 67.7 per cent of total Armenian-origin names in the data, the most numerous of which are concentrated in operations and medical professions.

Destinations

Table 11: Professions distributed across Country, Skilled Professionals

Profession	Country							
	United States	Armenia	Canada	United Kingdom	Australia	Philippines	Russian Federation	India
Board Members	3.40%	0.17%	0.27%	0.10%	0.07%	0.02%	0.03%	0.01%
Consulting	2.45%	0.19%	0.27%	0.25%	0.17%	0.08%	0.07%	0.06%
Engineering and Technical	9.17%	1.59%	0.73%	0.37%	0.27%	0.25%	0.17%	0.28%
Finance	8.93%	1.30%	0.80%	0.47%	0.34%	0.20%	0.18%	0.06%
General Management	6.04%	0.63%	0.50%	0.28%	0.17%	0.05%	0.16%	0.05%
Human Resources	2.48%	0.18%	0.25%	0.13%	0.07%	0.12%	0.03%	0.05%
Legal	3.14%	0.26%	0.21%	0.14%	0.10%	0.02%	0.07%	0.01%
Marketing	3.07%	0.45%	0.29%	0.24%	0.14%	0.08%	0.11%	0.03%
Medical and Health	9.26%	0.16%	0.42%	0.24%	0.17%	0.04%	0.03%	0.02%
Operations	10.86%	0.83%	1.01%	0.60%	0.45%	0.29%	0.17%	0.12%
Sales	6.99%	0.49%	0.65%	0.44%	0.30%	0.20%	0.18%	0.09%
Scientists	1.92%	0.24%	0.15%	0.10%	0.05%	0.03%	0.02%	0.02%
Grand Total	67.71%	6.49%	5.55%	3.35%	2.31%	1.39%	1.20%	0.80%

Source: ZoomInfo.

Disaggregated by country, over one third of medical professionals work in the United States, with another third in Armenia. Nuclear physicists are also concentrated in Armenia with the United States and the Russian Federation close behind competing for that talent. The United States also takes half of engineers, chemists and IT professionals in the diaspora. The Russian Federation holds the majority of Armenian origin legal professionals, artists and history professors. Outside of those three major destination countries, the United Kingdom, Canada and Germany account for the next highest proportions of talented diaspora members, primarily in the medical and physics fields, though Israel has attracted approximately one third of Armenian engineers. The professions most skewed by location appeared to be in the engineering field, followed by operations.

Table 12: States and Provinces of Destination, Skilled Professionals

ZoomInfo			American Community Survey		
State	Estimate	Per cent of total	State	Estimate	Per cent of total
California	44,343	20.62%	California	254,262	55.76%
New York	15,042	6.91%	Massachusetts	30,588	6.71%
Texas	9,579	4.35%	New York	26,366	5.78%
Florida	7,850	3.59%	New Jersey	15,984	3.35%
Massachusetts	7,773	3.55%	Michigan	14,062	3.08%
Ontario, Canada	7,767	3.38%	Florida	12,249	2.69%
Pennsylvania	7,261	3.30%	Pennsylvania	9,485	2.08%
Illinois	7,047	3.24%	Illinois	8,869	1.94%
Ohio	5,359	2.44%	Washington	7,629	1.67%
Michigan	4,650	2.10%	Texas	7,447	1.63%

Source: ZoomInfo and ACS 2013-2017.

As our professionals in the database are overwhelmingly (67.7%) based in the United States, we provide above a breakdown of the top states of residence, as well as one Canadian province. After the United States, the next highest proportions come from Australia, Canada, and the United Kingdom. As previously noted, the ZoomInfo database is weighted toward Western countries.

Presented in Table 12, ZoomInfo is contrasted against the American Community Survey pulled from Table 8 above. We can see from the comparisons between the two datasets that California retains its position as the most populous state with diaspora presence. The ACS suggests larger concentrations in Massachusetts and New Jersey than the ZoomInfo database, but it is important to note the census contains records of retired and young populations who are not in the workforce. This may indicate larger diaspora populations not of working age in California and Massachusetts, though the figures for Florida, Michigan and New York hold relatively steady across both databases.

Professions

Table 13: Professions by Armenian Origin and Total Population, Skilled Professionals

Profession	Armenian origin	All origins
Operations	16.38%	18.51%
Engineering and Technical	14.78%	17.13%
Finance	13.79%	11.10%
Sales	10.82%	12.55%
Medical and Health	10.77%	8.16%
General Management	8.94%	8.44%
Marketing	5.35%	5.66%
Legal	4.22%	3.21%
Board Members	4.22%	3.98%
Consultant	4.14%	4.94%
Human Resources	3.70%	3.39%
Scientists	2.89%	2.93%
Grand Total	100%	100%

Source: ZoomInfo.

