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**WHAT ARE THE CAUSES OF DIFFERENT BRAIN DRAIN RATES
IN EMERGING MARKETS?
-AN EXPLORATORY STUDY OF BRAZIL AND MEXICO-**

SÃO PAULO, BRAZIL

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Knowledge Field: Economics &
International Finance

Adviser: Prof. Dr. Julia Alice Sophia von
Maltzan Pacheco

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ABSTRACT

The following Master's thesis examines the causes of brain drain in the context of emerging countries. More precisely, the thesis aims to assess to what extent the migration of highly educated people from emerging countries can be explained by labor market conditions, as neoclassical economics claim. Labor market conditions are defined as job opportunities and income. Mexico and Brazil have been used as case studies due to their similar socioeconomic characteristics. The thesis first provides an overview of the theoretical background of international migration and brain drain. Based on this review, a framework is created. Followed by that a PESTLE analysis is given, which helps to understand the primary data results. Primary data was collected from a sample with 140 participants of each country. In the analysis of the primary data, the Master's thesis shows that labor market conditions do play an influential role in the decision-making process to move abroad permanently, but only in the context of other factors. Some of those factors have a much stronger influence, such as lifestyle and social ties.

Key words: Economic development, Emerging countries, Brazil, Mexico, Human Capital, International Migration, Brain drain.

RESUMO

A seguinte tese de mestrado examina as causas da fuga de cérebros (brain drain) no contexto de países emergentes. Mais precisamente, a tese investiga até que grau as condições do mercado de trabalho explicam a migração de pessoas muito educadas, como afirma a teoria de economia neoclássica. As condições do mercado de trabalho são definidas como oportunidades de trabalho e renda. O México e o Brasil têm sido utilizados como estudos de casos devido às suas características socioeconômicas similares. A tese fornece uma visão geral dos antecedentes teóricos da migração internacional e da fuga de cérebros. Com base nesta revisão, é criada um modelo de análise. Baseado em isso, é dada uma análise PESTLE, o que ajuda a entender os resultados dos dados primários. Dados primários foram coletados de uma amostra com 140 participantes de cada país. Na análise dos dados primários, a tese mostra que o mercado de trabalho influencia a decisão de pessoas educadas para mover-se permanente, mas apenas no contexto de outros fatores. Outros fatores têm uma influência mais forte, sendo principalmente o estilo de vida e os laços sociais.

Palavras chaves: Desenvolvimento Econômico, Países Emergentes, Brasil, México, Capital Humano, Migração Internacional, Fuga de Cérebros.

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1. Introduction

Since the end of the Second World War, immigration has become an increasingly observed phenomenon, initially with people migrating from Europe to countries such as Australia, Canada and the United States. Since the late 1960s, however, immigration has reached a new composition and extension - away from Europe being the central source of migration flows towards other countries constituting the dominant sources of migration, being mainly developing countries. While Europe was sending migrants after the Second World War, it shifted towards becoming a continent of receiving large immigration inflows. Many people from developing countries have immigrated to Western Europe, predominantly from Africa, Asia, the Caribbean and the Middle East. Consequently, Western Europe and most other developed countries have turned into diverse and multiethnic societies (Massey et al, 1993).

One phenomenon that arose within these migration flows and that scholars have increasingly paid attention to is the associated brain drain. According to the scholars Baruch, Budhwar and Khatri (2007, p. 99) brain drain can be described as “a phenomenon in which people of a high level of skills, qualifications and competence, leave their countries and emigrate”. Even though not being a new phenomenon, brain drain and all its implications has only gained attention since the last decade, largely attributed due to rapid globalization. With rapid globalization, an increase in political, economic, sociological and technological tensions has come along. As a result, scholars and politicians have increasingly shed light on the issue of brain drain and the implications (Carrington & Detragiache, 1999).

Most brain drain is observed from developing countries to developed countries (Altbach & Bassett, 2004). It should be noted that immigration movements have changed slightly with the financial crisis in 2008, which resulted in an economic crisis and high youth unemployment in countries such as Greece, Italy, Spain or Portugal, affecting also the well-educated and highly skilled youth. As a consequence, many of the unemployed youth in those countries started to emigrate into countries with a strong economic development, e.g. Germany or the UK.

The increased influx of highly-educated people from developed to other developed countries, next to the flow from developing to developed countries, underlines the significance of brain drain. Competitive labor markets are the clear winners of the brain drain phenomenon as they attract the best and most talented people from all around, being at the forefront the United States and some Western European countries (Baruch et al., 2007). The problem with brain drain is that it hampers economic growth in the countries that lose the talent, as many scholars claim. However, brain drain, which still predominantly occurs from poor to rich

countries, hurts developing countries much more than developed countries in a socioeconomically sense. For example, a doctor immigrating from Nigeria to the US and a doctor immigrating from Spain to the US, hurts the former much more as the demand is much higher due to fewer human capital resources (Teson, 2008).

To illustrate, according to authors, such as Geesen (1998), brain drain is a particular problem in developing countries as it makes them less competitive than developed countries. The necessary human capital increases in developed countries at the expense of the developing countries. Due to the scarcity in skilled labor, facilitated by brain drain, long-run economic growth and income decrease. To further illustrate, the authors Reingold and Brady (1999) found in a study that brain drain results in a loss of knowledge in organizations. Taking this loss at an organizational level to the next level, the national one, one could argue that developing countries lose their best human capital. It is exactly because of this phenomenon that it is important to understand the underlying mechanisms and the motivational factors of highly educated and skilled people to move abroad.

Until now no coherent theoretical understanding and agreement exist with regards to the underlying factors of immigration streams, including the phenomenon of brain drain. One of the most dominant theories, the neoclassical economic theory, argues that people start to migrate for economic reasons (Lewis, 1954; Ranis & Fei, 1961; Harris & Todaro, 1979; Todaro, 1969 & 1976). To be more precise, according to those scholars, people migrate as they aim to maximize their well-being. Neoclassical economic scholars define well-being predominantly in monetary terms. As such, in accordance with neoclassical economic scholars, people migrate to the countries where they can maximize their greatest utility in terms of increased earnings, while taking into account the associated costs of the movement.

Considering the possible negative effects of brain drain on the home country, as previously outlined, the following Master's thesis aims to understand the underlying motivational factors of highly-educated and skilled people to move abroad. The aim is to understand the factors and to provide insights to the public and private sector.

In order to narrow down the research, the thesis will focus on emerging countries, more precisely on the case studies of Brazil and Mexico. Brazil and Mexico have been chosen as they are comparable due to similar socioeconomic, political and cultural conditions. It is important that both countries are similar in their fundamentals in order to examine the underlying motivational factors of people moving abroad. So far, no research exists with regards to the motivational factors of people from emerging countries moving abroad. As such, this research aims to fill this knowledge gap.

It is especially important to understand what motivates people in emerging countries to move abroad, as those countries depend on essential human capital to grow to the next stage. To elaborate, human capital constitutes an important pillar for economic growth. In order to attract investment and foreign capital that ultimately foster economic growth, human capital is an essential element for future success. Companies rely on qualified local talent. As such, human capital is also crucial for innovation to turn the respective country more competitive on a global scale. Countries like South Korea and Singapore are said to have grown that much due to their large investments in education and human capital (Mahroum, 2000).

Indeed, according to a study published by PwC, nowhere are skills so much in demand as in emerging countries. According to this study, human capital is so important in emerging countries as those countries moved from an export-driven economy with cheap labor to an economic model further up the value chain. In order to further allow this increase in value chain, human capital with outstanding skills is of crucial importance. According to a survey published by ManPower Group (2013), 68% of employers in Brazil have problems recruiting highly-skilled and educated people.

Furthermore, Brazil and Mexico constitute two very interesting cases for research, as past data shows that they present very different brain drain scenarios, regardless of their socioeconomic similarities. In accordance with a study conducted by the researchers Lozano-Ascencio and Gandini (2012), Latin America and the Caribbean is the region characterized by the highest relative growth of skilled migrants to OECD countries from 1990 to 2007. While the global increase was 111% over this period, it was 155% in this region.

Among this region, Mexico stands out with largest increase of migrant stock of 270% in the period of 1990 to 2007. Brazil follows Mexico with 247% (Ascencio & Gandini, 2012). However, while those numbers are alarming with regards to the implications that a lack of skilled people have on the country's performance and well-being, Mexico is characterized by a much greater impact than Brazil. While rates are generally low of most major and large economies in Latin America, Mexico constitutes an exception. In 2000, 16% of Mexico's skilled labor in comparison to its total population resided abroad, mainly in the United States. In comparison, Brazil's rate of skilled labor living abroad in comparison to its total population is with 1% the lowest in the region (see figure 1; also refer to [figure 59](#) in the appendix to see a comparison of the amount of highly educated Mexicans and Brazilians living in the USA).

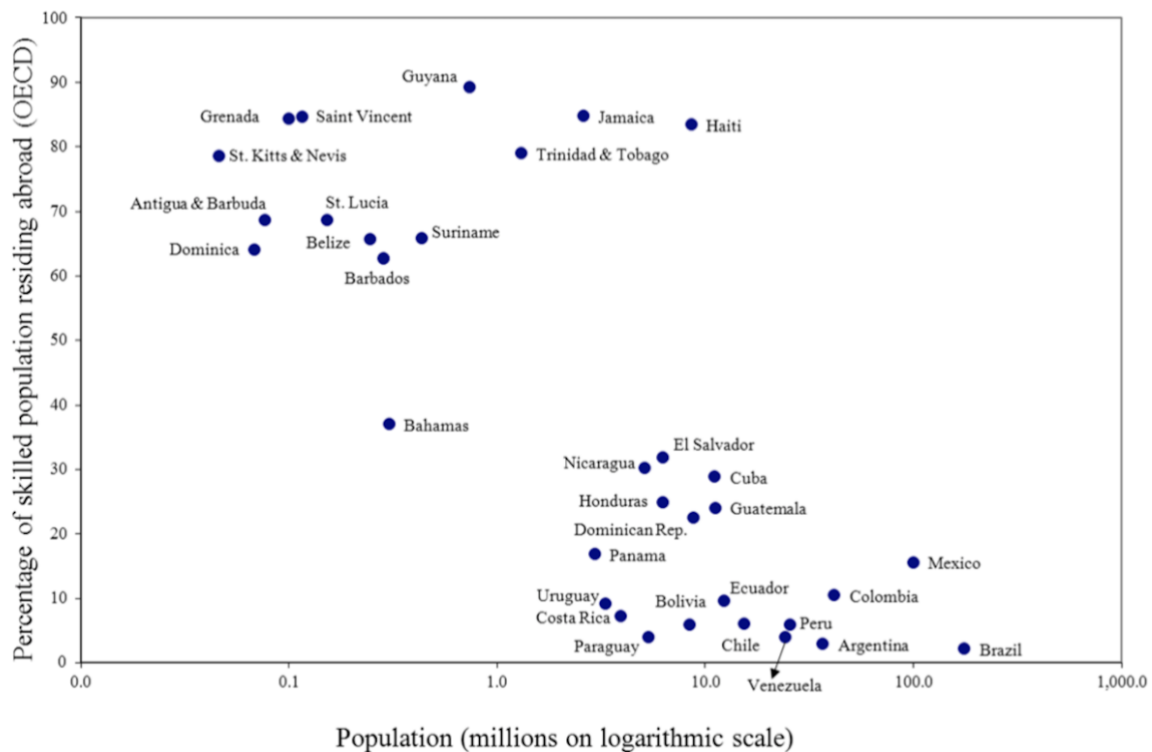


Figure 1: Percentage of skilled population 25 years or older, born in LAC and residing in any OECD country, according to total population of country of origin, 2000.
(Source: Ascendio & Gandini, 2012)

In light of these different rates of brain drain and the previously outlined negative impacts of the phenomenon, it is of uttermost importance to understand the motivational factors of people moving abroad. The guiding research question of the thesis is: **What are the causes of different brain drain rates across similar socioeconomic emerging countries?** In order to be able to answer this question, the research question is divided into several sub-questions.

- In how far does the brain drain phenomenon exist in Brazil and Mexico at current dates?
- What are the motivational factors of people in Brazil and Mexico to move abroad?
- What are the motivational factors of people in Brazil and Mexico to come back to their home countries and to stay there?
- In how far can neoclassical economics explain brain drain across similar socioeconomic emerging countries?
- What other theories explain the underlying causes of the brain drain phenomenon?
How can those theories explain the findings in Brazil and Mexico?

In order to tackle those questions, the thesis is divided into the following structure. First of all, an overview of the phenomenon of brain drain with its different terminologies and its emergence is provided in order provide an introduction to the topic and its meaning. Secondly,

a literature review of international migration theories is given. This literature review is essential in order to be able to better understand the brain drain phenomenon and to be able to relate the findings of the primary research to a variety of theoretical backgrounds. This theoretical background is then complemented by a theoretical review of the brain drain phenomenon. A framework is developed in order to understand the different factors influencing brain drain, based on the literature review. This framework helps to better analyze the research findings with regards to the theoretical base.

After that, a PESTLE analysis is provided for Brazil and Mexico with a specific focus on the brain drain phenomena in both countries. A PESTLE analysis is used as it provides an overview of the similarities and differences of Brazil and Mexico in terms of the political, economic, social, technological, legal and environmental situation of both countries. Such an analysis helps to understand observed similarities and differences of Brazil and Mexico in the primary data research findings.

Following the theoretical literature review and the PESTLE analyses, the thesis provides the primary research data on the motivational factors of Brazilians and Mexicans moving abroad. The data is presented based on hypotheses that have been drawn from the literature review. After the presentation of the findings, the thesis closes with a discussion on the limitations of the study and provides strategies for the private sector on how to make advantage of the research findings in order to be able to maintain and increase necessary human capital in the respective country – either Brazil or Mexico.

2. Brain drain

The term brain drain emerged during the 1950s and was first used by the British Royal Society referring to first-rank scientists migrating from the UK to United States and Canada during the 1950s and 1960s (Cervantes & Guellec, 2002). Now the term is used in broader terms describing the international transfer of human capital (people with higher education) from their respective home country. Indeed, it often refers to the phenomenon of highly educated people migrating from developing to developed countries (Beine et al., 2008). Highly educated and skilled people are mainly referred to as engineers, physicians, scientists and other highly educated people with a university degree (Rapoport & Docquier, 2006).

Indeed, some scholars such as Wickramasekara (2002, p. 3) define brain drain as “the permanent or long-term international emigration of skilled people who have been the subject of considerable educational investment by their own societies”. Brain drain is also sometimes

referred to as human capital flight or focused migration, the latter meaning that developed countries implement target policies to attract the most educated talent from developing nations (Murro, 2008, p. 158).

As such, brain drain is a relatively new phenomenon, which only started in the late 1960s / early 1970s with the new phase of globalization. This new phase is characterized by a continuous expansion of political boundaries in order to promote the free flow of goods and services, capital, knowledge and skills (Stiglitz, 2002). Such a free flow also includes human capital. To illustrate the significance of the phenomenon, in 1975, the United Nations estimated an influx of around 300,000 highly skilled migrants from developing countries to developed countries. In comparison, in 1990, the U.S. Census estimated that more than 2.5 million highly educated people were alone living in the United States, a figure that did not even include the number of students (Rapoport, 2002).

With this increase in people migration, the academic attention towards brain drain has also risen due to more political and economic pressures. To illustrate, in the period between 2005 and 2009, 247 articles were written on the subject, which is the double of what had been written in the previous 15 years (Krasulja et al, 2016).

The following section provides an overview of the definition of brain drain adopted in this research and other important terms in order to ensure to grasp the full picture of the phenomenon and its implications when discussing the underlying motivational factors for people to move abroad.

2.1. Terminology

Brain drain

For the sake of this research, brain drain is defined in accordance with Lowell and Findlay's (2001) definition of mobility of highly skilled persons on a permanent basis. According to those authors, mobility of highly skilled persons refers to the movement of "tertiary" educated individuals, which are people that have at least three to four years of additional education, usually in the form of a university degree, after primary and secondary schools. Brain drain is then referred to when those people do not return to their home countries in the long-run. (Lowell & Findlay, 2001). For the sake of this research, the terms highly skilled and highly educated persons are used interchangeable.

Optimal brain drain

According to some economists, developing countries benefit from skilled emigration if the right balance is met, meaning that not too many emigrate but also not too few. This balance is referred to an optimal brain drain as the movement of the skilled workforce creates incentives for the people that stay at home to pursue education. To elaborate, as wages of highly skilled people are usually higher in destination countries, incentives for people to pursue additional education increase. Because of improved educational levels, economic growth is promoted. (Lowell & Findlay, 2001).

Brain gain

Brain gain refers to the gain that host countries achieve in terms of human capital when individuals that have been trained elsewhere enter a country, thereby contributing to economic growth in that country. Brain gain is sometimes also associated with optimal brain drain as some authors argue that skilled migration can lead to brain gain in the home country as it brings with a net increase in the level of education. This increase in the level of average education then results in brain gain (Ozden & Schiff, 2006; Stark et al., 1997).

Brain exchange

Suggests a two-way flow exchange of experiences between the sending and receiving country (OECD, 1997). As such, the outflow of highly educated native-born workers is offset by an inflow of highly educated foreign professionals. If the flow is not balanced, the terms of brain drain and brain gain emerge with one country gaining and the other one losing valuable human capital (Lowell & Findlay, 2001).

Brain circulation

Brain circulation is very similar to brain exchange as it refers to the human capital circulating across nations, thereby benefiting various nations. At the same time, brain circulation means that migrants return to their home country, thereby increasing the human capital stock supply and, at the same, boosting country productivity due to the sources brought from abroad. Such sources can be in terms of knowledge, financial sources, networks etc. (Lowell & Findlay, 2001; Saxenian, 2002; Saxenian, 2005).

Brain waste

Brain waste can happen twofold. On the one hand, a waste of talents occurs if the home country cannot fully employ highly skilled native workers due to the lack of economic opportunities,

especially in specific sectors. The next situation is of underemployment, meaning that when moving to another country highly skilled workers move into forms of employment that are below their educational level and which do not require any skills or experience previously employed in other jobs (Lowell & Findlay, 2001; OECD, 1997). One example of the phenomenon of underemployment are physicians coming from developing countries that then work as taxi drivers in developed countries (Sajjad, n.a.).

Brain overflow

Brain overflow refers to the phenomenon of having an oversupply, either intentionally or unintentionally, of educated professionals in the sending country. The implication of such a situation is that highly skilled migration occurs at very low or almost no costs. As the labor market was not able to absorb the skill formation, no brain drain takes place. At the same time, the labor market supply-demand inequality in the sending country is reduced (European Integration Consortium, 2007).

Brain export

In some rare cases, developing countries choose to send their people abroad, either to educate them or to export their skills. The underlying motive behind is that the countries wish to yield an eventually high return in the form of return of earnings, more skilled workers, remittances, technology transfer and investment (Lowell & Findlay, 2001).

Brain globalization

Brain globalization refers to the process of skilled mobility being part of trade. To elaborate, multinational corporations and the forces of globalization demand international mobility. As such, globalization can be perceived as a crucial determinant in international mobility (Lowell & Findlay, 2001).

2.2. The implications of brain drain

Some scholars argue that the movement of highly-skilled and educated people brings positive feedback effects in the form of remittances and the acquired knowledge and skills acquired abroad when people return home. Another factor that is mentioned to create a beneficial effect of brain drain on the sending country's development is through the formation of business and trade networks, also referred to as the Diaspora externality (Rapoport, 2002).

However, more importantly, some scholars such as Mountford (1997) or Docquier and Rapoport (1997) argue that the immigration of the highly-skilled and educated people brings a brain gain. According to those scholars, developing countries benefit from migration of highly skilled people as this provides incentives for others to pursue higher education. To illustrate, if someone with tertiary education earns \$5,000 in the home country and \$30,000 in the UK, then this wage differential influences the expected return on human capital. Because of this large difference, incentives for people in the home country are created to enhance their educational background.

As a result, the stock of the country's human capital increases (Rapoport, 2002). This phenomenon is also supported by Beine et al. (2001) in their economic model. According to the model, a brain gain sets in as people left behind will become aware of the benefits associated with education and thus will aim to enhance theirs. In accordance with conventional theories of economic development, education is in so far an important keystone as it promotes long-term growth in developing countries.

However, on the other side, many scholars within the New Growth school argue that migration of the highly-educated workforce will have large negative effects on the source country. Such impacts usually occur in the form of a decrease in economic growth as result of the loss in return on educational investments and the depletion of human capital assets. Those negative impacts are reinforced with a lack of feedback effects that set in when too many highly educated people migrate as the result is a lack of remittances, technology transfer, investments and trade (Lowell & Findlay, 2001).

Indeed, while educated people have higher earnings potentials in comparison to less educated people, the purpose of their immigration is usually not to send money back home. Instead, they highly-educated people emigrate abroad on a permanent basis and do not return to their home country (Rapoport, 2002). The result is then that the highly-educated population that emigrated will be replaced by individuals with a lower level of education and skills (Lucas, 1988; Bhagwati & Hamada, 1974; Piketty, 1997). The depletion of human capital assets hurts current and future economic growth of the respective country as human capital is the driving initial force of development (Krasulja et al., 2016).

International Organizations, such as the UN or the ILO, also stress that migration flows of the educated elite from developing to developed countries hampers developing country's economic growth (Rizvi, 2005). Scholars such as Ellerman (2006) perceive the immigration of talented people as a case of the prison dilemma. To elaborate, as people seek their own best well-being, the prosperity of the rest shrinks (Ellerman, 2006).

As a middle stream of those two controversial approaches, a study conducted by the Rapoport (2002) for the Stanford Institute for Economic Policy Research assessed that the impact of highly skilled migration depends on the extent of highly skilled migration outflows. Hence, an optimal brain drain can be achieved. To elaborate, too much migration is likely to be detrimental, but too little is sub-optimal. According to Rapoport (2002), the winners of migration in the sense of experiencing a positive growth effect are the countries that have low levels of human capital and low migration rates.

In contrast, the losers are the countries with high migration rates and high enrollment rates in higher education. This can be explained as followed: There is no added benefit in the latter case in terms of people pursuing higher education due to people moving abroad. Instead, as there is already a high enrolment rate, no additional incentives for people to acquire a better educational level are created. Hence, the countries invest large sums in human capital, which they in return loose to other countries.

An important finding of the research has been that the growth effect of highly-educated people moving abroad is relatively limited with a maximum of 0.20% of GDP, with the exception of some extreme cases like Indonesia or Pakistan (see figure 2). Keeping in mind that extreme migration hampers the country's growth as illustrated in figure 2 and that the beneficial gain is very limited in its scope, it is of uttermost important to examine the motivational factors of people moving abroad and the extent those are motivated by economic means. As previously outlined, this is especially important for emerging countries, such as Brazil or Mexico, as those largely depend on human capital (Rapoport, 2002).

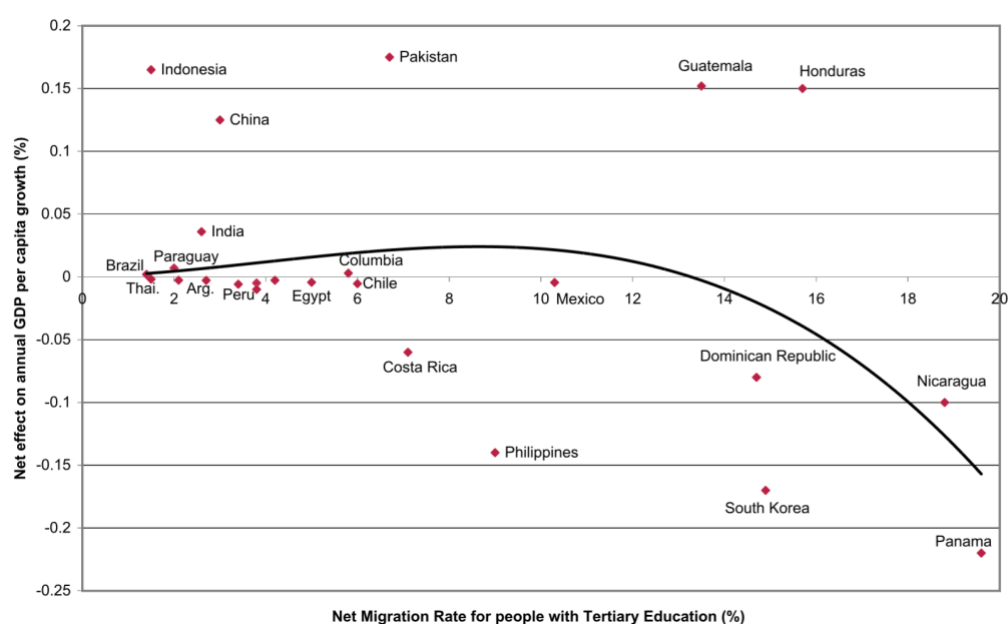


Figure 2: Brain drain and developing countries' economic growth
(Source: Rapoport, 2002)

3. Theoretical Background

The following section provides an overview of existing theories that aim to explain the motivational factors of people to migrate. As very limited research and theoretical background exist on explaining why highly skilled people migrate, the section examines first international migration overall, which is then complemented by a literature review on brain drain.

3.1. Theories of International Migration

Many theories exist that aim to explain the root causes of international migration. However, they differ in their concepts, assumptions and reference points. Neoclassical economics perceives the root cause of international migration as a decision of an individual with the aim to maximize one's income. As such, neoclassical economists shed light on wage differences and employment conditions (Lewis, 1954; Ranis & Fei, 1961).

In contrast, the next stream, the new economics of migration, finds the root causes in the conditions of a diverse range of markets and not just labor markets. According to those scholars, migration occurs in the form of a household decision in order to minimize risks or to overcome capital constraints.

Dual labor market theory and world systems theory do not take into account any micro-level decision processes, as the previous theories do, and focus instead on macro-level forces. Dual labor market theory examines the roots of international migration as a result of the structural requirements that come along with modern industrial economies. The latter, world systems theory, perceives immigration as a natural result of economic globalization and market penetration across countries.

In comparison, the last two streams – social capital theory and cumulative causation theory perceive international migration as a self-sustaining process. According to the social capital theory, also referred to as network theory, migration occurs because of established networks and thus becomes self-sustaining. Cumulative causations assesses six different factors through which international migration becomes institutionalized.

In order to better understand the theories and thus to be able to apply them to the primary research findings, the following sections provides a more detailed overview of the theories' logics, propositions, assumptions and hypotheses.

3.1.1. Neoclassical economics: Macro theory

The first theory that emerged in the context of international migration has its roots in neoclassical economics and dates back to the 1950s (Lewis, 1954; Ranis & Fei, 1961).

According to the scholars of this school, international labor migration should be analyzed in the process of economic development. It is assumed that individual migration behavior is motivated by the search for better economic opportunities (Borjas, 1989). Indeed, individuals migrate in order to maximize utility. In other words, their objective is to achieve a benefit by migrating, either through psychic satisfaction or increased income. As such, individuals migrate to countries where they can reach the highest well-being. However, such an individual behavior is constrained by the individual's wealth as a basis for immigration and immigration policies by the host and source country that might restrict the access (ibid).

The study of neoclassical economics has at its center of attention the allocation of scarce resources. Applying this to the phenomenon of international migration, human labor should be analyzed as a scarce resource. As such, the theory applies the same supply and demand mechanisms for labor as for goods, as established in the Heckscher-Ohlin Theorem and in the Factor-Price Equalization. According to neoclassical economics, international labor migration is the result of geographic differences in supply and demand for labor (Todaro & Maruszko, 1987).

To elaborate, countries are characterized by different endowments of labor relative to capital. As such, countries with a large supply of labor to capital have a low equilibrium wage. In comparison, countries with a limited supply of labor relative to capital will present high market wages. As a result of these differences in wages, people from the countries that are marked by a large supply, and thus low wages, will move to the countries with a shortage of supply marked by higher wages.

In accordance with the model, an equilibrium in wages should be the result at some point caused by the decrease of supply of labor in the capital-poor country and an increase in labor in the capital-rich country. This flow of workers is accompanied by a flow of investment capital from capital-rich to capital-poor countries. This is the case as the scarcity in capital yields a high return by international standards. The movement of capital also includes human capital. As such, according to neoclassical scholars, highly skilled workers, such as managers, technicians or other skilled workers, move from capital-rich to capital-poor countries as they yield high returns on their skills (Massey et al., 1993).

Thus, some scholars argue that an "immigration market" exists with migrants going to the host countries in which they perceive the greatest outcome in comparison with all the possible alternatives, taken into account financial and legal constraints (Borjas, 1987c). In this immigration market individuals sort themselves across countries based on their individual evaluation of utility maximization. In the context of this immigration market, the host and

source countries compete for the human capital and thus create various policies to either attract or maintain certain human capital. As such, both host and source countries have a major influence on the immigration as they are responsible for the implementation of immigration policies.

According to macro-level neoclassical economists, the immigration flow is largely influenced by a change in economic activity in the countries as this will affect the competitive advantage of the country in terms of the “offer” it can make to the individuals (Borjas, 1989). The mechanisms of utility maximization can be depicted in an economic model, which shows that income-maximization plays an important role in utility maximization. According to the model, developed by Borjas (1989), other aspects of utility maximization such as the weather, culture, the crime rate etc. should not be ignored, but the ultimate decision is finally made based on wage differentials.

To elaborate, the model is composed of two functions:

$$(1) \log w_0 = X\delta_0 + \varepsilon_0$$

$$(2) \log w_1 = X\delta_1 + \varepsilon_1$$

The first function describes the earnings residents have in their home country and the second function lays out the earnings residents might achieve in the cost country. w_0 is the individual's earnings in the home country. X is a vector of observable socioeconomic characteristics (e.g. education or age). ε_0 is a random variable, which is uncorrelated with variable X , thus has no impact on the socioeconomic factors in the country, and is normally distributed. ε_0 can be referred to as the component of luck individuals have with the same skills. In other words, people with the same demographic variables X have different levels of luck, which is represented in ε_0 . The same applies to the equation two, based on the factors represented in the potential host country.

It is important to note that the random variables ε_0 and ε_1 have a correlation coefficient p . Thus, if p is positive and near unity, the labor markets in the home and host country value the unobserved ability of the individuals the same. To be more precisely, persons that have specific skills or are merely lucky due to unobservable factors specific to a country, perform equally well in any of the countries. However, if p is small or negative, persons who do well in one country will not have the same result in the other country. Hence, if p is small or negative, incentives for people to move or stay in that country, which does not value the skills of the individual, are low. It can be assumed that p is positive for most countries in comparison.

Another important issue that the model raises is that w_0 and w_1 do not necessarily represent the individual's earnings in any given year, but the present value of the earning

profiles in the two respective countries. As such, the model assumes that immigration decisions are not made on assumed lifetime earnings.

As ε_0 and ε_1 are supposed to have a zero mean, the term $X\delta_0$ gives the expected income for an individual in the home country and $X\delta_1$ in the host country, in both cases an individual that has the specific demographic characteristics X (Borjas, 1989).

The main conclusions of the neoclassical theory on the macro-level can be summarized as followed:

- 1) The root cause of international migration of workers is the differential in wages between countries.
- 2) At one point an equilibrium in wages will set in, which will terminate the movement of labor.
- 3) International flows of human capital (highly skilled workers) differs from regular migration streams as their rate of return might be very different from the overall wage rate. The result might be a pattern of migration opposite to that of unskilled workers.
- 4) International migration flows are only determined by labor markets, not by any other factors.
- 5) Governments play a crucial role in migration flows as they are able to influence migration through regulations.

3.1.2. Neoclassical economics: Micro theory

Next to this macroeconomic theory, a microeconomic model aims to explain international migration by looking at individual choice (Sjaastad, 1962; Todaro, 1969). According to this theory, humans are rational actors. As such, individuals decide to migrate as a result of a cost-benefit calculation. The individual is expecting a positive net return, usually in monetary terms, from the movement. The cost-benefit calculation includes the calculation of investments that come along with the movement, including the monetary cost of traveling, the costs of living in the other country while looking for work, the effort in learning a new language and culture, the difficulty in adapting to a new labor market as well as the psychological costs associated with cutting old ties and building new ones (Todaro & Maruszko, 1987).

Migration then usually happens to the places that have the greatest expected discounted net returns, taking into account all necessary investments (Borjas, 1990). Discounted net returns are calculated by taking the observed earnings in alignment with the individual's skills in the prospective country of migration. Those expected earnings are then multiplied by the

probability of obtaining a job in the respective country resulting in expected destination earnings. These expected destination earnings are then subtracted from the expected earnings in the country of origin. The difference of those earnings is summed over a time horizon from 0 to n, taking into account a discount factor that allows the inclusion money to have greater utility in the present than in the future. From this calculated difference the expected costs are then subtracted resulting in the expected net return to migration. This decision-making process can be summarized through the following equation (Borjas, 1990):

$$ER(0) = \int_0^n [P_1(t)P_2(t)Y_d(t) - P_3(t)Y_o(t)]e^{-rt} dt - C(0)$$

ER (0) = expected net to migration, calculated before departure at time 0

t= time

P1 (t) = probability of avoiding deportation from the area of destination (1.0 for legal migrants and <1.0 for undocumented migrants).

P2 (t) = probability of employment at the destination.

Yd (t)= earnings if employed at the destination.

P3 (t)= probability of employment at the place of origin.

Y0(T)= earnings if employed in the place of origin.

r= discount factor.

C(0)= sum of the total costs associated with the movement (including psychological costs).

It follows that if ER(0) is positive, the rational individual will migrate. However, if ER(0) is negative, the individual will rationally decide to stay. If ER(0) is zero, the actor is indifferent between moving and staying. In accordance with this theory, the rational actor will move to where expected net returns are the greatest (Borjas, 1990). Taking this into consideration, the major conclusions of this model are as followed:

- 1) International movement is a result of differences in earnings and employment rates. Those rates determine the expected earnings.
- 2) The likelihood of international movement is increased by specific human capital characteristics that increase the rate of remuneration or the probability of employment. Such characteristics are manifested in education, experience, training or language skills.
- 3) The probability of international movement is increased by higher net returns of migration. Those in turn are increased due to lower migration costs that arise out of individual characteristics, social conditions or other technologies.

- 4) Because of the mechanisms described in 2 and 3 and their associated cost-benefit calculation, individuals in the same country can have very different aptitudes to migrate.
- 5) Individual cost-benefit calculations constitute the base of aggregated migration flows between countries.
- 6) International movement only occurs if differentials in earnings and/or employment rates exist between countries. As such, international movements occur as long as the expected earnings (the product of earnings and employment rates) are to be equalized across countries.
- 7) Similar to the macro-economic theory, only labor markets are seen as influential factors in the decision-making process of migration, no other factors are included.
- 8) If prospective migrants perceive psychological conditions in receiving countries as better, migration costs might actually result to be negative. If this is the case, in order to stop migration between countries, a negative earnings differential must be necessary.
- 9) Similar to the macro-theory, governments control the immigration flows through regulations – either on the sending or receiving countries' side.

3.1.3. The New Economics of Migration

The new economics of labor migration arose as a counter theory to challenge the assumptions made by the neoclassical economists (Stark & Bloom, 1985). According to this school, migration decisions are not made by isolated individual actors but by interrelated people that form units, such as families, households or communities. Decisions are usually undertaken with the purpose to minimize risks to income, to maximize status within a hierarchy and to overcome certain local market failures (Stark & Levhari, 1982; Stark, 1984, Taylor, 1986; Stark & Taylor, 1991).

In order to minimize risks, households aim to diversify their productive labor resources by allocating family members to different labor markets. In contrast to individuals, households are able to control risks. For example, some family members can be sent to other countries where wages are not correlated to the country of origin, thus reducing risks such as in the form of failure of income due to local conditions.

In accordance with this school, migration predominantly results in a stream coming from developing countries as risks are not managed by institutional mechanisms, such as unemployment programs, governmental transfers or insurances. As such, another reason why international migration is largely observed as an outflow of developing countries is related to

the fact that the banking system is often inefficient not allowing people to make use of any borrowing activities. As such, international migration is an alternative of accumulating savings.

An underlying assumption of this model, in comparison to neoclassical theories, is that income is not perceived as a homogeneous good and that income has a different effect on utility across socioeconomic settings. In other words, the model perceives that a certain increase in income has a different effect on people, depending on their socioeconomic conditions. As such, according to the new economics of migration, people go abroad not to increase their household incomes in absolute terms, but also in relative terms to other households (Stark & Taylor, 1989). To illustrate, by sending a family member abroad, the household hopes to gain a relative income gain in the community. Thus, as people compare their household's income to others, the likelihood of migration increases with people from a similar socioeconomic background migrating, thereby stimulating other households to do the same.

The theory can be summarized as followed:

- 1) The unit of analysis should not be the individual, but any unit of production and consumption, such as families or households.
- 2) People do not necessarily migrate because of wage differentials, but to diversify risks that might affect the family's economic well-being.
- 3) International migration and local employment are not mutually exclusive. Indeed, an increase in returns of local activities might increase the attractiveness of people to migrate as people might wish to acquire the necessary capital abroad in order to be able to invest in the home country. As a consequence, economic development might not necessarily reduce the likelihood of international migration.
- 4) International movements do not stop with the equilibrium of wage rates. Incentives for migration might continue to persist if other markets, apart from labor markets, in the country of origin are absent, imperfect or in disequilibria.
- 5) Income is not a homogenous good, meaning that the same increase in income has a different impact on the probability of migration for a household.
- 6) Governments can influence migration flows through policies that target labor markets and also other markets, such as insurance, capital and future markets.
- 7) With that, government policies and economic changes can influence the likelihood of people to migrate as it alters the relative deprivation of some households.
- 8) Government policies and economic changes need to impact the distribution of income and not the mean income in order to influence international migration.

3.1.4. Dual Labor Market Theory

Dual labor market theory is very different to the previous streams as it is not a micro-level decision model. The previous theories, the neoclassical and the new economics of migration, take a micro-level decision standpoint. The dual labor market theory, in comparison, does not consider the decision to migrate as a rational choice made by an individual. Instead, it sees the roots of international migration in the intrinsic labor demands of modern industrial countries (Massey et al.,1993).

Michael Piore (1979), the pioneer of this school, argues that international migration is the cause of permanent labor demands stemming from the economic structure of industrial countries. As such, immigration is not the result of push factors in sending countries (e.g. low wages or high unemployment), but by pull factors in industrial countries – the immigrant receiving countries. Those pull factors in receiving countries are the result of a chronic and unavoidable need for inexpensive and flexible labor, also referred to as low-wage workers. This inherent demand for migrant workers is due to four fundamental characteristics of advanced industrial countries and with that their societies and economies.

The first fundamental is *structural inflation*, referring to the fact that wages represent status and prestige and thus must meet social expectations. As such, wages cannot be decreased or increased with regard to the supply of workers. According to Piore (1979), wages do not respond to demand and supply due to informal social expectations and formal institutional mechanisms, such as union contracts. Thus, wages must be increased proportionately throughout the job hierarchy to meet social expectations. Hence, if wages are raised at the bottom, wages would need to be raised throughout the entire hierarchy to condemn social pressures as a result of prestige and status associated with jobs. As a result, employers will often opt for the option to take migration workers as those accept low wages.

Piore (1979) further argues that developed nations depend on immigrants to do bottom-level jobs as those do not constitute any *motivational problems* associated with status or prestige. To elaborate, according to Piore (1979), jobs at the bottom of the job hierarchy constitute motivational problems as there is no status to be maintained and few possibilities exist to move up the latter. It is impossible to eliminate those bottom-level jobs as there will always be a layer of bottom-level jobs.

Hence, motivational problems are common. Immigrants do not have problems associated with status or prestige as most migrate to earn money that will eventually increase their status or well-being at home associated due to the geographic differences in wages. Due to the wage differences in developed and developing countries, wages also seem to be very

generous to most immigrants. Furthermore, motivational problems are absent for migrants as the migrant does not consider himself be part of the society in the receiving country but in the country of origin where jobs abroad are mostly associated with honor and prestige.

The third fundamental characteristic of advanced industrial countries is underlying *economic dualism* between labor and capital. Capital is a fixed factor that can be altered by lower demand, but cannot be eradicated. In contrast, labor is a variable factor that can be set off at any time when demand decreases. The result of this dualism is a segmented labor market structure. The lack of growing opportunities, low wages and overall unstable conditions do not make the labor-intensive secondary sector to be an attractive market for workers from the home country. Instead, they prefer to work in the capital-intensive sector due to all the associated benefits. As a result, in order to fill the shortfall in supply of workers for the secondary sector, employers hire immigrants.

The last fundamental inherent to industrial countries is related to the *demography of labor supply*. Previously, jobs of unpleasant conditions that come along with problems of motivation, structural inflation and which are a result of economic dualisms were performed by women and teenagers. However, with the changing role of women replacing their family wish with the pursuit of a career and the extension of formal education and lower birth rates affecting the supply of teenagers, the two sources of workers disappeared. As a result, an imbalance in demand and supply for low-level workers is persistent in developed countries, which increases the demand for immigrants.

It is important to note that the theory does not deny the rational decision-making of individuals. However, according to the dual labor market theory, international migration is to be found in the structural and inherent demand of industrialized societies with the major points being:

- 1) International labor migration takes place due to the demand stemming from developed countries and is initiated by companies and reinforced by governments that provide the necessary legislation.
- 2) As such, international labor migration does not necessarily follow because of wage differentials, but is rather a consequence of the underlying demand of industrial countries that promote international migration through targeted recruitment practices.
- 3) In comparison to other theories, the model does not assume that low-level wages will increase as a consequence of the decrease in supply of immigrant workers. Instead, they are pushed down by social and institutional mechanisms. As such, low-level wages are not a “free market” that respond to supply and demand.

- 4) However, low-level wages do decrease as an increase of the supply in immigrant workers – a process that happens as social and institutional checks welcome such a process, which is beneficial to them.
- 5) Governments are unable to influence immigration flows through policies that target wages or employment rates. This is the case as immigration occurs as a consequence of the structural demands inherent to industrial countries. Thus, alterations in immigration flows only happen as a result of changes in economic patterns.

3.1.5. World Systems Theory

World systems theory, a social theory approach, emerged during the 1950s, but only started to analyze the cause of international migration with the work of Wallerstein (1974) in the 1970s. Scholars within this domain, mainly sociological theorists, do not perceive the origins of international migration as a cause of labor market differentials that impact the decision-making process of individuals. Instead, world system theories explain international migration as a structural consequence of the expansion of markets that are embedded in a global political hierarchy (Portes & Walton, 1981; Petras, 1981; Castells, 1989; Sassen, 1988, 1991; Morawaska, 1990). In accordance with the theory, the influence of capitalist economic relations onto noncapitalist societies results in the creation of a global society that is willing to migrate, predominantly enabled by values stemming from capitalist societies.

According to this theory, international migration has its roots in the disruptions and dislocations that take place as a result of capitalist development. As capitalism has expanded, an ever increasing share of the global population has been made part of the world market economy. To elaborate, driven by the values of capitalist societies of the constant maximization of wealth and profit, capitalist firms from developed countries enter poorer nations in search of land, raw materials, labor and consumer markets. As a result, migration flows are generated through several capitalistic processes (Massey, 1989).

First of all, migration is promoted by *land* consolidation by capitalist farmers. To elaborate, in order to be able to compete with global commodity markets and to achieve the greatest products, local farming is substituted by capitalist farming. This destroys traditional practices of land tenure. Mechanization decreases the need for manual labor, thereby taking away jobs for many agrarian workers. Furthermore, the use of modern inputs lowers prices with which local farmers cannot compete. As a consequence, many local farmers are forced to move in the need to look for new earning opportunities.