The Armenian-identified set in the database corresponds closely to that of the full database in regard to professions. The top professional categories are in operations, engineering and technical fields, finance, and sales. Armenians are more likely to be in medical fields than the rest of the database, and more likely to be board members or in the legal profession. Conversely, Armenian-origin names were less often found in engineering, technical and operations positions than in the general population. On a national level, professions are distributed in our two countries of focus as follows:

Table 14: Armenian Professions in the United States and France, Skilled Professionals

Profession	United States	France
Operations	16.04%	20.39%
Engineering and Technical	13.55%	14.53%
Finance	13.18%	10.50%
Sales	10.32%	12.33%
Medical and Health	13.67%	1.59%
General Management	8.93%	7.45%
Marketing	4.54%	11.48%
Legal	4.64%	3.79%
Board Members	5.02%	1.10%
Consultant	3.61%	9.52%
Human Resources	3.67%	3.79%
Scientists	2.83%	3.54%
Grand Total[17]	100%	100%

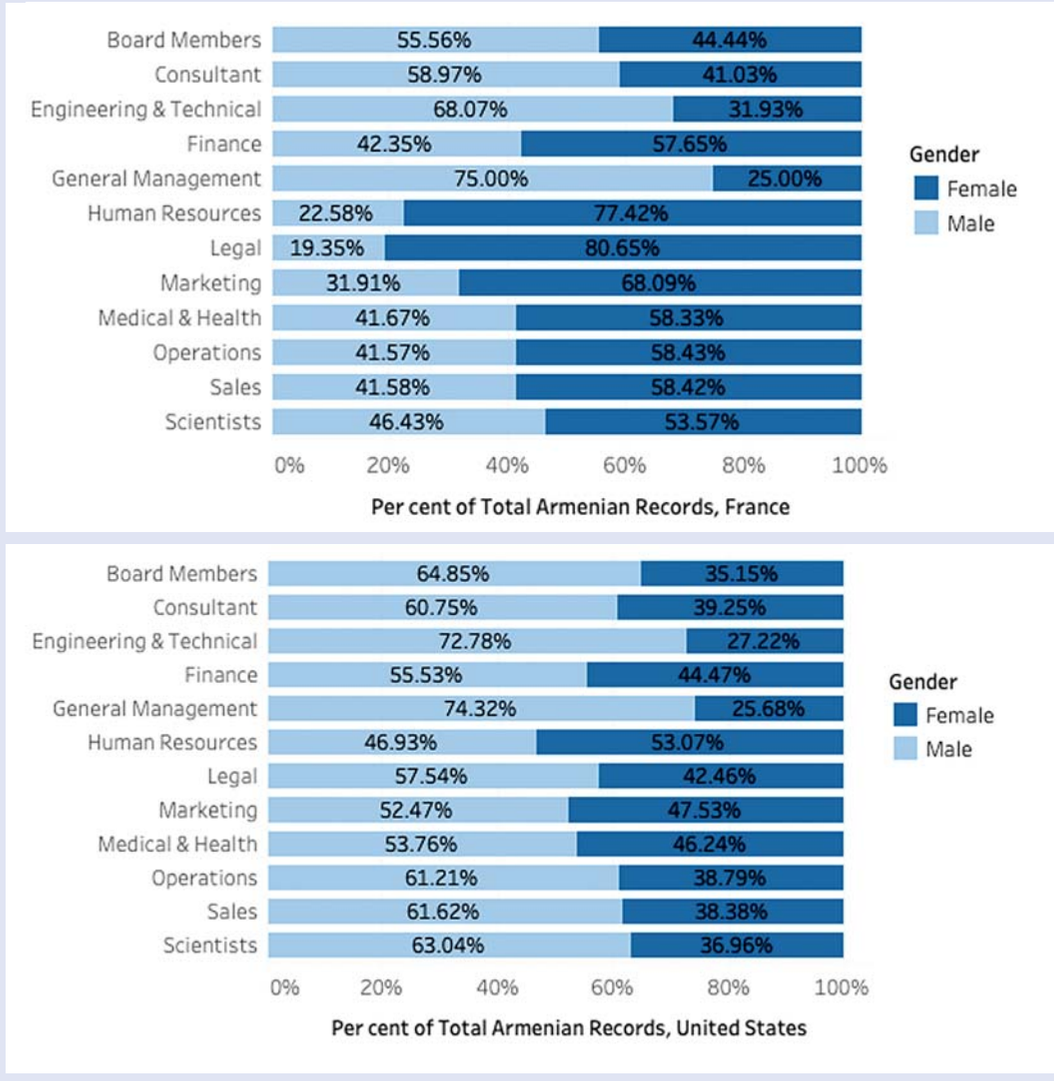
Source: ZoomInfo.