The second process is related to the extraction of *raw materials*. The extraction of raw materials relies on paid labor, thereby destroying traditional forms of social and economic systems based on reciprocity. The introduction of wages to the peasants often eliminates traditional forms of social and economic organization. Instead, capitalist values such as individualism and private gain are introduced which eventually promote the geographic mobility of labor as people look for greater gains.

The third process is manifested in the specific form of *labor* that comes with capitalism. Firms often enter developing countries to make use of low wage rates. The demand for local factory workers reinforces the creation of local labor markets and, at the same time, reduces traditional systems. However, as the work is usually very low paid, people move to other places after a few years in the need to look for other opportunities so that they can meet their needs. Furthermore, many people that are displaced by the process of market penetration eventually move abroad attracted by the new material and ideological values that capitalism brings with.

The next process by which international migration is facilitated is through the *material links* that are created between the developed and developing countries, being transportation and communication links. Those infrastructures then promote human movement as the costs associated with moving are reduced.

Next to material links, international movements are facilitated by the creation of *ideological links* which stem from the process of economic globalization. For example, due to the ideological and cultural links that the US market penetration in Mexico generates, Mexicans increasingly study at US universities, speak fluently English and pursue an American lifestyle with the related values, such as individualism and private gain. These ideological and cultural links are further promoted through mass communication and advertising campaigns, providing a very positive image of lifestyles and living standards in the developed countries. As a result, people wish to move to specific developed countries.

The last process that facilitates international movement of people is related to the creation of *global cities*. To elaborate, according to the world systems theory, the world economy is administered from a small number of cities which have a high concentration of wealth and a highly educated workforce, mainly be found in the US, Europe and some Pacific countries (Castells, 1989; Sassen 1991). The result is a strong need for a labor workforce at both spectrums – at the upper and lower ends. Well-educated natives and some foreigners take charge of the lucrative works, while it is difficult to fill the lower end jobs with the native workforce. As a consequence, a strong demand for immigrants filling the lower end of the job spectrum is created (Massey et al., 1993)

As illustrated, globalization creates material, military and ideological links to developed countries. Hence, a stream of international labor migration occurs as people from the developed countries migrate in the search for raw material, land etc. while people from developing countries migrate to developed countries in the desire to pursue individualistic values. The theory can be simplified as following:

- 1) International migration emerges as a natural result of the introduction of capitalism in the developing world.
- 2) The international movement of labor happens in the opposite direction of the international flow of goods and capital.
- 3) International migration particularly happens between former colonies and their past colonial powers due to the created links (cultural, linguistic, administrative, communication, investment and transportation).
- 4) The way governments can influence international movement of people is by controlling the investment activities conducted by international corporations and by regulating the influx of international capital and goods. Such policies, however, are unlikely to be implemented by a country as they stimulate international trade disputes and might even risk world economic recessions.
- 5) International migration does not have its emergence in wage or employment differentials between countries. Instead, international migration emerges out of the dynamics of market creation within the penetration of the global economy.

3.1.6. Social Capital Theory (Network Theory)

According to the social capital theory, international migration is facilitated and largely driven by social capital which can be defined as “the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (Bourdieu & Wacquant, 1992, p. 119). In light of this definition, relationships and networks are a dominant influential factor of international migration.

To elaborate, migrant networks exist in the form of interpersonal ties that connect people through kinship, friendship and shared community origin. It is because of those networks that international movements increase as they help to reduce risk and costs and to maximize utility at the same time. To be more precisely, network connections form part of social capital that then help people to gain access to knowledge, assistance and to financial capital in the form of foreign employment, wages and the possibility of sending back savings and remittances

(Graeme, 1981; Taylor, 1986; Massey & García España, 1987; Massey, 1990, Gurak & Caces, 1992).

The immigration flow can be explained more in detail by shedding light on the underlying fundamentals of declining costs and risks. In terms of *declining costs*, the first migrants that immigrate do not have any social ties to relate. The costs, however, decrease for the family and friends left behind as people in the country of origin gain access to employment and assistance in the country of destination due to the networks in place.

Next to the costs, networks also help in *declining risks*, which promotes international migration. To elaborate, networks serve as a form of risk diversification as well-developed migrant networks allow new migrants to find a job more easily.

To sum up, the theory of Social Capital is very distinctive to the previous theories as it does not only analyze the act of international migration from a micro level decision making process, but also argues that international migration is influenced by previous migration and other facilitating networks, such as organizations or entrepreneurs that arrange immigrant entry.

Thus, according to the social capital theory, the likelihood of international migration is increased by those networks. Indeed, migration becomes self-perpetuating as each migrant decreases the costs and risks of followers to migrate. The conceptualization of international migration as a self-sustaining process can be summarized as following:

- 1) International migration increasingly expands due to network connections.
- 2) The migration flow between two countries is not determined by wage differentials or employment rates, but by the existence of a network that reduces the costs and risks associated with the movement.
- 3) Through the creation and promotion of networks, international migration becomes self-sustaining and independent of any factors that initially caused it.
- 4) With expanding networks and decreasing costs and risks, the migration flow is not based on socioeconomic factors but is a representation of the sending community or society.
- 5) Governments have little control to influence migration flows as the formation of networks is the underlying cause, which cannot be controlled by governments once migration has started. The exception to this are policies that are in line with the creation of networks, e.g. policies that target family reunification, as those reinforce the formation of migrant networks.

3.1.7. Cumulative Causation

In addition to the network theory, the theory of cumulative causation perceives international migration as a trend that sustains itself, thereby increasing the likelihood of additional international migration (Myrdal, 1957; Massey, 1990). In accordance with the theory, cumulative causation happens in such way as that each act of migration changes the social context in which subsequent decisions of migration are made, increasing the probability of international migration.

To elaborate, the cumulative causation theory argues that initial migration affects six socioeconomic factors - culture, income distribution, distribution of land, reorganization of agriculture, distribution of human capital and structural divisions of production. All those factors finally lead to further migration due to the changed structures affecting more and more people (Stark et al., 1986; Taylor, 1992).

Within the context of *culture of migration*, migration alters values and cultural perceptions that ultimately increase the probability of future migrations. To elaborate, experience in an advanced industrial country changes people's tastes and motivations (Piore, 1979). As such, migration often comes with an alteration in the perception of social mobility and a change in the taste for consumer goods and lifestyle. Hence, once one person has lived abroad, the person is very likely to migrate again (Massey, 1986).

At the same time, migration alters the behavior of people and values so that migration become part of the community's values. As such, in many societies, international migration is a status symbol for many young people. Thus, international migration becomes a desirable good in the community setting (Reichert, 1982). This is further reinforced by the fact that knowledge about foreign locations and jobs start to spread and with that also the values, sentiments and behaviors of advanced industrial societies (Massey et al., 1987; Alarcón, 1992).

The next socioeconomic factor, which impacts on international migration, is the *distribution of income*. As noted earlier, one possible explanation for people to migrate is that they wish to increase their income relative to other households in the base line. Before people started to migrate, income inequality within the respective reference group is not large as most families in the respective group earn according to local standards.

However, with migration, the income of the household that receives income from abroad largely increases. As a result, more families aim to migrate, which further promotes the sense of income inequality in comparison to the reference group. The result is a triggering process in which more and more families migrate with the purpose to counteract relative income deprivation (Stark et al., 1986; Stark & Taylor, 1989; Stark, 1991; Taylor 1992).

The third socioeconomic factor that international migration has an impact on is the *distribution of land*. Many people from rural areas that migrate aim to purchase land due to the prestige that is usually associated with the land or as a form of retirement income. However, it is barely used as a productive investment as foreign wage labor is more profitable. As a consequence, demand for local farm labor decreases which then increases pressure for people to migrate. The more people then migrate, the more people are able to buy land which then leads to more outmigration, forming a cumulative process of migration (Rhoades, 1978; Reichert, 1981; Mines, 1984; Wiest, 1984).

The fourth socioeconomic factor is related to the *organization of agrarian production*, which is closely related to the previous phenomenon. The migrant families that decide to farm the land they own, make use of highly capital-intensive methods. The negative side effect of it is that less labor is needed, which in turn displaces many local workers and forces them into international migration (Massey et al., 1987). This is then again a vicious cycle as migration increases, which then triggers greater capitalization, thereby leading to more migration.

The next socioeconomic factor is the *regional distribution of human capital*. The theory of cumulative causation notes that migration is a selective process in the sense that often the well-educated, skilled, productive and highly motivated people are the ones that migrate as other people are presented with higher risks and costs. A phenomenon that usually changes over time with the establishment of network formations, as previously outlined in the context of the social capital theory. However, until risks and costs are not reduced, a depletion of human capital in sending countries is the result.

Thus, the productivity in the developed countries is increased while decreased in developing countries. The ultimate consequence of that is that economic growth is stimulated in developed countries, while the opposite occurs in developing countries. As a result of the worsening in economic terms, migration is further stimulated (Myrdal, 1957; Greenwood, 1981; Greenwood et al., 1987). It is a phenomenon that is further stimulated by the increase in educational levels in sending countries as this allows people to get a greater return, which they often perceive to find in destinations abroad.

The last socioeconomic factor in the context of cumulative migration is *social labeling*. Social labeling refers to the process of the jobs in receiving countries that are taken over predominantly by immigrants to become the label of “immigrant jobs”. Due to this social labeling, the native workforce becomes reluctant to do those jobs, which in turns triggers increased migration as the jobs need to be fulfilled (Böhning, 1972; Piore, 1979).

To sum up, according to the cumulative causation theory, international migration should be seen as a dynamic cumulative social process, which has the following conclusions:

- 1) International migration in itself triggers social, economic and cultural changes that result in increased international migration. As such, it is very difficult for governments to regulate international migration as the feedback effects of cumulative causation are not within the reach of control.
- 2) It is difficult for governments to stop labor migration and to recruit natives back into jobs that have an “immigration jobs” stigma during times of domestic unemployment and joblessness.

3.2. Theories of brain drain

Even though concerns regarding the volumes of highly-skilled migration have increased, very little data exist with regards to the extent of highly-skilled migration and the characteristics of the immigrants. As such, also very limited research has been published regarding the underlying motivational factors of highly skilled people and their decision-making process to migrate in the broader temporal perspective (Koser & Salt, 1997; Adams, 2003). As a consequence, not much theoretical formation exists that captures the underlying causes of highly skilled migration.

Instead, most theory-building has been embedded in the context of mass migration. Considering that brain drain has increased largely with the expansion of the global economy, as earlier mentioned, research has failed to examine the relationship of economic development and highly skilled migration (Fielding, 1993). Explanatory models of highly skilled migration are not very evolved and most explanatory models that do exist focus on specific sectoral or regional cases (Koser & Salt, 1997). Nonetheless, some theoretical background in the form of models can be identified. The models that exist can be divided macro-, meso-, micro-and multi-level models.

3.2.1. Macro-level models

Macro-level models examine the causes of highly-skilled migration in the context of global disparities in the supply and demand of those professionals, created by the international economic system. As such, one perception is that highly-educated people emigrate in response to the level of the country's national economic development (Koser & Salt, 1997). For example, people are inclined to move abroad if there is a mismatch between their skills and possible labor opportunities. One sophisticated model that takes both the demand and supply side into account

when explaining the movement of highly skilled labor from developing to developed countries was designed by Ong et al. (1992).

According to the model, highly educated workers have become part of a global integration that is characterized by substitutable labor of common skills and a common language – English - which is further reinforced by the expansion of globalized values and professional networks. Such a large supply and agglomeration of highly skilled and educated people has been the consequence of the globalization of the world economy (Beine et al., 2008).

Migration of those talents from around the world then takes place due to the imbalances between developing and developed countries regarding income earnings and career opportunities. On the demand side, developed countries continuously promote the movement of highly-skilled people from developing to developed countries in order to fulfill their needs for human capital (ILO, 2006). The model also stresses the important role of migrants to return to their home countries as this promotes economic development (Ong et al., 1992).

3.2.2. Meso-level models

Meso-level models examine international movements of highly-educated people through the influence of states and transnational corporations (TNCs). According to the models, the state places a strong influential role in the acquisition of new talents from abroad and in the control of highly-skilled people outflows (Cornelius et al., 1994; Borjas, 1990).

In terms of the influence of TNCs on international migration, several processes have been observed. On the one hand, several scholars argue that TNCs play an important influential factor with regards to skilled migration as TNCs make those people move from one place to another, often abroad, within the specific company. However, some other scholars argue that the impact happens more through the introduction of a new production system structure that has resulted in new types and flexible specialization (Lipietz, 1993). One example of this new production structure is the subcontracting of specialists by large firms (Donaghu & Barff, 1990; Lawson, 1992; Sunley, 1992). As such, many models have shifted from explaining international migration of the highly-skilled based on intra-firm towards inter-firm structures.

However, while those two streams – states and TNCs – are mentioned by both scholars to be influential factors on the meso-level, some claim that other influential institutions should also be taken into account (Gould & Findlay, 1994). One example are international recruitment agencies that promote the migration of highly skilled individuals (Findlay, 1990; Findlay & Garrick, 1990). Furthermore, researchers have identified small companies, political organizations and networks associations of freelance foreign experts as promoting channels for

international migration of highly-skilled individuals (Garrick, 1991; Boyle et al., 1994; Rudolph & Hillmann, 1997).

3.2.3. Micro-level models

Micro-level models focus on the highly-skilled individual in the decision-making process to migrate abroad. Very few studies exist so far that examine the decision-making process of highly skilled individuals migrating. Most micro-level theories relate to the human capital theory based on neoclassical economics assumptions, which claims that migration decisions are made by the individual on a rational calculation of the investment return, such as the expected income, job opportunities or any other form of support.

The work of Todisco (1993) has brought some alternative and insights into the decision-making process of highly-skilled people. He found that the decision-making process of highly-skilled migrants involves a more conscious choice of one country over another.

3.2.4. Multi-level models

In light of multi-level models, most scholars have analyzed the brain drain phenomenon and its causes from the macrostructural push-pull perspective, which assume that highly educated migration rates are related to the degree of economic development in the sending and receiving countries. The push-pull model was first created by Lewin (1951) and brings important insights into the analysis of cross-border movements.

Pull factors are the incentives provided by the immigration receiving country to make immigration attractive to people. One of the pull factors that many authors mention is the introduction of “quality-selective” immigration policies in most OECD countries, meaning that policies target the highly-educated labor force of developing countries as specific professions are in high demand in OECD countries. An example of such targeted policies are the implemented point systems in Australia and Canada (Rapoport, 2002).

Many authors mention three long-term trends related to pull-factors (Kapur & McHale, 2005). The first trend is that new companies are constantly opened in developed countries, which have a strong demand for a highly-educated workforce in order to curb innovation. As such, they recruit many highly skilled people from developing countries, which are encouraged by the larger incentives, such as better salaries. The second trend is that governments implement specific policies to attract foreign talent as they understand that talented people have a positive net effect on the country’s budget. Third, employers in the developed countries understand

much better the positive effects of higher productivity of highly-educated people. As such, they offer people better working conditions than at home which serves as a pull factor.

In comparison, push factors are factors present in the sending country. Those push factors are usually unfavorable conditions in the context of international migration from developing to developed countries while the pull factors are attractive features of the developed country. The difference between those pull and push factors is considered to be detrimental in weighing the decision to migrate or not.

The push-pull model provides insofar essential insights as it allows to stretch the model incorporating the different levels of analysis, as has been done in the AUN Report (Virzintaite & Juceviciene, 2004; see table 1). The model includes the macrostructural factors with the focus on economic forces. At the same time, it sheds light on the meso-level by acknowledging the important role of the state in relation to the creation of incentives for highly skilled professionals to stay in their home country or to migrate. As such, the lack of realistic manpower policies or research facilities might promote international migration, incentives that the state is responsible for.

Nonetheless, regardless of the number of factors at the organizational and national levels, it is often the individual choice that is responsible for the final decision. For example, many times self-directed expatriation is directed towards improving one's life style and looking for new career prospects and is not so much related to organizational or national influence (Richardson & Mallon, 2005). As such, one needs also to incorporate those individual pull and push factors in the model.

However, it should be noted that the pull-push is analytically weak to some extent as it does not consider the complex and comparative situation in the analysis of highly skilled migrants. As such, in order to be able to analyze the decision-making process of highly-skilled professionals, it is important to also study their perception of a good life, their values and their competence (Juceviciene et al., 2002).

Another model that bridges this problem is the theory of 'reasoned action', developed by Ajzen & Fishbein, 1975. The theory provides insofar new insights into the study of brain drain as it considers the values, norms and beliefs of the individuals, which then constitute their attitudes towards their inclination of going abroad or not. To elaborate, the theory of reasoned action is based on four key constructs that aim to understand why individuals engage in certain behaviors, in this case migration of highly-skilled people. The four constructs are behaviors, intentions, attitudes and subjective norms.

According to the theory, a person's intention to follow a certain behavior is based on a) the attitude the individual inhibits towards the behavior and b) the subjective norms that the individual associates with the behavior. Values, norms and beliefs are influenced by one's personality as well as the culture and the environment, a factor that also shapes the attitudes. For example, an individual who values the opinion of their friends, is likely to be encouraged to move abroad if that is what most of the friends approve of or pursue (see framework next session).

Push and pull factors of 'brain drain' (AUN Report, 2002)

Push factors (usually relevant to home country)	Pull factors (usually relevant to host country)
1) Under employment,	1) Better economic prospects;
2) Economic under development;	2) Higher salary and income;
3) Low wage/salary,	3) Better level of living and way of life;
4) Political instability;	4) Better research facilities;
5) Over production and under utilization of highly qualified manpower;	5) Modern educational system and better opportunity for higher qualifications;
6) Lack of research and other facilities;	6) Prestige of foreign training;
7) Lack of freedom;	7) Intellectual freedom;
8) Discrimination in appointment and promotion;	8) Better working condition and better employment opportunities;
9) Poor working facilities;	9) Relative political stability;
10) Lack of scientific tradition and culture;	10) Presence of a rich, scientific and cultural tradition;
11) Unsuitable institution;	11) Attraction of urban centres;
12) Desire for a better urban life;	12) Availability of experience/supporting staff;
13) Desire for higher qualification and recognition;	13) Frequent chances of a lucky break in life;
14) Better career expectation;	14) Technological gap;
15) Lack of satisfactory working conditions.	15) Allocation of substantial funds for research.

Table 1: Push & Pull factors affecting the decision to migrate
(Source: Virzintaite & Juceviciene, 2004)

4. Hypotheses

Based on the literature review, the following hypotheses are to be tested in the primary research:

H1: The brain drain in Mexico is more prolonged than in Brazil.

As previously outlined, brain drain has been much more of a marked phenomenon in Mexico than in Brazil. Data has shown that much more of the highly educated workforce from Mexico than from Brazil live abroad (see figure 1). Indeed, Mexico is one of the exceptional countries big countries that has such a large portion of its highly-educated people living abroad.

H2: The likelihood of people migrating is mainly determined by labor markets - the availability of job opportunities and the level of salaries.

According to authors such as Krasulja et al. (2016) of the neoclassical economics school, the main motivational factor for highly qualified people to move abroad is the outlook for a better salary and thus a larger income. Research conducted in five countries projects that on average the income of a highly educated person increases US\$ 40,000 – 60,000 per year after migrating from a developing to a developed country (Krasulja et al., 2016). Furthermore, according to neoclassical economists, people migrate to where job opportunities are the greatest.

H3: A positive correlation exists between economic underdevelopment and brain drain.

According to scholars such as Krasulja et al. (2016), many qualified migrants aim to return to their home countries after a while if the economic situation and labor markets improve. Hence, in accordance with neoclassical economists, individuals base their decision on whether to migrate or not predominantly on the economic and labor market situation. Economic development is in so far important as it provides essentials for people, such as job opportunities and public services that come along with security. Hence, in line with neoclassical economists, one can assume that a positive correlation exists between economic underdevelopment and brain drain as people do not have any incentive to move back due to the negative impacts that economic underdevelopment creates, predominantly in terms of low salaries and a lack of good job opportunities.

H4: Individuals in the same country have very different aptitudes to migrate.

According to the micro-level approach within the neoclassical economics theory, people differ with regards to their aptitudes to migrate because of different socioeconomic conditions and the associated risks that go along with those. To elaborate, highly skilled and educated people face a lower risk in not finding a job abroad than people with a lower educational level due the higher demand of skills of the former. As the unit of analysis is the individual, this assumption

is then to be tested within the group of highly-skilled individuals, who possess different socioeconomic backgrounds.

H5: Networks increase the likelihood of people to migrate.

According to the network theory, migration is facilitated by networks.

H6: Governments are able to influence the flow of migration through regulations.

In accordance with neoclassical economists, governments can influence migration through targeted policies.

5. Framework

The thesis argues that causal processes of international migration operate on multiple levels, often simultaneously. While all the theories differ in their assumptions about the roots of international migration, they are not necessarily contradictory and should be used in conjunction as they add insight into causal mechanisms at different levels. For example, it is possible that an individual performs a cost-benefit analysis, that the households aims to diversify risk by labor allocation and that those decisions are embedded into a socioeconomic context that is characterized by structural forces (Papademetriou & Martin, 1991).

At this point, however, it is important to note that primary research on the influence of structural forces is difficult to acquire. Hence, the thesis takes for granted that structural forces do play an important role, but takes as the main objective in the primary research section to examine why the individual decision-maker eventually opts to migrate. To be more precise, the thesis focuses on the evaluation of micro-level theories in the primary research, being the neoclassical economics and the new economics of migration theory.

In light of the micro-level theories in the context of international migration and the push-pull model together with Ajzen & Fishbein's notion of reasoned action, a framework is developed that allows the examination of the diverse range of possible underlying reasons of brain drain. The model is based on Ajzen & Fishbein's reasoned action theory, which states that values, norms and beliefs are the essential fundamentals for an individual's behavior, which would be the act of moving abroad, staying in the home country or moving back to the home country. Those values, norms and beliefs are on one hand influenced on the personality of the specific person but also on external push and pull factors. In order to better analyze possible push factors in Brazil and Mexico and to be able to better understand the primary research, the model adopts the PESTLE analysis for the examination of those factors. A PESTLE analysis

examines the political, economic, social, technological, legal and environmental landscape in each country.

According to the neoclassical economic model, international migration has its origin in the international gap of wage differentials and the outlook for employment opportunities (Lewis, 1954; Ranis & Fei, 1961). Therefore, in order to verify this theory, it is important to analyze the link between the expected wage differentials and employment opportunities and international migration. At the same time, it is important to look if and which other factors not labor-market related provide insights into motivational factors of migration, for which the new economics of migration theory provides essential insights. The push-pull model based on the PESTLE factors captures the dimensions of those theories, considering labor markets but also other influential factors.

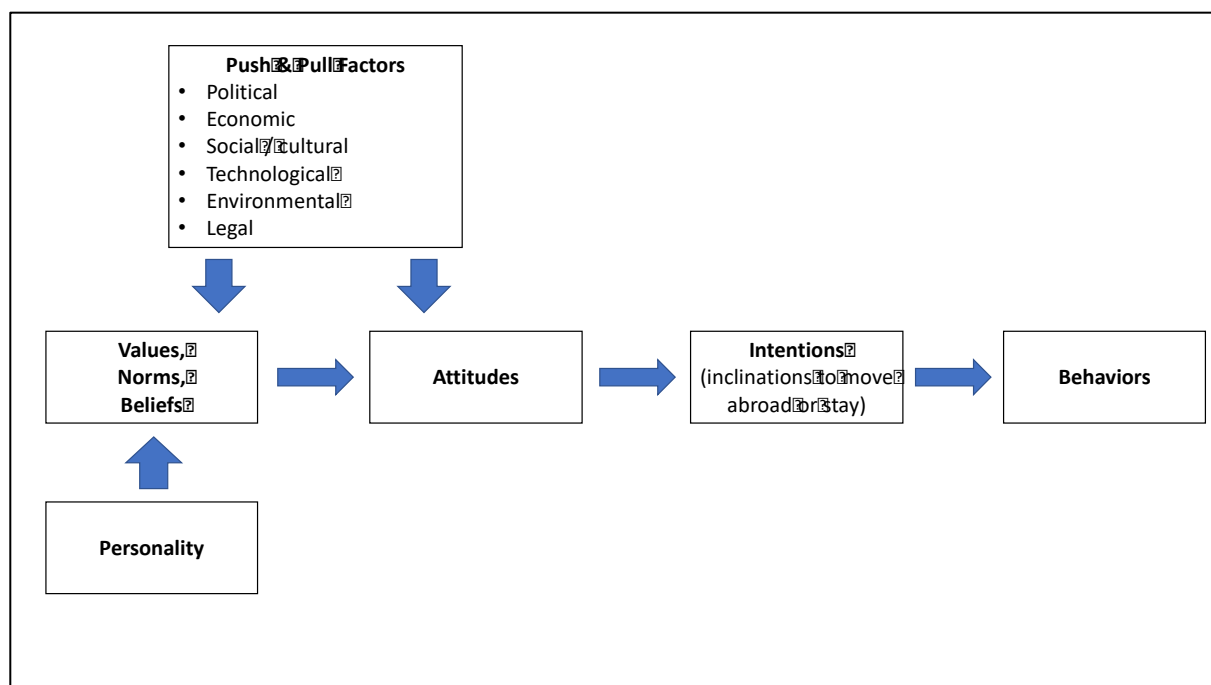


Figure 3: Framework of analysis

6. Methodology

Based on a literature review, essential insights have been gained on factors influencing international migration and the phenomenon of brain drain. Theories of international migration were analyzed and the most important assumptions summarized. After that, research was done on academic articles and case studies that had been published with regards to the phenomenon of brain drain.

The following section examines the phenomenon of brain drain more in detail. Therefore, secondary data in terms of a PESTLE analysis is collected at first. This secondary

research will be complemented by an extensive PESTLE analysis of Brazil and Mexico. By providing a PESTLE analysis of Brazil and Mexico, similarities and differences of the two countries are examined. The PESTLE analysis shows that the countries differ to some minor extensions, but are very similar in their fundamentals. Followed by the PESTLE analysis, primary data is collected in the form of a survey, being essential in order to gain a coherent overview of the motivational factors of highly educated people moving abroad from Brazil / Mexico.

7. Secondary data - PESTLE analysis

In the following section a PESTLE analysis is applied to both countries. By knowing the specific features of each country, it is possible to assess specific causes of brain drain within each country based on the framework earlier designed. To elaborate, the analysis allows to match possible push factors to the framework. The PESTLE analysis also helps to analyze the similarities and differences of the two countries so to gain important insights into the differences of brain drain, and with it the causes, in both countries.

7.1. Brazil

7.1.1. Political Analysis

Overview

Fernando Color de Mello became the first president that was elected in a free and fair way in 1889. Since then Brazil has enjoyed a relatively robust democratic set up. Powers are separated into the executive, judiciary and the legislature. At the same time, the government has implemented programs that promote large-scale private sector participation in public sector projects and units in order to boost economic growth. In addition, since restoration of democracy, the governments in place have strengthened diplomatic relations with neighboring countries.

The previous president Luiz Inácio Lula da Silva was able to crate macroeconomic stability, but did not put into place any reforms. This was then continued by his processor Dilma Rousseff. In the year 2015, the political scenario became of great concern with the result of an impeachment of president Rousseff in May 2016 based on accusations of having violated fiscal rules of the Brazil's federal budget. Michael Temer took over presidency. The next general elections will be held in October 2018. Michel Temer himself has been accused of corruption charges in 2017. In June 2017, the prosecutor Rodrigo Janet filed charges against the president in the Supreme Courts based on allegations of passive corruption (MarketLine, 2017a).

Table 3: Analysis of Brazil's political landscape	
Current strengths	Current challenges
▪ Strong federal republic	▪ Freedom of speech under threat
▪ Efforts toward economic integration	▪ Weak rule of law
▪ Increasing ties with the US and Mexico	▪ High crime rate and violence against women
Future prospects	Future risks
▪ Efforts to clean up the electoral process	▪ Prevalence of violent crime
▪ Adoption of Marco Civil law	▪ Political uncertainty
SOURCE: MarketLine	
MARKETLINE	

Table 2: Analysis of Brazil's political landscape
(Source: MarketLine, 2017a)

Current Strengths – Strong federal republic & Efforts toward economic integration & Improving ties with the US and Mexico

Brazil is a strong federal republic with separated powers of the executive, the judiciary and the legislature. Brazil has been an international leader in international politics. As such, it has been a founding member of Mercosur and Unasul with the aim to achieve economic integration and co-operation in the region. In June 2017, Brazil announced to have applied to become a member country in the OECD, which shows that Brazil is aiming to become a global player with market friendly policies. Previous governmental visits have shown that Brazil and the US as well as Mexico are aiming to improve ties between the countries and to boost trade between those countries (ibid).

Current challenges – Freedom of speech under threat & Weak rule of law

Free expression is under extreme threat in Brazil. Over the past few years, several journalists and human rights activists have been murdered as the consequence of statements made in public. The government has not taken any actions on counteracting crimes against journalists and human rights activists. Mexico and Brazil have been the countries in Latin America with the greatest impunity in crimes against journalists.

Furthermore, Brazil is characterized by a weak rule of law due to poor regulations and enforcements. In particular, the continuous increase in murders in ghettos and downtown areas in Brazil is of great concern (ibid).

Future prospects – Efforts to clean up the electoral process & Adoption of Marco Civil law

Efforts have been made to fight the abuse of administrative powers influencing election results by using illegal means in campaigns. Furthermore, politicians with criminal convictions are not

allowed to hold an elected office since 2012, also referred to as the Clean Criminal Record Law. In addition, in 2014, Brazil passed the Marco Civil law which provides the citizens with the right to freely express their opinions online and which allows for net neutrality (ibid).

Future risks – Prevalence of violent crime & Political uncertainty

Brazil and especially the large cities such as Sao Paulo and Rio de Janeiro still experience high levels of crime, most of the time organized crime undertaken by gang wars. Most of those cities have high murder rates, facilitated by the easiness to acquire weapons, large poverty and drug abuse. Thus, personal security is a big concern and crime activities disturb businesses.

Another future risk in Brazil is related to the political uncertainty prevailing in the country, which has grown after Dilma Rousseff's impeachment. The situation has had tremendous impacts on consumer and investors' confidence. Hence, the current government is facing the delicate necessity of reestablishing the economy and to foster positive consumer sentiments. The political uncertainty of Brazil's economy has gained an additional layer when the current president Michel Temer became embroiled in corruption charges in 2017. In addition, ex-president Luiz Inacio Lula da Silva, who is running for presidency in the 2018 elections, was sentenced to a 10 years prison in July 2017 due to corruption charges (ibid).

7.1.2. Economic analysis

Overview

Brazil is characterized by a strong macroeconomic framework which allows for economic stability. Competitiveness in the future is likely to increase due to the development of infrastructure projects, which have largely become privatized by the current government, and the attainment of becoming self-sustained in energy needs by exploring pre-salt reserves off the cost. Nevertheless, inflation and low commodity prices affect the economy negatively in the short-term (MarketLine, 2017a).

Table 4: Analysis of Brazil's economic landscape	
Current strengths	Current challenges
▪ Strong macroeconomic framework	▪ Low productivity
▪ Strong agricultural base	▪ Infrastructure woes
	▪ High cost of Doing Business
Future prospects	Future risks
▪ Investments in infrastructure projects	▪ Dependence on commodity exports
▪ Energy self-sufficiency	
▪ Labor reforms	
SOURCE: MarketLine	
MARKETLINE	

Table 3: Analysis of Brazil's economic landscape
(Source: MarketLine, 2017a)

Current strengths – Strong macroeconomic framework & Strong agricultural base

Brazil's economy has a strong macroeconomic framework, characterized by fiscal responsibility legislation, a flexible currency and inflation targeting policies. Those measures have not only helped to stabilize prices and to bring down inflation from double digits, but also regained foreign investors' confidence, which has helped Brazil to become of the largest commodity exporters. Furthermore, Brazil experiences a very efficient supervision of financial institutions. Thus, Brazil did not experience the impacts of the global financial crisis to a such a large extent as most countries did.

Brazil's economy is largely based on agriculture, being the third largest exporter with almost 7.3% of the world's agricultural exports. The government has encouraged agricultural production through various programs with the result of an upward trend of the agricultural production (ibid).

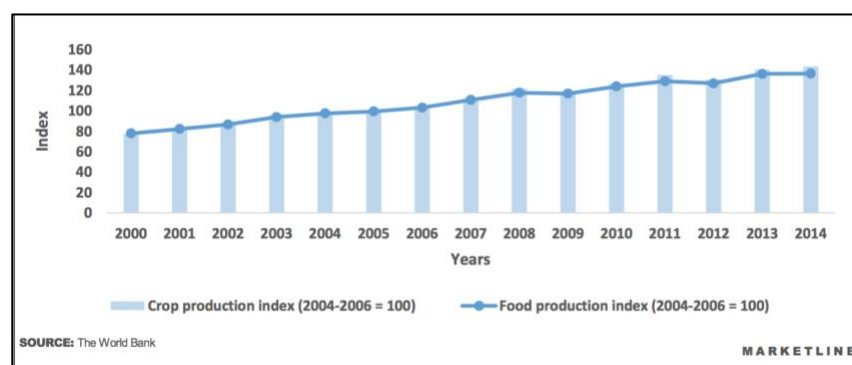


Figure 4: Brazil – Agricultural Production
(Source: MarketLine, 2017a)

Current challenges – Low productivity & Infrastructure woes & High cost of doing business

Brazil faces a very low productivity. While unit labor costs have increased, little investment in skills has followed resulting in very low productivity. Hence, in order to boost growth, policies need to strengthen skills. An interesting factor is that Brazil's wages have increased largely over the last decade with now having higher wage levels than many countries, such as Mexico or Taiwan. Furthermore, according to the World Management survey, 18% of the companies are poorly managed which hampers on competition and thus on productivity. In comparison, Mexico only showed a 11% of poorly managed companies.

In addition, Brazilian workers have lower skills in comparison to other countries. In 2013, only 10% of the population held a post-secondary degree. In comparison, the average in OECD countries is 30% and 15% in Mexico. Brazil faces especially shortages in qualified people in the medicine, engineering, physics, chemistry, mathematics, economics and social sciences. This poor productivity performance is reflected in Brazil's poor export performance as prices are expensive due to high labor costs and low productivity. Hence, in order to boost productivity, employment regulations need to be deregulated and investments in skills need to be undertaken.

Another current challenge is the deficits Brazil presents in terms of infrastructure investment. In order to catch up with its peers and to become a competitive global player, Brazil needs to triple its investment in infrastructure. Due to Brazil's bad infrastructure, the burden on transportation costs is high. In addition to the previous mentioned challenges, Brazil faces extreme high costs of doing business due to the high tax burden (ibid).

Future prospects – Investments in infrastructure projects & Labor reforms

At the moment, Brazil's government is actively promoting foreign investment in order to boost economic growth. In this context, since 2013 strong measures and programs such as PAC 2 have been put in place in order to foster investments in infrastructure to stimulate economic development. The government has also increased infrastructure projects to private investors. In September 2016, the current government passed a concessions plan of 34 infrastructure projects for the time period 2017-18.

Moreover, Brazil is likely to boost economic growth by becoming an energy self-sufficient country due to the discovery of pre-salt oil reserves and the development of offshore fields, making Brazil no longer dependent on imports. Indeed, the exploration of those discoveries could turn Brazil into one of the largest global oil producers. Apart from that, necessary labor reforms have been approved by the Senate in July 2017 that aim to tackle the low productivity issues the country faces (ibid).

Future risks – Dependence on commodity exports

Brazil's large amount of commodities within exports, especially soybeans and petroleum, make it very vulnerable to a change in commodity prices. As such, according to the IMF, a 20% drop in commodity prices can cut Brazil's GDP growth by 2%. Such volatility is further increased by a large number of speculators in commodity markets. Because of Brazil's large dependency on commodities and on their high export to China, Brazil's economy has suffered to a great extent since 2014-15 with the decrease in commodity prices. The GDP growth fell from 0.50% in 2014 to -3.59% in 2016. As demand from China continues to be subtle, the growths prospects of the economy are limited (ibid).

7.1.3. Social analysis

Overview

Brazil is the most influential country in South America and one of the world's largest democracies. Poverty had been reduced with Brazil's economic boom and the introduction of social programs, such as Bolsa Familia. Brazil is characterized by extreme regional disparities with regards to access of healthcare services and educational facilities (MarketLine, 2017a).

Table 5: Analysis of Brazil's social landscape	
Current strengths	Current challenges
▪ High percentage of working age population	▪ Regional disparity and urban poverty
▪ Improving urban living	▪ Informal employment
▪ Improving healthcare	▪ High crime rate and violence against women
▪ Measures to eradicate hunger and poverty	
Future prospects	Future risks
▪ Progress in education	▪ Aging Population
SOURCE: MarketLine	
MARKETLINE	

Table 4: Analysis of Brazil's social landscape
(Source: MarketLine, 2017a)

Current strengths – High percentage of working age population & Improving urban living & Improving healthcare & Measures to eradicate hunger and poverty

Brazil's working population has increased by 9.2% of total population from 1990 to 2016, with 60.7% of total population in 1990 and 69.2% in 2016. Those demographics could be of a very valuable asset to Brazil's economy if provided with the essential skills and education.

Since 2007 investments in urban infrastructure have started and are continuously expanding with the effect of improved urban infrastructure. In addition to improvements in urban living, healthcare provision has improved. Since 1988, Brazilian citizens have universal access to basic healthcare facilities. Next to this, the quality of the services has also largely improved. The improved and extended access to healthcare can be observed in the increase of life expectancy from 69.66 years in 1998 to 73.8 years in 2016.

At the same time, significant measures have been implemented to eradicate hunger and poverty by specific social programs that provide income transfer, access to public services and productive inclusion initiatives. Those programs together with previous economic growth had helped to get 35 million people out of the lower class into the lower-middle class. Furthermore, inequality in Brazil has decreased with a Gini index of 59.3 in 2001 and 52.9 in 2013 (ibid).

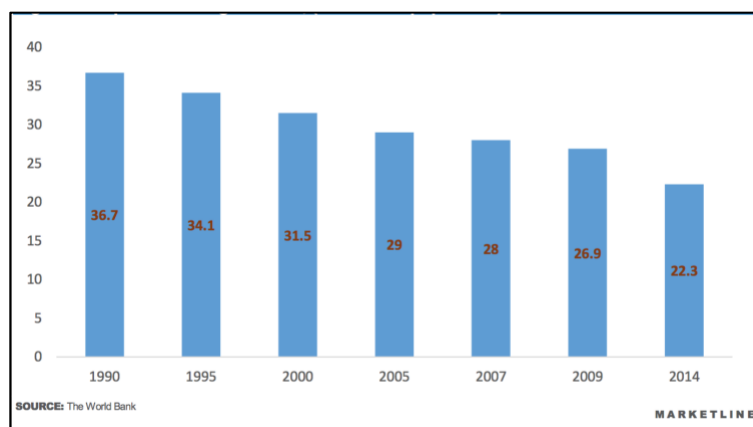


Figure 5: Brazil – Population living in slums, (% of urban population)
(Source: MarketLine, 2017a)

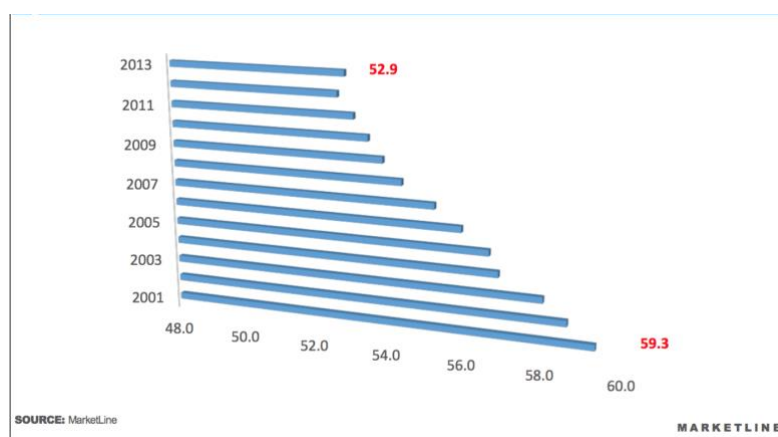


Figure 6: Brazil – Gini Index
(Source: MarketLine, 2017a)

Current challenges – Regional disparity and urban poverty & Informal employment & High crime rate and violence against women

Brazil has witnessed a situation of extreme regional disparities. While particularly the southeast has witness a rapid economic growth, the northern and northeastern regions lack behind in terms

of development. A similar situation can be observed between the wealthy neighbors of cities and the favelas at the outskirts of the city, which are often dominated by drug traffickers and other criminals.

Furthermore, Brazil has a large share of informal employment. According to Oxfam, informal employment reached around 50% in the late 2000s. The problem with informal employment is that it makes the workers very vulnerable as they lack social security and face high job instability. The large informal employment can be associated, partly, with Brazil's rigid labor markets.

Another problem that Brazil is facing are the high crime rates and violence against women. Despite poverty and inequality reduction, high crime rates remain a mayor concern in Brazil. Overall, according to Forbes, Brazil is the country in the world that has most cities plagued by violent crime (ibid).

Future prospects – Progress in education

Even though Brazil still lacks behind other OECD countries in terms of people attending tertiary education, overall the proportion of people completing secondary and tertiary education has increased largely over the time period from 2003-12. As people have gained more education, the standard of living has improved and more people were able to exit poverty. In Brazil, due to the shortage of skilled labor, educated people are expected to be paid a skill premium (ibid).

Future risks – Aging Population

Brazil is facing an aging population and with a steady decline in its workforce rate. According to the OECD, the old age dependency ratio (i.e. the proportion of the population above 64 to the working population aged between 15-64) is going to rise from 10.37% in 2010 to 39.10% in 2060. This is likely to have a negative impact on businesses and social security, putting much stress on the already very generous pension system (ibid).

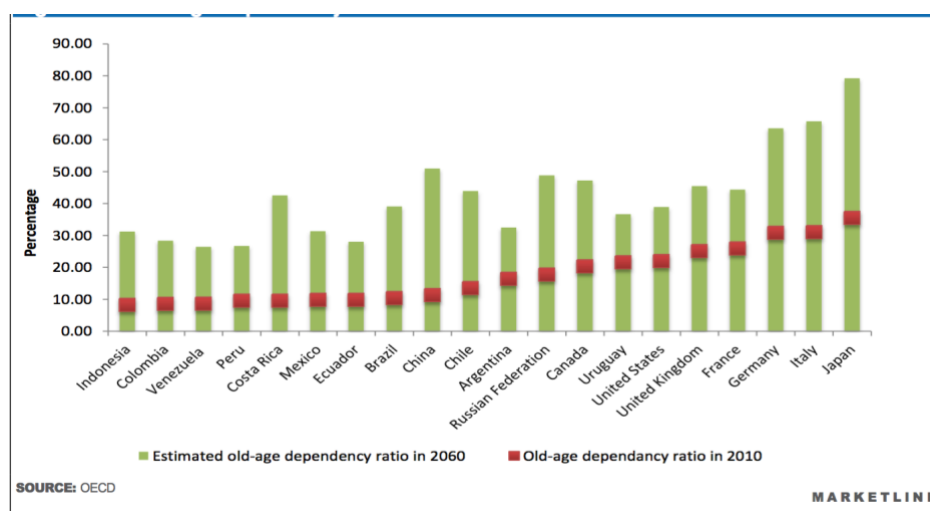


Figure 7: Brazil – Old-age dependency ratio
(Source: MarketLine, 2017a)

7.1.4. Technological analysis

Overview

Brazil passed a national IT policy which has the objective to foster social inclusion and to stimulate innovation so that the country becomes more competitive. Nevertheless, R&D expenditure continues to be low, which can be observed in the low patents filing. Furthermore, the country is lacking highly-qualified stuff in science and technology (MarketLine, 2017a).