[17] ZoomInfo analysis estimates the Armenian population for the United States to total 181,859, and 2,150 in France.

Surprisingly, Armenian-origin workers in France are significantly less likely to be in the medical and health professions as their American counterparts, with only 1.59 per cent in France to 13.67 per cent in the United States. French Armenians are more likely to work in marketing (11.48% to 4.54%) and less likely to serve as board members. Scientists and consultants were more frequently found in France than in the United States.

Figure 16 indicates an unequal gender distribution among French and American Armenian professionals, particularly in the legal and human resource professions. In France, the job function of general management is dominated heavily by males at 75 per cent, while legal and human resources positions are taken by females at 80 and 77 per cent, respectively. The United States finds the same trend toward male-dominated fields of management and engineering, albeit with a more modest deviation from the mean at 8 per cent to France's 16 per cent. The legal and marketing fields in the United States are considerably more evenly represented, though men comprise a majority in all American professions but one (human resources).

Figure 16: Professions Distributed across Gender and Country, Skilled Professionals



Source: ZoomInfo.

Academic Community

The ORCID database provides the highest level of detail of all our datasets, offering location and field of employment and education by year. Our analysis first covers overall trends of skilled workers of Armenian origin by field and position. Next it leverages temporal data points to form a de facto CV to map migration for education or work purposes over time, giving unique data points to each individual. From these points, we are able to construct the following profiles of diaspora members.

1. Expatriates (Expats): Those who began their education in Armenia, moved abroad for further education or work and have not returned.

2. Returnees: Those who began education in Armenia, moved abroad for further education or work experience and eventually returned to work or study in Armenia.

3. Diaspora: Those who have not spent time working or studying in Armenia

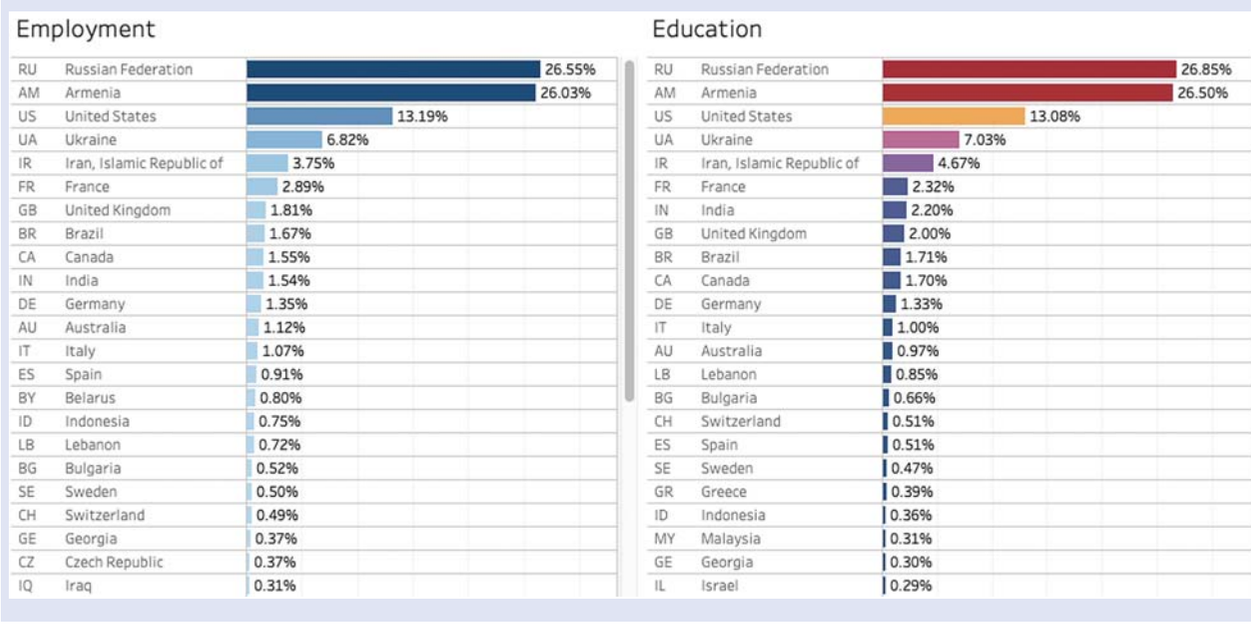
A typical career trajectory analysed might resemble something similar to the following:

1995–1999 Bachelor's degree in Vanadzor, Armenia in biochemistry
1999–2003 Master's degree in Washington, D.C., United States in public health
2004–2006 Medical residency at a public hospital in Arlington, Virginia
2007–Present, Private practice physician in London, United Kingdom

[18] No names are shared with the researcher at any stage of the process. However, due to the highly personal nature of one's career trajectory or curriculum vitae, these records are not shared or provided to any third party by IOM.