Table 6: Analysis of Brazil's technology landscape	
Current strengths	Current challenges
▪ Government encouragement to improve R&D	▪ Low R&D output
▪ Large aerospace and defense industry	
Future prospects	Future risks
▪ Inova Empresa Plan	▪ Low availability of human resources in science and technology
SOURCE: MarketLine	
MARKETLINE	

Table 5: Analysis of Brazil's technology landscape
(Source: MarketLine, 2017a)

Current Strengths – Government encouragement to improve R&D & Large aerospace and defense industry

In light of Brazil's low R&D spending, the government has implemented several tax incentives and legal concessions in order to attract foreign entities, universities and research organizations to stimulate the growth of innovation. As a result, many technological and communication companies have settled in Brazil. At the same time, it has provided several training

opportunities for researchers and teaching professionals to improve their skills. The ultimate goal is to become a country reputable of technological competence.

Another strength of Brazil's technological landscape is its large aerospace and defense industry, being of the largest in the Southern Hemisphere. Similar to Mexico, Brazilian aerospace and defense companies are involved in all stages. The performance of the market is forecasted to increase with an anticipation of 9.1% in the period from 2016-21 (ibid).

Current Challenges – Low R&D output

Despite Brazil's effort to boost its technological landscape, it still suffers very low R&D spending and patent filings (ibid).

Future prospects – Inova Empresa Plan

In 2013, the government introduced the Inova Empresa Plan with the goal to enhance productivity and to increase global competitiveness of firms in sectors such as information and communication technology, agriculture and agribusiness, energy, oil and gas, defense, environmental sustainability and health. At the same time, the country has been experiencing a new wave of entrepreneurs, especially the tech sector has increased a lot with growth rates of over 20% despite Brazil's poor economic performance (ibid).

Future risks – Low availability of human resources in science and technology

Brazil faces a lack of highly skilled people in the sectors of science and technology with many people encountering the issue of not being able to find adequate people in engineering and applied science, software development, data management, product design, advertising, graphics and market research (ibid).

7.1.5. Legal analysis

Overview

The legal system in Brazil is codified to a large extent, with the laws being issued by the federal and state governments. In the absence of any specific legal provisions, court decisions are made based on analogy, customs and general legal provisions (MarketLine, 2017a).

Table 7: Analysis of Brazil's legal landscape	
Current strengths	Current challenges
▪ Comprehensive legal structure	▪ Complicated tax system
	▪ Concerns over intellectual property protection
	▪ Rising Corruption in the Country
	▪ Judicial delays
Future prospects	Future risks
▪ Anti-corruption law	▪ Inefficient regulatory environment
	▪ Product market regulation
SOURCE: MarketLine	
MARKETLINE	

Table 6: Analysis of Brazil's legal landscape
(Source: MarketLine, 2017a)

Current strengths - Comprehensive legal structure

Brazil has a comprehensive legal structure, based on the 1988 constitution, which is implemented at the federal, state and regional levels (ibid).

Current challenges – Complicated tax system & Concerns over intellectual property protection & Rising Corruption in the Country & Judicial delays

In terms of current challenges, Brazil faces a very complicated tax system with many different taxes for social contributions and on regional and municipal taxes. The system is highly fragmented with six different indirect taxes, which produce high compliance costs and put high pressure on business in terms of large litigation costs. To elaborate, out of all countries, Brazil ranks number 181 in paying taxes. (World Bank Doing Business 2017 report).

Another major concern in Brazil is adequate intellectual property protection. Reforms are to be implemented that make generic drugs cheaper by including TRIPS flexibilities into domestic law, which would have the downward impact on big pharmaceuticals as it would go hand in hand with patent invalidations and compulsory licensing.

Expect for that, one large concern is the rising corruption in Brazil. At the moment, Brazil is facing one of its worst political crisis in which the judicial system is unable to tackle many major corruption scandals (ibid).

Future prospects – Anti-corruption law

In 2014, a new anti-corruption law came into effect, which implies to any business operating in Brazil and imposes fines up to 20% on a company's turnover. The law is much stricter in the application than the United States Foreign Corrupt Practices Act (ibid).

Future risks – Inefficient regulatory environment & Product market regulation

Brazil's complex and time-consuming regulations make it a very difficult to start, operate and close a business, thereby discouraging many investors. To illustrate, in accordance with the World Bank's Doing Business 2017 report, it takes 79.5 days to start a business in Brazil.

Except for that, another risk is related to Brazil's low performance in product market regulation. Overall, Brazil is largely regulated, which makes it less competitive and encourages the creation of monopolies. As such, due to the low competition, households face high pressures and expenses for businesses are large because of higher production costs (ibid).

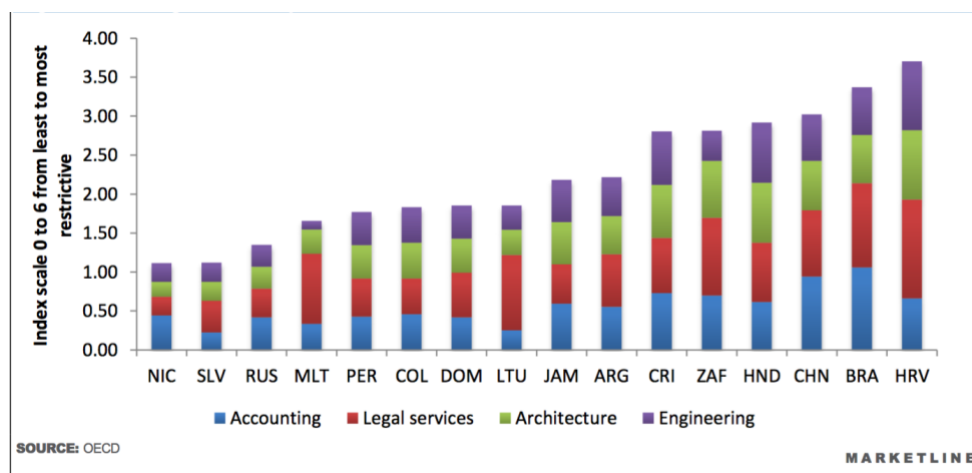


Figure 8: Brazil – Regulation of professional services, 2013
(Source: MarketLine, 2017a)

7.1.6. Environmental analysis

Overview

Brazil has a very extensive natural resource base with the amazon being one of the world's largest rainforest with many different plants and animals. Most of the country's energy comes from hydroelectricity. Hence, greenhouse gas emissions have been low. However, lately, the Amazon rainforest has been harmed through the construction of dams (MarketLine, 2017a).

Table 8: Analysis of Brazil's environmental landscape	
Current strengths	Current challenges
▪ Rich biodiversity	▪ Changes to the forest code
▪ Hydropower	▪ Poor Waste Management
Future prospects	Future risks
▪ Reduced deforestation	▪ Projects fraught with environmental risk
▪ Propagation of ecotourism	▪ Threatened and Endangered Species
▪ Reforestation and renewable energy plans with the US	
SOURCE: MarketLine	
MARKETLINE	

Table 7: Analysis of Brazil's environmental landscape
(Source: MarketLine, 2017)

Current strengths – Rich biodiversity & Hydropower

As earlier stated, Brazil has a very rich natural resources base, with the Amazon reainforest being critical to the global system. Brazil is one of the countries that most promotes green diplomacy and that takes its role in the environmental protection of its green heritages very seriously. Brazil's energy production is largely focuses on hydropower (75%), thereby turning Brazil into one of the largest users of renewable energy in the world (ibid).

Current challenges – Changes to the forest code & Poor Waste Management

With more and more supporters of economic development and the growth of agribusiness, deforestation of the Amazon has become an increasing problem. In 2012, controversial changes to the forest code were voted for that would allow for more deforestation.

Another challenge that Brazil is facing is poor waste management. Only 2% of the waste is recycled with the rest being pumped into landfills. This causes the pollution of the soil and exposes the Brazilian population to harmful diseases (ibid).

Future prospects – Reduced deforestation & Propagation of ecotourism & Reforestation and renewable energy plans with the US

Reducing deforestation of the amazon is one of the main future prospects. Since the beginning of continuous monitoring in 1988, deforestation has been reduced. In 2011, deforestation levels were 65% below 2005 levels.

The next prospect is ecotourism, which can help Brazil in several ways by preserving the environment and helping the economy to grow. The next future prospect are the reforestation and renewable plans with the US (ibid).

Future risks – Projects fraught with environmental risk & Threatened and Endangered Species

Brazil is planning to extent energy generation based on hydroelectricity along the Amazon basin by building an additional 168 dams. This does not only put extreme pressures on the ecosystem, but also inflicts with the livelihoods of the people living along the basin. Except for that, as a result of the natural resources exploitation, the fauna and flora are declining to a great extent in Brazil with many being in threat of extinction (ibid).

7.1.7. Brazil – Brain drain

As previously noticed, the relative number of highly skilled Brazilians livings abroad as a percentage of all people in Brazil is relatively low (see [figure 1](#)). While the migration of scientists increased during the 1990s, it remained much lower than that of other developing nations (Massarani, 2002). Interestingly, with the global recession in 2008, a reverse brain drain was observed in the case of Brazil. This can largely be explained by Brazil's strong fiscal policies that limited its extension to global financial markets.

Many Brazilians went back to Brazil and, at the same time, many Europeans migrated to Brazil in the lookout for better economic opportunities than in their home country that were badly affected by the recession. While many developed countries were encountering a deep recession, Brazil was booming (Llana, 2012). As such in the period from 2010 to 2012, the number of regularized foreigners increased by more than 50 percent. At the same time, from 2005 to 2010, the number of Brazilians living abroad decreased by 50% by around 4 million to 2 million. While some came back because of harsher visa restrictions, many came back due to the many opportunities that Brazil was presenting at the time (ibid).

Many scholars also claim that the brain drain in Brazil has not been very high until recently as Brazil was able to offer world-class education in areas that were essential to national development, such as biotechnology and information technology. Consequently, only a small proportion of the highly educated people migrated as research and development opportunities attracted national and international talent (Saravia & Miranda, 2004).

However, the situation of the brain drain in Brazil has changed with the recent political and economic crisis that the country is facing. While more and more experts claim that Brazil is facing a huge problem with talent flowing out, especially in terms of engineers and scientists due to a lack of job opportunities and budget cuts, the seriousness of the problem has not been acknowledged so far. Only a very few articles have been published on this matter and research is largely lacking.

Nevertheless, the phenomenon of brain drain is present and has been increasing. Already in 2007, when Brazil was still in a good economic situation, it was already acknowledged that one of the pressing problems is the lack of qualified jobs which have been replaced by jobs of lower level of specialization. As such, according to a study published in 2006, around 140,000 to 160,000 Brazilian that hold a degree left the country every year in the search for professional opportunities abroad (Axt, 2007). The number is expected to be much higher now.

To illustrate, many scientists have mentioned that they are inclined to move abroad as Brazil is missing the basic conditions to conduct research. Except for funding, poor logistics are a problem. Often essential things cost at least double the price than abroad and often take long times to arrive (Axt, 2007). This situation has gotten worse with the economic crisis that started to set in in 2014, which then also brought a budget crisis that has cut off much public funding for researchers. To illustrate the gravity of the problem, declining federal support for science has been the norm of the past three years, which has drastically reduced the available funds for scholarships and lab infrastructure.

Nowadays, Rio de Janeiro's funding agency, FAPERJ, is bankrupt with more than \$ 150 million behind on grant payments. The result has been a cut of funds to over 3670 research projects (Escobar, 2017). Similar situations have been observed in other states. For example, for the first time, Sao Paulo's state science agency, FAPESP, was not granted the 1% of state tax revenues, but only 0.89% which sums up in a reduction of \$35 million (ibid).

As a consequence, many scientists want to leave with the outlook of better opportunities abroad. Indeed, many scientists have warned of a significant brain drain that is happening in Brazil at the moment. According to an article published by Guimarães in Valor Economico (2017), many researchers leave the country as they are threatened about their future with current budget cuts. Alone the budget for the Ministry of Communications, Science, Technology and Innovation (MCTIC) was cut by 44%.

As with the scientists, many other jobs face the negative consequences of scandal wrecked Brazil that has resulted in an economic crisis with many people losing jobs. Many highly skilled workers that lost their jobs either in the wake of the operation car wash or because of the economic crisis now face the difficult situation of not getting a job (Lopes & Miroff, 2017). An industry hit harsh by the crisis has been the engineering industry as many of the big companies have been involved in the corruption scandal and now face difficulties acquiring new contracts (ibid).

Because of the suddenness of the economic and political crisis, many experts argue that a sudden brain drain set in with many high skilled people losing their jobs, which might have

drastic consequences for the recovery of the economy diminishing its global competitiveness (ibid). Until now, no specific data exists regarding the magnitude of the brain drain as a consequence of the economic and political crisis. Another issue is that many Brazilian hold dual nationality with other European countries. As such, it is difficult to acquire numbers on how many highly skilled Brazilians live abroad, considering that many move abroad with their European passport.

Another stream of brain drain that Brazil is facing are people that pursue their studies abroad. In 2007, 9,400 Brazilian students were estimated to live in the UK. However, real figures might have been much higher because of the dual nationality (Axt, 2007). Many of those students go to study abroad with a scholarship, which is often linked to the obligation to return to Brazil. However, it is an acknowledged problem that many Brazilian students do not return after their studies. Alone in 2007, the Brazilian government faced a debt of 13m Pounds due to various irregularities from PhD students (ibid).

Except for the lack of job opportunities in Brazil, many Brazilians have mentioned that they value the life quality abroad much more and, thus, do not wish to return. They particularly point out to the uprising violence and the bad public transportation in Brazil. Furthermore, many Brazilians highly appreciate the multilateral society abroad (Axt, 2007).

To sum up, while brain drain was not a problem in Brazil before 2014 as the country was providing people with great job opportunities, the situation has changed. In accordance with the PESTLE analysis, some jobs are still highly demanded in Brazil, but overall many people face a situation of lacking job opportunities.

7.2. Mexico

7.2.1. Political landscape

Overview

In July 2012, the political party PRI returned to power after being out of power for 12 years. With that election result, Enrique Nieto became Mexico's new president. However, accusations exist that the elections resulted in the PRI winning due to massive vote buying. With the new president, many people were expecting reforms. One of the most present issues that has drawn much international criticism is related to human rights abuses in Mexico (MarketLine, 2017b).

Table 3: Analysis of Mexico's political landscape	
Current strengths	Current challenges
■ Strong democratic setup	■ Electoral fraud and violence
Future prospects	Future risks
■ Improving ties with Canada	■ Uncertainty over US policy
<small>SOURCE: MarketLine</small> <small>MARKETLINE</small>	

Table 8: Analysis of Mexico's political landscape
(Source: MarketLine, 2017b)

Current Strengths – Strong democratic setup

Mexico's democratic setup is overly strong. Civil and labor rights, electoral democracy and national sovereignty are guaranteed through the formation of formal government institutions. The separation of executive, legislature and judiciary are given in this constitution (ibid).

Current Challenges – Electoral fraud and violence

As earlier mentioned, in the last presidential election, the winning party – the PRI – has been accused of massive vote buying. With those accusations, doubts have increased that the PRI has changed and that proposed political reforms are to be implemented – a fact that largely has not happened.

Other issues at present in Mexico are violent incidents in the form of assault and murder of candidates running for public office, thereby undermining basic principles of democracy. While some cases occurred during the 2012 presidential elections, the violence rate sparked during the July 2013 local elections. Many mayoral candidates were killed by political rivals, criminal gangs or others with the result that many people dropped out of the elections. Those incidents show that basic principles of democracy are eroded and that the state cannot and does not wish to protect its candidates (ibid).

Future prospects – Improving ties with Canada

The relationship between Mexico and Canada got shattered when the former Canadian government introduced visa requirements on Mexican visitors. The new Canadian Prime Minister, Justin Trudeau, has promised to lift visa requirements for Mexican citizens and to enhance the relationship between the two countries, especially in light of uncertainty over future US policies with Mr. Trump being in presidency (ibid).

Future risks – Uncertainty over the US policy

With Mr. Trump being in presidency, uncertainty of the relationship between the countries and Mexico's economic outlook due to its large dependency on the US prevails. Mr. Trump has continuously threatened to cancel the NAFTA agreement and to impose tariffs on carmakers that have investments in Mexico. As a result, Ford decided to cancel its proposed construction of a plant in Mexico worth \$1.6 billion. If the NAFTA agreement was to be cancelled, the consequences for the Mexican economy would be precarious. The Mexican economy highly depends on the Northern American neighbors, especially on the US. Half of Mexico's GDP is associated with bilateral trade with the US. The US buys three quarters of Mexico's total exports. Furthermore, more than 35 million Mexicans live in the US and send around \$25 billion in remittances back to Mexico (ibid).

7.2.2. Economic landscape

Overview

As of now, Mexico is together with Canada and the US a member of the NAFTA agreement. The Mexican economy depends largely on commercial relations with the US and remittances from migrant workers based in the US. Economic development and generation of jobs is likely to increase due to investments by automotive manufacturing companies. Nevertheless, the Mexican economy faces a delicate situation that brings much concern due to the strong dependency on the US economy and its large informal employment sector (MarketLine, 2017b).

Table 4: Analysis of Mexico's economy	
Current strengths	Current challenges
■ Active participation in FTAs	■ Growth disparity
■ Resilient economy	■ High oil dependence
Future prospects	Future risks
■ Reforms expected to boost growth	■ Strong dependence on the US economy
SOURCE: MarketLine	
MARKETLINE	

Table 9: Analysis of Mexico's economy
(Source: MarketLine, 2017b)

Current strengths – Active participation in FTAs & Resilient economy

With the implementation of the NAFTA in 1994, Mexico's trade with the US and Canada has almost tripled. In total, the country is part of around 44 FTA and 90% of Mexico's trade is within FTAs. As a consequence, the country's trade regime has become substantially liberalized (ibid).

Mexico has a resilient economy, especially since the beginning of 2016 (see figure 9). Domestic demand continues to be the key driver of economic growth, which has been promoted by recent structural reforms that have reduced consumer prices, especially in electricity and telecom services, kept inflation low and increased credit availability. This in turn has bumped up real wages and employment levels. Furthermore, due to the declining value of the Mexican Peso, Mexico's non-oil exports have become very competitive in the international market (ibid).

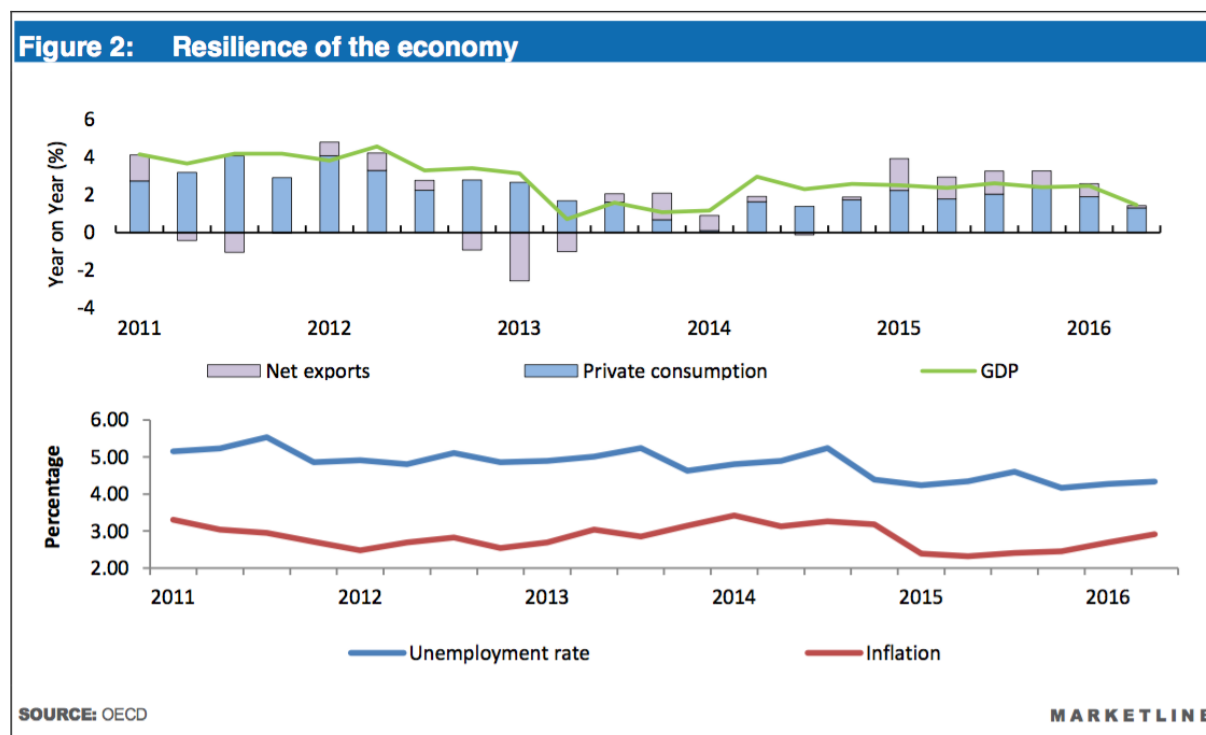


Figure 9: Mexico - Resilience of the economy
(Source: MarketLine, 2017b)

Current challenges – Growth disparities & High oil dependency

While structural reforms and sound economic policies have curbed the economic development of the north and central Mexico, the south has fallen behind (see figure 10). Another challenge that Mexico is facing is its high oil dependency. With declining oil prices and thus declining oil exports, Mexico's trade balance worsened to a large extent. While net exports grew by 1.2% in 2015, they decreased by 0.3% in 2016. Even though the manufacturing sector and other sectors have become increasingly profitable because of the Mexican Peso devaluation, the exports have not been large enough to compensate the depressed oil revenues. Hence, at the moment, the economy is very vulnerable to oil price shocks (ibid).

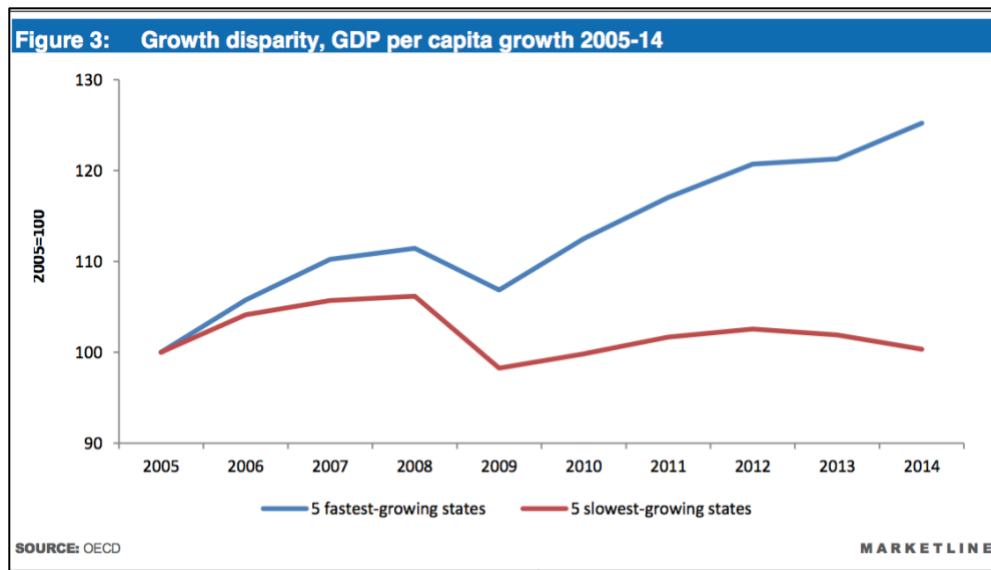


Figure 10: Mexico - Growths disparities
(Source: MarketLine, 2017b)

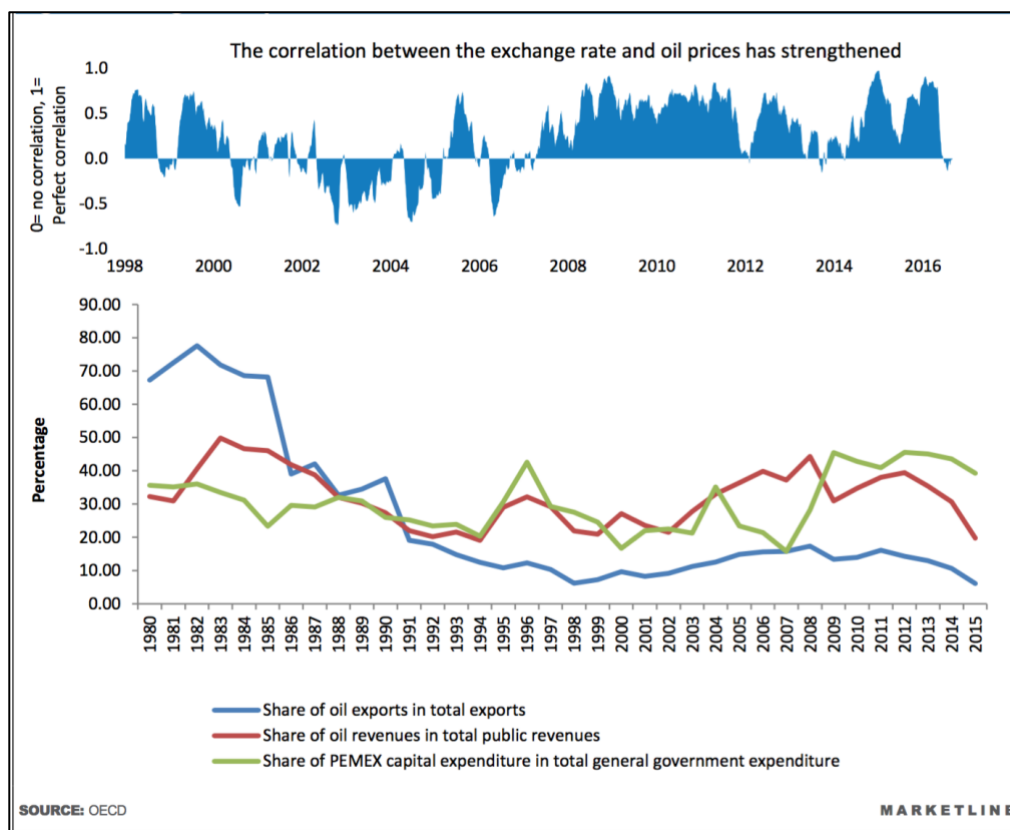


Figure 11: Mexico – Oil dependency
(Source: MarketLine, 2017b)

Future prospects – Reforms expected to boost growth

Mexico's oil giant, Pemex, has a monopoly in the oil and gas sector with exclusive rights. The result has been reduced operating efficiency, which has been further hampered by bloated

pension liabilities, low labor productivity and an aging workforce. In 2013, in order to counteract those development, the government passed essential reforms that allow the private sector to invest in the oil and sector. Those reforms are expected to make Pemex more competitive and to unlock Mexico's vast deep-water potential. Furthermore, reforms have been implemented to make the electricity market more competitive and to open the telecom sector (ibid).

Future risk – Strong links with the US economy

Mexico's economy is highly dependent on US business cycles, which has become ever stronger since the establishment of NAFTA in the 1990s. According to the IMF, the correlation coefficient between the US and Mexico's real GDP was 0.02 before the introduction of the NAFTA agreement and 0.87 after the agreement. Mexico's key links with the US are through trade (especially manufacturing), financial markets and remittances inflows from the US. According to the CIA – The World Factbook, around 81.1% of Mexico's export went to the US in 2015. Mexican manufacturing firms form part of US supply chain and are deeply integrated in those, which increases the vulnerability. As such, because of the strong links that Mexico has with the US, the economy contracted by 4.58% in the aftermath of the economic crisis in 2008. Consequently, Mexico is also vulnerable to policies implemented by the US. The largest future risk is the cancelation of the NAFTA agreement by the USA (ibid).

7.2.3. Social landscape

Overview

According to MarketLine (2017), in 2016, approximately 65.8% of the population was between 15 and 64 years old. Hence, Mexico has a large working population. Mexico has been providing universal health coverage for all its citizens since 2012. However, healthcare spending is low, resulting in a fragile healthcare system with insufficient resources.

Many drug cartels still control the country, proposing a major threat to the population and the government. Because of a continuous struggle for power between the country's drug cartels, the country has experienced an increase in murder rates over the past few years. Crimes undertaking by drug cartels has expanded into other types of crime throughout the last years. Furthermore, the country is facing a large inequality gap which hampers the country's development (MarketLine, 2017b).

Table 5: Analysis of Mexico's social system	
Current strengths	Current challenges
■ Universal health coverage	■ Insufficient healthcare spending and resources
Future prospects	Future risks
■ Education system reform	■ High inequality
<small>SOURCE: MarketLine</small> <small>MARKETLINE</small>	

Table 10: Analysis of Mexico's social system
(Source: Marketline, 2017b)

Strengths – Universal health coverage

In 2012, Mexico implemented universal health coverage for all its citizens through the introduction of the national health insurance program called Seguro Popular (ibid).

Challenges – Insufficient healthcare spending and resources

According to the OECD Health Data 2016, Mexico is one of the OECD country's that spends less on healthcare. Healthcare supply is much below the OECD average. As such, also the number of technological equipment, such as MRIs, is very low in Mexico (ibid).

Future prospects – Education system reform

At the moment, the education system is failing at most levels. Often students lack basic infrastructure facilities. Furthermore, quality of instruction is often low due to the involved corruption in the form of buying and selling teaching jobs, which often results in people with lower qualifications to teach. The government has passed several legislations to improve the educational standards, which are expected to increase educational standards over the medium term (ibid).

Future risks – High inequality

Mexico faces a severely uneven distribution of wealth, which makes up a large part of the existing socioeconomic problems. The standard of living in the north is much higher than in the south with many promising industrial cluster being settled in the north, while many people in the south rely on agricultural practices. The economic crisis in 2009 has unevenly affected the population with a higher burden on the poor (ibid).

7.2.4. Technological landscape

As Mexico has a strong technical workforce, many multinational companies have started to open manufacturing centers across the country. Mexico's aerospace sector is one of the most

booming industries in the country. One of the issues that Mexico is facing is the low level of innovation. Nevertheless, the number of startups have largely increased over the past few years, which are likely to contribute to technological development (MarketLine, 2017b).

Table 6: Analysis of Mexico's technology landscape	
Current strengths	Current challenges
■ Strong technical workforce	■ Low R&D spending
■ Leading hub for the aerospace sector	
Future prospects	Future risks
■ Startups and high tech manufacturing	■ Low subsidies from the government for R&D expenditure
SOURCE: MarketLine	
MARKETLINE	

Table 11: Analysis of Mexico's technology landscape
(Source: MarketLine, 2017b)

Current Strengths – Strong technical workforce & Leading hub for the aerospace sector

Mexico is well known for its cheap and reliable labor of which many companies have made use of in the assembly of vehicles, consumer durables and other goods in export assembly parts, which are also referred to as maquiladoras. With a shift towards assembly work in India and China, Mexico has started to promote the development of its technical workforce in order to keep being competitive on the global scale. As such, engineering programs and other training opportunities have increased with the result of a well-established technical workforce.

At the same time, Mexico has invested a lot in boosting its aerospace sector. At present, more than 260 Mexican companies provide aerospace engineering services and equipment, which is largely facilitated due to the strategic importance of geographic proximity with the US (ibid).

Current challenges – Low R&D spending

Mexico's public spending on science and technology is very low. As such, the R&D expenditure is way below the OECD average (OECD average is 2.36% of GDP – Mexico is 0.50% of GDP). In order to create the essential high-technology jobs that the country needs, policies should promote business investments into R&D that targets high-tech manufacturing, knowledge-intensive market service and non-resource-based manufacturing industries.

As a result of the low R&D spending, the level of innovation in Mexico is also very low. To illustrate, the number of patents granted in 2015 was only 203. In comparison, India granted 3,415 patents. This low focus on innovation jeopardizes the process of businesses hiring highly skilled people (ibid).

Future prospects – Startups and high tech manufacturing

Startups in Mexico have increased over the last years which leads to conclude that entrepreneurial incentives are rising. Due to demographic characteristics of the country with half of the population being below 30 and an increase in number of technology graduates, Mexico has great prospects to become a leading technology market. Many start-ups make use of technology to solve problems in the country, such as in the fields of robotics and high-end technology (ibid).

Future risks – Lob subsidies from the government for R&D expenditure

In order to become a frontier market of technology and to raise productivity and living standards, Mexico needs continuous innovation. This is especially needed in export-oriented sectors due to the current challenges that the country faces. However, at the moment, the Mexican governments does not provide any incentives for R&D expenditures (ibid).

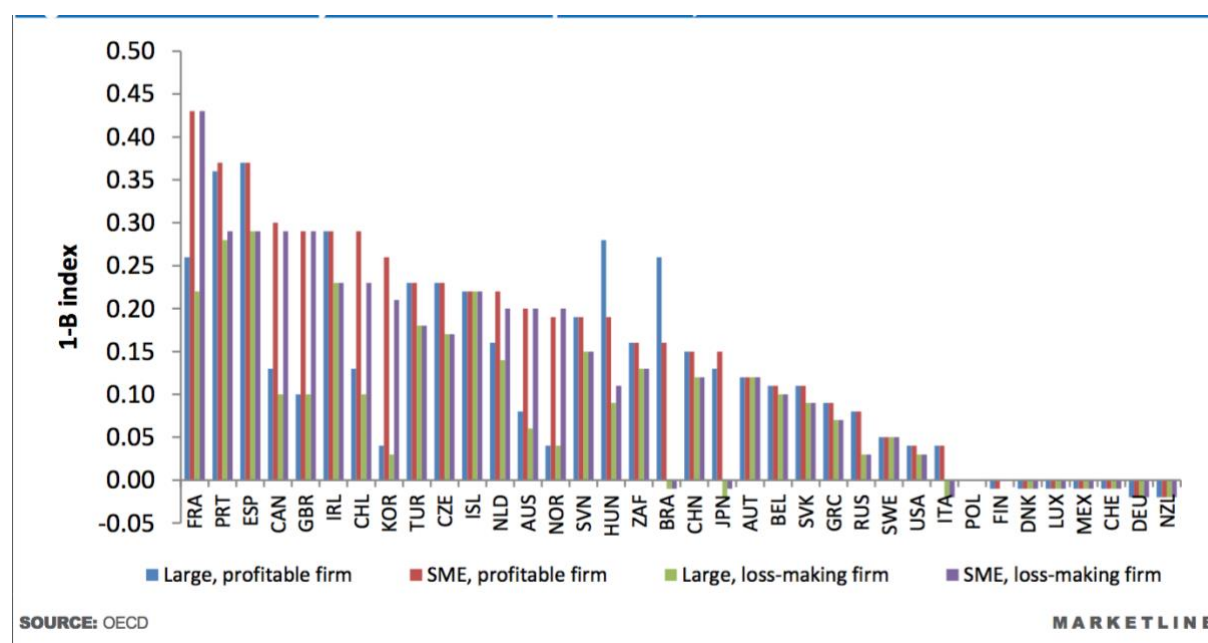


Figure 12: Mexico – Tax subsidy rates on R&D expenditures, 2015.
(Source: MarketLine, 2017b)

7.2.5. Legal landscape

Mexico makes use of PPP law to foster partnerships between the public and private sectors with the aim to build infrastructure, enhance social welfare, increase investment and provide other types of services. Legal procedures are often very time intensive and the judicial system is alleged to be highly corrupt, which is manifested in the large number of pending cases. It has gained a status above the word's average in business freedom, monetary freedom, trade freedom, investment freedom and financial freedom. Furthermore, the country has started to

implement reforms that allow to bring down practices that undermine unfair practices in sectors that are dominated by monopolies, such as in the telecommunications or broadcasting industry. However, at the same time, major concerns exist with regards to lush IPR enforcements in the entertainment, pharmaceutical, software and publishing industries (MarketLine, 2017b).

Table 7: Analysis of Mexico's legal landscape	
Current strengths	Current challenges
■ Infrastructure law	■ Concerns about IPR implementation
■ New federal Anti-Corruption in Public Contracts Law	■ Large number of pending cases
Future prospects	Future risks
■ Tax reforms	■ Poor criminal justice
■ Opening up of various sectors	
SOURCE: MarketLine MARKETLINE	

Table 12: Analysis of Mexico's legal landscape
(Source: MarketLine, 2017b)

Current Strengths – Infrastructure law & New federal Anti-Corruption in Public Contracts Law

The PPP law came into force in 2012 with the purpose to coordinate the creation of partnerships between the public and private sectors. The law grants companies legal certainty. The bill has been acknowledged as an important milestone in the need to provide services, build infrastructure and to increase investment in the construction of schools, hospitals and other infrastructure projects that the previous government did not tackle.

Mexico passed a new federal Anti-Corruption in Public Contracts Law in 2012. Based on this law, any foreign or Mexican individual or corporations that engages in illegal behavior in terms of taking an advantage when procuring contracts with the Mexican federal government faces legal consequences. In 2016, other anticorruption laws were passed with the aim to dampen corruption and increase the country's transparency (ibid).

Current Challenges – Concerns about IPR implementation & Large number of pending cases

Even though laws exist that protect IPR, the enforcement is largely inefficient and pirated goods are sold throughout the country. Piracy in Mexico is mainly present in the entertainment, pharmaceutical, software and publishing industries. For example, according to a BSA global software piracy study, the country's software piracy rate accounted for 52% in 2015.

The next challenge that Mexico faces are the large number of pending cases in the courts and enormous time that it takes until a plea comes up front the Supreme Court of Justice. The judicial system is very slow in general and is often involved in corruption allegations (ibid).

Future prospects – Tax reforms & Opening up of various sectors

In 2014, the government implemented fiscal reforms in the corporate, personal, consumption and energy sectors to boost revenues coming from the taxation system. Previous to those reforms, Mexico's tax revenues were around 17.4% of GDP, which was well below the OECD average (34.3%). Those reforms have helped to counteract the loss in revenues from oil exports.

Furthermore, the government has opened various sectors. In particular, it opened the telecommunications and media sector in 2013. The short-term effect of that are more competitions and thus also reduction in prices. The government is likely to further bring down barriers for foreign investment (ibid).

Future risks – Poor criminal justice

The criminal rate conviction is with an impunity rate of 90% extremely low, predominantly due to the inefficiencies in Mexico's legal system and the common corruption practices. According to several opinion polls, crime is the biggest concern for citizens in Mexico. As such, Mexico has also ranked to the worst in safety in the OECD Better Life Index with a very low score in the rule of law and a very high score in corruption (ibid).

7.2.6. Environmental landscape

Mexico accounts for an enormous amount of biodiversity. One of the biggest problems in Mexico is air pollution. Mexico's CO₂ emissions have increased largely during the period from 2002 to 2013 and are expected to further increase. Mexico City is one of the most polluted cities in the world. Another matter of concern is Mexico's environmental degradation (MarketLine, 2017b).

Table 8: Analysis of Mexico's environmental landscape	
Current strengths	Current challenges
■ Rich in biodiversity	■ Air pollution
■ Funding for forest protection	
Future prospects	Future risks
■ US-Mexico agreement on border environmental issues	■ Low taxes on transport fuels/CO ₂ emissions
SOURCE: MarketLine	
MARKETLINE	

Table 13: Analysis of Mexico's environmental landscape
(Source: MarketLine, 2017b)

Strengths – Rich in biodiversity & Funding for forest protection

Mexico is one of the world's top five biodiversity nations. Currently, funding in the amount of \$400 million has been provided by the World Bank and the Forest Investment Programme with

the goal to combat global climate change and deforestation. Thereby, it is hoped to create a more sustainable Mexico with a greater protection for lands and natural disasters (ibid).

Challenges – Air pollution

Air pollution remains a central problem in Mexico and particularly in Mexico City. While implemented policies have lowered smog in Mexico City, it still faces very high levels of suspended particulate matter which cause damage or disease in the human body (ibid).

Future prospects – US-Mexico agreement on border environmental issues

Mexico and the US signed an agreement to address environmental and public health issues along the border of the two countries. The aim of the program to be implemented in the period from 2012-30 is the reduction of air pollution, improved access to clean and safe water and improved quality of water, promotion of waste management as well as increased joint preparedness for environmental and emergency response (ibid).

Future risks – Low taxes on transport fuels / CO₂ emissions

Mexico charges relatively low transport fuel taxes, which encourages people to make more use of carbon rich fuels, which then then curbs air pollution. Those distortive pricing mechanisms also hamper the development of green technologies and entrepreneurship (ibid).

7.2.7. Mexico - Brain drain

Brain drain has been continuously expressed as a pressing problem in Mexico. In 2012, Mexico was ranked the 4th major brain exporter in the world after Great Britain, the Philippines and India (Davila, 2013). To further illustrate the magnitude of the problem, according to a study published by Alma Maldonado in 2013, one-third of total Mexican population that holds a PhD lives in the United States. Furthermore, according to a report from Americas Quarterly in 2014, one in every 19 Mexicans that has a Bachelor's degree or higher was living in the US (Velasco, 2014). The reasons why Mexicans are leaving have been divided by scholars into different categories.

First of all, many highly skilled Mexicans leave the country because of the “qualified employment deficit” together with low salaries that the country is facing. To elaborate, the number of young adults graduating from the best universities, abroad and in Mexico, is steadily increasing. In accordance with the Migration Policy Institute, Mexico's educated people is

growing by five times faster than the population. However, the country does not match those number in terms of providing highly qualified, well-paid and satisfactory jobs.

Hence, many graduates that hold a Masters or PhD often face the situation of being overqualified for the jobs present in Mexico. In particular, the Mexican market has barely any adequate job opportunities for young doctoral degree holders. Hence, many young graduates feel frustrated with the situation in Mexico and look for job opportunities abroad (Davila, 2013). To illustrate, entry-level professors receive only one third of what they would receive in the U.S. Another issue is that many positions are not advertised and are given by personal contacts, which makes it very difficult for people living abroad to return (Velasco, 2014).

Another factor that makes many highly-skilled and educated Mexicans move abroad is the rising violence and insecurity that the country is facing, which often affects the wealthy and educated. As those are the ones most informed and sensitive to insecurity problems, they often wish to move abroad as they feel disappointed, scared, frustrated and tired of the situation. Many young adults have explicitly stated that they have lost faith in the country and do not see any future prospects, which makes them want to move abroad. Many wish to live in a safe place (Davila, 2013). To elaborate, kidnappings have increased from 600 in 2006 to 1,300 in 2011 and the number of homicides doubled in that period to more than 27,000 (Velasco, 2014).

Bureaucracy and corruption are also factors that many Mexicans detain from moving back to Mexico. Overall, corruption often results in the unethical distribution of key positions (Villavicencio, 2017). Especially scientists often suffer because of corruption and bureaucracy as they have a negative impact on their search in terms of limited resources. Expect for bureaucracy, the specific credit and fiscal requirements are also discouraging factors to open a new business in Mexico. Other factors that influence people to move abroad have been documented as issues related to life quality, such as the heavy traffic and pollution in Mexico, particularly in Mexico City (Velasco, 2014).

Apart from that, one factor that facilitates the brain drain is the geographic location of Mexico. The U.S., which is just next-door, has become the talent magnet attracting many highly educated Mexicans. Many developed nations, such as the US, support a free market in brainpower. To illustrate, out of 30,000 Mexican citizens that hold a PhD, approximately 11,000 were living in the U.S. At the same time, the number of college-educated Mexicans living the U.S. increased from 300,000 in 2000 to 530,000 in 2010 (Velasco, 2014). Mexico invests only 0.38% of its GDP in R&D, which makes educational and research opportunities much more attractive in other countries, such as the US investing 2.68% of its GDP. In

comparison, even Brazil invests more with 1.25% of its GDP. The result is a lack of proper research infrastructure and resources (ibid).

In terms of specific cultural traits, many young people in Mexico especially appreciate the intercultural inputs that they gain from living abroad. Because of globalization, they are much less attached to their country and often do not feel nostalgic about Mexico. Nowadays, globalization has made it possible to have access to local habits and customs around the globe, such as food. Furthermore, the younger generation is more willing to migrate as the family bond is less strong than before (ibid).

Many scholars argue that a vicious cycle is present in Mexico. To elaborate, because of a lack of opportunities and the prevailing insecurity in Mexico, many highly educated Mexicans leave the country. This in turn affects negatively the development and progress of the country, thereby fostering the incentive for more people to leave the country.

Nevertheless, it is important to note that the brain drain in academia is much higher than in commercial jobs. The private sector usually pays well in Mexico so that businesspeople often only spend a few years abroad and then return as it is easier to find a job as it is for scientists (ibid).

7.3. Comparison Brazil and Mexico – Framework application

PESTLE	Push Factors - BRAZIL	Push Factors - Mexico
Political	<ul style="list-style-type: none"> • High (violent) crime rate. • Increasing violence. • Political uncertainty. • Limited freedom of speech. • Human rights abuses. • Weak rule of law: poor regulations and enforcements. 	<ul style="list-style-type: none"> • Electoral fraud (vote buying) • Increasing violence. • Political uncertainty → over US policy.
Economic	<ul style="list-style-type: none"> • High cost of doing business; high tax burden. • Lack of necessary infrastructure. • Low productivity of workforce. • Lack of adequate work opportunities 	<ul style="list-style-type: none"> • Lack of necessary infrastructure. • Lack of adequate work opportunities • Market and thus jobs are highly focused on oil. • Huge dependence on US.

	<ul style="list-style-type: none"> • Market and thus jobs are highly focused on commodities. 	
Social	<ul style="list-style-type: none"> • Large inequalities. • High crime rates. • Large poverty. • Large violence against women. 	<ul style="list-style-type: none"> • Large inequalities. • High crime rates. • Large poverty.
Technological	<ul style="list-style-type: none"> • Low R&D spending, which impacts the creation of job opportunities. • Some sectors lack qualified people, other sectors have a surplus due to current developments. 	<ul style="list-style-type: none"> • Low R&D spending, which impacts the creation of job opportunities and innovation.
Legal	<ul style="list-style-type: none"> • Rising corruption. • Judicial delays and inefficient regulatory environment. • Complex tax system. • Little intellectual property protection. • High regulated market reduces competitiveness. 	<ul style="list-style-type: none"> • Rising corruption. • Judicial delays and inefficient regulatory environment. • Little intellectual property protection.
Environmental	<ul style="list-style-type: none"> • Poor Waste Management, which has hazardous impacts. • Increasing deforestation & implementation of energy projects with high environmental risk. • Air pollution. 	<ul style="list-style-type: none"> • High air pollution. • Increasing deforestation.
Brain drain specific factors	<ul style="list-style-type: none"> • Lack of job opportunities. • Violence, crime & insecurity. • Bureaucracy & corruption. 	<ul style="list-style-type: none"> • Qualified employment deficit. • Low salaries. • Lack of meritocracy principles. • Violence, crime & insecurity.

	<ul style="list-style-type: none"> • Low life quality: high traffic & bad public transportation. • Large budget cuts. • Lack of infrastructure. • European citizenships. • Predominantly affects scientists and engineers. 	<ul style="list-style-type: none"> • Bureaucracy & corruption. • Low life quality: High traffic & air pollution. • Lack of infrastructure and resources due to limited innovation. • Closeness to the US. • Individualistic and multicultural values. • Predominantly affects academia and scientific jobs.
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Table 14: Comparison PESTLE analysis – Brazil vs. Mexico

As can be observed in the secondary literature analysis, both countries are very similar in their characteristics. Both face a delicate political situation with high uncertainty. While the case of Brazil is much more an issue of internal uncertainty due to the corruption scandals, Mexico faces large uncertainty stemming from external forces, i.e. US policy and the following NAFTA negotiations. However, both countries face a corrupt political climate that often involves crime and violence towards political parties, often also involving murder.

Similar patterns can be observed with regards to the economy. Even though the Mexican economy has performed much better than the Brazilian over the past few years (compare tables [15](#) and [16](#)), most characteristics in terms of the challenges and the risks the countries face are very similar. As such, both countries have a large dependency. Brazil is largely dependent on commodities and China as purchaser, Mexico is largely dependent on oil and on the trade relationship it has with the US. Furthermore, both countries lack infrastructure that inhibits on doing business in those countries. Except for that, both economies are not able to provide adequate jobs for highly-skilled people, especially engineers, scientists and people in general that hold a PhD.

With regards to the social landscape, both countries face the issue of large inequalities in terms of rich and poor as well as regional disparities, high poverty rates and increasing crime. In the year of 2014, Mexico had a Gini coefficient of 48.2 and Brazil of 51.4. In terms of poverty rates, in 2014, Brazil presented 22.1% of the population to be living below \$5.50 a day and 35.8% in Mexico (The World Bank, n.a.).

Regarding the technological factors, both countries have a very low R&D spending which inhibits on the development of innovation and new job opportunities. This problem is more predominant in Mexico than in Brazil. Interestingly, until the recent economic crisis in Brazil, many companies had problems finding highly-skilled people for technological vacancies, while the sector in Mexico present the opposite picture. Many people, such as engineers and scientist, have problems finding jobs that match with their qualifications.

In relation to the legal environment, both countries face an inefficient regulatory system that often results in judicial delays and alleged of involved corruption. Both countries do very little for intellectual property protection, which discourages investments and the creation of new business ideas. A specific problem of Brazil is its highly complex tax system and its highly regulated market, posing many burdens on individuals and businesses.

Lastly, both countries face large environmental problems, especially with regards to air pollution in major cities and other environmental risks, such as increasing deforestation. Those environmental factors impact negatively on the life quality of the citizens.

In terms of pull factors, a factor that influences the migration of highly skilled and educated people from Mexico is its proximity with the US, being one of the largest talent pools (see figure 13). In the case of Brazil, a factor that works as a pull factor is that many Brazilians hold dual nationality with a European country. As such, promising opportunities in those countries, such as better work opportunities in comparison to Brazil's current economic situation and a different life style, work as pull factors that make it easier for Brazilians to move abroad.

According to the literature review on factors explicitly associated with the brain drain in both countries, most factors are in line with the PESTLE analysis and are very similar to each other (see table 6). The only different factor is that more people in Mexico face difficulties to find a high-quality job. Furthermore, salaries are not so much of an issue in Brazil than in Mexico. In comparison, as pointed out in the PESTLE analysis, some professionals in Brazil gain a skill premium and salaries often outweigh productivity.

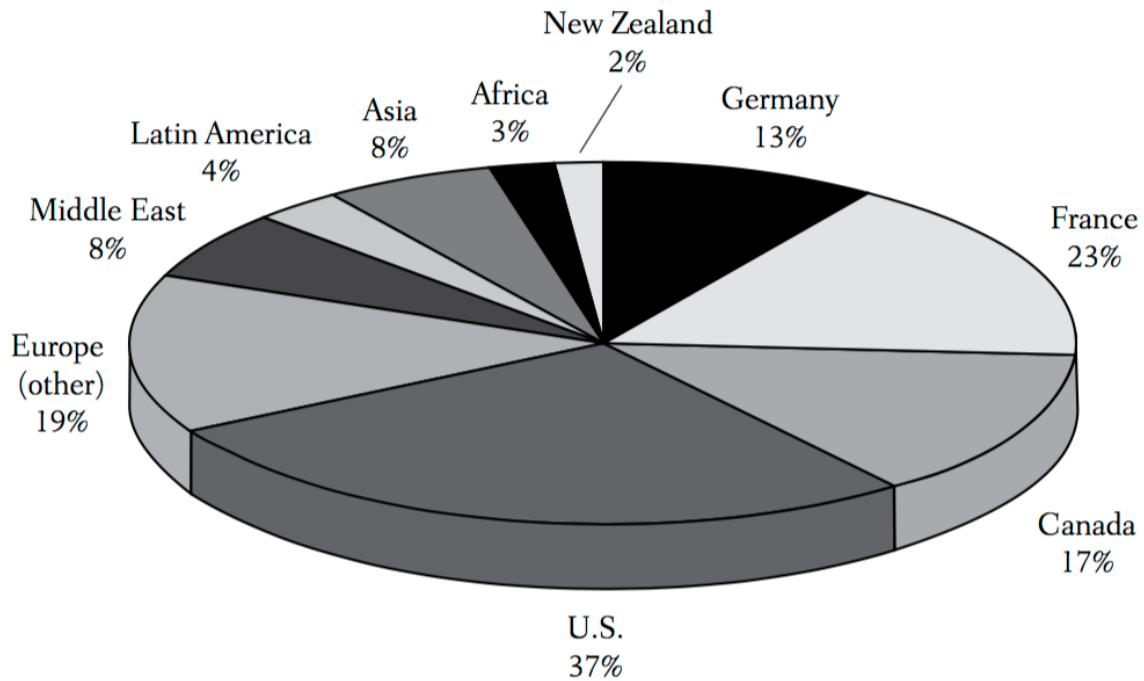


Figure 13: Destination countries of Mexican Professionals.
(Source: Tigau, 2010)

8. Primary data – Survey

The primary data was collected by a survey that was distributed among Brazilians and Mexicans in the age range of 20 to 35 years. This age group has been chosen as both countries face a very high demographic proportion of this age range. To elaborate, both are very young countries with 69.2% of Brazil's and 65.8% of Mexico's population being between 15 and 64 years (MarketLine, 2017a & b).

Within this group, 20 to 35 has been set to be the target group as it is the generation that has clear set life goals in comparison to younger age groups and is also the group that compromises the future of the country. As such, it is often associated with high productivity and innovation. Furthermore, both countries have experienced an increase in tertiary education graduates over the last years. As such, it is especially important to examine this age group with regards to their motivational factors of moving abroad or not (ibid).

The survey aimed to target the most educated and most skilled people from each country, on a gender equal basis. As it is difficult to define who are the most educated and skilled people, top universities have been the underlying measurement. Hence, current students or graduates from top universities in each country or that have studied at the most renowned universities abroad were targeted. In the case of Brazil, the main national target universities were Universidade de São Paulo (USP), Fundação Getulio Vargas (FGV) and Ibmecc. In the

case of Mexico, the main national target universities were Instituto Tecnológico Autónomo de México (ITAM), Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM) and Iberoamericana.

The survey was distributed on Brazilian / Mexican university networks on social media. Except for the universities previously mentioned, universities abroad that were specifically targeted and from which responses have been achieved with Mexicans and / or Brazilians having studied there are the following: Bocconi University, Cambridge University, Harvard University, LSE, NYU, Oxford University and UCL. While those were the main ones abroad, participants had also attended other universities. Also, students or former students of other good national universities in Mexico and Brazil took place in the survey, such as UNAL in Mexico or Ufrj in Brazil (for further information on other universities that participants attended abroad and locally please refer to the study responses in the appendix).

Except for the top universities, the second target was to have people participate that have lived abroad or are currently living abroad. The thesis also aimed to have participants that have never lived abroad in order to gain a full picture on the difference in terms of inclinations and motivational factor of moving abroad between people that have lived abroad or that are living abroad and that never have lived abroad. However, the first group – the ones that have lived abroad or are living abroad – have been the main target group (at least 80% of all participants as a baseline) as their answers provide greater insights into the dynamics of migration.

In total, the survey for Mexico consisted of 28 questions and for Brazil of 29 questions. All questions have been similar with minor adaptations to the specific country. The survey of Brazil consisted of one additional question as this question was explicitly related to Brazil's worsening economic situation in the last two years, which could not be applied to Mexico due to obvious economic differences in the two countries over this period (see last question in Brazil's survey). The first questions of the survey collected important demographic and socioeconomic information, such as the nationality, the gender, the age, the household income, the university and degree attended as well as the field of industry. This information has been essential in order to control and detect any differences with regards to those factors and the degree of people moving abroad and their motivational forces.

In total, 145 people in Brazil and 150 people in Mexico participated in the survey. However, some answers could not be taken for the validation due to inconsistencies. To elaborate, some answers had to be deleted because of participants not meeting the age range or the educational standards. Overall, five answers on the Brazilian and 9 answers on the Mexican

side were excluded from the analysis. As a consequence, the analysis consists of 140 collected answers from Brazilians and 141 answers from Mexicans.

The target universities, as much as the national ones as well as the international ones, were equally distributed. In other words, survey participants came from all major universities and in a balanced manner. In the case of Brazil, survey participants attended the national universities with the following percentage: USP (31%), FGV (25%) and Insper (3%). Hence, the target universities made up 59% of survey participants, while other national universities accounted for 37% of survey participants. Thus, 96% of Brazilian survey participants have visited a national university, while 4% pursued their full education abroad. Other main local universities that were represented are: UNESP (11%), UFBA (9%), PUC- Rio & SP (7%) and UnB (4%), the percentage being of total survey participants. In total, 25% of the Brazilian survey participants attended an international university. The main universities abroad with Brazilians having attended are: University of Cambridge (4%), NYU (3%) and LSE (3%), with the percentage of total survey participants.

In the case of Mexico, survey participants attended the national target universities with the following percentage: Iberoamericana (18%), ITAM (8%), ITESM (12%) and UNAM (11%). As such, the target universities were represented with 49%, while other universities made up 41% of survey participants. Other main local universities that were represented in the survey are: UVM (5%), IPN (4%), UANL (3%) and UACH (3%). Of the 141 survey participants, 33% had studied abroad. That means that 10% pursued their entire education abroad, while 23% of participants pursued education abroad in addition to their national degree. The main universities abroad were: UCL (5%), University of Cambridge (4%) and Harvard University (3%).

The survey has helped to gain both quantitative inputs on the people that wish to leave the country or not to return and into qualitative inputs with regards to the underlying motivational factors of the people prefer living abroad than in their home countries. The survey has been set up in such a way that it allowed for logical paths. In other words, no one was asked 28 / 29 questions as it was split into people that are currently living abroad and people that are living in Brazil / Mexico. The questions for people living in Brazil / Mexico were then divided into two parts – people that have lived abroad and people that have not. For more detailed information, please refer to the survey in the appendix.

The PESTLE analysis has helped to explain the results of the primary data with regards to the previously formulated hypotheses. First of all, the following section outlines the main demographic characteristics of the participants in order to compare the survey participants of

both countries. This is essential in order to detect any possible influential factors with regards to the differences in the responses of participants of each country.

8.1. Demographic background

8.1.1. Nationality

In terms of nationality, all of the participants had to have at least the Brazilian nationality for the Brazilian survey or, respectively, the Mexican nationality for the Mexican survey. In the case of Mexico, four participants were also holding another nationality. While it was only three participants in the case of Brazil. However, at this point, it is extremely likely that many Brazilians only indicated that they have the Brazilian nationality, while having an additional passport.

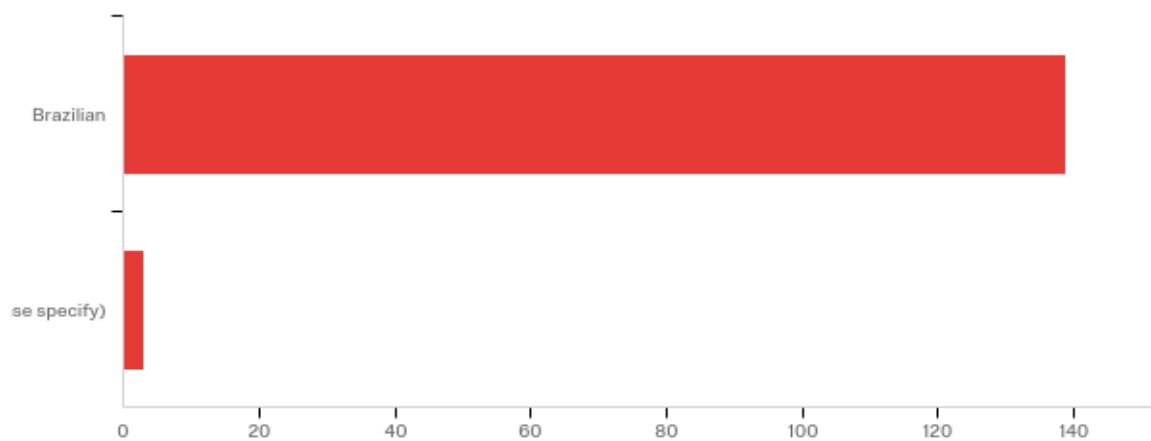


Figure 14: Nationality of participants – Brazil

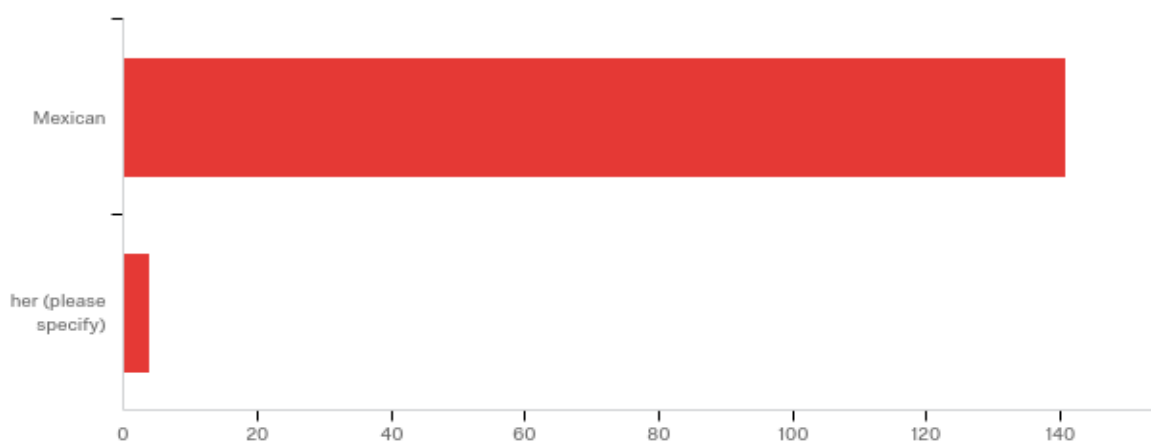


Figure 15: Nationality of participants – Mexico

8.1.2. Place of current residence

The segment of people living in their home country and living abroad has been relative equalized. 67.4% of the participants in the Brazilian survey were living in Brazil, while it was a bit less in Mexico with 59.86% in Mexico.

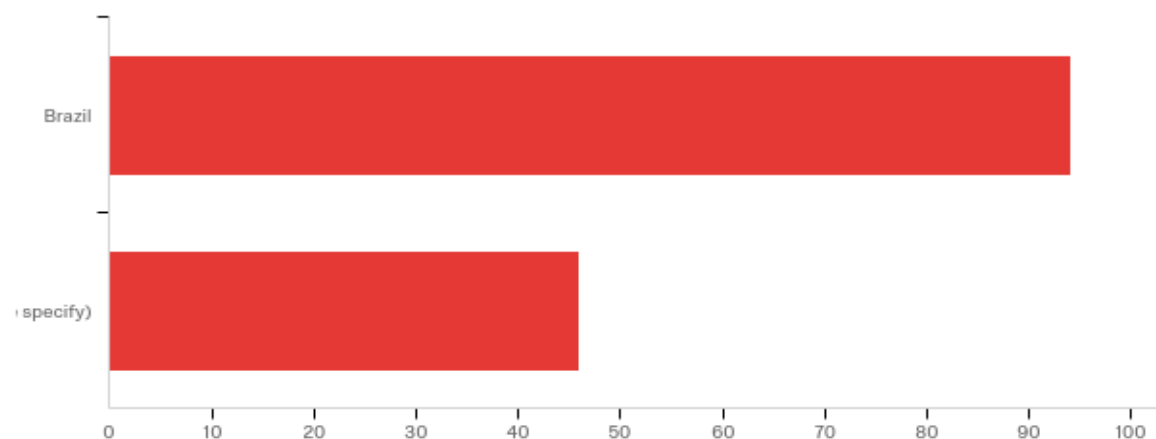


Figure 16: Place of residence – Brazil

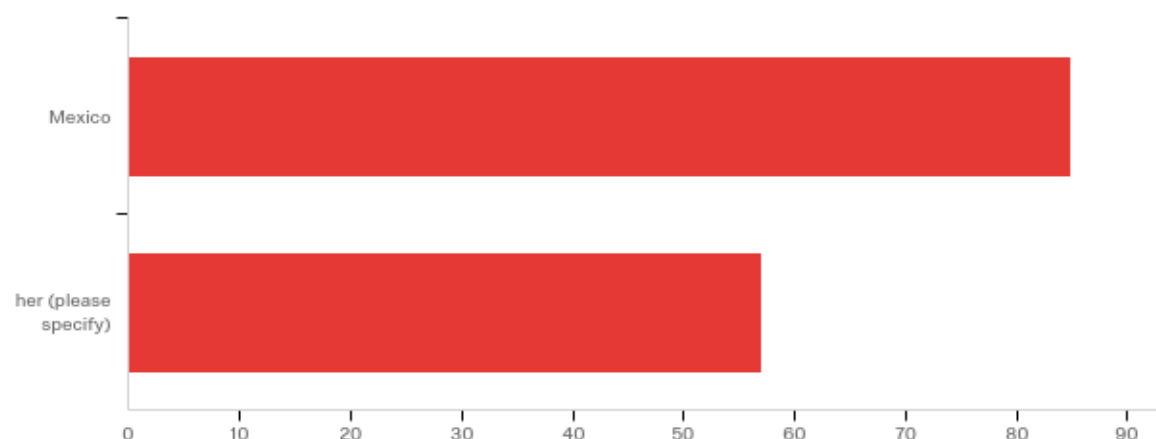


Figure 17: Place of residence – Mexico

8.1.3. International exposure

Of the 94 Brazilians that are currently living in Brazil, 68 (73%) have already lived abroad. Of the 84 Mexicans that are currently living in Mexico, 65 (78%) have already lived abroad. Hence, putting those numbers together with the people that are currently living abroad, more than 80% of the survey participants are living abroad / have lived abroad.

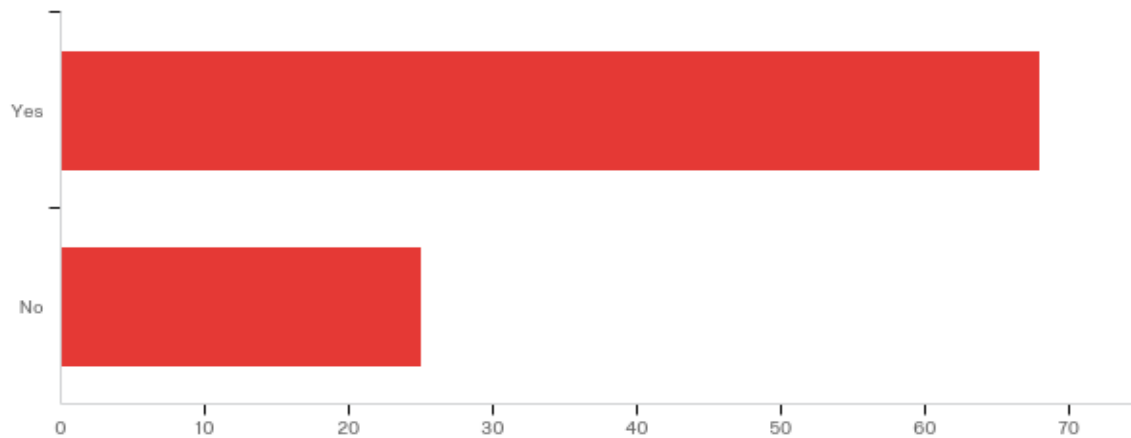


Figure 18: Number of people that have lived abroad and that have not – Brazil

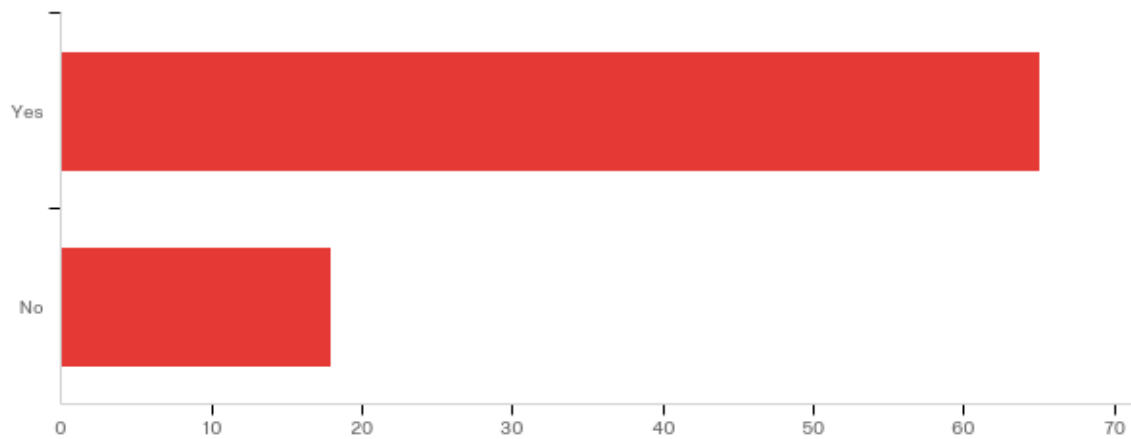


Figure 19: Number of people that have lived abroad and that have not – Mexico

8.1.4. Gender

The gender ratio of survey participants was much more equalized for Brazil (51.43% female and 48.57% male participants) than for Mexico (38.30% female and 61.70% male participants). This is likely the result of how society in the respective country is built up and the networks of the interviewer. To elaborate, Mexico is a much more traditional society than Brazil with many more women opting to follow traditional roles than in Brazil. As a result, it is difficult to gain data from highly qualified and educated women in Mexico. At the same time, and very much related to the previous reason, the interviewer knew many more men with a high educational and professional background than women in Mexico. Hence, it is important to examine gender differences as those might provide answers to possible differences of the two countries.

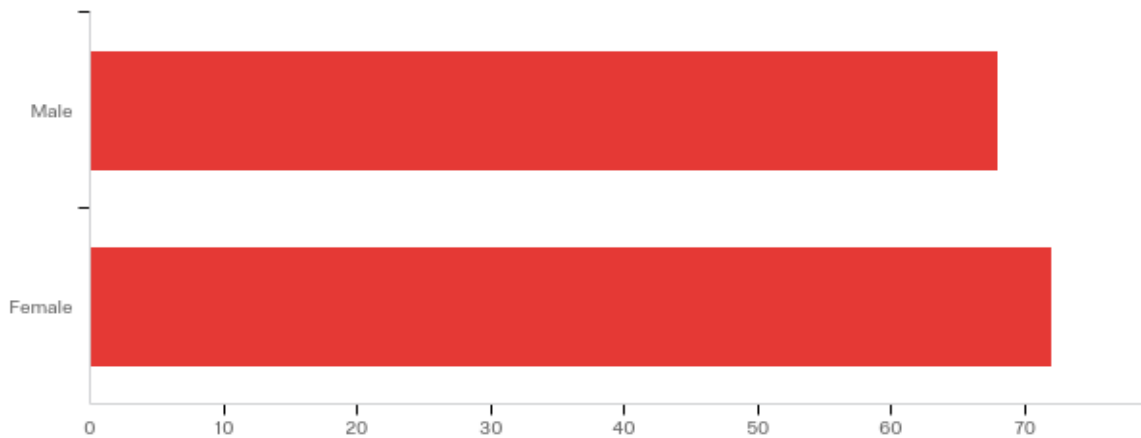


Figure 20: Gender composition – Brazil

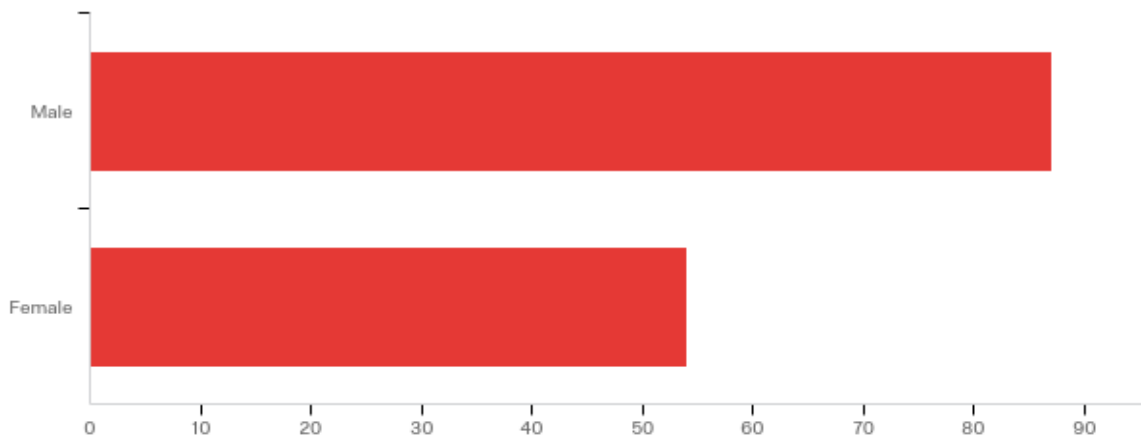


Figure 21: Gender composition – Mexico

8.1.5. Age

While the biggest bunk of participants of both countries has been in the age range of 25 to 29 (54.29% in Brazil and 44.68% in Mexico), a difference exist with regards to the other two categories. In Mexico, the second biggest group of participants has been in the age range of 30 to 35 (39.72%), while it has been the group of 20 to 24 in Brazil (26.43%). Hence, age differences of participants need to be taken into consideration when examining the responses of the two countries.

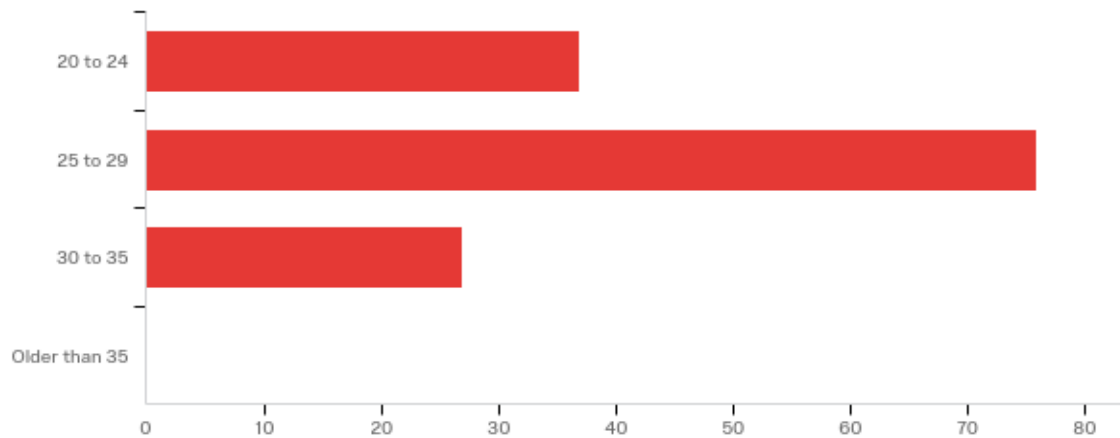


Figure 22: Age composition – Brazil

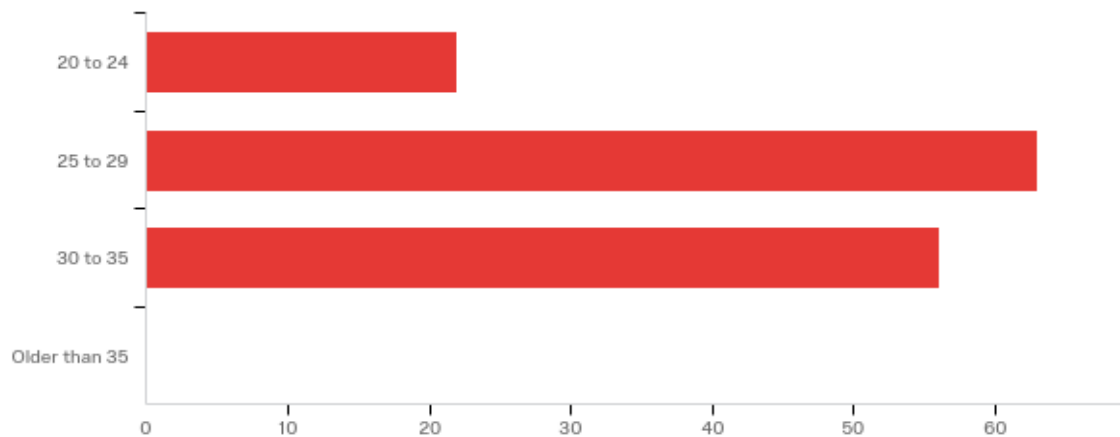


Figure 23: Age composition – Mexico

8.1.6. Household income

In accordance with official class segmentation data, the survey aimed to gain data on the upper-, middle- and low-income classes in both countries. The categories and values have been different in both cases as the Purchasing Power Parity differs. Hence, for Mexico, the official Euromonitor (2015) segmentation has been used with the lower income-class earning less than US \$15,000, the middle-income class between \$15,000 to \$45,000 and the upper-income class more than \$45,000. It should be noted that this data is per household and on a yearly basis.

For Brazil, the official class segments in accordance with the A to E spectrum as established by the IBGE – Instituto Brasileiro de Geografia e Estatística have been used. While the Brazilian income segmentation has more layers than the Mexican one, the A to E spectrum was used as a way to facilitate the answers for Brazilians as people in Brazil are familiar with those classes. It should be noted that the numbers of this spectrum also apply to households, but on a monthly basis. While class B is usually considered to be lower-upper class according to official data (Gasparin, 2014), for the purpose of the research class B and C are put together

and are set to be equivalent with the category of the middle-income class in Mexico, as established by Euromonitor. This way the groups can easily be compared, with class D and E then being the lower-income class.

In light of this categorization, a similar picture emerges. Nevertheless, it should be noted that participants of Brazil overall were of a higher-income class. To elaborate, 40% of Brazilians were of the upper-income class, 53.57% of the middle-income class (with class B constituting the biggest portion with 31%) and 6.43% of the lower-income class. In comparison, 34.04% of Mexican participants were of the upper-income class, 43.97% of the middle-income class and 21.99% of the lower-income segment.

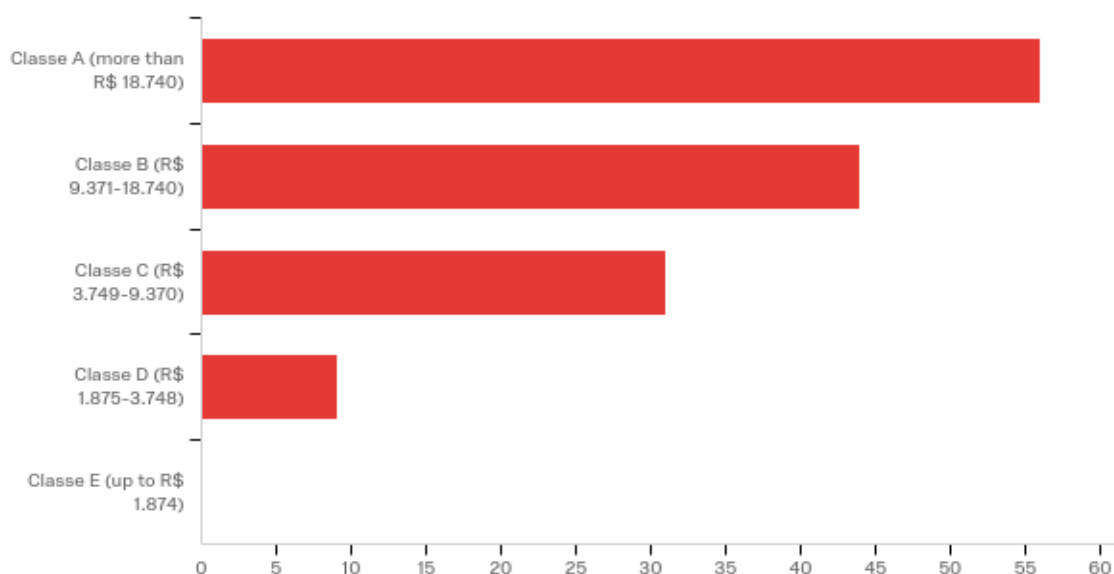


Figure 24: Household income classes – Brazil

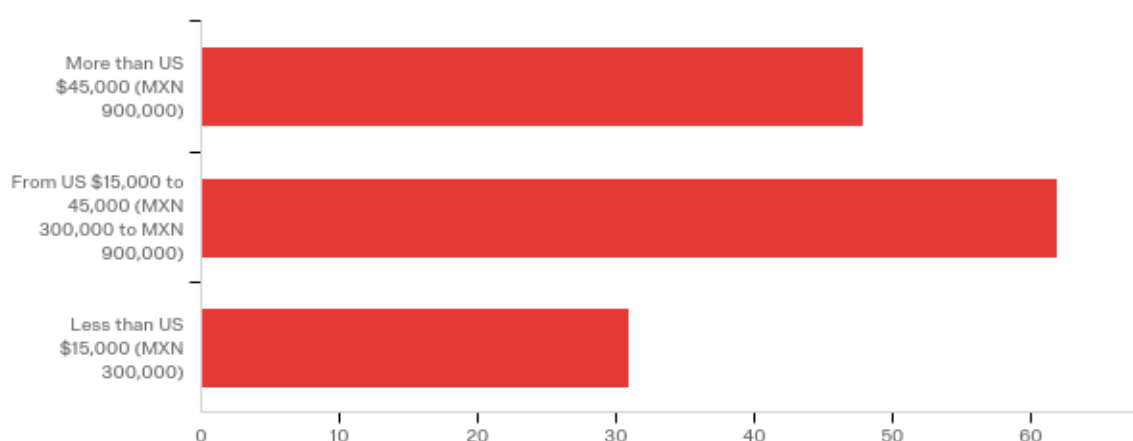


Figure 25: Household income classes – Mexico

8.1.7. Educational background

Overall, the educational level of Mexican survey participants has been higher than that of Brazilian participants. The highest level of most participants in the Mexican survey has been the Master's Degree (44.68%), while it has been the Bachelor's Degree in Brazil (48.57%). Nevertheless, the educational, and with that the university levels, of the participants have been very similar. For example, 40.71% of participants in Brazil's survey also hold a Master's degree. An interesting observation is that more Mexican participants have studied abroad than Brazilians - 27.81% of Mexicans in comparison with 21.21% of Brazilians.

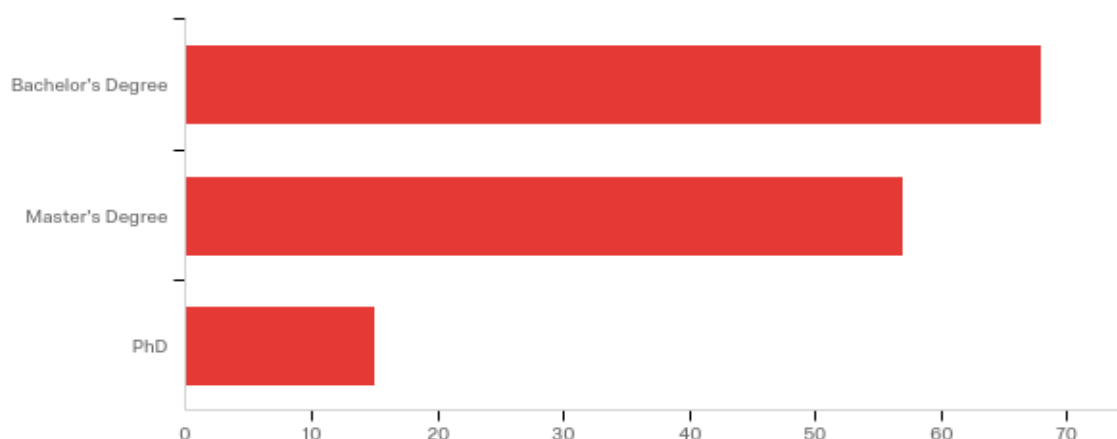


Figure 26: Educational background – Brazil

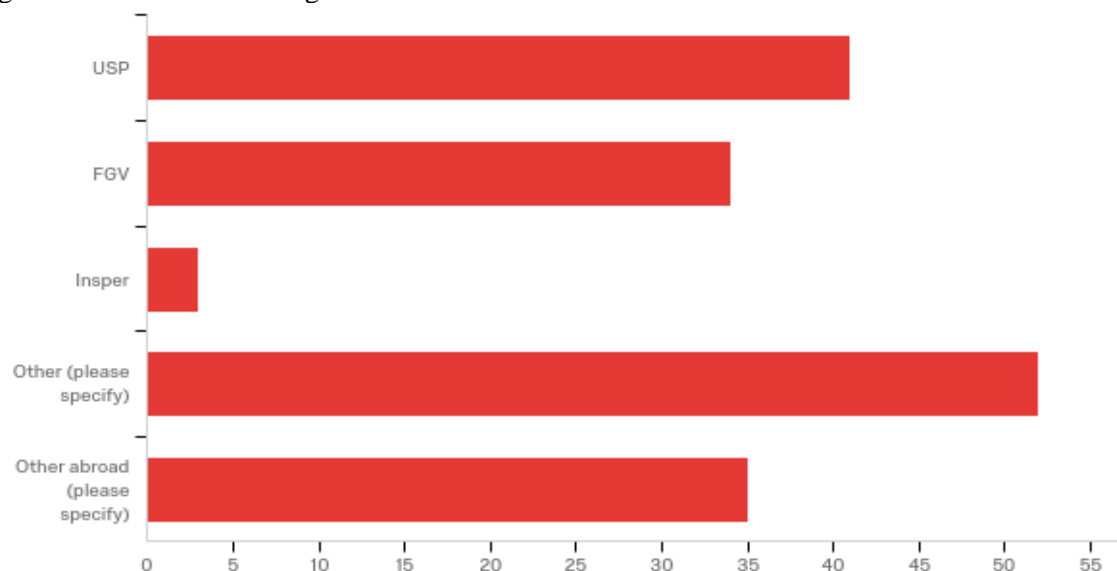


Figure 27: Universities attended – Brazil

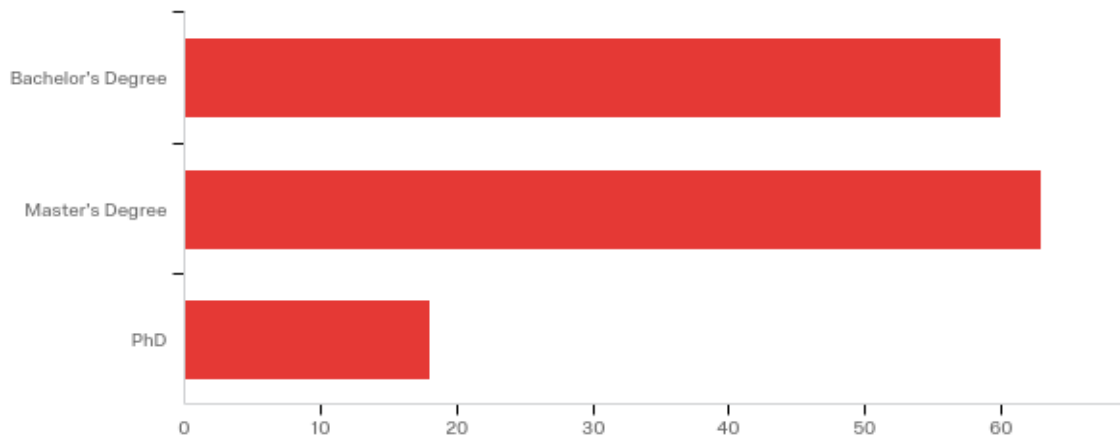


Figure 28: University background – Mexico

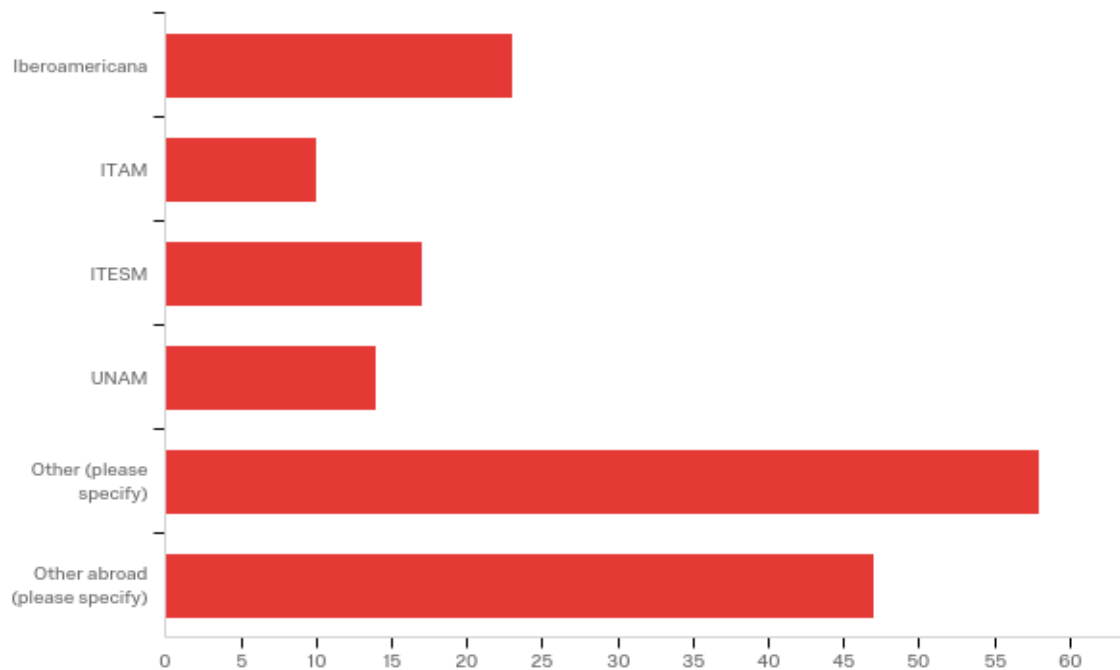


Figure 29: Universities attended – Mexico

8.2. Hypotheses – Data Analysis

The following section discusses the primary research findings based on hypotheses that were developed in accordance with the assumptions of the neoclassical economics. By basing the research findings on hypotheses, it is aimed to be able to answer the research question “In how far can neoclassical economics explain brain drain across similar socioeconomic emerging countries?” and its sub-questions as described in the introduction. In order to provide a comprehensive and easy to follow overview of the findings, the data analysis with the graphics for each hypothesis is to be found in the appendix.