Destinations

Figure 18: **Global Cities of Destination by Migration Reason, Academic Community**

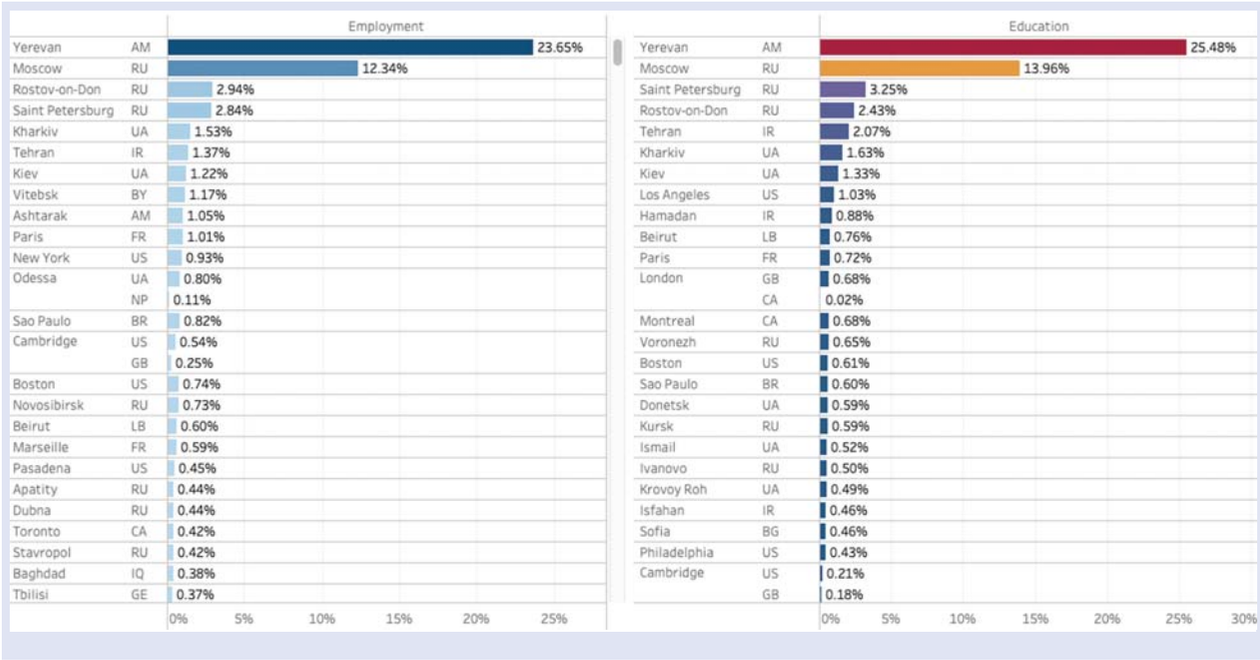


Source: ORCID.

Taken at the country level, the entire database (Armenian and non-Armenian) skews toward the United States at 15 per cent, followed by Brazil (7.7%), the United Kingdom (5%), with Spain, China, India, the Russian Federation, and Italy all between 5 and 3 per cents. Controlled for Armenian name recognition, the composition shifts to strongly favour five countries: the Russian Federation at 26.6 per cent, Armenia at 26 per cent, the United States at 13 per cent, Ukraine at 6.82 per cent and the Islamic Republic of Iran at 3.8 per cent.

The top cities and countries for Armenians and Armenian diaspora members are displayed in Figure 18, segmented by migration reason (education or employment). These base figures of both populations (expats and returnees) show a strong preference for both the Russian Federation and Armenia for education, with nearly 27 per cent of Armenians pursuing higher education at Russian institutions, followed closely by Armenian institutions. The Russian Federation is a preferred labour market, a finding consistent with global trends and official data. Favourable labour migration policies within the Eurasian Economic Union (EEU) likely contribute to the ability of Armenians to stay and work in the Russian Federation if they do not hold Russian citizenship.

Figure 18: **Global Cities of Destination by Migration Reason, Academic Community**



Source: ORCID.

On a city level, employment of skilled Armenians is highest in major metropolitan areas such as Yerevan (23%), Moscow (12%) Rostov-on-Don and Saint Petersburg (2.9% and 2.8%). Other notable top cities of employment opportunity include Kharkiv and Kiev, Ukraine; Tehran, Islamic Republic of Iran; and Vitebsk in Belarus. Comparatively, among skilled professionals Yerevan is only slightly more desirable for education than employment (see Figure 18) while the majority of other major cities show similarly little deviation between migration reasons.
It bears mentioning that while considerable focus is placed on diaspora community outreach in the major hubs of Glendale (Los Angeles), Boston and Paris, these cities account for a small share of total skilled diaspora at just over 2 per cent. Paris features as the 7th largest city for skilled Armenians, but Los Angeles and other Californian cities feature below Beirut, Vitebsk, Sao Paulo, Kharkiv, and Tehran. The Russian Federation should not be mischaracterized as a destination for low skilled circular migration or a source of angel investments alone. The Russian-Armenian diaspora may in fact be better positioned to contribute to the knowledge economy and foster academic partnerships than those in the further abroad.