Please note that the percentage of the answers in the survey was calculated in accordance with the total answers, which are, however, larger than the participants due to the multiple-choice answers. However, the interest of the thesis is to have results based on the number of participants and not based on total responses. Hence, when the question was a multiple choice one, the percentages in the following answers to the hypotheses often differ to the ones that can be found in the surveys, as the number of participants for each category has been taken as the baseline and not the total number of responses.

H1: The brain drain in Mexico is much more prolonged than in Brazil.

It should be noted that the current data available of brain drain in Mexico and Brazil stems from a few years back. As such, while much academic and public attention exists with regards to the phenomenon in Mexico, not much information exists with regards to the situation in Brazil. However, the panorama is slightly changing. Over the last two years, more and more scholars have raised their voices in Brazil claiming that a phenomenon of brain drain is coming along due to the reasons mentioned in the PESTLE analysis - increased violence, no job opportunities, budget cuts, worsening life conditions etc. Nevertheless, after analyzing both countries in terms of secondary data, the brain drain is portrayed to still be much more of an issue in Mexico than in Brazil.

However, according to the primary data from this survey, a reversed trend is to be noted and the issue of brain drain seems to be of a much greater problem in Brazil than in Mexico. While more Mexicans in the survey live abroad than Brazilians, many more Mexicans wish to return to Mexico (see figures 15, 16, 30, 31). While only 44.44% of Brazilians living abroad stated they are planning on moving back to Brazil, 67.27% of Mexicans stated they are planning on returning to Mexico. Another alarming factor is that more than 75% of the Brazilian participants living abroad stated that they were happier with their current life than with their life in Brazil (see figure 32). Only 4.44% stated they were less happy. In comparison, only 53.57% of Mexican participants living abroad said they were happier, 42.86% were indifferent and 3.58% were less happy (see figure 33).

Interestingly, the situation of people that are currently either living in Brazil or Mexico, and wish to migrate on a permanent basis, is very equal (see figures 34 & 35). Indeed, 69.33% of the participants living in Mexico wish to move abroad on a permanent basis, while it is 65.59% of people living in Brazil. The difference, and very alarming sign, is that many more people in Brazil have taken serious steps to move abroad. Of the 61 people living in Brazil that indicated they wish to move abroad on a permanent basis, 25 said they had taken serious steps

to do so, being 40.98% (please refer to the Q23 and Q24 in the Brazilian survey for more detailed information). The situation in Mexico is also very alarming, but less with only 17 participants (32.69%) indicating that they have taken serious steps (see figures 36 & 37).

The issue of brain drain becomes even more serious considering that predominantly people that have already lived abroad wish to move abroad on a permanent basis. Considering that those people already had an intensive experience abroad with the positive and negative sides associated, it is alarming that they prefer to live abroad than in their respective countries. In Brazil, more than 70% of the people that had already lived abroad wish to migrate on a permanent basis. 21 of the 25 people that said to have taken serious steps to move abroad on a permanent basis are people that had already lived abroad.

A similar situation can be observed in Mexico: 67% of the people that had already lived abroad wish to migrate permanently and 14 of the 17 participants that have taken serious have lived abroad. This phenomenon can be explained in accordance with the cumulative theory, which states that people that have lived abroad are likely to move abroad again due to the changed lifestyle and values that the previous experience abroad has brought with.

In a nutshell, considering the alarming numbers of people wishing to migrate abroad on a permanent basis and the number of people having taken serious steps to do so, both countries face a large problem of brain drain. However, in contrast to many perceptions and public information, the brain drain phenomenon in Brazil seems to become of a much larger problem than in Mexico, especially considering that many Brazilians currently living abroad do not wish to return to Brazil and that many Brazilians wish to move abroad on a permanent basis. Thus, the hypothesis needs to be rejected. At current dates, based on the primary data, both countries face talent outflows, but the situation in Brazil is much more pressing.

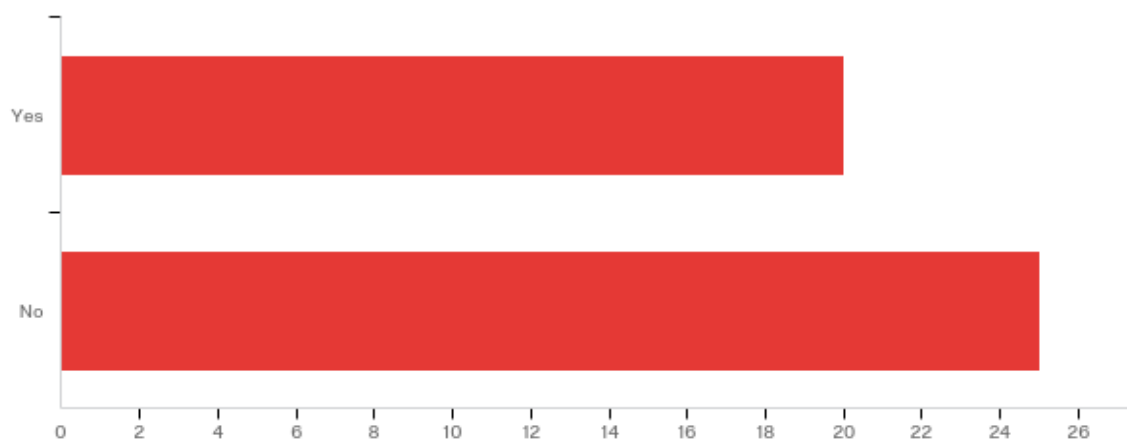


Figure 30: Results survey: Do you wish to move back to your home country? - Brazil

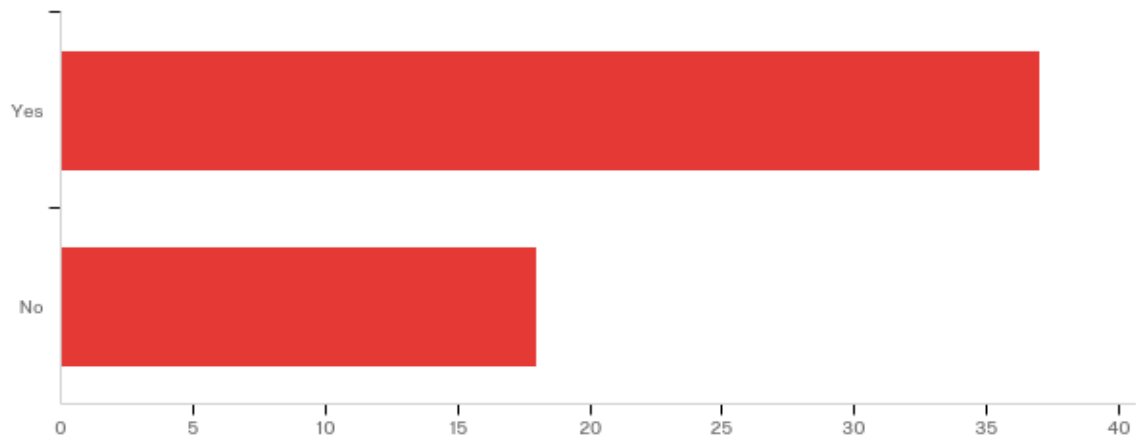


Figure 31: Results survey: Do you wish to move back to your home country? – Mexico

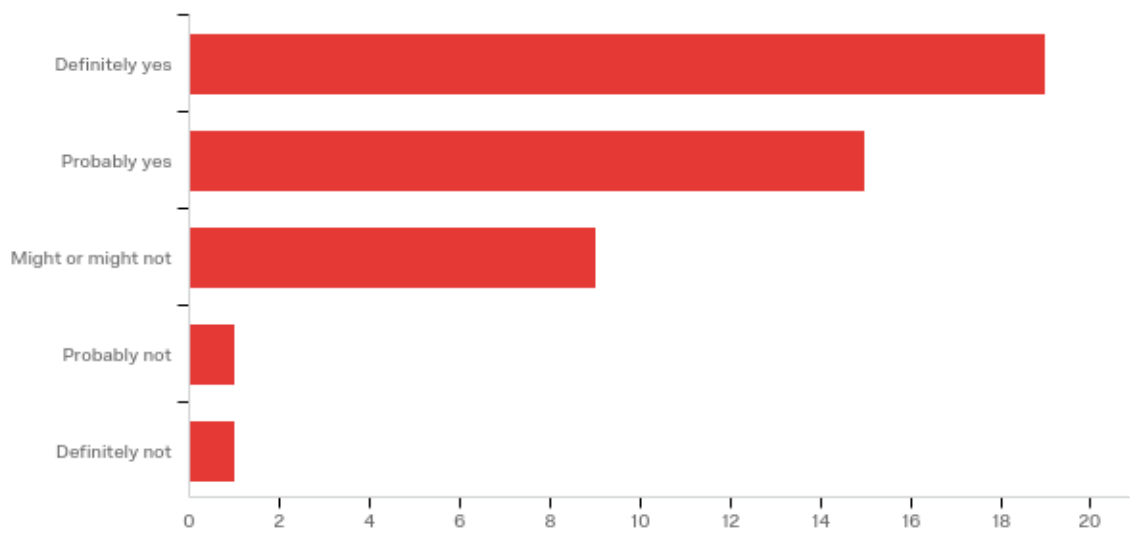


Figure 32: Results survey: Do you feel more satisfied with your current life abroad? – Brazil

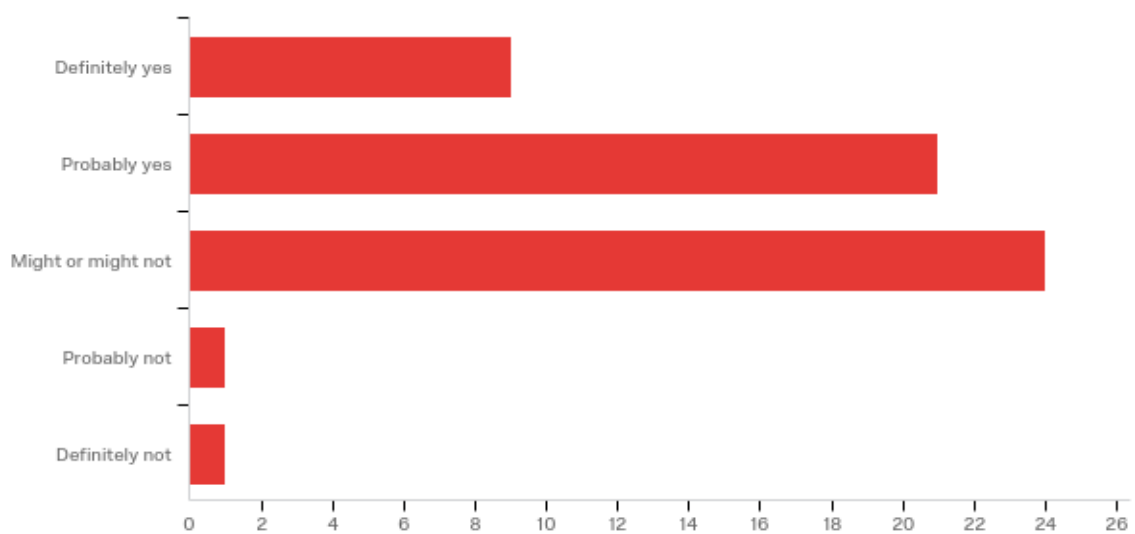


Figure 33: Results survey: Do you feel more satisfied with your current life abroad? – Mexico

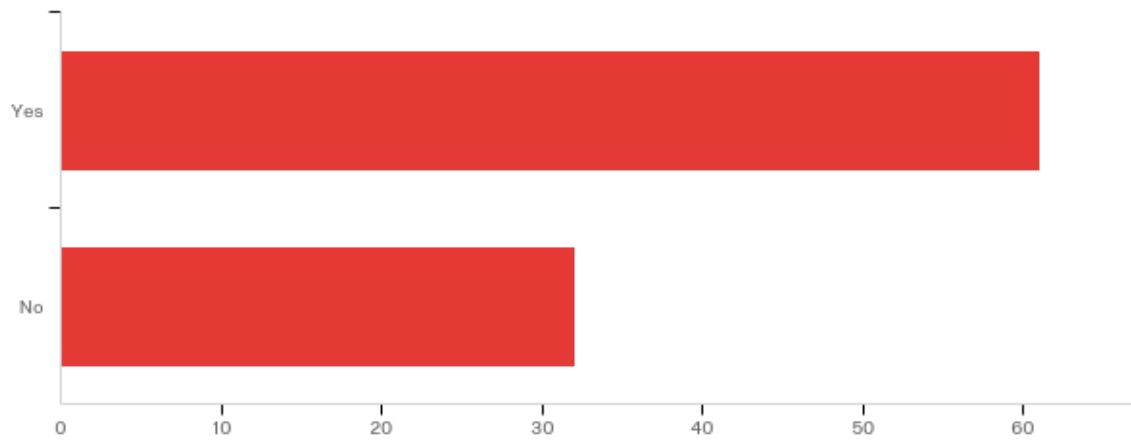


Figure 34: Results survey: Do you wish to migrate on a permanent basis? – Brazil

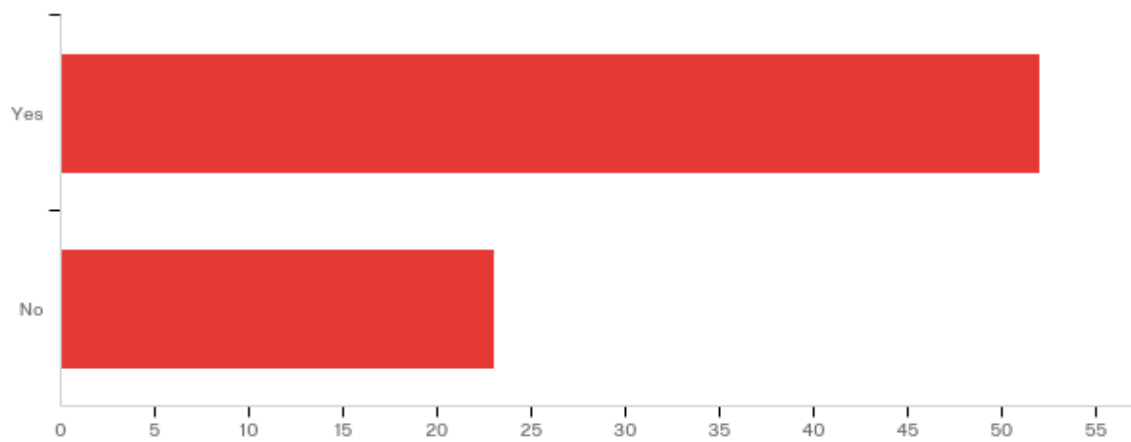


Figure 35: Results survey: Do you wish to migrate on a permanent basis? – Mexico

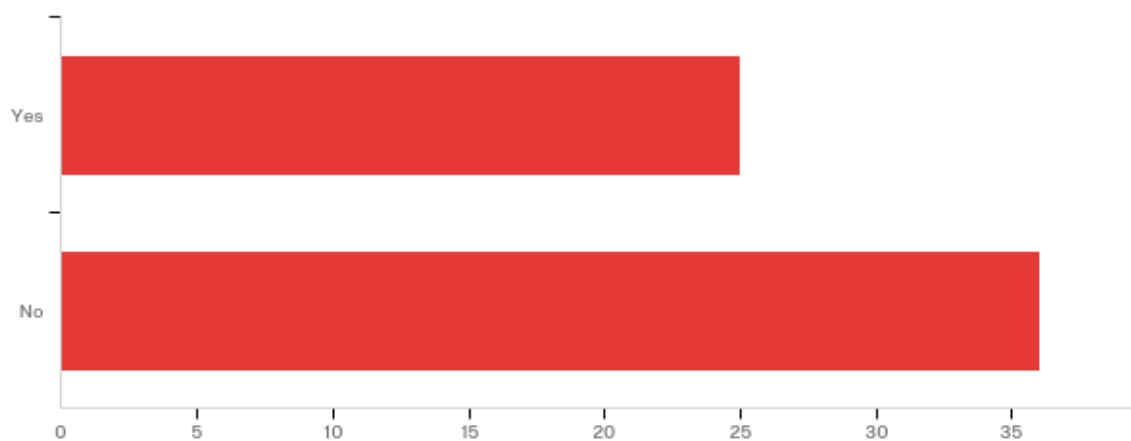


Figure 36: Results survey: Have you taken serious steps to emigrate permanently? – Brazil

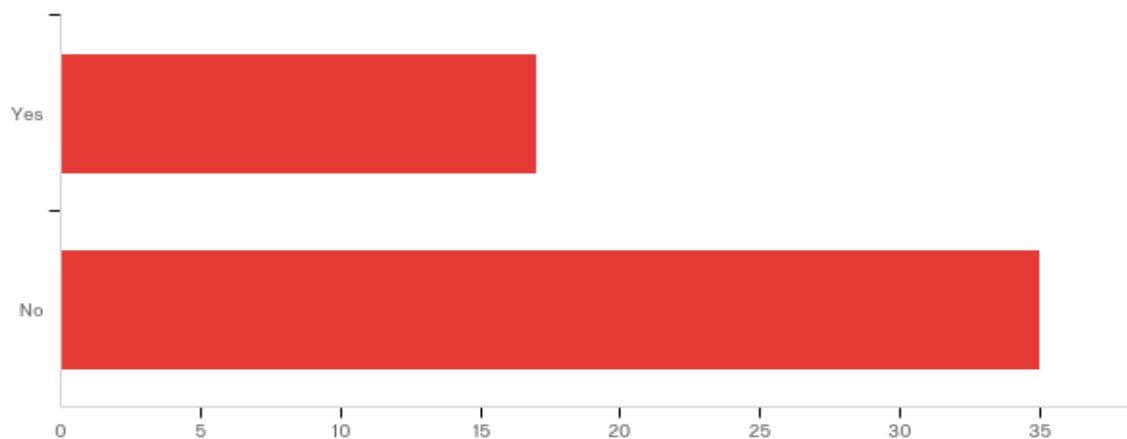


Figure 37: Results survey: Have you taken serious steps to emigrate permanently? - Mexico

H2: The likelihood of people migrating is mainly determined by labor markets - the availability of job opportunities and the level of salaries.

This hypothesis, which is in line with the underlying assumptions of the neoclassical economics school, has been tested in the primary data. According to the results of the primary data, labor markets and with that job opportunities and salaries are important influential factors in international migration. However, they are not the only and most crucial factors that make people move abroad.

To elaborate, of the Brazilians that have participated in the survey and that are currently living abroad, the main reasons that were mentioned by the 46 participants of having moved abroad are: Study purpose (61%), Cultural experience (56%), better work opportunities (54%), career prospects (52%), better lifestyle abroad (45%) and violence (42%). Of all the 46 participants currently living abroad, only 26% reported salary to be an important element (see figure 38).

Interestingly, when Brazilians currently living abroad were asked why they are happier with their current life than in Brazil, almost all of them mentioned better life quality abroad and violence in Brazil (please refer to Q12 of the survey for more detailed information). From those results, it can be interfered that salary and job opportunities are important as part of a lifestyle, but that they are not the only factors that contribute to a better life quality. Otherwise, merely job opportunities and salaries would have been mentioned. A very similar picture has been observed with regards to the question why Brazilians do not wish to move back. Most of them mention violence in Brazil and better life quality abroad. However, very few people have stated that they wish not to move back because of labor markets reasons.

Regarding the results of the Brazilian participants that are currently living in Brazil, but that have lived abroad, most of them mentioned that the reasons for them to have lived abroad were study related (63%), followed by cultural experience (38%) (see figure 39). Those differences in results are likely to be explained by the fact that many of the participants that are currently living in Brazil went abroad as part of their studies. This explanation is also manifested in the fact that many participants mentioned in Q22 of the survey that they came back to Brazil to finish their studies. Thus, as those participants only went abroad for a short term (most of them less than one year) and for the specific purpose to study abroad, one can conclude that the predominant motivational factors are more likely in line with the people that are currently living abroad.

Therefore, it can be interfered that a diverse range of factors influences Brazilians to move abroad, with study purposes, intercultural experiences, job opportunities, career prospects, better lifestyle and violence in Brazil at the forefront. The significance of the latter two – better lifestyle and violence in Brazil – in deciding to move abroad on a permanent basis was also manifested in Q30, which asked people why they wish to move abroad on a permanent basis. 42% of the participants named better lifestyle and 39% referred to violence in Brazil as a reasons to move abroad on a permanent basis. Again, better salary was mentioned by participants, but did not have such a high priority as the other two with only 18% of the participants naming it. Indeed, job opportunities and the political and economic situation were placed higher than the salary (see figure 40).

Those results are very much in line with the outcomes of the PESTLE analysis and the secondary literature review of brain drain in Brazil. People are disturbed by a current lack of job opportunities in Brazil together with high violence rates and a deteriorating life style related to violence issues and other factors such as traffic. In accordance with the PESTLE analysis, salaries in Brazil are quite high compared to productivity, which explains why salary has not been a major concern for Brazilian to move abroad on a permanent basis. An interesting fact is the multicultural environment that motivates Brazilians, a fact which is not mentioned in secondary literature.

A similar picture was observed with regards to the Mexican participants, though the motivational factors differ to a small extent, which is likely to be explained by the PESTLE analysis and the “personality factor” influencing a decision as established in the framework. To elaborate, similar to Brazil, the predominant factor that motivated Mexicans to move abroad were related to study purposes (67%). Furthermore, career prospects (36%), better work opportunities (35%) and cultural experience (32%) were highlighted. Better salary was

mentioned, but was not the most important domain (26%). Interestingly, violence / crime were less dominant forces than in Brazil (only 17%) (see figure 41).

Similar to the case of Brazil, most of the participants that are currently living in Mexico, but that have lived abroad, did so because of study purpose (65%). Hence, again, looking at the results of the people that are currently living abroad, can conclude that the motivational factors for highly skilled and educated people to migrate on a permanent basis are diverse. The fact that a diverse range of factors motivates people to move abroad is also manifested in the factors Mexicans mentioned with regard to their wish to move abroad on a permanent basis. The most influential factors have been: Better work opportunities (52%), better lifestyle abroad (50%), better salary abroad (42%), cultural experience (35%) and crime / violence in Mexico (31%) (see figure 43).

The difference with regards to the importance of the salary between Mexico and Brazil can be explained by the factors earlier mentioned in the PESTLE analysis – Brazil has much higher salaries on average than Mexico. Moreover, Mexico has a greater talent pool than Brazil, which is likely to raise expectations of the people regarding a larger salary. In terms of job opportunities, both countries face a similar situation as both create a situation of brain waste in the sense that they cannot provide adequate job opportunities for highly-skilled people.

This is also consistent with the qualitative assessment on why the Mexican participants living abroad do not wish to move back. Most of them mention lack of job opportunities, over qualification and violence as the dominant reasons. Considering that crime / violence are of similar rates in Mexico and Brazil, it is likely that the personality of the cultures influences the degree of disturbance. Personality should not be underrated. Hence, salaries might also be in part explained by the personality factor – as established in the framework. In the end, Mexico is much more influenced by individualistic values due to its proximity to the US than Brazil. Nevertheless, in accordance with the cumulative theory, considering that lifestyle has been the dominant force of both countries one can interfere that people adopted to lifestyles conform to developed countries standards and wish to further pursue values.

To sum up, the hypothesis needs to be rejected in parts. One can conclude that labor markets play an important role in the decision to move abroad, but other factors also influence the decision of individual to move abroad, often even to a greater extent.

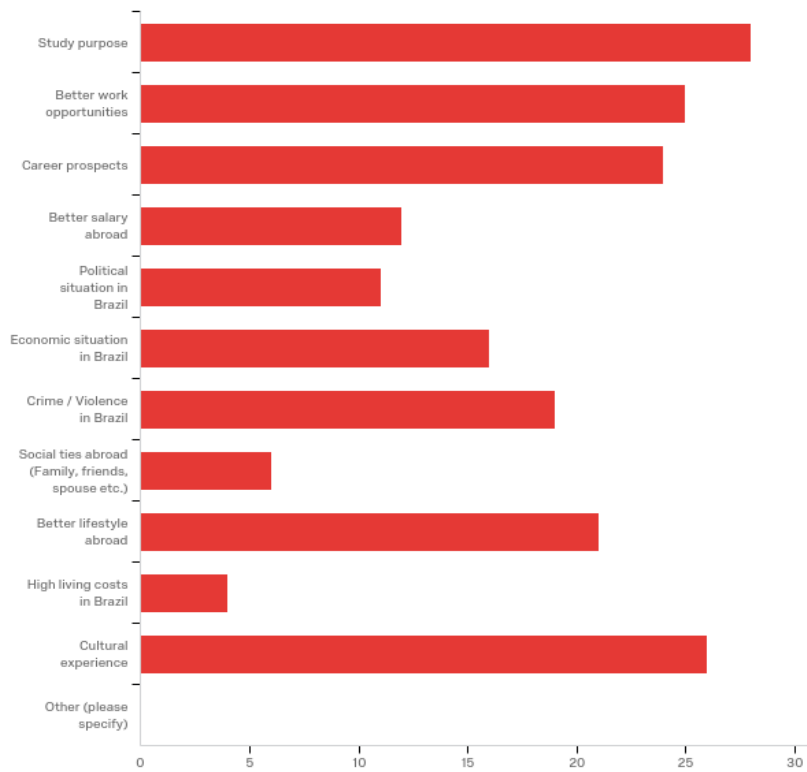


Figure 38: Results survey: Reasons to move abroad, people living abroad – Brazil

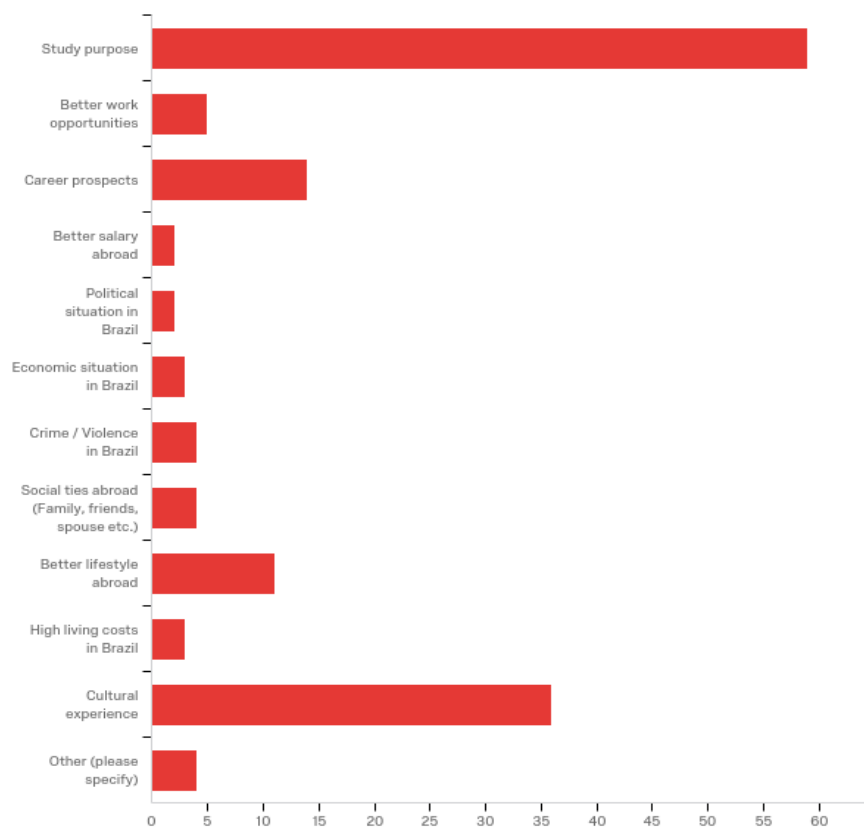


Figure 39: Results survey: Reasons to move abroad, people living in their home country – Brazil

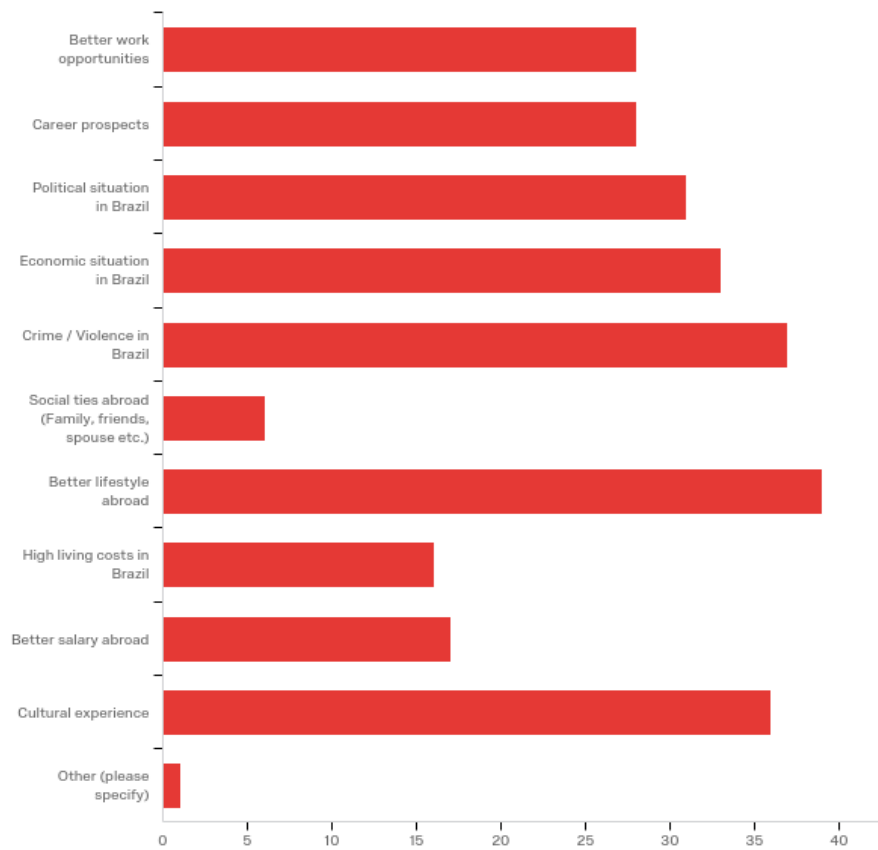


Figure 40: Results survey: Reasons to move abroad on a permanent basis – Brazil

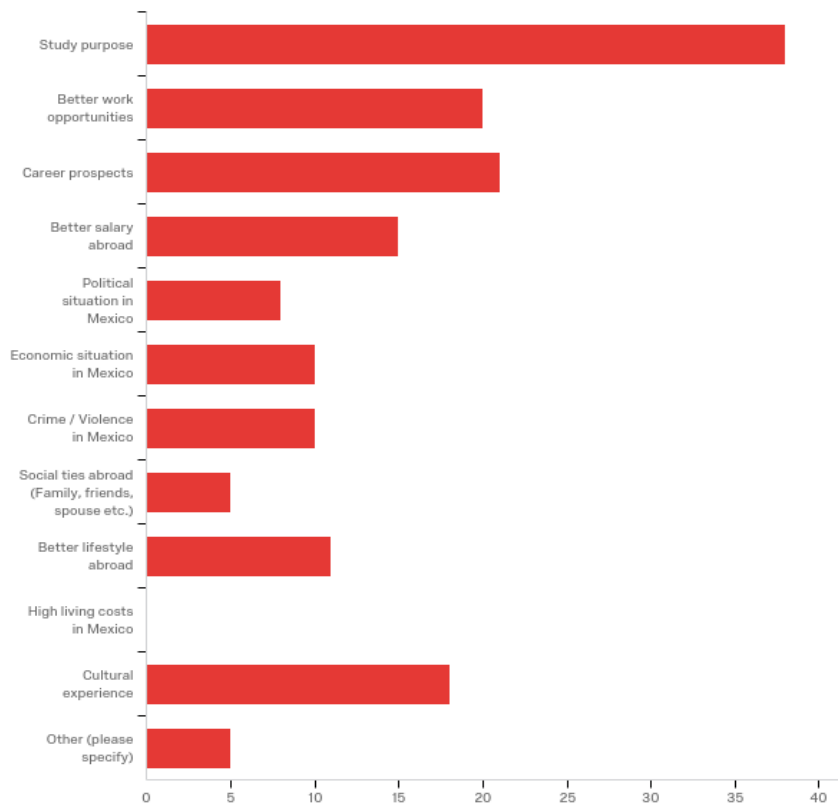


Figure 41: Results survey: Reasons to move abroad, people living abroad – Mexico

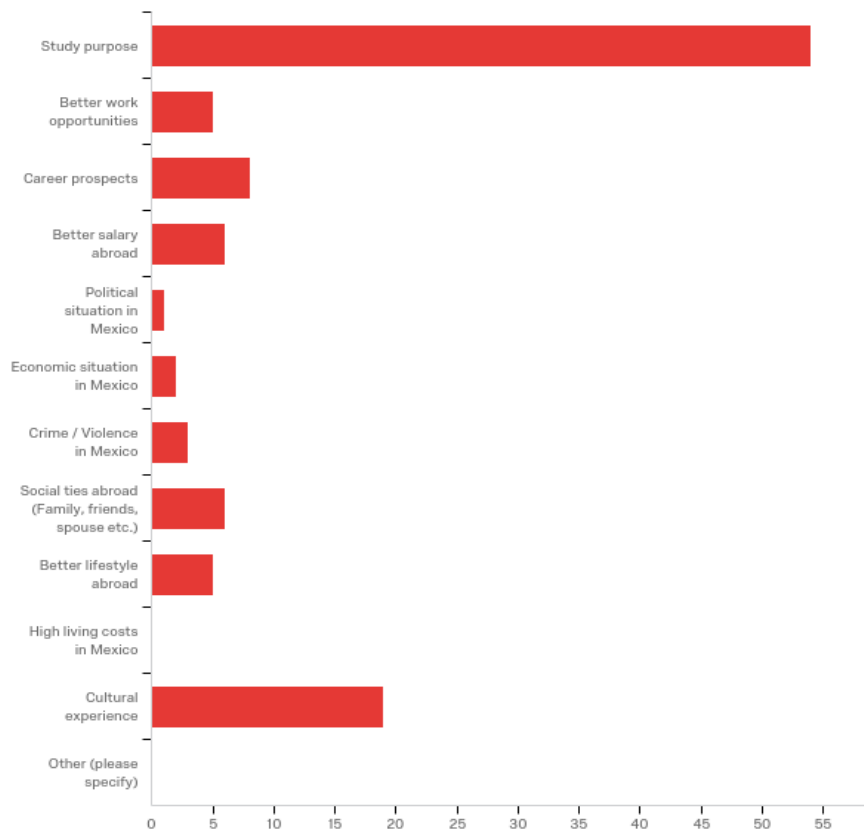


Figure 42: Results survey: Reasons to move abroad, people living in home country – Mexico

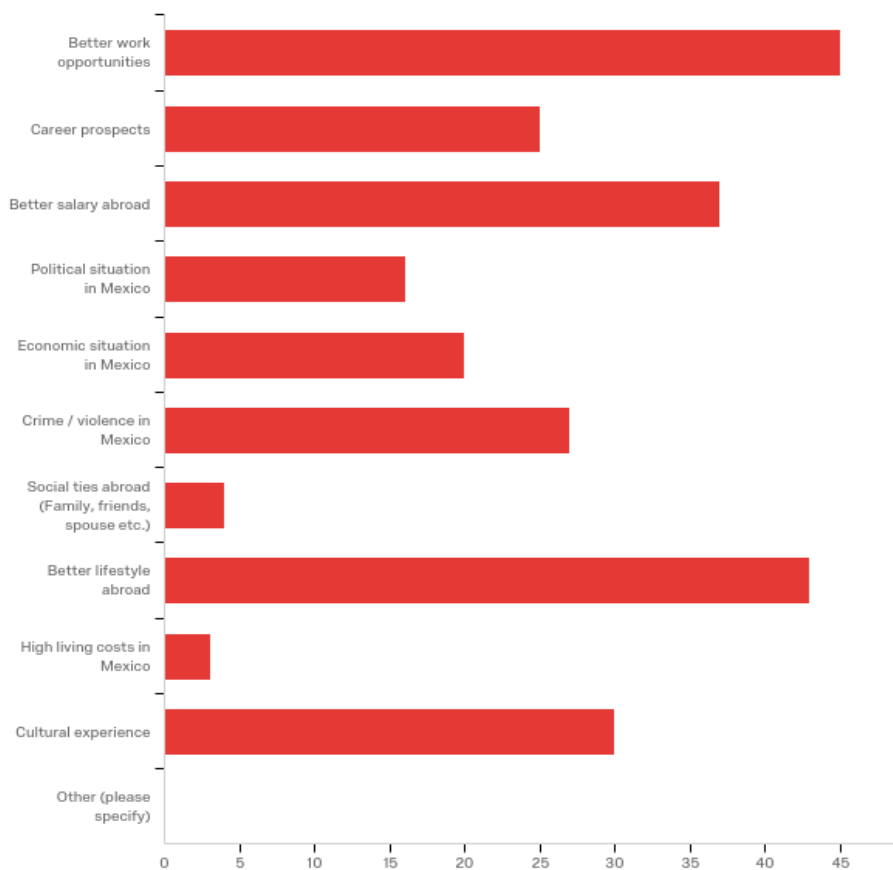


Figure 43: Results survey: Reasons to move abroad on a permanent basis – Mexico

H3: A positive correlation exists between economic underdevelopment and brain drain.

The primary data tested in how far economic development influences brain drain. As previously highlighted, the economic situation in Brazil has worsened a lot about the past few years. The economy contracted by 3.8% of GDP in 2015 and 3.6% of GDP in 2016 (see table 15). Hence, one could assume that the increased wish for people to move abroad in Brazil, as proven in hypothesis 1, is related to the current regressive economic process in Brazil.

In terms of the people that are currently living abroad, 35% mention that they moved abroad because of the economic situation in Brazil (see figure 38). However, it should be noted that many of those participants had already moved abroad before the economic and political crisis hit in 2015. As such, the percentage of participants stating that they moved abroad because of the economic crisis increased over the past three years. To elaborate, while only 29% of the participants in the period from 3 to 5 years living abroad mentioned economic situation as a reason to have moved abroad, it is 41% of the participants that have been living abroad between 1 and 3 years.

Interestingly, while 35% of the participants wish to move abroad on a permanent basis because of the economic situation in Brazil (see figure 40) and while 79% of the respondents that want to move abroad permanently claim that their wish has increased with the worsening of the economic situation in Brazil (see figure 46), no clear interference of economic development influencing brain drain can be drawn. Indeed, of the Brazilians that are currently living abroad and that state that their economic situation is definitely better now than it was in Brazil, only 52% wish not to return to Brazil.

Other important factors influence the decision of an individual to stay in their home country or to return. One strong factor are social ties in the home country. As such, 36% of the Brazilians that had lived abroad stated that they wanted to come back to Brazil because of social ties (see figure 44). The importance of the family was also continuously mentioned in the open question on why Brazilians currently living abroad wish to return to Brazil in the future (please refer to question 22 in the survey results).

In the case of Mexico, it is more difficult to examine a relationship between economic development and brain drain as Mexico's economic situation has improved post 2008 with a steady growth rate of more than 2% of GDP over the past few years (see table 16). One could conclude that the positive economic development has influenced the wish of many Mexicans (67%) to return to Mexico, as outlined in hypothesis 1. Similar to Brazil, most Mexicans wish to return because of social ties, predominantly family and friends. This is further manifested in

the fact that 37% of the Mexican survey participants that had lived abroad came back because of social ties (see figure 46).

Interestingly, many Mexicans have also mentioned the wish to return to Mexico to open their own business and to give back to Mexico. This can be closely linked to Mexico's strong economic development and the rise in entrepreneurial activities over the past few years, as outlined in the PESTLE analysis. Furthermore, similar to Brazil, of the Mexicans currently living abroad, who have an economic situation abroad definitely better than in Mexico, only 48% wish not to return to Mexico. Hence, as with the case of Brazil, other important factors influence the decision-making process of moving abroad and returning to the home country.

In a nutshell, the hypothesis needs to be rejected. It can be concluded that economic development is an influential factor in the decision-making process of the individual to move abroad or to return to their home country. It is especially relevant as it impacts on job opportunities and other socioeconomic factors, such as violence, which might make people more prone to migrate. However, it is not the only factor that influences people's decision to move abroad or to return. Instead, it is a conjunction of factors with both nationalities valuing social ties to a great extent.

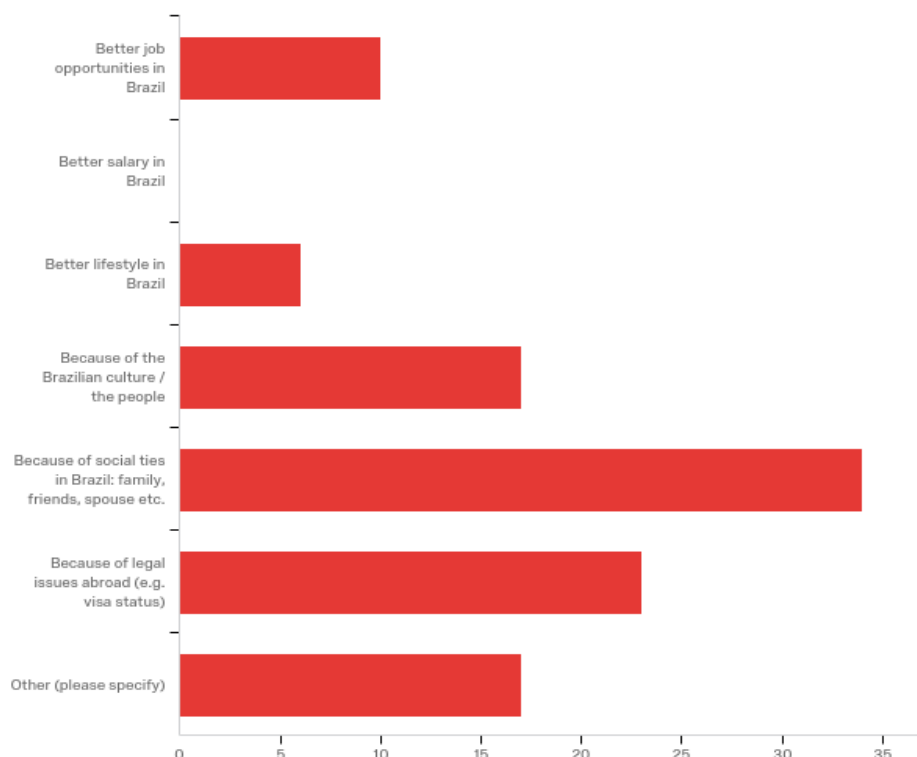


Figure 44: Results survey: Reasons of returning to home country – Brazil

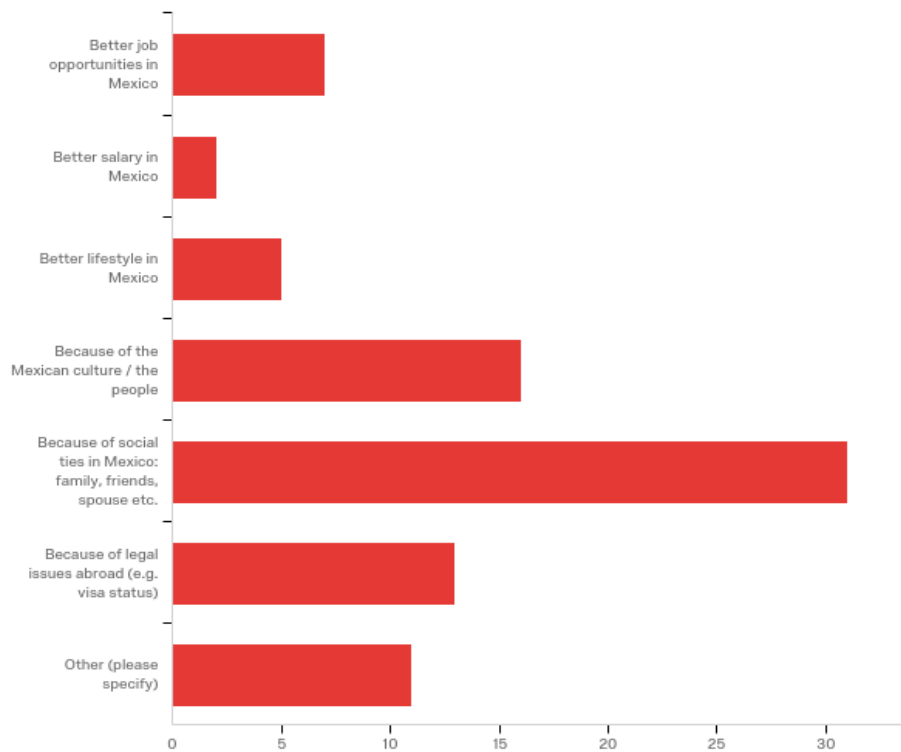


Figure 45: Results survey: Reasons of returning to home country – Mexico

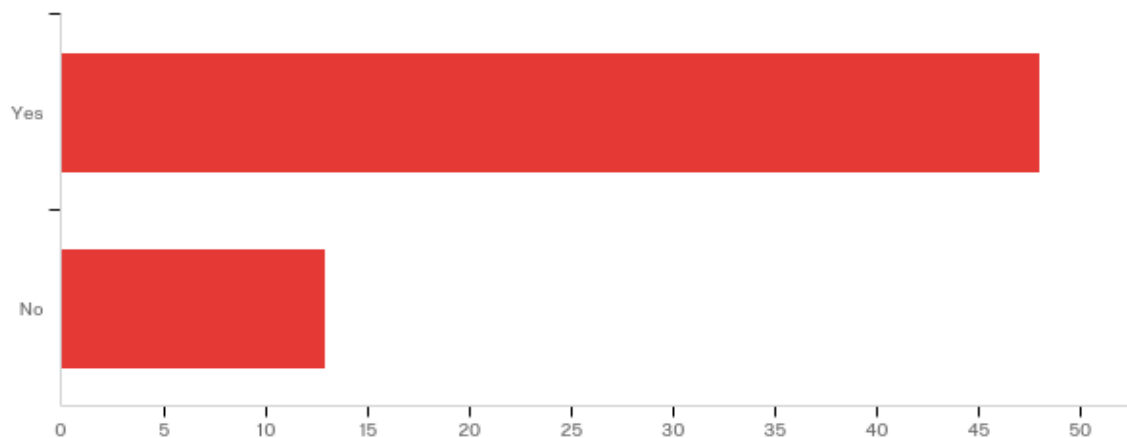


Figure 46: Results survey: Has your wish to emigrate on a permanent basis increased over the past 3 years, with the worsening of the economic situation in Brazil?

H4: Individuals in the same country have very different aptitudes to migrate.

Within the context of socioeconomic backgrounds, the primary data analysis examined possible differences in terms of income classes and gender differences. No differences in terms of motivational factors have been found across the income classes. However, what is striking is that Brazil's A class is the only one with more participants stating that they wish to return to Brazil. The contrast in terms of more people not wanting to return increases from class B to C then (see figure 47). Interestingly, while all classes mentioned family as the predominant factor

why they wish to return, participants of A class also mentioned their wish to achieve a positive impact in Brazil.

This is also very much in line with satisfaction levels. In comparison to other classes, class A is the largest one with participants being indifferent and some being dissatisfied living abroad (see figure 49). In terms of motivational factors to move abroad, the largest one of class A is study purpose (71%) while it is cultural experience for class B (71%) and career prospects and violence for class C (both 57%) (see table 15).

In relation to the case of Mexico, most of the three classes wish to move back (see figure 19). An interesting observation is that 90% of the lower-income household class wishes to move back to Mexico with all of them mentioning family and culture as the reasons to move back. This again strengthens the assumption in H3 that economic factors are not the only detrimental factors for people in deciding whether to move abroad or not. Interestingly, similar to Brazil, the upper-income class is overall less satisfied living abroad than the others (see figure 50). 55% of the upper-income class is indifferent while the middle-income class is mostly more satisfied (69%) as well as the lower-income class (100%).

With regards to gender differences, both male and female Brazilian participants living abroad reported very similar motivational factors to go abroad (see table 19). Interestingly, the Brazilian female participants on average are much more satisfied with their current life than the male ones (see figure 52). In terms of the reasons of why they are more satisfied with their current life, both parties mention the same causes. The largest differences are in terms of moving back to Brazil. While many male participants stated they do wish to move back, the opposite picture has been observed for the case of the female participants (see figure 51). In that context, the male participants also mention the better lifestyle in Brazil as a reason to come back, which the female participants do not mention. Otherwise, no large differences have been observed.

With regards to gender differences in the case of Mexico, both parties reported very similar motivational factors of having moved abroad. Of the people currently living abroad, study purpose was the largest factor for both sides. Interestingly, male participants have reported more career prospects and salary as larger factors than the female participants. In comparison to the male participants, female participant stressed more crime / violence in Mexico as well as social ties abroad (see table 15). Both were almost equally satisfied and indifferent with their current life (see figure 53). The difference then, similar to Brazil, is that more male participants reported the wish to move back to Mexico (see figure 52). While it was 50 / 50 with the female participants, 78% of the male participants reported the wish to move

back to Mexico. Interestingly, while both gender name family as important factor to go back, male participants also refer to friends and opening their own business.

Hence, one can conclude that the theory holds true as people from the same country have different magnitudes due to their socioeconomic backgrounds and personality features. To illustrate, it is likely that less women wish to return to their home country, Brazil or Mexico, due to the violence that often targets women, as previously outlined in the PESTLE analysis. Furthermore, especially in the case of Mexico being a very male dominated culture, women face problems to hold high job positions.

Regarding different income classes, it is self-explanatory why the upper-class is more indifferent in terms of living abroad or living in their home country. To elaborate, having great economic conditions, life in Brazil or Mexico is easier than for people having less financial resources.

Income levels:

Brazil:

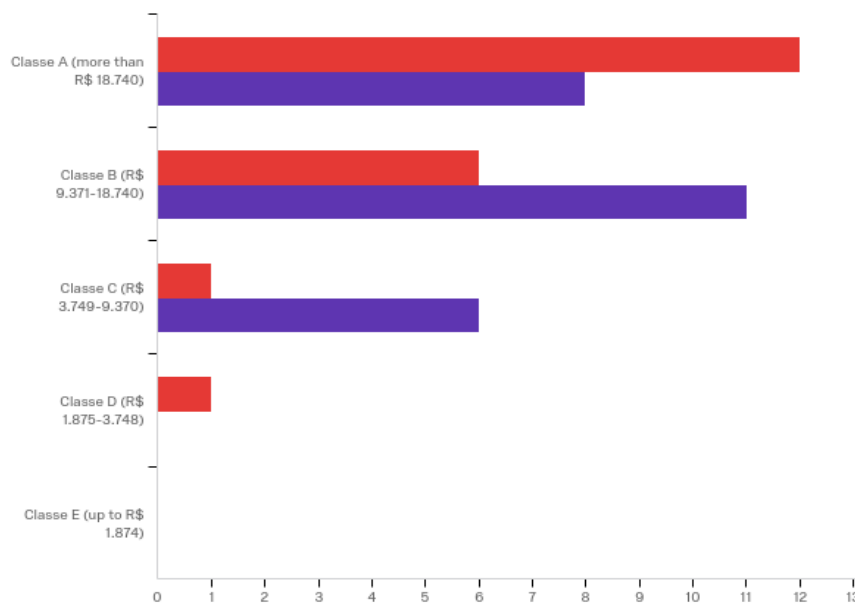


Figure 47: Results survey: Wish to return to home country, according to income levels – Brazil (red=yes; purple=no)

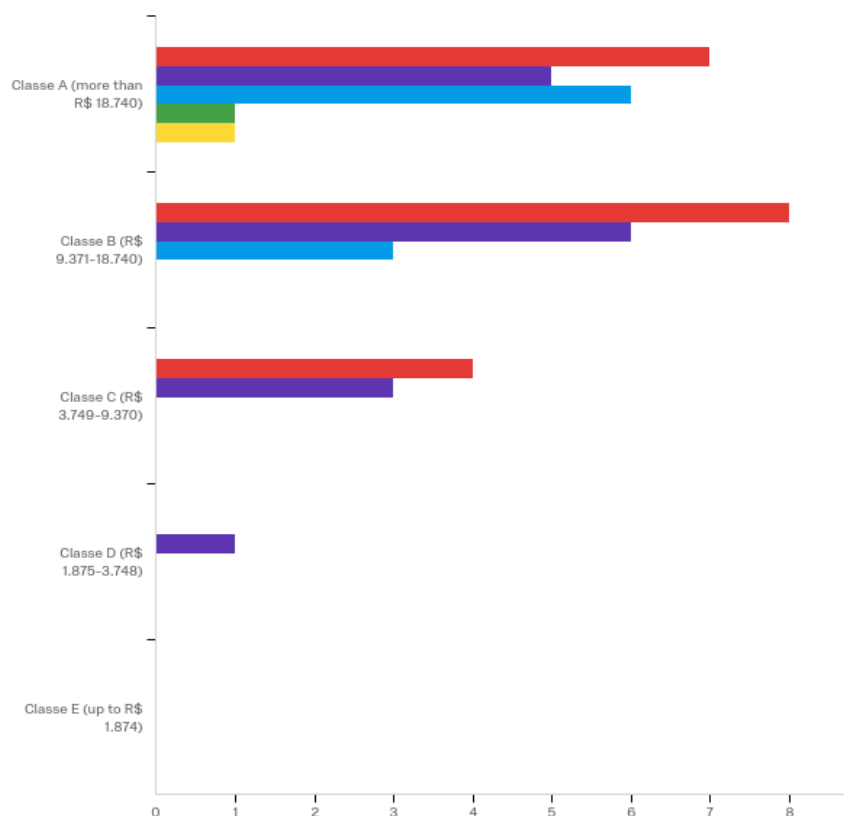


Figure 48: Results survey: Satisfaction levels living abroad, according to income levels – Brazil (red= definitely more satisfied; purple= probably more satisfied; blue= indifferent; green= probably not more satisfied; yellow= definitely not more satisfied).

#	Question	Classe A (more than R\$ 18.740)		Classe B (R\$ 9.371- 18.740)		Classe C (R\$ 3.749- 9.370)		Classe D (R\$ 1.875- 3.748)		Classe E (up to R\$ 1.874)	
1	Study purpose	17.44%	15	12.35%	10	12.50%	3	0.00%	0	0.00%	0
2	Better work opportunities	12.79%	11	14.81%	12	8.33%	2	0.00%	0	0.00%	0
3	Career prospects	10.47%	9	13.58%	11	16.67%	4	0.00%	0	0.00%	0
10	Better salary abroad	8.14%	7	3.70%	3	8.33%	2	0.00%	0	0.00%	0
4	Political situation in Brazil	4.65%	4	6.17%	5	8.33%	2	0.00%	0	0.00%	0
5	Economic situation in Brazil	6.98%	6	9.88%	8	8.33%	2	0.00%	0	0.00%	0
6	Crime / Violence in Brazil	8.14%	7	9.88%	8	16.67%	4	0.00%	0	0.00%	0
7	Social ties abroad (Family,	5.81%	5	0.00%	0	4.17%	1	0.00%	0	0.00%	0

	friends, spouse etc.)										
8	Better lifestyle abroad	11.63%	10	11.11%	9	4.17%	1	100.00%	1	0.00%	0
9	High living costs in Brazil	1.16%	1	2.47%	2	4.17%	1	0.00%	0	0.00%	0
11	Cultural experience	12.79%	11	16.05%	13	8.33%	2	0.00%	0	0.00%	0
12	Other (please specify)	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0
	Total	Total	86	Total	81	Total	24	Total	1	Total	0

Table 15: Motivations of people currently living abroad, according to income levels - Brazil

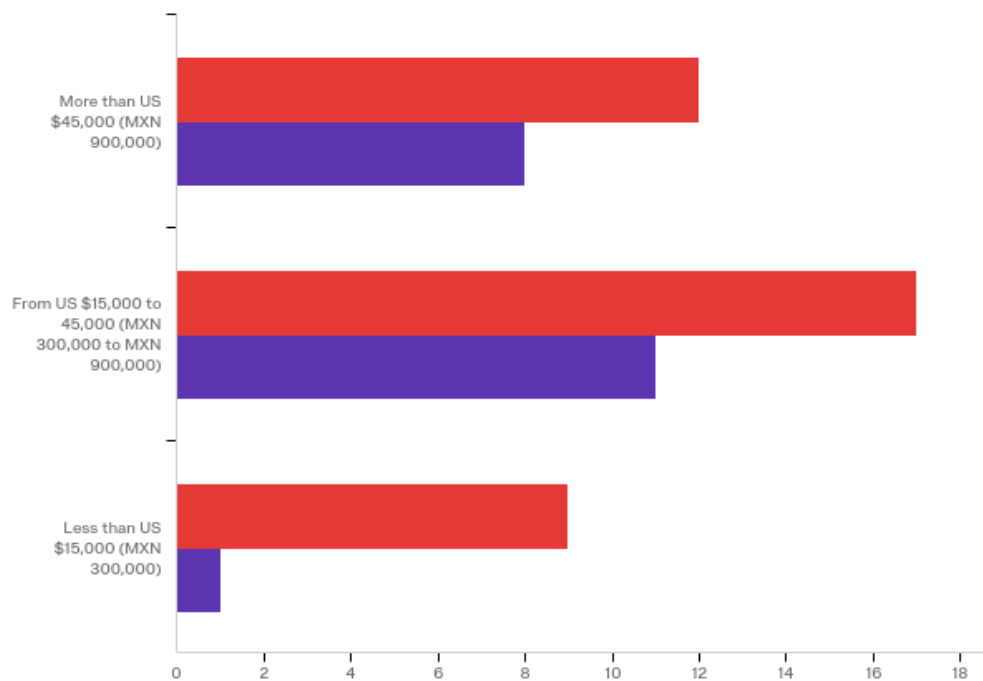


Figure 49: Results survey: Wish to return to home country, according to income levels – Mexico (red=yes; purple=no)

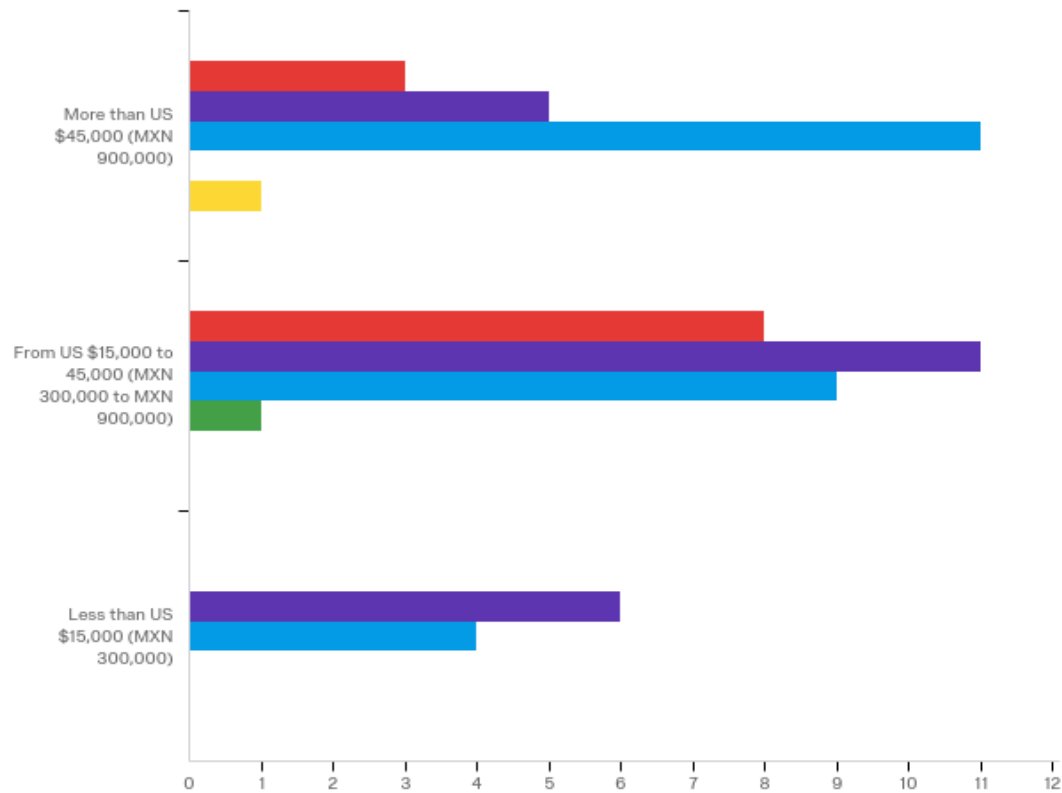


Figure 50: Results survey: Satisfaction levels living abroad, according to income levels – Mexico (red= definitely more satisfied; purple= probably more satisfied; blue= indifferent; green= probably not more satisfied; yellow= definitely not more satisfied)

#	Question	More than US \$45,000 (MXN 900,000)		From US \$15,000 to 45,000 (MXN 300,000 to MXN 900,000)		Less than US \$15,000 (MXN 300,000)	
1	Study purpose	21.05%	12	30.14%	22	15.00%	6
2	Better work opportunities	17.54%	10	8.22%	6	12.50%	5
3	Career prospects	14.04%	8	13.70%	10	10.00%	4
4	Better salary abroad	8.77%	5	9.59%	7	10.00%	4
5	Political situation in Mexico	0.00%	0	5.48%	4	10.00%	4
6	Economic situation in Mexico	3.51%	2	5.48%	4	10.00%	4
7	Crime / Violence in Mexico	1.75%	1	8.22%	6	12.50%	5
8	Social ties abroad (Family, friends, spouse etc.)	5.26%	3	1.37%	1	2.50%	1
9	Better lifestyle abroad	10.53%	6	6.85%	5	2.50%	1
10	High living costs in Mexico	0.00%	0	0.00%	0	0.00%	0

11	Cultural experience	12.28%	7	9.59%	7	12.50%	5
12	Other (please specify)	5.26%	3	1.37%	1	2.50%	1
	Total	Total	57	Total	73	Total	40

Table 16: Motivations of people currently living abroad, according to income levels – Mexico

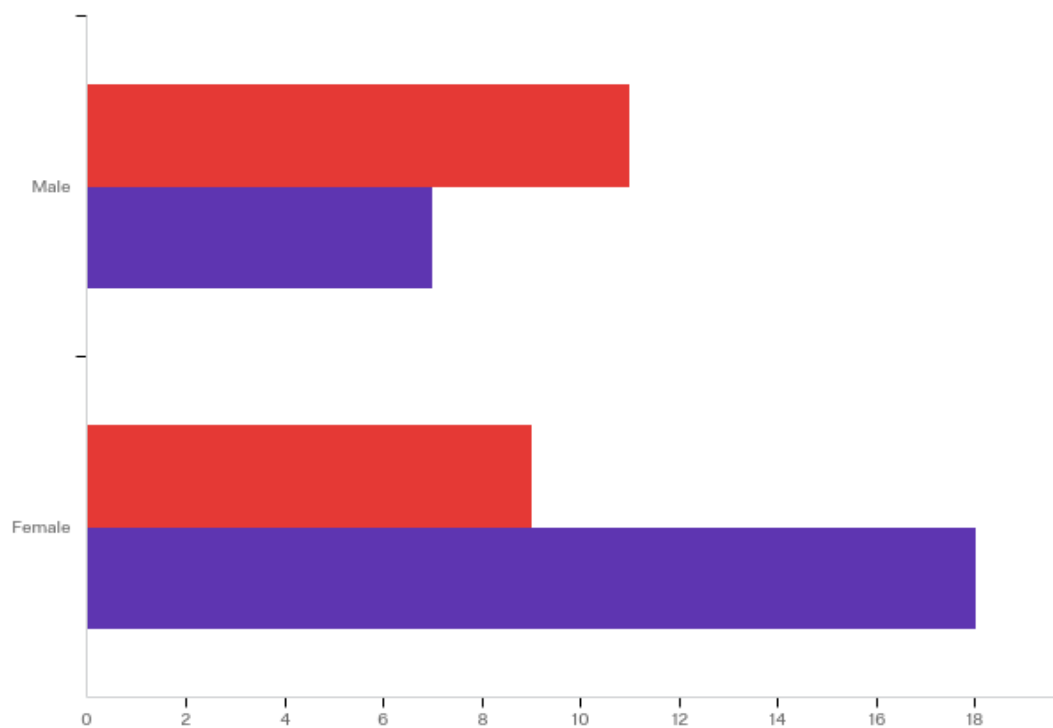


Figure 51: Results survey: Wish to return to home country, according to gender differences – Brazil (red=yes; purple=no)

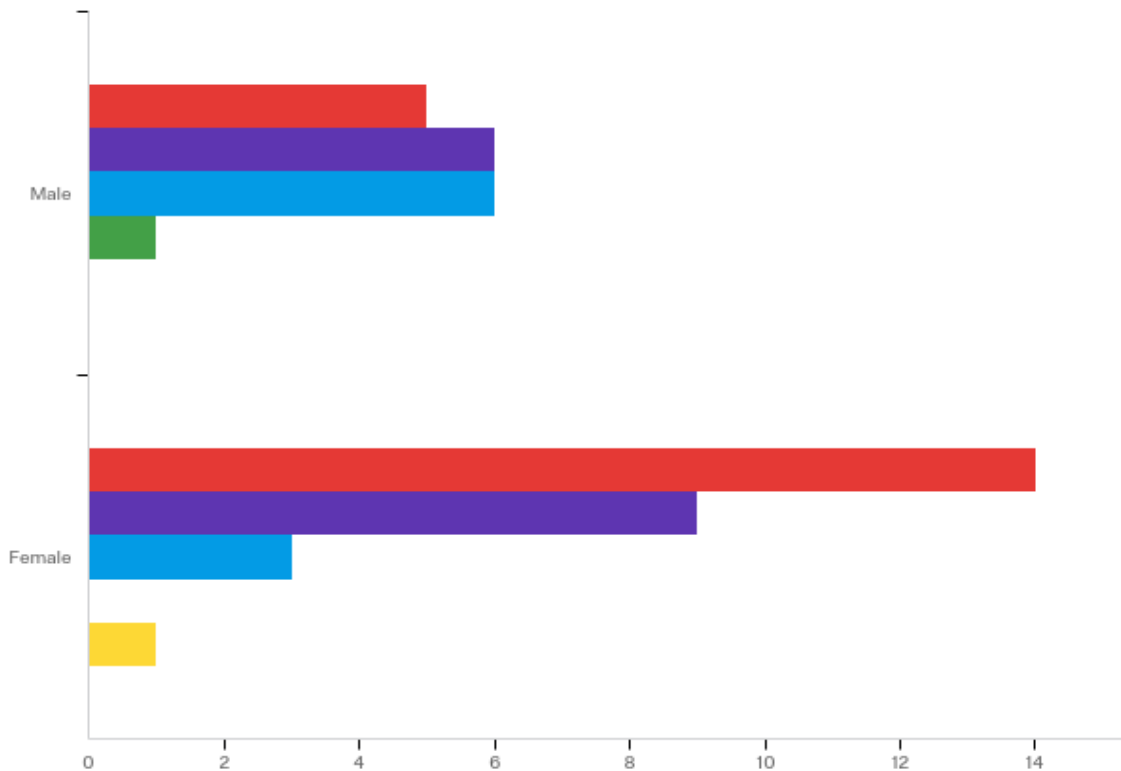


Figure 52: Results survey: Satisfaction levels living abroad, based on gender differences – Brazil (red= definitely more satisfied; purple= probably more satisfied; blue= indifferent; green= probably not more satisfied; yellow= definitely not more satisfied)

#	Question	Male		Female	
1	Study purpose	12.94%	11	15.89%	17
2	Better work opportunities	12.94%	11	13.08%	14
3	Career prospects	11.76%	10	13.08%	14
10	Better salary abroad	7.06%	6	5.61%	6
4	Political situation in Brazil	7.06%	6	4.67%	5
5	Economic situation in Brazil	9.41%	8	7.48%	8
6	Crime / Violence in Brazil	10.59%	9	9.35%	10
7	Social ties abroad (Family, friends, spouse etc.)	2.35%	2	3.74%	4
8	Better lifestyle abroad	9.41%	8	12.15%	13
9	High living costs in Brazil	2.35%	2	1.87%	2
11	Cultural experience	14.12%	12	13.08%	14
12	Other (please specify)	0.00%	0	0.00%	0
	Total	Total	85	Total	107

Table 17: Results survey: Motivations of people currently living abroad, according to gender differences - Brazil

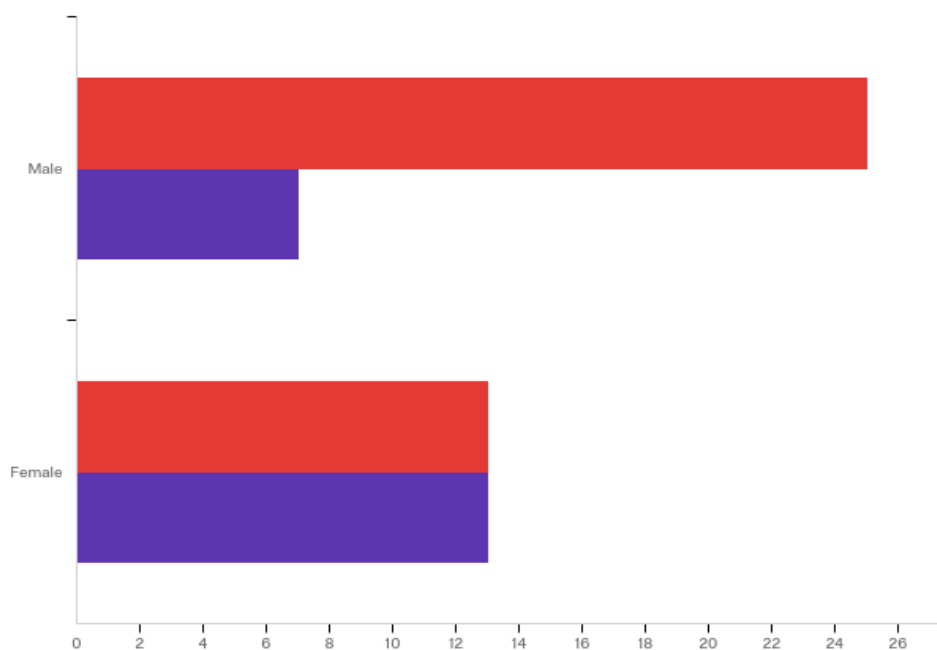


Figure 53: Results survey: Wish to return to home country, according to gender differences – Mexico (red=yes; purple=no)

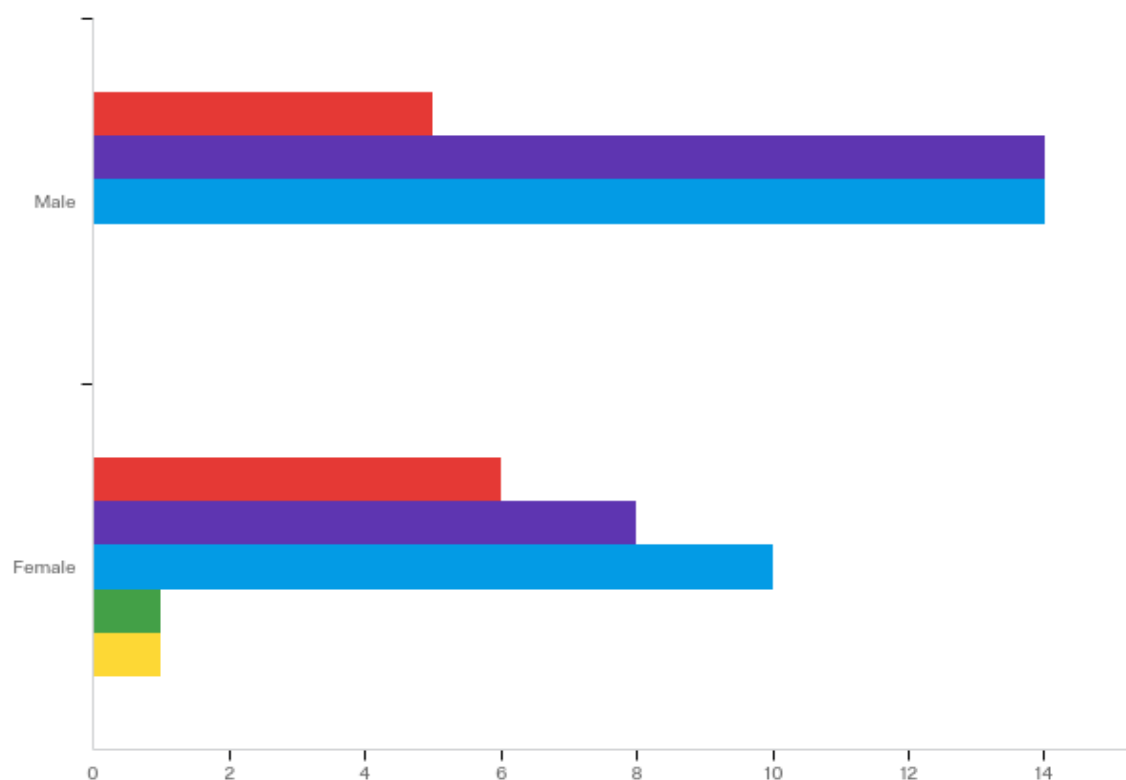


Figure 54: Results survey: Satisfaction levels living abroad, based on gender differences – Mexico (red= definitely more satisfied; purple= probably more satisfied; blue= indifferent; green= probably not more satisfied; yellow= definitely not more satisfied)

Study purpose	23.76%	24	23.19%	16
Better work opportunities	11.88%	12	13.04%	9

Career prospects	14.85%	15	10.14%	7
Better salary abroad	10.89%	11	7.25%	5
Political situation in Mexico	4.95%	5	4.35%	3
Economic situation in Mexico	6.93%	7	4.35%	3
Crime / Violence in Mexico	4.95%	5	10.14%	7
Social ties abroad (Family, friends, spouse etc.)	0.99%	1	5.80%	4
Better lifestyle abroad	6.93%	7	7.25%	5
High living costs in Mexico	0.00%	0	0.00%	0
Cultural experience	10.89%	11	11.59%	8
Other (please specify)	2.97%	3	2.90%	2
Total	Total	101	Total	69

Table 18: Results survey: Motivations of people currently living abroad, according to gender differences - Mexico

H5: Networks increase the likelihood of people to migrate.

It is difficult to prove in which way external organizations, such as agencies, have influenced the decision of the people to migrate. However, an interesting observation of the primary data is that people have barely migrated because of social ties abroad. Of the 46 Brazilians currently living abroad, only 13% migrated because of social ties abroad. In the case of Mexico, it is even less with 9% of the 57 Mexicans currently living abroad.

Furthermore, most people living abroad that wish to go back state it is because of family and friends at home. This is very much in line with most people that have lived abroad stating that they returned because of social ties in the home country. To illustrate, 36% of the Brazilians said they went home because of social ties and 37% of Mexicans (see figures 44 & 45).

Interestingly, in the case of Brazil, within the group of people whose contacts abroad are more than 20% Brazilian, 64% wish to move back to Brazil. In contrast, within the group of people whose contacts abroad are less than 20% Brazilian, 65% do not wish to move back (see figure 55; table 19). In the case of Mexico, the figures are indifferent as the majority, regardless of their exposure to Mexicans abroad, wishes to return to Mexico (see figure 56; table 20).

Thus, while this hypothesis requires more fundamental research, one can conclude that networks do influence people's decision to migrate. However, the strongest networks that

influence this decision are family and friends in the home country. Formed networks in the host country within the same culture do not seem to affect people's decision to stay abroad.

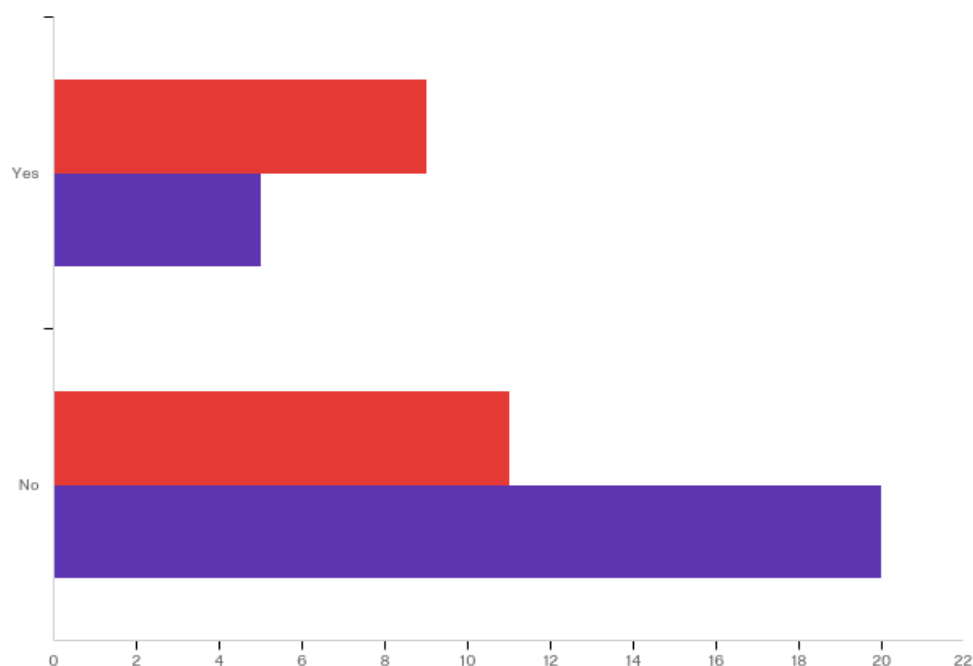


Figure 55: Results survey: Plan to move back to home country, according to networks in host country – Brazil
(red=20% or more of contacts abroad are Brazilian; purple= less than 20% of contacts abroad are Brazilian; yes=wish to move back to Brazil; no= not wishing to move back to Brazil)

#	Question	Yes		No	
1	Yes	64.29%	9	35.48%	11
2	No	35.71%	5	64.52%	20
	Total	Total	14	Total	31

Table 19: Results survey: Plan to move back to home country, according to networks in host country – Brazil

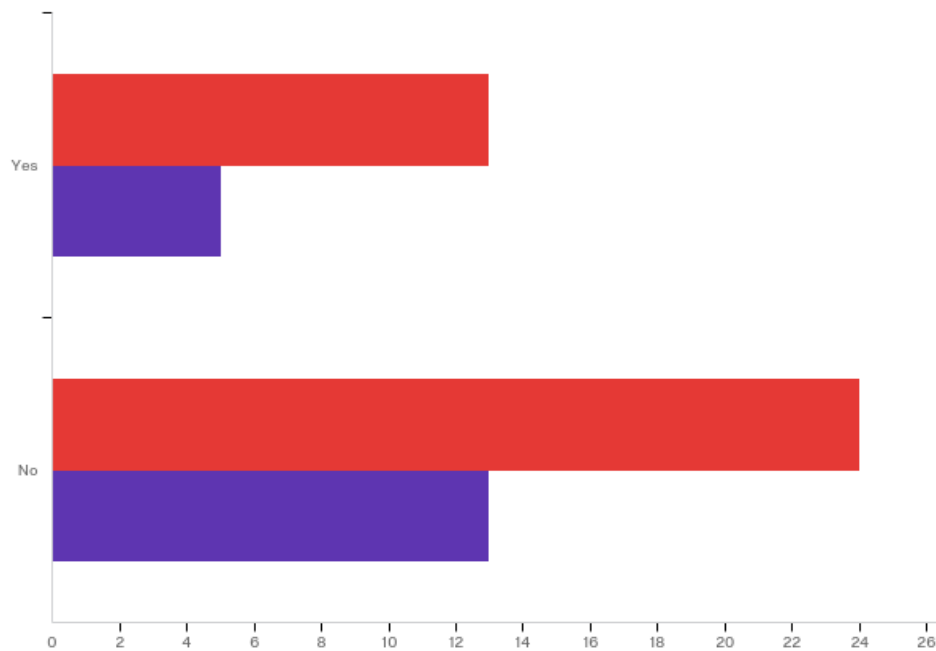


Figure 56: Results survey: Plan to move back to home country, according to networks in host country – Mexico

(red=20% or more of contacts abroad are Mexican; purple= less than 20% of contacts abroad are Mexican; yes=wish to move back to Mexico; no= not wishing to move back to Mexico)

#	Question	Yes		No	
2	No	27.78%	5	35.14%	13
1	Yes	72.22%	13	64.86%	24
	Total	Total	18	Total	37

Table 20: Results survey: Plan to move back to home country, according to networks in host country – Mexico

H6: Governments are able to influence the flow of migration through regulations.

Considering the magnitude of Mexicans and Brazilians stating that their wish to return to their home country is mainly motivated by their family, governments have a high chance to influence migration through that mean. For example, governments can prohibit or enable family unification, which could then have an impact on migration. Though it is very unlikely that the entire family would move to another country.

Hence, one could argue that migration is more regulated by social networks than by targeted policies. To elaborate, while 24% of Brazilians that have lived abroad stated that they returned because of forced legal regulations abroad, 36% stated that they came back because of social ties. The importance of social ties and the link with the own culture is even more pronounced in the case of Mexico. 37% of participants stated that they returned because of

social ties and 19% because of the Mexican culture / people, while only 15% stated they returned because of legal issues abroad.

To sum up, the hypotheses cannot be rejected as government regulations are able to influence migration flows to a certain extent. However, other factors, such as social networks play a very important role.