Employment

As indicated in Table 15, the diaspora has high degrees of expertise in medical, nursing and health sciences, as well as the hard sciences of biochemics, physics, and engineering. While ORCID records indicate a higher proportion of medical and nursing experts than the professional database (ZoomInfo), we can also assume that health workers and scientists, unless in business for themselves in private practices, are unlikely to require business to business services and therefore less likely to appear in the database of professionals.

Table 15: Professions, Academic Community

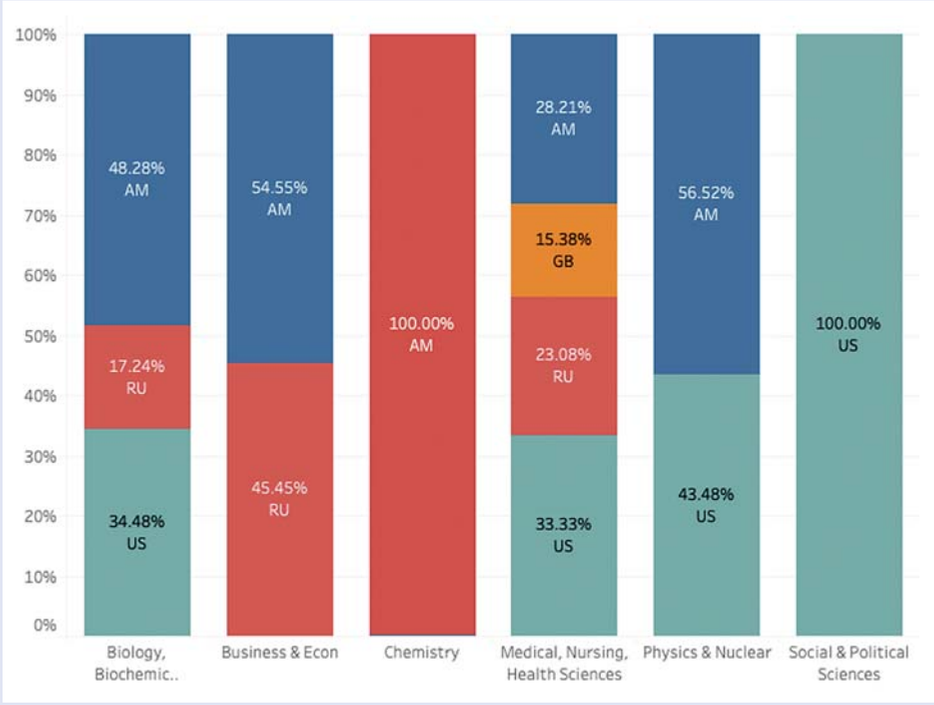
Profession (Current Employment)	**Per cent of Armenian records**
Medical, Nursing, Health Sciences	**22.96%**
Biology, Biochemics, Natural Sciences	**17.86%**
Physics and Nuclear Physics	**10.57%**
Engineering	**7.18%**
Business and Economics	**6.62%**
Social and Political Sciences	**6.07%**
Chemistry	**5.88%**
Math, Accounting	**4.35%**
History, Philology, IR	**3.80%**
Information Technology	**3.01%**
Fine Arts	**2.16%**
Institute, Centre or Academic Department	**1.71%**
Administration and Management	**1.56%**
Education	**1.49%**
Legal	**1.41%**
Building, Construction and Architecture	**1.30%**
Agriculture	**0.63%**
Other Science	**0.52%**
Astrophysics	**0.37%**
Energy	**0.26%**
Cybernetics	**0.26%**

Source: ORCID.

Education

The Armenian diaspora survey (ADS) found 31 per cent of those surveyed to have a Bachelor's Degree, 19 per cent a Master's, and 8 per cent of respondents to have a PhD or penultimate credential such as an LLM or MD (ADS, 2019, p. 61). The ORCID database predominantly contains academics, and has a 32:21:16 ratio of PhD to Master's to Bachelor's holders for all records, and a 37:24:14 ratio for Armenian records. 5 per cent of doctorates are in medical or health professions, 5 per cent in biological sciences, 3.4 in physics and 2.7 in engineering. Medical and health degrees are 3.9 per cent of Master's degrees, 4 per cent in biological sciences, 3 per cent in physics and 1.3 per cent in engineering.

Figure 19: PhD Degrees by Field of Study and Country



Source: ORCID.