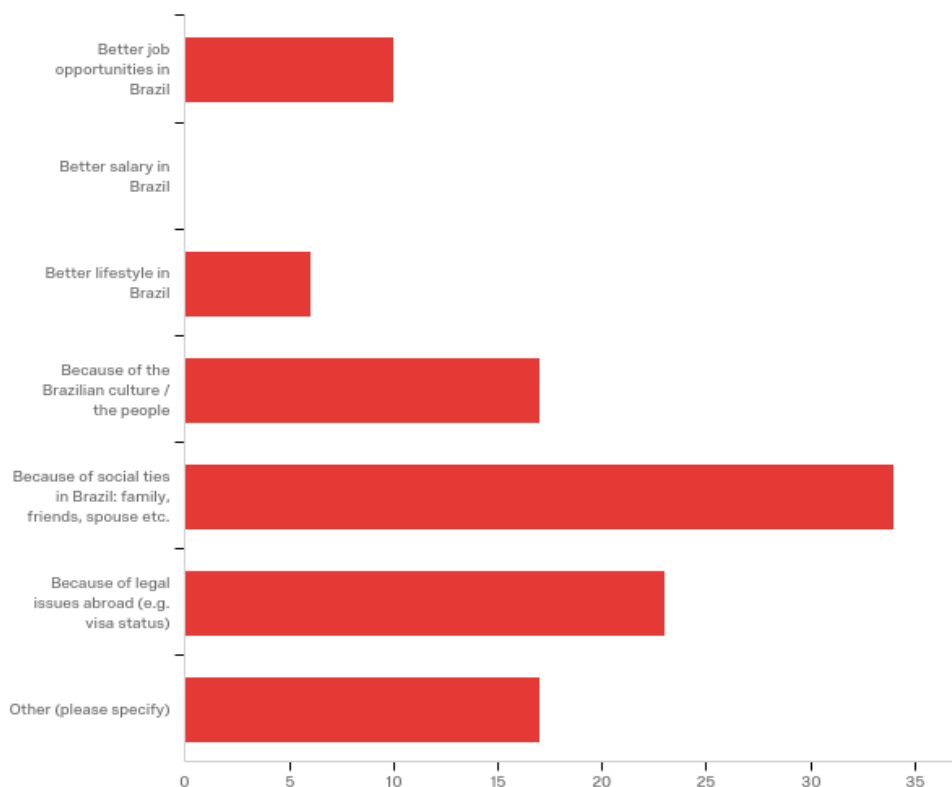


Figure 57: Results survey: Reasons to have returned to home country – Brazil

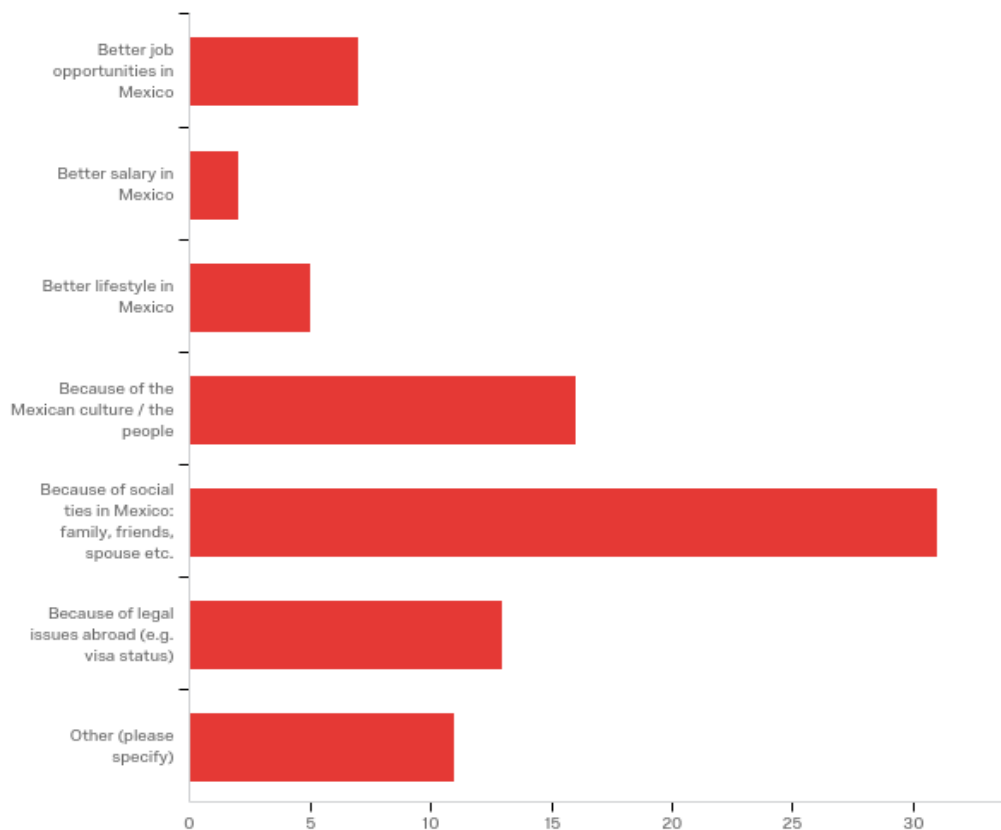


Figure 58: Resulty survey: Reasons to have returned to home country – Mexico

8.3. Limitations of the study

While the study is based on a diversified sample (age range, gender, professional background, income levels, educational levels, universities attended, international exposure and place of residence), some limitations exist. First of all, in order to be able to generalize the findings, it would be necessary to conduct the survey with a larger sample. For the purpose of this Master's thesis, having around 140 participants for each country participating in the survey has been within the scope of the research.

However, in order to ensure that the findings apply to most highly-educated people in the respective country, Brazil or Mexico, a larger survey would be helpful. This is especially the case as the groups were divided into people that are living abroad and people residing in their home country. As such, sometimes the answers might have been distorted by the fact that only very few people formed part of a certain category. For example, very few answers from Brazil's lower-income class living abroad have been available, which then influence the results.

Secondly, the results of the income levels are likely to be distorted. To elaborate, the question on income levels asked for household income levels. The issue with that is that people are likely to have interpreted household income levels differently. The problem with household

levels is that they are constituted of a different amount of family members. As such, some households only exist of one person and others of several. Hence, it is likely that some people living alone indicated their salary instead of putting the income of their entire family (=household). This is especially the case for the Mexican survey as the division of Mexican income classes is not common. Hence, the results in accordance with the income-classes might not be completely true. For future research, it is advisable to better define this category and to ask for individual incomes.

Furthermore, for future research, it would bring additional insights asking people if they hold another passport. With regards to the current research data, it is extremely likely that many Brazilians only indicated that they have the Brazilian nationality even though they hold another passport. Hence, in order to detect any pull factors with regard to that, it would have been good to ask if people had another passport.

Another limitation that the study presents is related to the “lifestyle” category that most participants have indicated to be one of the major reasons for them to move abroad permanently. While one can imagine that lifestyle refers to a Western approach of life, lifestyle is a very broad term and it is difficult to examine what exactly the participants refer to. Hence, to gain deeper understanding of motivational factors, it would have been good to conduct qualitative interviews with participants in order to detect the underlying values of the word “lifestyle”.

Lastly, the study did not allow to explicitly study the personalities of the people and how they influence the decision-making process. Hence, considering that the sample has been limited, it might be that many people fall coincidentally within one personality group, which then might have influenced the research findings. Hence, for future research it is important to also study the specific personalities of the people in order to assess certain tendencies.

9. Conclusion

In a nutshell, not much attention has been paid to the phenomenon of brain drain in Brazil. Indeed, most past data has shown that the phenomenon is much larger in Mexico than in Brazil. However, the research findings provide a very different insight. Both countries present alarming signals in the sense that most of the highly educated people currently living in Brazil or, respectively, in Mexico wish to emigrate on a permanent basis, with many already having lived abroad. Nevertheless, the data on Brazil is even more worrying as the majority of the highly educated people living abroad do not wish to return to Brazil. In comparison, the majority of the Mexicans living abroad do wish to return to Mexico. Furthermore, many more Brazilians

than Mexicans have indicated that they have taken serious steps to emigrate on a permanent basis. In light of these results, it is of uttermost importance that the public and also the policy makers start paying attention to the uprising brain drain phenomenon in Brazil.

Regarding the research question in how far neoclassical economics can explain brain drain in similar emerging countries, the findings of the primary data research have shown that they only explain brain drain to a certain extent. To elaborate, a relationship of economic development and brain drain exists as highly educated people take employment opportunities and to a smaller extent salaries into account, but those are not the determined factors in the decision-making process. Indeed, labor markets are not the only and most important factors that highly educated people take into consideration when making a decision to permanently move abroad. Other important factors influencing the decision are study purpose related, cultural experience, crime / violence in the home country and overall the search for a better lifestyle. Furthermore, those factors are counterweighted with social ties, predominantly the family, in the home country.

Within the previously mentioned factors, Brazilians and Mexicans seem to present very similar aptitudes of which factors influence them most in the decision-making process of moving abroad. Both highly value the outlook for a better lifestyle. The search for better a better lifestyle can be explained in accordance with the cumulative causation theory, which states that people change their lifestyle aspiration due to previous experiences in advanced industrial countries. To elaborate, according to scholars such as Piore (1979), migration changes values, motivations and tastes. Hence, as people move abroad to developed countries, often in the context of studies, their tastes for consumer goods and for a more Western lifestyle becomes altered. This spread of values and the fact that many young people perceive international migration as a status symbol explains why so many survey participants of both countries have mentioned cultural experience as a central factor influencing their decision.

Furthermore, participants from both countries named work opportunities and career prospects as motivational factors. The issue with work opportunities is that Mexico, and nowadays also Brazil as a result of the economic crisis, present a mismatch between a lack of high quality jobs and a large talent base. As was observed in the survey, many Brazilians claim that few job opportunities exist in Brazil, which is largely associated to Brazil's recession which has resulted in a general cut of jobs. Furthermore, as shown in the PESTLE analysis, high-quality jobs had started to be cut even before the recession hit in. In comparison, Mexico has a large talent pool, but does not have many high-quality job opportunities in which the highly educated Mexicans can employ their previously acquired skills.

This also goes hand in hand with the fact that many Mexicans mention lower salaries as an influential factor for them to move abroad. The difference with regards to the salaries can be explained twofold. On the one hand, Mexico has much lower salaries on average than Brazil, which is likely to influence the people. At the other hand, in accordance with the World Systems Theory, it is likely that Mexico due to its proximity to the USA is much more influenced by individualistic values. To elaborate, because of ongoing influence from the USA, people have started to follow those values, such as the wish for a high income. This is an interesting observation as it explains how the decision to migrate is influenced by previously established values that have their base in external cultural, political, economic and social factors.

While participants of both groups reported violence in the home country to be an influential factor in deciding to move abroad, it has been much more prolonged in Brazil than in Mexico. A possible explanation is related to the difference in terms of personality of both cultures. To elaborate, Brazilians overall might be more sensitive to crime / violence and thus also feel more disturbed by it than Mexicans.

In relation to the factors that motivate people to return to their home countries, participants reported that external forces, such as visa regulations, impacted on their decision. However, most importantly, across both countries, the biggest influential factor are social ties in the home country. As much Brazilians as Mexicans said they wish and had returned to their home country predominantly because of the family. Formed social ties abroad did not play any influential factor. Indeed, participants reporting to have many social contacts abroad from their own nationality, were more prone to return to their home country than otherwise.

To sum up, it can be concluded that labor markets do play a crucial role, for some nationalities more than others. However, other important factors play a similar, or sometimes even larger, influence in the decision-making process, such as lifestyle, social ties at home, safety, study purpose and cultural experience. It is important to note that those factors are sometimes so influential that any other interventions, as targeted policies, will not achieve the desired effect. Especially social ties seem to play a very strong influential counterargument when deciding to move abroad permanently.

Hence, while neoclassical economics explain a certain part of brain drain, they fail to explain other non-labor market factors. Many of those factors that contribute to brain drain form part of the theories earlier discussed, such as the cumulative causation or the world systems theory. Hence, when assessing brain drain, the conjunction of the theories needs to be taken into account in order to gain a coherent picture.

In this regards, it is important for companies not only to provide people better conditions based on labor markets, but also to consider other influential factors. Nevertheless, labor conditions should not be disregarded by companies. Considering that both survey participants complained about a lack of high quality jobs, it is of uttermost importance for companies to provide jobs in which highly educated people can apply their skills and in which their work is valued in the sense that they are provided with professional growth opportunities. Furthermore, an adequate salary should be paid, taking into account the skills of the individual but also local conditions. This is especially the case of Mexico. While Mexico has an oversupply of talents, companies should nevertheless invest in the talent to retain the people and not to risk losing them because of better offers made from abroad.

Furthermore, considering that people in both countries, but predominantly Brazil, value cultural experience very much, it would be beneficial for the companies to establish a work environment that is characterized by multiculturalism and which allows the interexchange with other cultures. One possible strategy in this regard could be to send people to another office for a short-term as part of an exchange.

Regarding crime and violence, companies are not able to change the origins and to halter those phenomena as it is the state who needs to put in place policies and programs to combat those two. However, companies can ensure a safe work environment in which crime should not be a practice. For example, the insurance that a company is not involved in corruption and holds on to ethical standards already makes it an attractive employer in a country characterized by violence and crime. Furthermore, companies can provide people larger security by placing their offices in safer regions and by providing people with additional benefits, such as housing in a safe neighborhood with certain security measures.

In addition, companies can do a lot in relation to the survey participants' wish to move abroad because of the better lifestyle associated with it. While the companies cannot change air pollution on their own neither traffic, they can provide employees with certain benefits that make their lifestyle better and more conform to Western standards. For example, companies could apply measures such as flexible working hours, the possibility to do home office, respect the working hours, pay people an adequate bonus for working extra hours, provide an adequate amount of vacation days and other offers such as to give back to the country by engaging in volunteering activities for a social cause.

However, while companies can adjust working conditions, brain drain remains to be a problem of the public agenda. In other words, brain drain needs to be targeted by specific policies that enhance the macroeconomic situation of the country, that create adequate job

opportunities and salaries for highly-educated people and that improve living conditions in the country, such as reduced violence and better infrastructure. Thus, to avoid brain drain and to retain talent, governments need to put brain drain as an important phenomenon on the public agenda.

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11. Appendix

11.1. Brain drain graphics

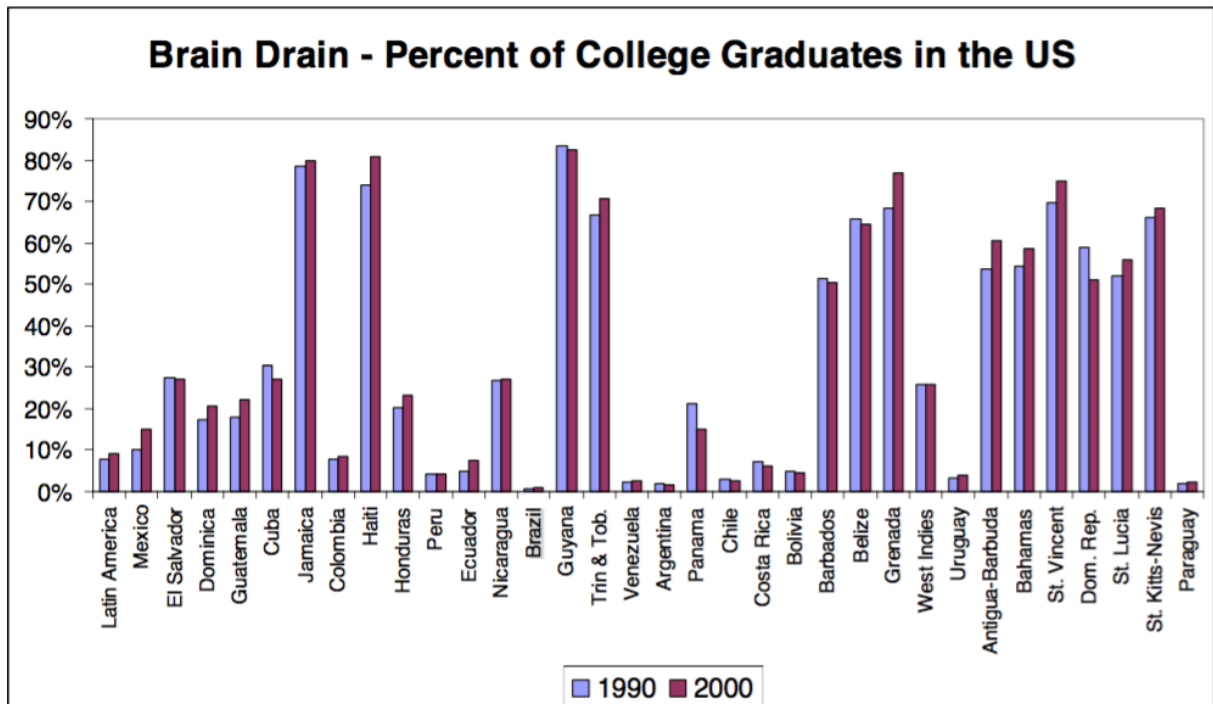


Figure 59: Ratio of college educated people from Latin America who are in the US Labor Market to the total Labor Force from that country
(Source: Docquier & Marfouk, 2005)

11.2. Country information Brazil



Figure 60: Country map of Brazil
(Source: MarketLine, 2017a)

Indicators	2014	2015	2016	2017f	2018f	2019f	2020f
GDP, constant 2010 prices (\$ trillion)	2.4	2.3	2.2	2.3	2.3	2.3	2.4
GDP growth rate (%)	0.5	-3.8	-3.6	0.2	1.7	2.0	2.0
GDP, constant 2005 prices, per capita (\$)	11896	11345	10895	10864	10942	11074	11214
Inflation (%)	6.3	9.0	8.7	4.3	4.2	4.4	4.4
Exports, total as a percentage of GDP	10.9	12.6	14.5	13.5	13.4	13.2	13.0
Imports, total as a percentage of GDP	13.4	14.0	17.4	16.9	16.9	16.8	16.6
Mid-year population, total (millions)	202.8	204.5	206.1	207.7	209.2	210.7	212.1
Unemployment rate (%)	6.8	8.3	11.3	12.2	11.7	10.9	10.3
Mobile penetration per 100 people	139.0	126.6	129.5	131.2	132.2	132.8	133.1

SOURCE: Country Statistics, MarketLine

MARKETLINE

Table 21: Brazil - Key fundamentals
(Source: MarketLine, 2017a)

Country and capital	
<i>Full name</i>	Federative Republic of Brazil
<i>Capital city</i>	Brasilia
Government	
<i>Government type</i>	Federal republic
<i>Head of state</i>	Michel Temer
<i>Head of government</i>	Michel Temer
Population (2016 est.)	205.82 million
Currency	Brazilian real
GDP per capita (PPP) (2016 est.)	\$14,800
Internet domain	.br
Demographic details	
<i>Life expectancy (2016 est.)</i>	73.8 years (total population) 70.2 years (men) 77.5 years (women)
<i>Ethnic composition (2010 est.)</i>	White (47.7%), mulatto (mixed white and black) (43.1%), black (7.6%), Asian (1.1%), indigenous (0.4%)
<i>Major religion (2010 est.)</i>	Roman Catholic (64.6%), other Catholic (0.4%), Protestant (22.2%), other Christian (0.7%), Spiritist (2.2%), other (1.4%), none (8%), unspecified (0.4%)
Country area	8,514,877 sq. km
Languages	Portuguese is the official national language. Less common languages include Spanish (border areas and schools), German, Italian, Japanese, English, and a large number of minor Amerindian languages
Exports	Transport equipment, iron ore, soybeans, footwear, coffee, and automobiles.
Imports	Machinery, electrical and transport equipment, chemical products, oil, automotive parts, and electronics.

Figure 61: Brazil – key facts
(Source: MarketLine, 2017a)

11.3. Country information Mexico



Figure 62: Country map of Mexico
(Source: MarketLine, 2017b)

Indicators	2014	2015	2016f	2017f	2018f	2019f	2020f
GDP, constant 2010 prices (\$ trillion)	1.18	1.21	1.24	1.27	1.3	1.34	1.38
GDP growth rate (%)	2.25	2.55	2.38	2.55	2.74	2.89	3.06
GDP, constant 2005 prices, per capita (\$)	8770.4	8877.86	9022.76	9216.35	9427.35	9656.74	9901.78
Inflation (%)	4.02	2.72	3.1	3.11	3.23	3.15	3.13
Exports, total as a percentage of GDP	32.46	31.83	31.71	31.58	31.23	30.67	29.96
Imports, total as a percentage of GDP	34.38	33.91	33.6	33.29	32.78	32.07	31.2
Mid-year population, total (millions)	121.75	123.18	124.59	126	127.39	128.78	130.19
Unemployment rate (%)	4.83	4.34	4.08	3.95	3.89	3.86	3.84
Mobile penetration per 100 people	85.15	86.3	87.29	88.15	88.88	89.51	90.06

SOURCE: Country Statistics, MarketLine

MARKETLINE

Table 22: Mexico – key fundamentals
(Source: MarketLine, 2017b)

Country and capital	
<i>Full name</i>	United Mexican States
<i>Capital city</i>	Mexico City (Distrito Federal)
Government	
<i>Government type</i>	Federal republic
<i>Head of state and government</i>	President Enrique Peña Nieto
Population (2016 est.)	123.17 million
Currency	Mexican peso
GDP per capita (purchasing power parity) (2016 est.)	\$18,900
Internet domain	.mx
Demographic details	
<i>Life expectancy (2016 est.)</i>	75.9 years (total population) 73.1 years (men) 78.8 years (women)
<i>Ethnic composition (2012 est.)</i>	Mestizo (Amerindian-Spanish) (62%), predominantly Amerindian (21%), Amerindian (7%) and other (10%)
<i>Major religions (2010 est.)</i>	Roman Catholic (82.7%), Pentecostal (1.6%), Jehovah's Witnesses (1.4%), other Evangelical Churches (5%), other (1.9%), none (4.7%) and unspecified (2.7%)
Country area	1,964,375 sq. km
Languages (2005)	Spanish only (92.7%), Spanish and indigenous languages (5.7%), indigenous only (0.8%), unspecified (0.8%)
Exports	Manufactured goods, oil and oil products, silver, fruits, vegetables, coffee, cotton
Imports	Metalworking machines, steel mill products, agricultural machinery, electrical equipment, car parts for assembly, repair parts for motor vehicles, aircraft, and aircraft parts

Figure 63: Mexico – key facts
(Source: MarketLine, 2017b)

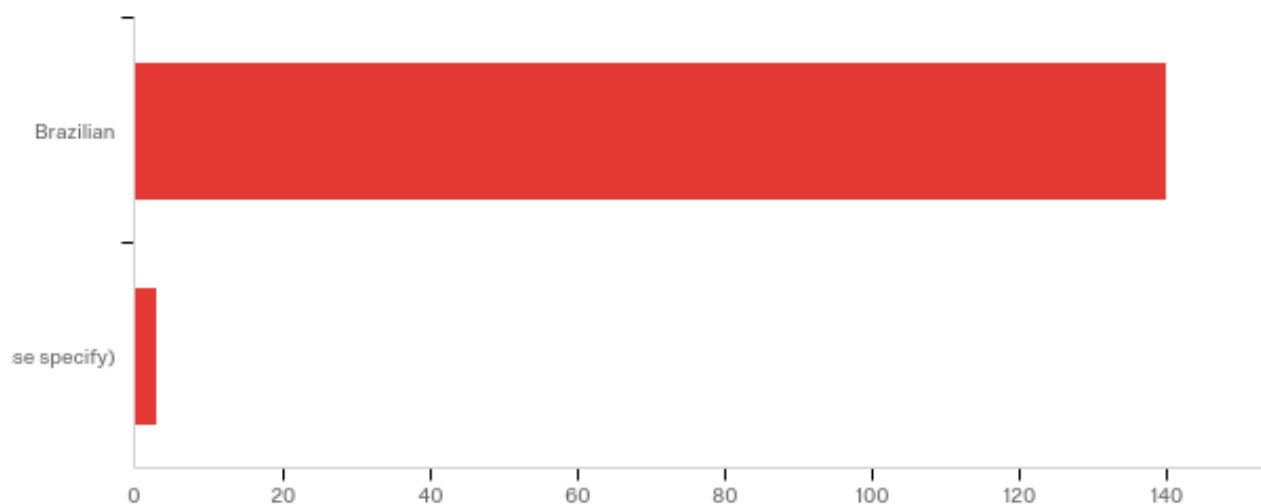
11.4. Survey Brazil

Default Report

Brain drain - Brazil

December 19th 2017, 12:21 pm MST

Q1 - What is your nationality?



#	Answer	%	Count
1	Brazilian	97.90%	140
2	Other (please specify)	2.10%	3
	Total	100%	143

Q2 - What industry do you work in? If student, what is your field of studies?

What industry do you work in? If student, what is your field of studies?

Academia

Research intitite

Pharmaceutical

Medical student

Civil Engineering

Services

Development economics/education

Lawyer

Engineering

Venture Capital

Economics / Management consulting

Law

Insurance

Health Care Technology

Consulting

Economics

NGO - 3rd sector

FoodEngineering

Representariam

Languages and cultures

Computer Engineer

Business

Telecomms Engineering

It

Information Technology

Tech

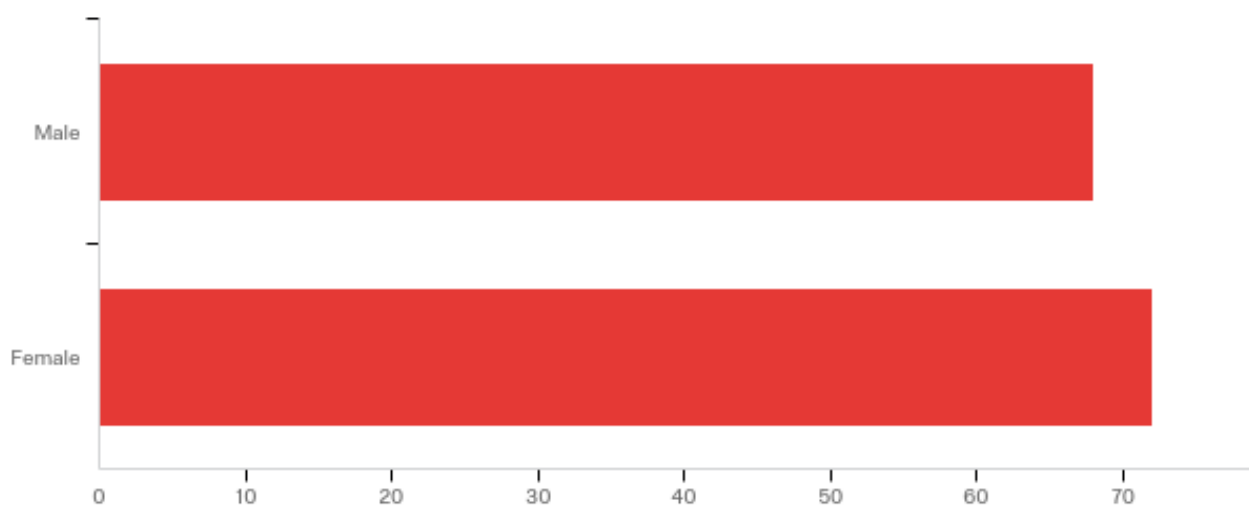
Psychology
Telecommunications
Power System Engineering
Investment Bank
Aviation
Information Technology
Political Science
University of Liverpool
Health
Renewable energy
Oil And gas
Technology (IoT)
Management consulting
Finance
Legal advisory
Academic research
business administration
Economic consulting
Certification Market
Communication
Education
Education
Banking
Master Student of International Relations
Law and Economics
Study - law
Architecture
Architecture
Aviation
Environmental engineering
Architecture

Architecture and Urbanism
Maketing
Architecture & Urbanism
Social Sciences
Student, Architecture
Architecture
Architecture
Engineering
Government
IT
Services
Contrutech
Work: Consumer product goods / study: master in international management
Finance
Currently, working with International Relations and a student in International Management
Comércio atacado
Economic Development
Bioinformatics
Marketing Management
Post-doc researcher in Genetics
Education - teacher/ lecturer
Ad-tech
Pharmaceutical
Management Consulting
Public service
Software
Metalworking industry
Innovation and Entrepreneurship
Entrepreneurship
International business
User Experience and User Interface

Biomolecular Physics
Engineering
Education
Postdoc - Clinical Biochemistry
Law (international arbitration)
Finance
Consulting
Bank
Software development
food studies and public health
Business Administration
Financial Services
Business
Business
Business administration
Consulting
Banco de Investimento
Student
Food retail
Logistics
P&G
Telecom
Internet
Cosmetics
Investment Banking
Public Policy Management
Medicine
Government
Economics
Student - Business
chemical industry

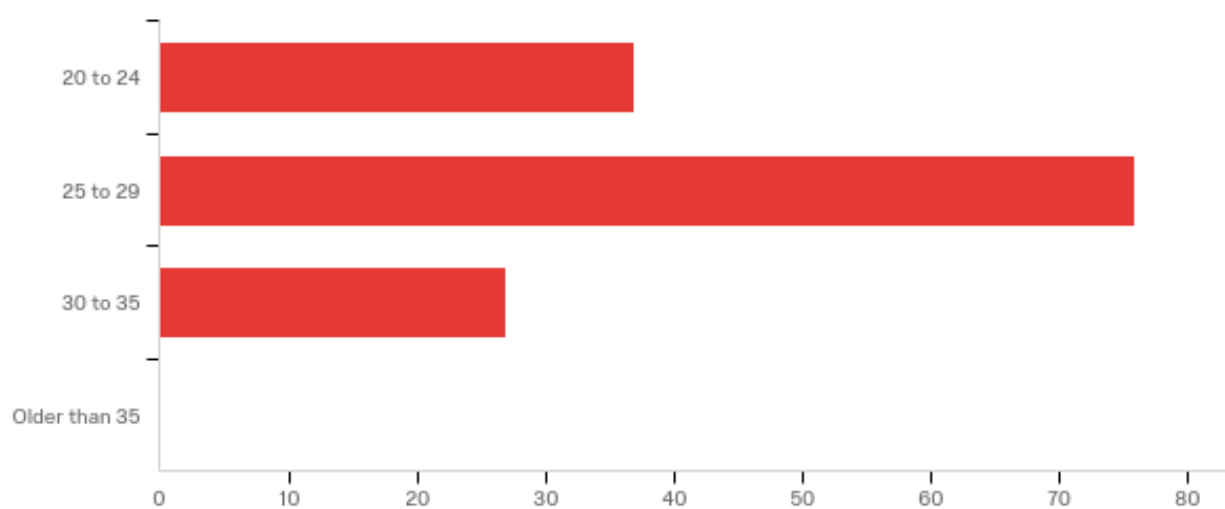
Music
Marketing
Education
consultancy
Tv, Cinema, Entertainment
Engineer
Lawyer
Aviation
Audit/Tax
Business
Teaching
Technology
Financials
Consultancy
Financial Market
Fashion
Internet
Health care
Finance
Education
Adhesives - multinacional

Q3 - What is your gender?



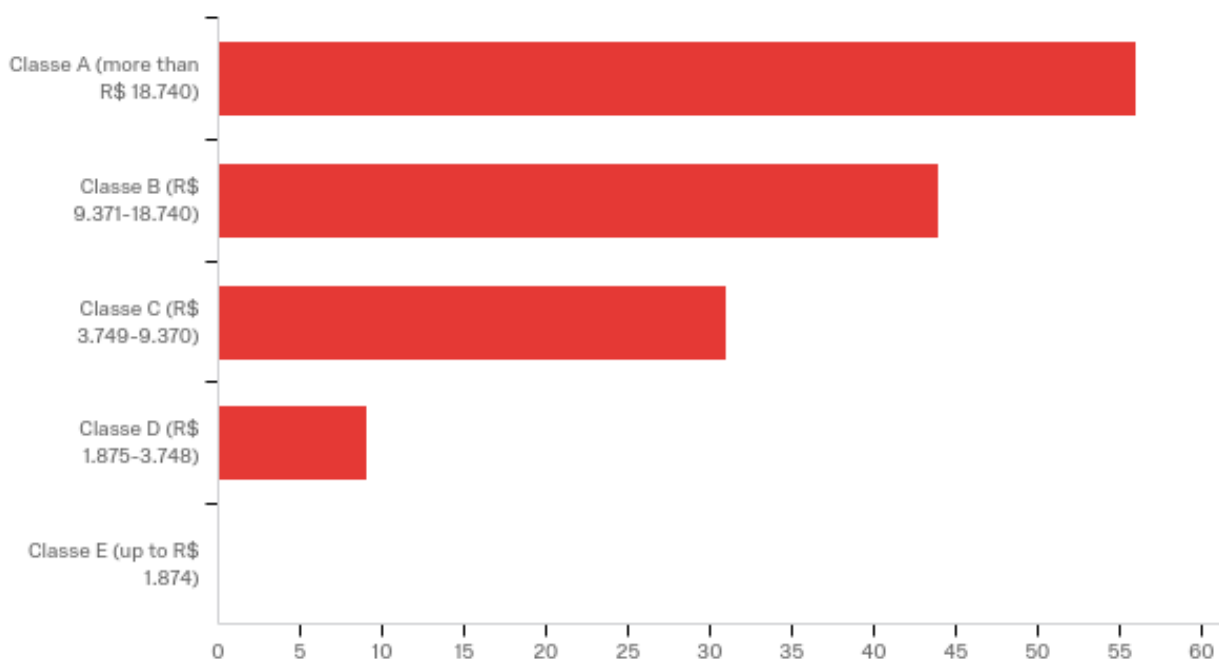
#	Answer	%	Count
1	Male	48.57%	68
2	Female	51.43%	72
	Total	100%	140

Q4 - What is your age?



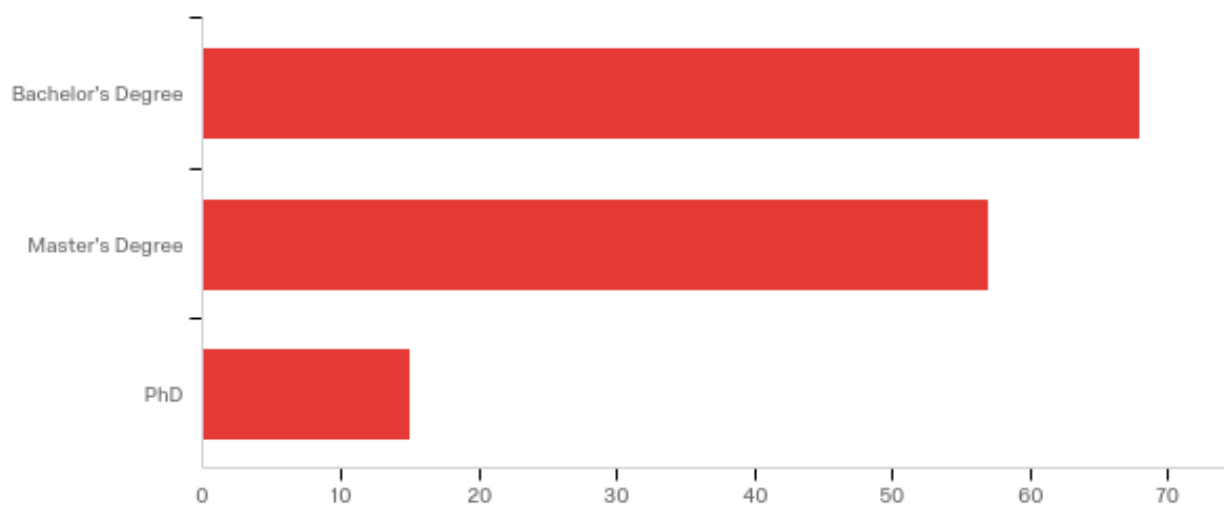
#	Answer	%	Count
1	20 to 24	26.43%	37
2	25 to 29	54.29%	76
3	30 to 35	19.29%	27
4	Older than 35	0.00%	0
	Total	100%	140

Q32 - What is the MONTHLY average income of your HOUSEHOLD, based on Brazil's class segments?



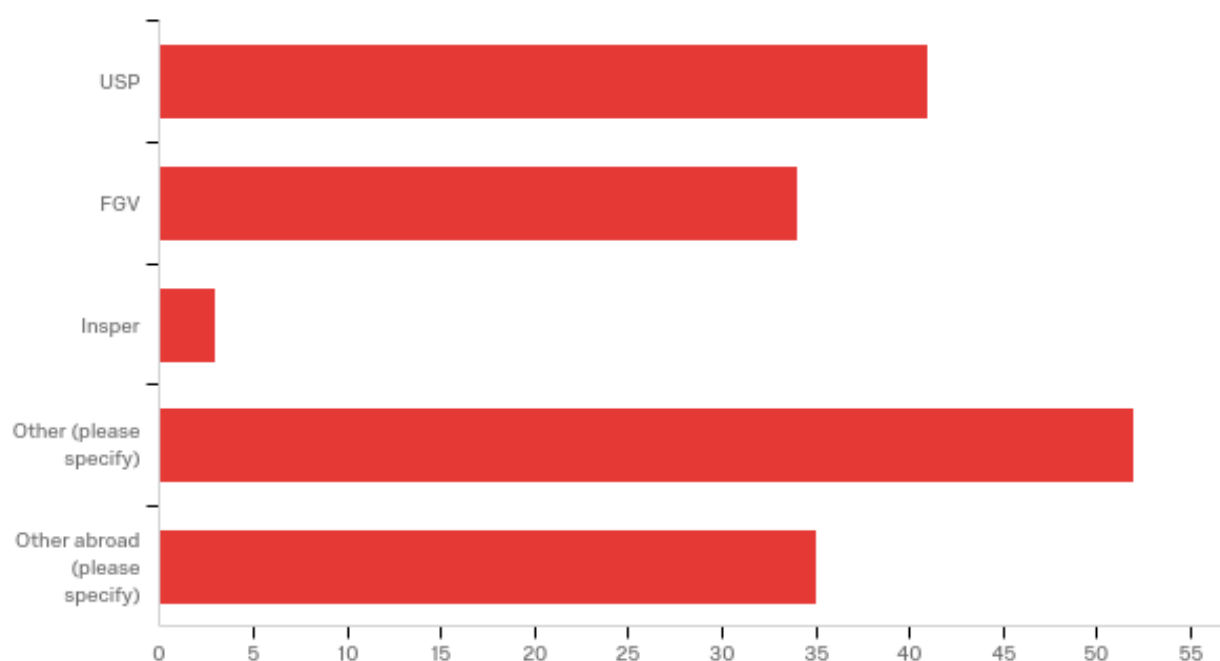
#	Answer	%	Count
1	Classe A (more than R\$ 18.740)	40.00%	56
2	Classe B (R\$ 9.371-18.740)	31.43%	44
3	Classe C (R\$ 3.749-9.370)	22.14%	31
4	Classe D (R\$ 1.875-3.748)	6.43%	9
5	Classe E (up to R\$ 1.874)	0.00%	0
	Total	100%	140

Q6 - What is the highest university level you have achieved / are currently enrolled in?



#	Answer	%	Count
1	Bachelor's Degree	48.57%	68
2	Master's Degree	40.71%	57
3	PhD	10.71%	15
	Total	100%	140

Q7 - Which university did you attend / are you attending?



Other abroad (please specify) - Text	Other (please specify)
University College London	University of brasilia (UnB)
University of Cambridge	Uerj
UT Austin	Uninove
	Mackenzie
University of Cambridge	
	UniCEUB
LSE and Paris II	
	ESPM and Business Sao Paulo School (BSP)
BiTs - Business and Information Technology School	Anhembi Morumbi
	Puc - SP
	UFBA
	Unicamp
	PUC-RJ
	Espm
	UnB (Universidade de Brasília)
	Ufba

	PUC minas
University of Aveiro (Portugal)	UFBA
Schiller Heidelberg	ESPM
	IESB
UEM - Universidad Europea de Madrid	Universidade Salvador - UNIFACS
	Unifacs
Maastricht university	
Corvinus - Budapest Charles University (now) - Prague	
	UFBA
	UFBA
	Unifacs
	UFBA
	unesp
	Unesp
	Anhembi Morumbi
	UNESP (Bauru - SP)
	UNESP
	UNESP
	Unesp
	UNESP
University of Toronto	
	UNESP
Miguel de cervantes university	Senac
UAB	
	Bachelor's Degree from PUC-SP
	Private Market
Bocconi University	
University of Cambridge	UnB
Maastricht University	
Frankfurt School of Finance & Management	
CEMS	

London School of Economics	
University of Cologne	
Hochschule Heilbronn	
ESADE, Stockholm School of Economics	
ESADE	
Aarhus University	
Elisava	
	UFPE
ENSTA ParisTech	UNICAMP
Cambridge	
University of Cambridge	UniCuritiba
New York University and Bocconi	
Università Luigi Bocconi	
	Espm
NYU	
New York University	
New York University	
LSE	universidade federal do Rio Grande do Norte (UFRN)
	PUC-Rio
	FAAP
	faculdade metropolitanas unidad
	UFRJ
	Puccamp
	Mackenzie
	Mackenzie
	Universidade Anhembi morumbi
	UFRGS
	Unip

Q7_4_TEXT - Other (please specify)

Other (please specify) - Text

University of brasilia (UnB)

Uerj

Uninove

Mackenzie

UniCEUB

ESPM and Business Sao Paulo School (BSP)

Anhembi Morumbi

Puc - SP

UFBA

Unicamp

PUC-RJ

Espm

UnB (Universidade de Brasília)

Ufba

PUC minas

UFBA

ESPM

IESB

Universidade Salvador - UNIFACS

Unifacs

UFBA

UFBA

Unifacs

UFBA

unesp

Unesp

Anhembi Morumbi

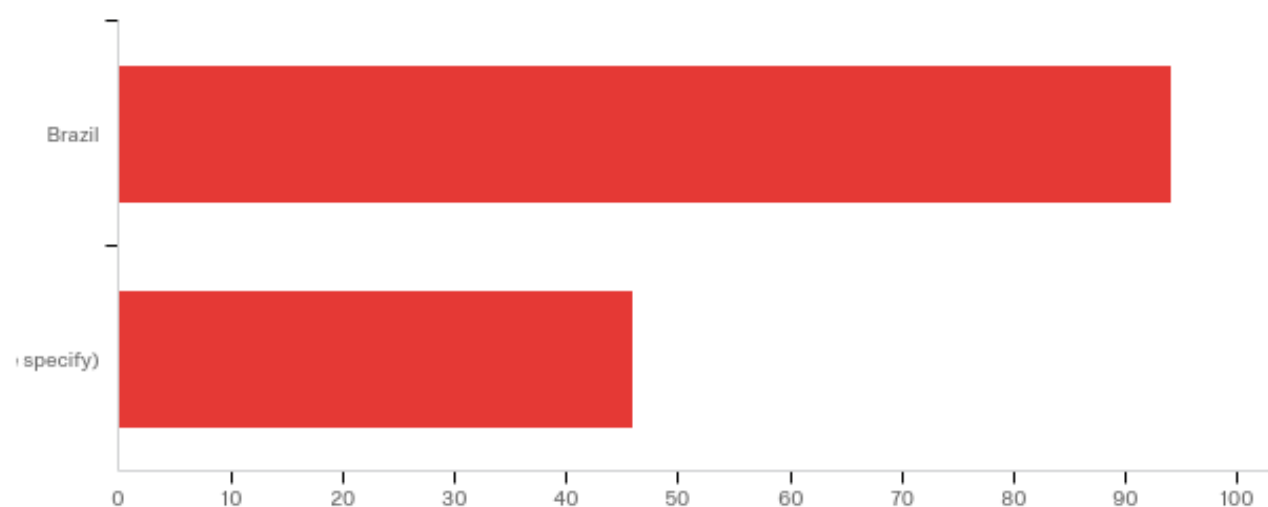
UNESP (Bauru - SP)

UNESP

UNESP

Unesp
UNESP
UNESP
Senac
Bachelor's Degree from PUC-SP
Private Market
UnB
UFPE
UNICAMP
UniCuritiba
Espm
universidade federal do Rio Grande do Norte (UFRN)
PUC-Rio
FAAP
faculdade metropolitanas unidad
UFRJ
Puccamp
Mackenzie
Mackenzie
Universidade Anhembi morumbi
UFRGS
Unip

Q8 - Where are you currently living?