As seen in Figure 19, doctorate-level degrees were completed in only 4 countries: the United States, the United Kingdom, the Russian Federation and Armenia. While lower tertiary level degrees such as bachelors and master's had significantly higher variety in location and field,

data suggest chemistry and social science degrees are typically completed in Armenia or the United States. Business and economic doctorates are completed in the Russian Federation or Armenia, while medical and health sciences doctorates showed no particular preference or pattern. Overall, more than 40 per cent of PhDs are obtained in Armenia, compared to 30 per cent in the United States, 17 per cent in the Russian Federation, 6 per cent in France and less than 3 per cent in the United Kingdom.

The most common place of study in the United States for Armenians is Los Angeles, California with a relatively even distribution among other cities in the United States. There were few standouts in fields of study for each location, with computer science as an exception. According to data, Los Angeles educates 45 per cent of Americans of Armenian-origin in computer science followed by Madison, WI and Minneapolis, MN. Similarly, academics in biology and biological sciences are most likely to be educated in Los Angeles, Ithaca, Cambridge or La Jolla.

Table 16: Top Cities by Migration Reason in the United States, Academic Community

Total		Education			Employment		
City, State	Estimate	City, State	Estimate	Per cent total	City, State	Estimate	Per cent total
1. New York, NY	185	1. Los Angeles, CA	111	7.83%	1. New York, NY	150	7.02%
2. Boston, MA	185	2. Boston, MA	66	4.66%	2. Boston, MA	119	5.57%
3. Los Angeles, CA	145	3. Philadelphia, PA	46	3.25%	3. Cambridge, MA	87	4.07%
4. Cambridge, MA	110	4. Berkeley, CA	41	2.89%	4. Pasadena, CA	72	3.37%
5. Philadelphia, PA	87	5. Baltimore, MD	39	2.75%	5. Gainesville, FL	46	2.15%
6. Pasadena, CA	83	6. Ann Arbor, MI	37	2.61%	6. Birmingham, AL	46	2.15%
7. Baltimore, MD	76	7. New York, NY	35	2.47%	7. Tallahassee, FL	45	2.11%
8. Ithaca, NY	71	8. Wilmington, DE	34	2.39%	8. Worcester, MA	44	2.06%
9. Chicago, IL	71	9. Madison, WI	34	2.39%	9. New Haven, CT	42	1.97%
10. Berkeley, CA	70	10. Chicago, IL	31	2.39%	10. Philadelphia, PA	41	1.92%
11. New Haven, RI	63	11. Minneapolis, MN	30	2.12%	11. Ithaca, NY	41	1.92%
12. Gainesville, FL	60	12. Kingston, RI	30	2.12%	12. Glendale, CA	40	1.87%
13. Madison, WI	58	13. Ithaca, NY	30	2.12%	13. Chicago, IL	40	1.87%
14. Ann Arbor, MI	49	14. Irvine, CA	24	1.69%	14. Tucson, AZ	39	1.83%
15. Tallahassee, FL	48	15. La Jolla, CA	23	1.62%	15. Cleveland, OH	37	1.73%

Source: ORCID.

Employment opportunities in the United States for highly skilled Armenian-Americans deviate significantly from top cities of education. New York City draws 7 per cent of diaspora for employment, predominantly in the medical field. Similarly, the top institutions in Boston accounting for employment are major hospitals and medical institutions, though across the river in Cambridge the draws are Harvard and MIT. Southern states (numbers 5, 6 and 7) employ academics as professors, while work in Pasadena focuses around labs, IT and consulting.

Though few cities can be said to represent specific institutions, several cities indicated above are known for incubating elites as host to prestigious universities and colleges. For example, Cambridge, MA (Harvard University and MIT), Oxford, United Kingdom, New

Haven, CT (Yale University), and Ithaca, NY (Cornell University) are all communities with top institutions of higher learning. Top education institutions in the United States for diaspora include USC, UCLA, Northeastern, Tufts, UC Berkeley, Johns Hopkins, and University of Wisconsin Madison. In France, approximately 31 per cent of records with Armenian origin (78) are educated in Paris, followed by Villeurbanne, Sophia Antipolis and Marseille, though Marseille is a more popular destination for employment (18%) than education (5.58%). Similarly, Villeurbanne is a more popular destination for education with 12.35 per cent of the population, contrasted with 3.61 per cent employed in the city. Unlike the United States, the French Armenian diaspora did not display any clear choices for schools aside from the locations of Sophia Antipolis and Paris.

Table 17: Top Cities by Migration Reason in France, Academic Community

Total		Education			Employment		
City	Estimate	City	Estimate	Per cent total	City	Estimate	Per cent total
1. Paris	241	1. Paris	78	31.08%	1. Paris	160	30.93%
2. Marseille	109	2. Villeurbanne	31	12.35%	2. Marseille	95	18.03%
3. Orsay	57	3. Sophia Antipolis	22	8.76%	3. Orsay	45	8.54%
4. Villeurbanne	50	4. Marseille	14	5.58%	4. Toulouse	23	4.36%
5. Lyon	29	5. Orsay	12	4.78%	5. Plouzané	20	3.80%
6. Toulouse	24	6. Marne-la-Valée	<10	3.59%	6. Lyon	20	3.80%
7. Sofia Antipolis	22	7. Lyon	<10	3.59%	7. Villeurbanne	19	3.61%
8. Plouzané	20	8. Clermont-Ferrand	<10	3.19%	8. Nantes	18	3.42%
9. Nantes	18	9. Versailles	<10	2.79%	9. Le Kremlin-Bicentre	15	2.85%
10. Rennes	16	10. Dijon	<10	2.79%	10. Palaiseau	14	2.66%

Source: ORCID

Cities segmented above by work and study in France indicate an interesting dispersal of skilled diaspora, suggesting academics do not remain with their alma mater for employment, but are willing and able to move to where skilled jobs are available. Where the top cities for both education and employment are major urban centers, the fifth highest concentration for workers veers to include a small coastal town in Bretagne. Plouzané holds 3.8 per cent of skilled French Armenian workers in our database (20 persons), and had a municipal population of 12,000 in 2019. Plouzané is home to several research institutions specializing in engineering and information technology such as Télécom Bretagne and the National Engineering School of Brest (ENIB), as well as several maritime research institutes. In fact, several of the above-mentioned locations such as the Parisian communes of le Kremlin-Bicentre and Palaiseau are home to reputed institutions connected with national technical, medical and scientific associations.

Implications for Diaspora Engagement

Organizations specializing in cooperation between institutes (such as ParisTech) and professional networks between scientific universities might be contacted for cooperation opportunities. The top institutions for employment of skilled Armenians vary in focus, from the French Research Institute for Development in Marseille, the French National Centre for Scientific Research in Paris (CNRS), institutes for agricultural research, the National Institute for Health and Medical Research in Paris, and grandes écoles across the country focused on engineering and applied sciences. These institutions may be targeted for partnerships and exchanges with Armenian counterparts to enhance capacity and foster skills exchanges.
The unique distribution of university towns in France provides additional insights into schools of choice for diaspora, as they vary significantly from that of the general population. The full database including those with non-Armenian ancestry indicates Paris, Toulouse, Montpellier, Strasbourg and Marseille as preferred locations for study. This suggests Villeurbanne, Sophia Antipolis and Marne-la-Valée to be preferred choices among diaspora. The commune of Sophia Antipolis is a technology park between Nice and Antibes connecting national and international start-ups, companies and research units in the sciences.

Expatriates, Returnees and Diaspora

In measuring expatriates (expats) and returnees, the following data reflect those whose first data point (first position or university) originates in Armenia, and who have listed a second country in their work or education history. This provides a trajectory for each unique individual akin to a CV. In our sample, 33 per cent of expatriates returned from work experience or study abroad to settle in Armenia (classified as returnees) and – 66 per cent either have yet to return or do not intend to do so (expats).

We find that of both groups, Armenia sends 24 per cent of highly skilled migrants to the Russian Federation, 15 per cent to the United States, 7 per cent to Germany, and 5 per cent to Italy. Of returnees, all had migrated for higher education purposes (primarily to the Russian Federation and the United States) and returned for work opportunities in Armenia, save in Austria and Germany where migrants gained work experience. Table 18 reflects countries with the highest rates of return to Armenia after education or professional experience.

Table 18: Countries of study or work and per cent of return for Armenian returnees

Country of Study or Work	Russian Federation	Slovenia	Poland	Spain	Italy	United States
Average Rates of Return	39%	50%	50%	30%	40%	46%

Source: ORCID.

Returnee figures may be influenced by economic conditions in host countries, personal factors, or by policies favourable to migrant labour following graduation from a programme. High rates of return might indicate unfavourable labour migration policies in the European Union and the United States, or difficult economic conditions in the Russian Federation. In the United States, for example, foreign-born graduates typically require sponsorship from an employer, but many countries offer incentives for recent graduates in certain professions to acquire temporary residence following the conclusion of a student visa.

For expats and returnees, employment opportunities abroad appear to be almost exclusively in the hard sciences. With the exception of Germany and the United States, which host a number of social scientists in the humanities at research institutes, and the United

Kingdom, where Armenians are employed almost exclusively at universities, the majority of skilled labour leaves the country in the form of engineers. Of foreign labour, Germany hosts 11.6 per cent of skilled Armenians, the United States and Russia 6.5 per cent each. The Islamic Republic of Iran, the United States and the Russian Federation each employ Armenian engineers, consultants, doctors, physicists, mathematicians and astrophysicists.

Our final classification, those marked in the ORCID database as "diaspora", are determined to have never studied or worked in the Republic of Armenia. Unlike expats and returnees, these records reflect individuals who are likely to have fewer tangible connections to Armenia and may be more difficult to engage in development initiatives. Excluding those who have studied or worked in Armenia, the database confirms the highest numbers of diaspora in the United States for work and study (67 and 156), followed by the Russian Federation (23 workers, 124 students) and France (9 workers, 40 students). Of those in the diaspora classification, the most common fields of study include physics, mathematics, computer science, political science and electrical engineering, with engineering fields most prevalent in the United States and Islamic Republic of Iran. Chemistry is a top field of study and employment among diaspora in France. Of this sub-set of diaspora who have never worked or studied in Armenia, the United States, the Russian Federation and Great Britain hold the highest number of doctorates (42, 18 and 11 respectively), with the most master's degrees residing in the United States, Islamic Republic of Iran and the Russian Federation (30, 13 and 9). The United States, the Russian Federation and the Netherlands have the most researchers, while the United States takes the overwhelming majority of professors and visiting scholars.

Concluding Remarks and Recommendations

Labour drawn abroad by more desirable prospects and opportunities were once lamented by states as forfeited talent. In an increasingly globalized world, countries may invest in their citizens to eventually see them seek education or employment opportunities abroad, however we now know the mobility of skilled labour creates mutually beneficial systems. Today, emigrants are recognized as critical embedded connections between economies, governments and organizations. Engineers and medical professionals working outside Armenia may serve to alleviate overcrowded job markets at home whilst gaining valuable experience to transfer to the home country. Both recent emigrants and diaspora may act as bridges between societies, encouraging development of transnational business ties, innovation and investment in human capital.

Equipped with insight into the patterns of skilled labour mobility, their countries of destinations and choice professions, mutually beneficial partnerships can be designed enabling Armenia to utilize the resources of top institutions and organizations abroad toward the development and nurturing of Armenian talent. Big data analysis offers new methods for understanding those patterns and motivations. Based on an initial analysis of large databases, more targeted inquiries should be designed to explore sectors of interest at a greater depth. From our work in this project, we can confirm that the diaspora strongholds of Los Angeles, Boston and Paris continue to be hubs of diaspora activity and employment, however they are dwarfed by larger communities in Moscow and other cities in the Russian Federation, as well as those in the Middle East.

With high enthusiasm and buy-in from diaspora toward improving conditions in Armenia and forging stronger bonds between diaspora and Armenia, the Government of Armenia should act as a facilitator for connecting potential collaborators, serving as a supportive, apolitical resource for sharing best practices and incubating initiatives. Based on the lessons gleaned in our analysis above, we offer the following recommendations as next steps for the Government of Armenia:

1. **Youth programmes** for French diaspora as well as engagement of those over 45 in the United States should be investigated in detail for best practices to be employed in other country contexts.
2. **Tailored approaches** to diaspora outreach targeting different interest groups within the diaspora in the United States and France should consider behavioural

insights from web analytics data, such as preferred means of communication, language preferences and marketing categories.

3. **Identified fields of strength where** Armenian diaspora hold comparative advantages such as engineering and medical sciences should be initially prioritized for skills and knowledge transfer initiatives.
4. **Universities** identified with high concentrations of Armenian diaspora (for instance, technical and engineering universities of Paris) should be engaged in partnerships to facilitate knowledge transfer and dissemination of opportunities for students and staff.
5. **Given varied levels of fluency** and demonstrated interest in becoming proficient in the Armenian language, incubating initiatives which involve language components may encourage diaspora to become more active.
6. **As the Russian Federation is determined to be a preferred labour market** for diaspora, with high rates of Russian-language knowledge among readership, efforts to create enhanced partnerships for skills and knowledge exchange should be actively encouraged, as they may prove more effective and less costly than exchanges with countries in the further abroad. High degrees of cultural and economic proximity with the Russian Federation, coupled with the migration of 24 per cent of skilled expats and returnees to the RF for education suggest significant potential for cooperation.
7. **Act as a centralized and agile hub** to connect and facilitate coordination among diaspora. Chief concerns in gaining traction for initiatives included the fractured nature of diaspora and low incentive or willingness to collaborate. Fostering an environment in which diaspora can share best practices and join resources will help organizers become aware of parallel projects.
8. **Work within existing initiatives and partnerships to** create attractive opportunities for diaspora to work in the Republic of Armenia on short or long-term basis, lowering barriers by addressing chief concerns such as language ability or prestigious internship opportunities, generating mutually – beneficial work experiences which help to further the personal and professional development of the diaspora.

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