#	Answer	%	Count
1	Brazil	67.14%	94
2	Other (please specify)	32.86%	46
	Total	100%	140

Q8_2_TEXT - Other (please specify)

Other (please specify) - Text

Australia

UK

Germany

Italy

London

Canada

UK

Mexico

Spain

Prague

Toronto

Germany
USA
Italy
Cambridge, UK
Cambridge - United Kingdom
Germany
Germany
Germany
Germany
Germany
Spain
Spain
Barcelona - Spain
Paris, France
UK
Cambridge - UK
Portugal
United States
France
Italy
San jose, CA
New York
New York
New York, NY - United States
Italy
UK
Basel
Mexico
Portugal
spain
USA

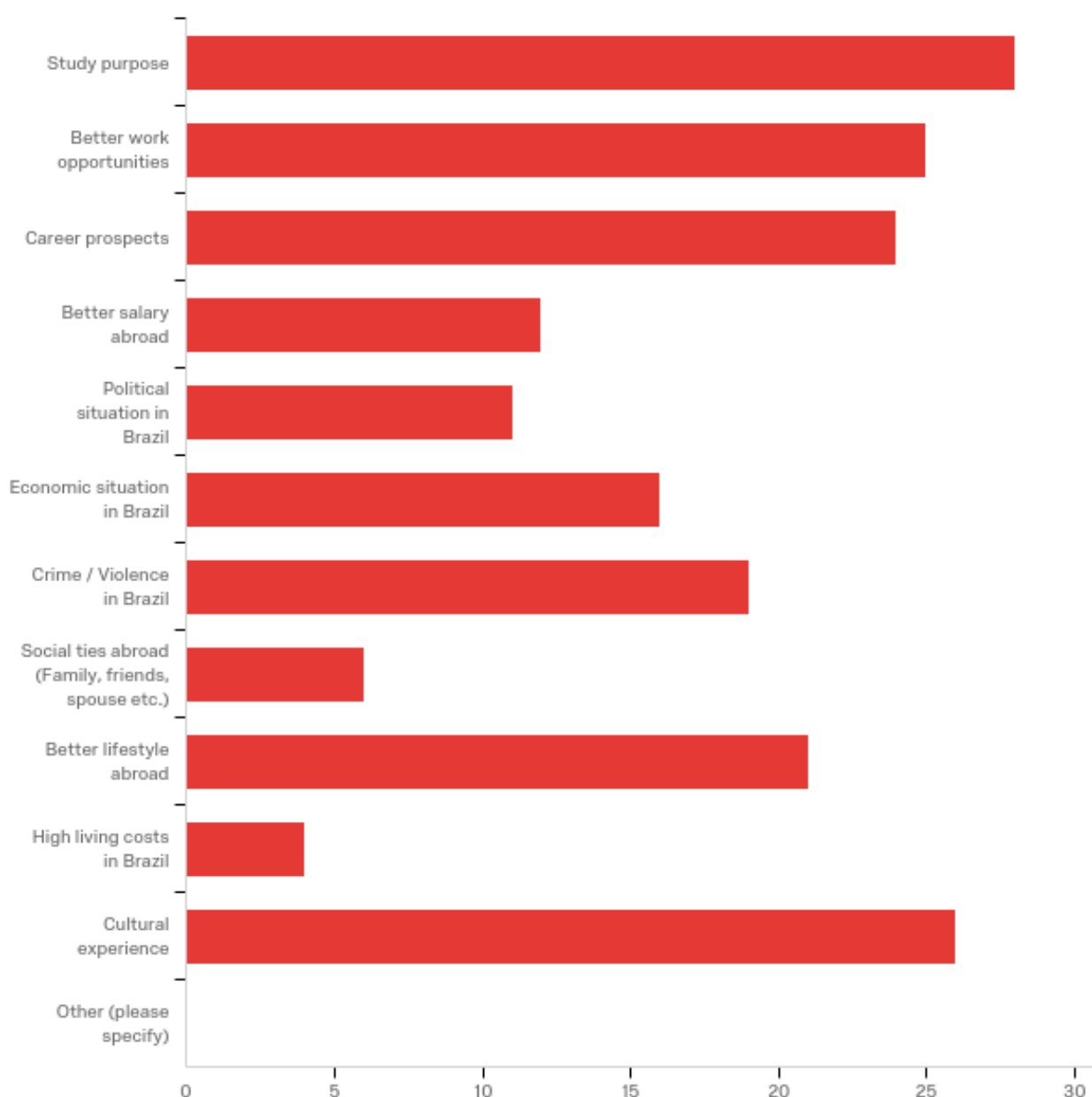
Uk

Spain

Germany

México

Q9 - What was the reason / were the reasons for you to move abroad?



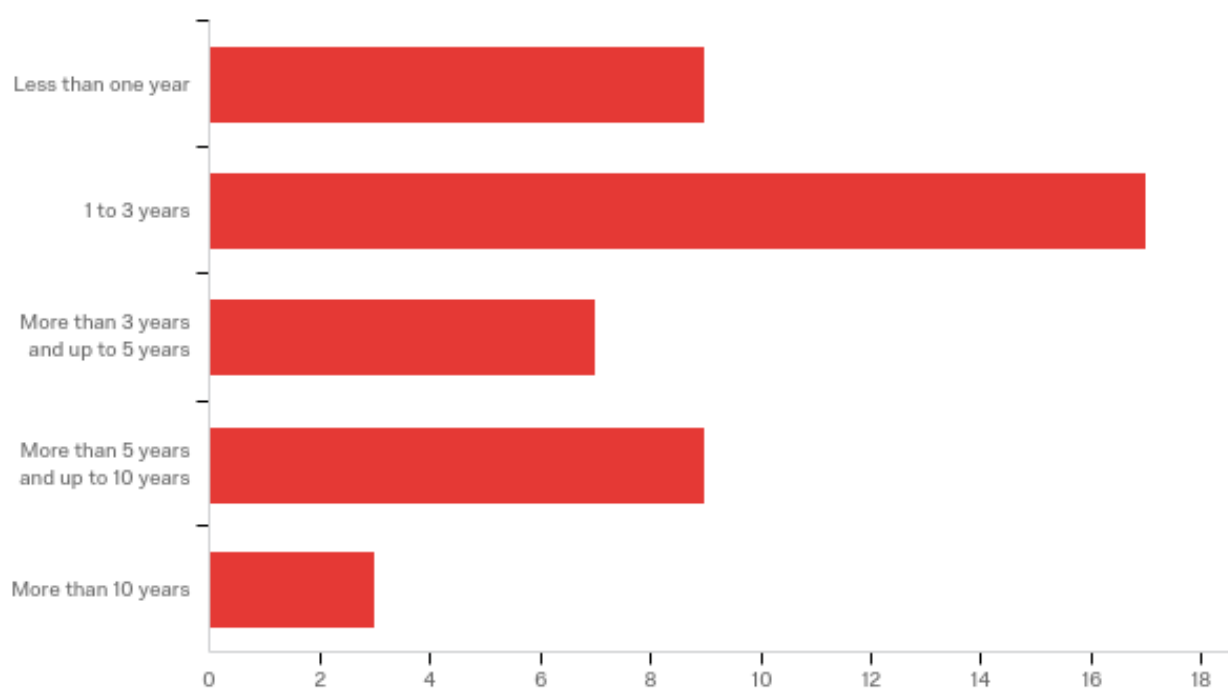
#	Answer	%	Count
1	Study purpose	14.58%	28
2	Better work opportunities	13.02%	25
3	Career prospects	12.50%	24
10	Better salary abroad	6.25%	12
4	Political situation in Brazil	5.73%	11
5	Economic situation in Brazil	8.33%	16
6	Crime / Violence in Brazil	9.90%	19

7	Social ties abroad (Family, friends, spouse etc.)	3.13%	6
8	Better lifestyle abroad	10.94%	21
9	High living costs in Brazil	2.08%	4
11	Cultural experience	13.54%	26
12	Other (please specify)	0.00%	0
	Total	100%	192

Other (please specify)

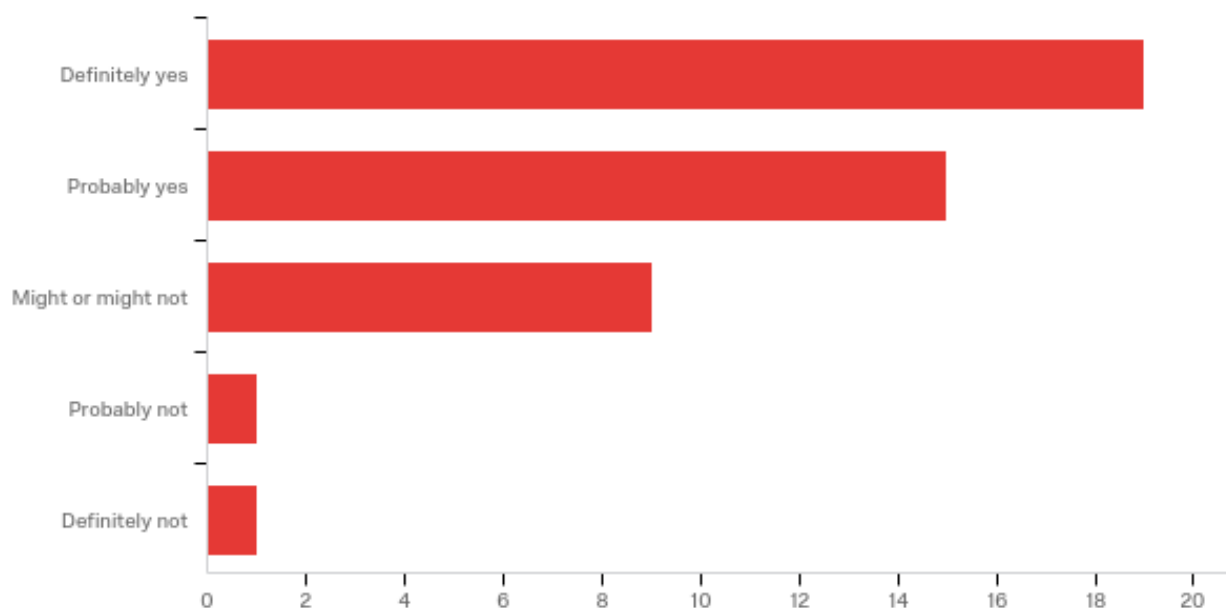
Other (please specify) - Text

Q10 - For how long have you been living abroad?



#	Answer	%	Count
1	Less than one year	20.00%	9
2	1 to 3 years	37.78%	17
3	More than 3 years and up to 5 years	15.56%	7
4	More than 5 years and up to 10 years	20.00%	9
5	More than 10 years	6.67%	3
	Total	100%	45

Q11 - Are you more satisfied / happier with your current life than you were in Brazil?



#	Answer	%	Count
1	Definitely yes	42.22%	19
2	Probably yes	33.33%	15
3	Might or might not	20.00%	9
4	Probably not	2.22%	1
5	Definitely not	2.22%	1
	Total	100%	45

Q12 - Please specify why you are more satisfied.

Please specify why you are more satisfied.

More work opportunities, easier access to an international academic career

More work and safer

More quality of life and I feel safe in Germany

Better quality of life

Quality of life

Security.

Safety place to live. better social structure. personal development

No violence. Quality of life. Respectful people

Canada is a great, peaceful country and helps me grow both academically and artistically.

Easier life, less working hours, higher life standards

Less violence

Largely for being away from the violence and political climate in Brazil. Also creating and strengthening professional, cultural and personal ties in a new country.

I am satisfied with safety and better living conditions, such as transport, education and health. However, there is a lot of prejudice against Latin Americans here.

I have more life quality (especially regarding work-life balance and safety) and my career prospects are better

I think the overall package abroad in terms of social security, political fairness, equal pay, fair salaries, safety, education and many more far outclass what Brazil has to offer

All the reasons listed previously: Brazil's fucking economic and political chaos, violence, corruption...

I have a safe job and great social perspectives

Higher quality of life

More safety, better life quality, better opportunities

It's very hard to be a woman in Brazil because all the violence and risks we have there. Here, in Spain, I feel safe and also, I don't spend long time in traffic jam anymore.

Easier life. People not so worried about how you look. High cultural awareness. Better security. Less social difference.

Quality of life - decent salary and a safe place to live

The same motivations that made me move abroad (specified in a previous question).

Better opportunities. Meritocracy actually works in the US.

I am free to be my own person, detached from the labels of my family name and I can walk around streets at night and feel completely safe and not dependent on anyone. Also I seek opportunities and they are all there and accessible if you work for them

Cultural experiences and safer environment

Better life quality

I can live with liberty, I can pay for me rent and all my expenses, I can have a master degree (and pay around 1500 euros per year)

better quality of life and safety

Brazil is not good for many reasons

Better quality of life/opportunities

Better lifestyle

Lifestyle, security

Multicultural

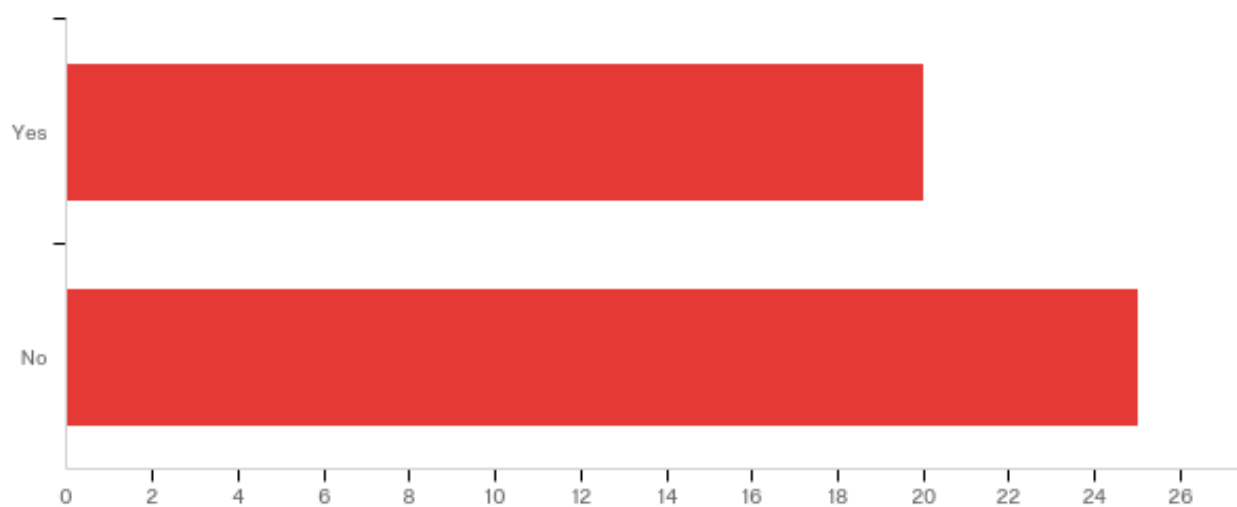
Q28 - Please specify why you are NOT more satisfied.

Please specify why you are NOT more satisfied.

(1) cultural aspects (2) lifestyle

Being away from home makes me miss the Brazilian lifestyle very much. Being around family friends, and especially the people. New York so far hasn't proven to be a very inviting place to live.

Q13 - Are you planning on moving back to Brazil in the future?



#	Answer	%	Count
1	Yes	44.44%	20
2	No	55.56%	25
	Total	100%	45

Q14 - Why do you want to move back?

Why do you want to move back?

Family

Family, friends, work

Because I miss my family

Family and friends.

Family/Friends

Because at a later point in my career, living and working in an emerging market might turn way more profitable

Because my family lives there

I wanna impact positively my country.

Family

(1) cultural aspects (2) lifestyle (3) go back and agregate "human capital" to my country

In brazil it is very hard to feel lonely... in america i feel lonely even when I go out with co-workers

I don't see myself creating a life, family, and career outside of Brazil. Or atleast I would only imagine living away when I'm older.

My family is back in Brazil. São Paulo is a great city to live in (considering you have the \$\$\$)

.

Family

Not sure if i want to

I want to be close to my family

family

Family, weather and Brazilian people in general

Family and friends

Q27 - Why do you NOT want to move back?

Why do you NOT want to move back?

Violence, different lifestyle, no work network developed in Brazil

Very bad to be a scientist in Brazil, politics are terrible as well as violence

I found myself in Germany! I love the culture and the people

Violence / Economics / Politics

Quality of life

Because I have a Spanish wife and she prefers to live in Spain.

I don't like living in Brazil. It's violent and it's becoming a political chaos.

Too much violence, education is not good, too much corruption.

violence / crime,

Violence, economical crisis, low salaries

Because my husband is here and I am also working and studying here and Brazil is going through a terrible crisis – I do not see any job prospects for either me or my partner.

I don't think Brazil will get better in the next 5 years. Until then I will probably have children and a stable life abroad, so will be difficult to go back.

Because living in Germany is better in nearly every way (except maybe the weather but even that's not so bad)

Political and economical situation in Brazil

Life is harder in Brazil, no quality of life, violence

My life is better here and I'm ok with my current job

I have my life in the UK now. Brazil is going backwards and against all things I believe.

No perspective of a good life in Brazil for me

Brazil does not have satisfactory job and study opportunities in my field.

Because I don't think Brazil's problems will be resolved in my generation and I don't want my kids growing up in a country where corruption and crime are part of the routine.

My field is not very developed in Brazil and I feel it would be a waste to study in the USA for all this time to just go back to an underdeveloped economic situation with limited opportunities in the field that I love. Also I really value my freedom of mind and person here

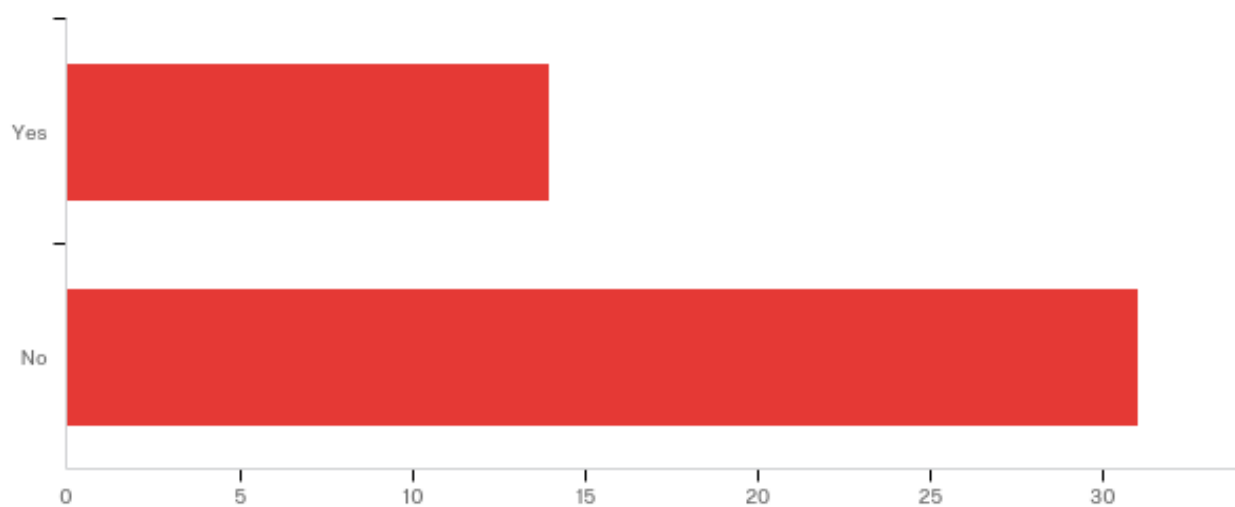
Apart from family, I don't see any reason to go back.

Have a good life here and would not go back to Brazil

Good quality of life abroad

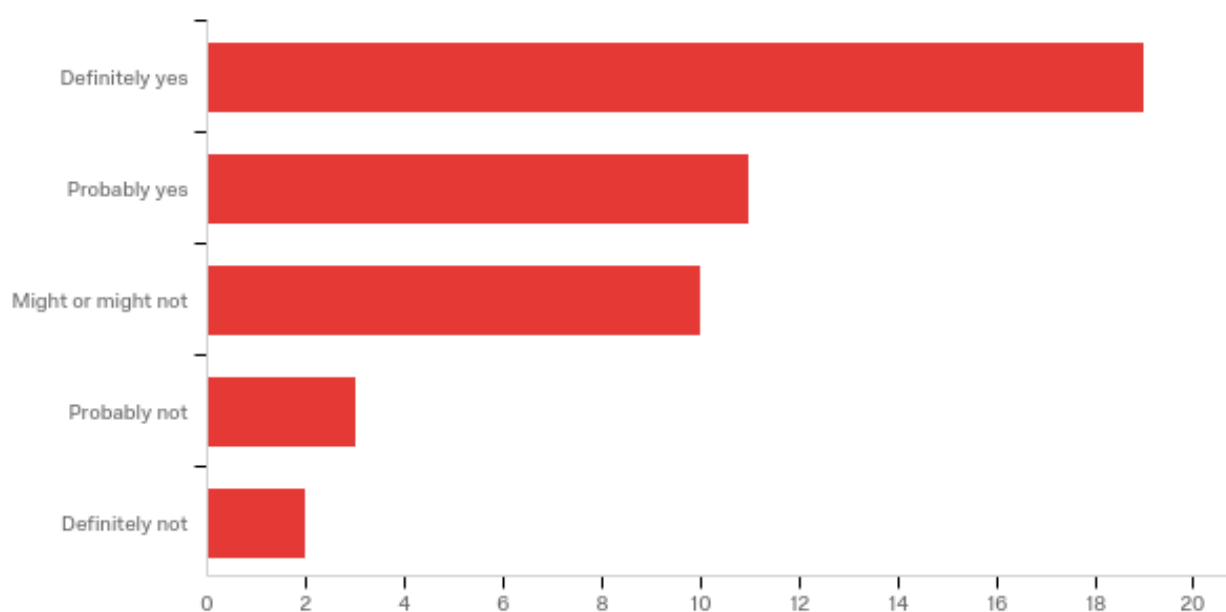
There are no job opportunities for me

Q15 - Are most of your contacts abroad (more than 20%) Brazilian?



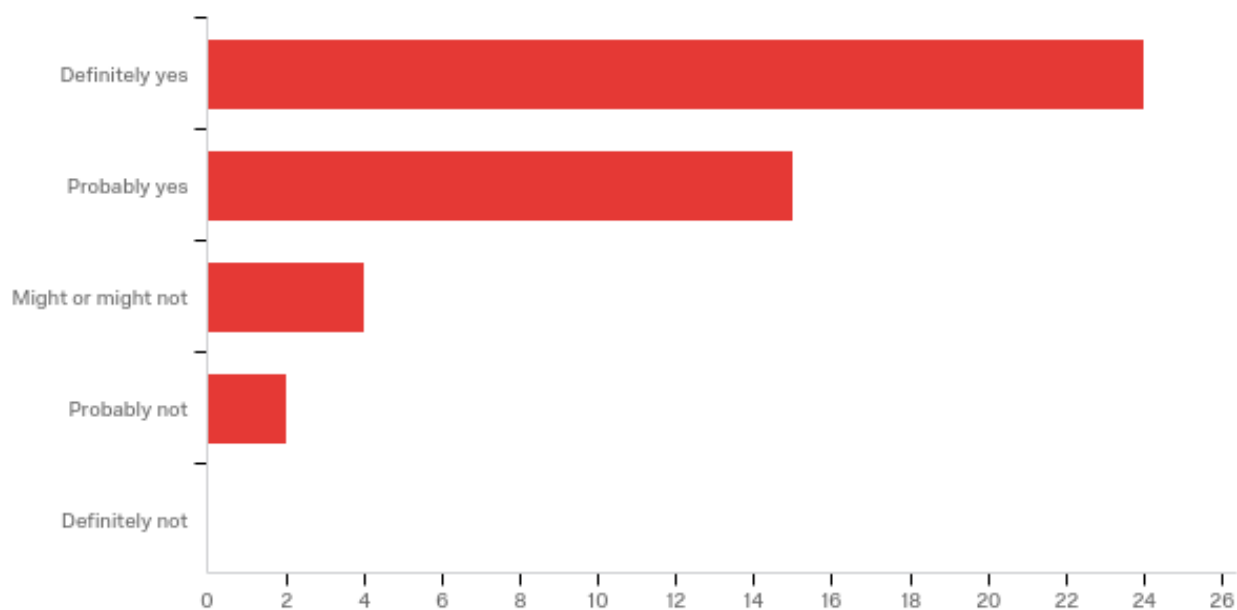
#	Answer	%	Count
1	Yes	31.11%	14
2	No	68.89%	31
	Total	100%	45

Q16 - Is your economic situation now better than it was in Brazil?



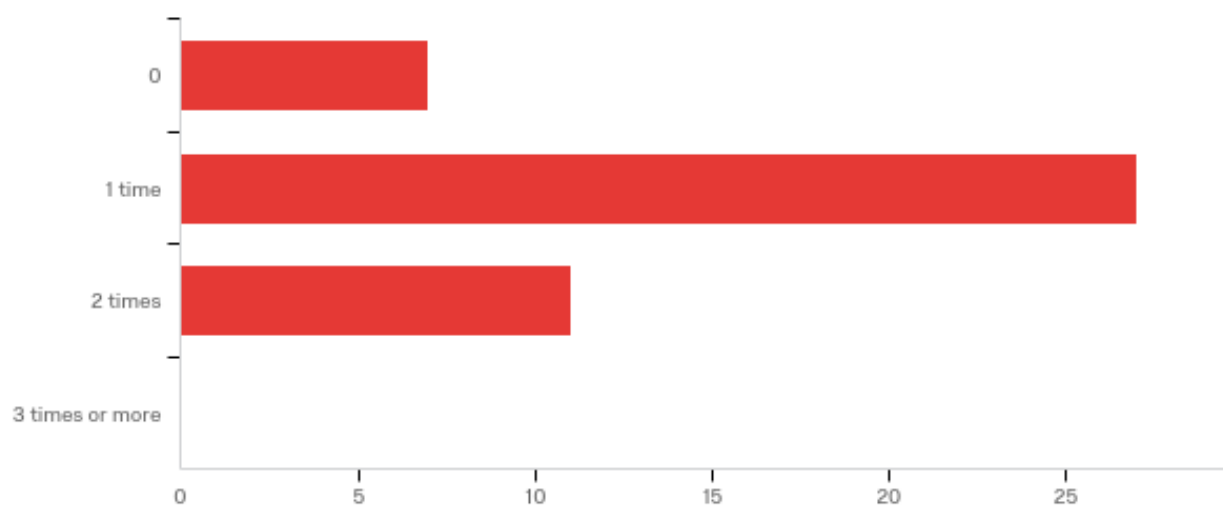
#	Answer	%	Count
1	Definitely yes	42.22%	19
2	Probably yes	24.44%	11
3	Might or might not	22.22%	10
4	Probably not	6.67%	3
5	Definitely not	4.44%	2
	Total	100%	45

Q17 - Is the political situation in your current country of residence better than in Brazil?



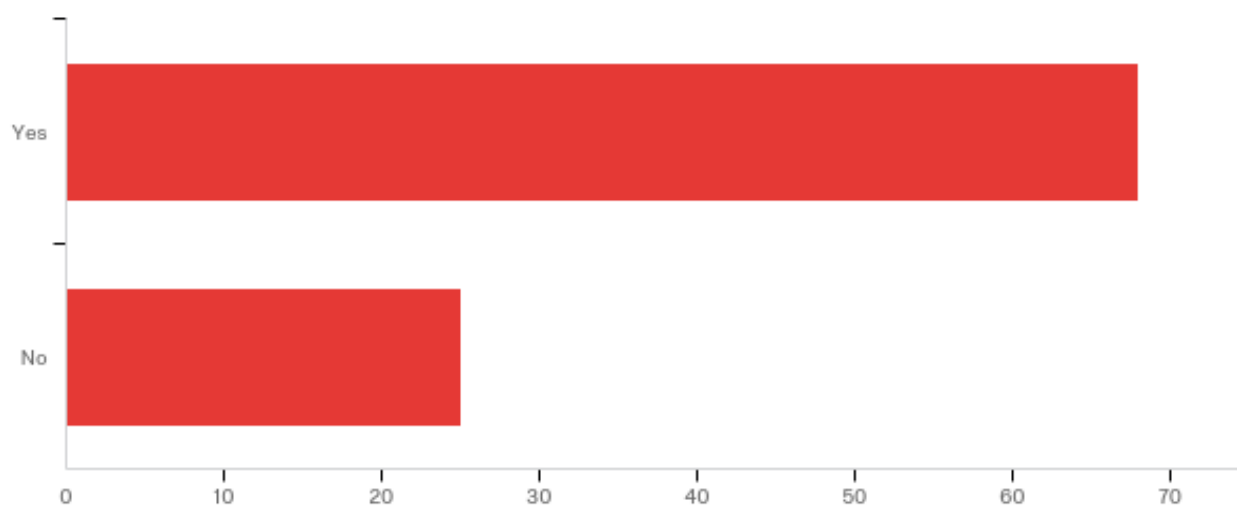
#	Answer	%	Count
1	Definitely yes	53.33%	24
2	Probably yes	33.33%	15
3	Might or might not	8.89%	4
4	Probably not	4.44%	2
5	Definitely not	0.00%	0
	Total	100%	45

Q18 - How many times do you back to Brazil in a year?



#	Answer	%	Count
1	0	15.56%	7
2	1 time	60.00%	27
3	2 times	24.44%	11
4	3 times or more	0.00%	0
	Total	100%	45

Q19 - Have you ever lived abroad?



#	Answer	%	Count
1	Yes	73.12%	68
2	No	26.88%	25
	Total	100%	93

Q20 - Where have you lived?

Where have you lived?

USA

Australia

UK

Bogotá (Colombia) / Berlin (Germany)

London, UK

Germany

Germany, France, Canada and Spain

USA

Denmark and Australia

Bolivia

Germany

Toronto, Canada

Germany

Berlin

Spain and Germany

Usa

Us

Malta

Romania

France

London

USA, Italy, Spain

Netherlands

Davis (California, USA), Regensburg (Germany)

Canada, Germany

Malta

Madrid

Venezuela

Netherlands, USA, Singapore
Egypt, Uruguay
Valencia, Spain
Budapest
Italy and the UK
Espanha e Estados Unidos
Australia
France
Spain and malta
australia and barcelona
USA
Spain
Israel
Uk
England, US
Germany, Denmark, Canada, and China
Milan
Netherlands and New Zealand
Paris and Ottawa
Milan
Netherlands
Barcelona
Mexico
USA and Turkey
Argentina
USA
Calgary, Lausanne, Bogota, London
Canada, Switzerland, France, Australia, Germany
The Netherlands
USA
Germany and UK

Germany, Canada, USA

Sydney/NYC/Valencia/London

Ireland, Peru

Germany

Austrália, Germany and USA

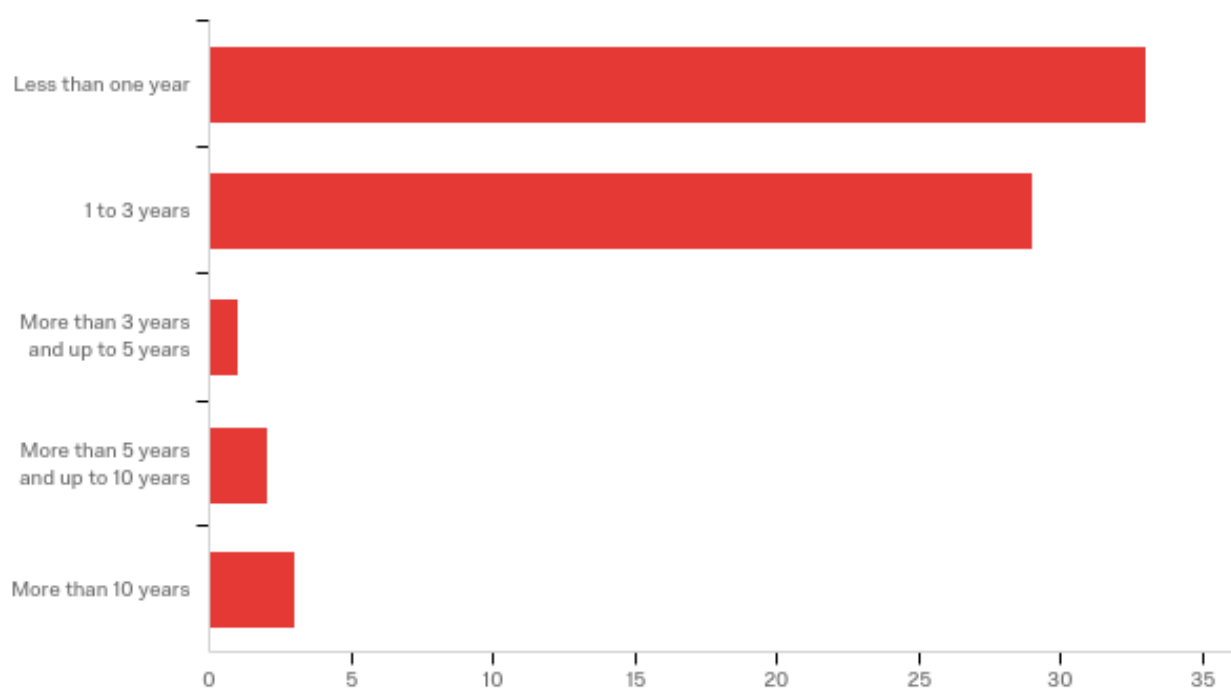
Germany

Ireland

Ireland

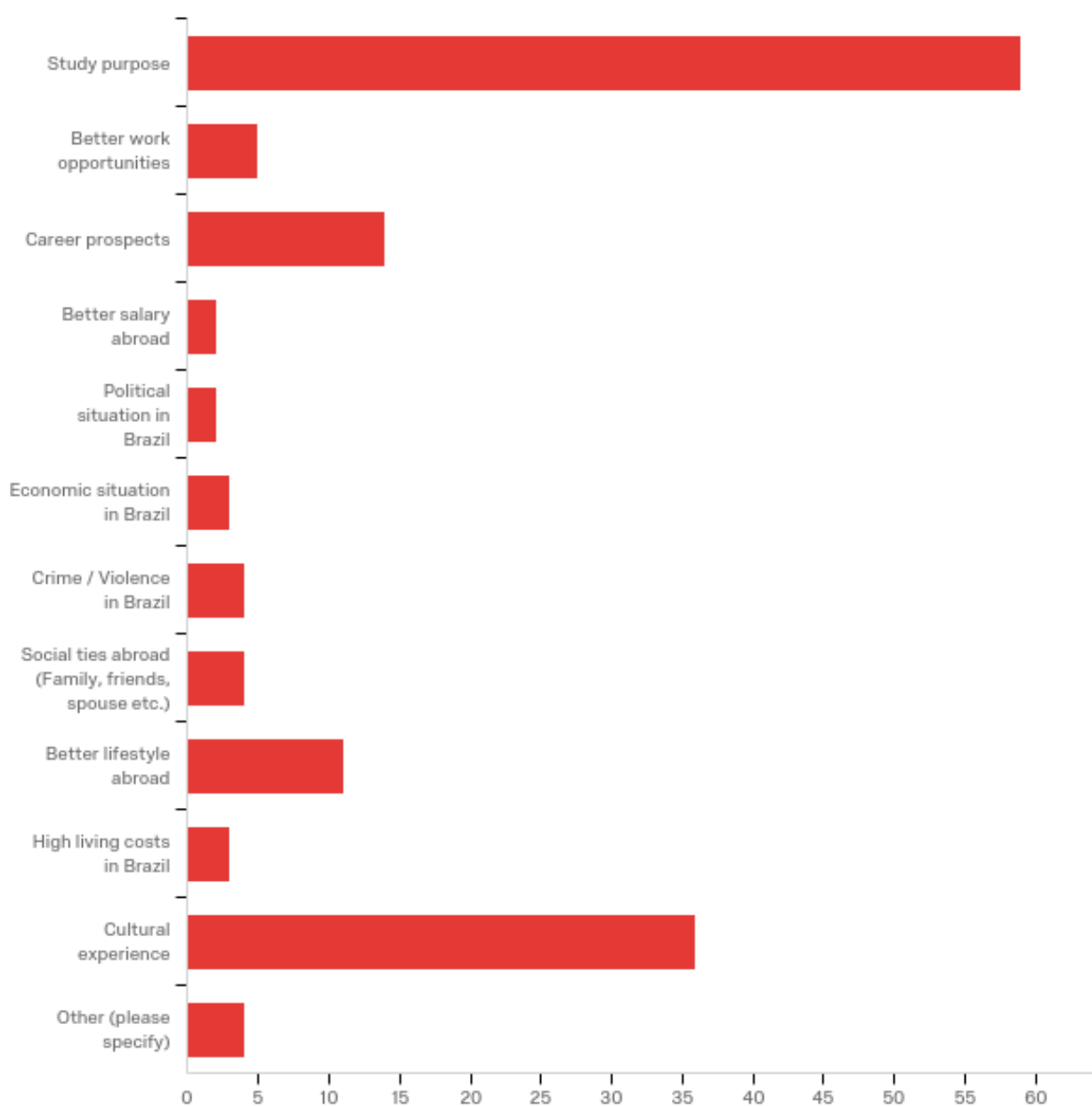
Sweden and Canadá

Q31 - For how long did you live abroad?



#	Answer	%	Count
1	Less than one year	48.53%	33
2	1 to 3 years	42.65%	29
3	More than 3 years and up to 5 years	1.47%	1
4	More than 5 years and up to 10 years	2.94%	2
5	More than 10 years	4.41%	3
	Total	100%	68

Q29 - What was the reason / were the reasons for you to live abroad?



#	Answer	%	Count
1	Study purpose	40.14%	59
2	Better work opportunities	3.40%	5
3	Career prospects	9.52%	14
4	Better salary abroad	1.36%	2
5	Political situation in Brazil	1.36%	2
6	Economic situation in Brazil	2.04%	3
7	Crime / Violence in Brazil	2.72%	4

8	Social ties abroad (Family, friends, spouse etc.)	2.72%	4
9	Better lifestyle abroad	7.48%	11
10	High living costs in Brazil	2.04%	3
11	Cultural experience	24.49%	36
12	Other (please specify)	2.72%	4
	Total	100%	147

Q29_12_TEXT - Other (please specify)

Other (please specify) - Text

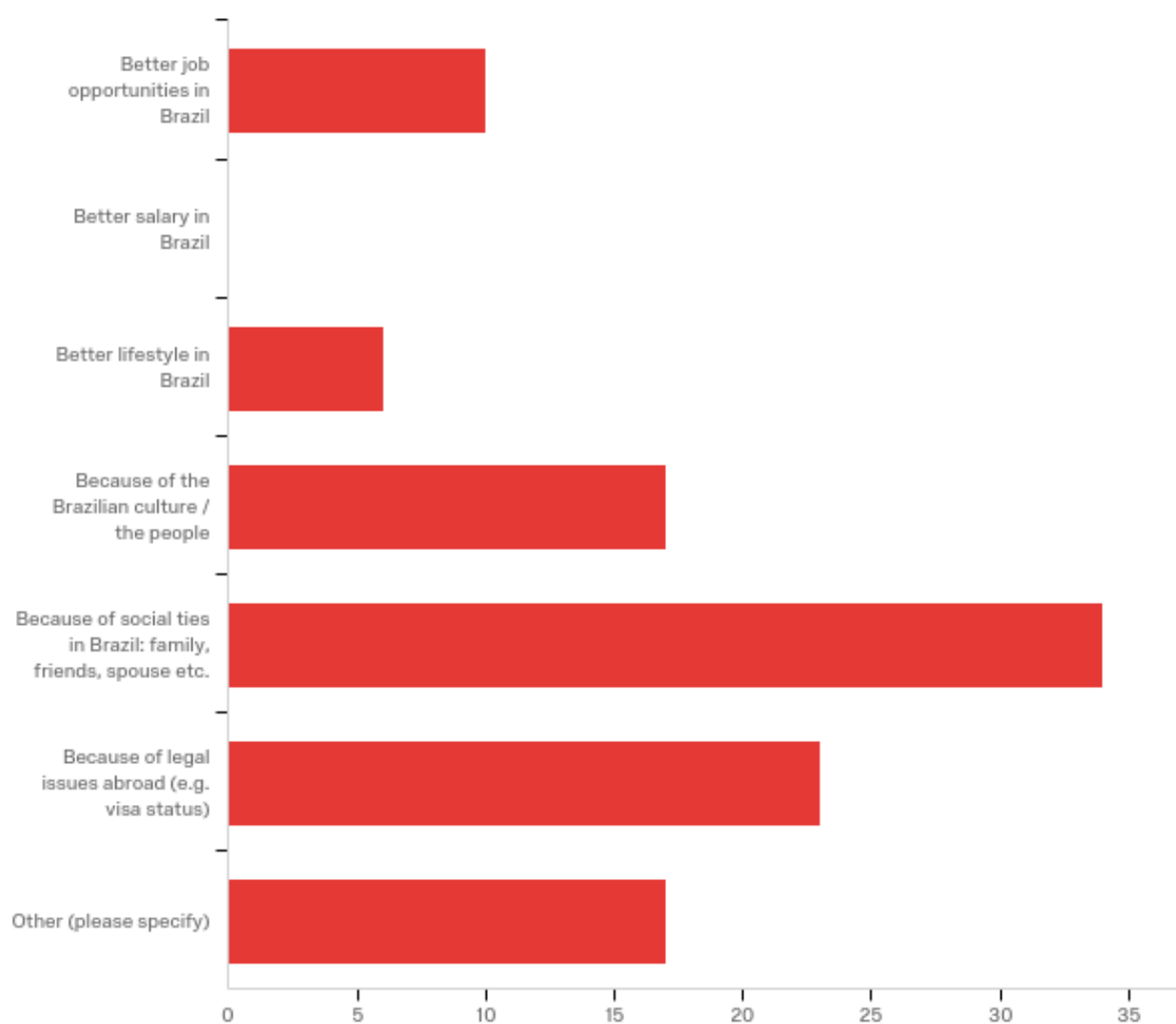
I was born in London and lived until 9 years

Ciência sem Fronteiras

Internship

Volunteer

Q22 - Why did you come back to Brazil?



#	Answer	%	Count
1	Better job opportunities in Brazil	9.35%	10
2	Better salary in Brazil	0.00%	0
3	Better lifestyle in Brazil	5.61%	6
4	Because of the Brazilian culture / the people	15.89%	17
5	Because of social ties in Brazil: family, friends, spouse etc.	31.78%	34
6	Because of legal issues abroad (e.g. visa status)	21.50%	23
7	Other (please specify)	15.89%	17
	Total	100%	107

Q22_7_TEXT - Other (please specify)

Other (please specify) - Text

Job opportunity - couldn't regret more

Finish school

I would like to be a diplomat

Give back to my country

Studies

Ciência sem Fronteiras

To finish my undergraduate course.

Temporary work

Finish studies

To study, because abroad was too expensive

Bring some knowledge to Brazil after exchange

To finish studies

Only stayed 6 months - Exchange program

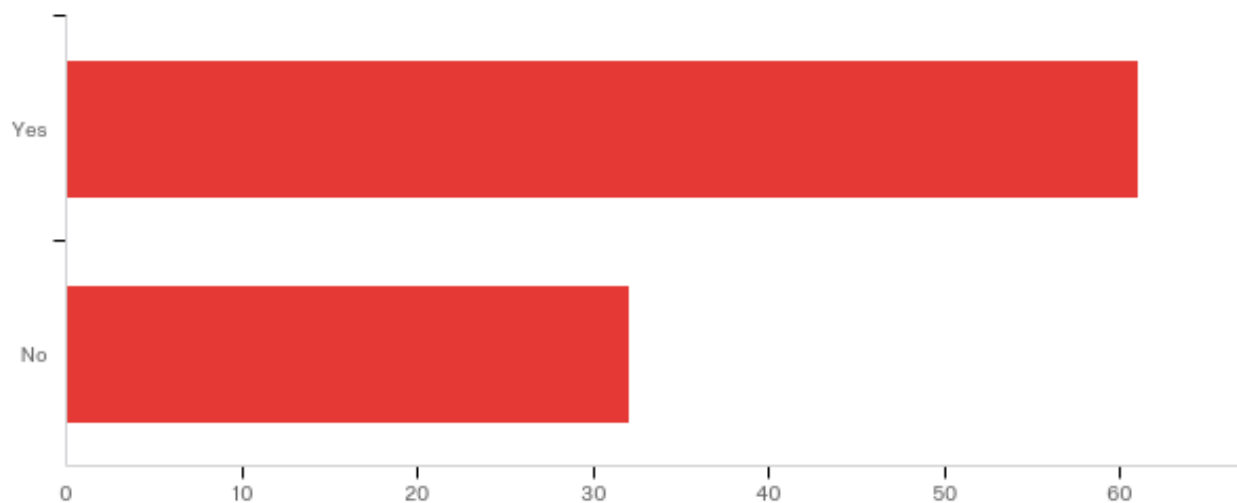
-

Finish university

no job opportunities

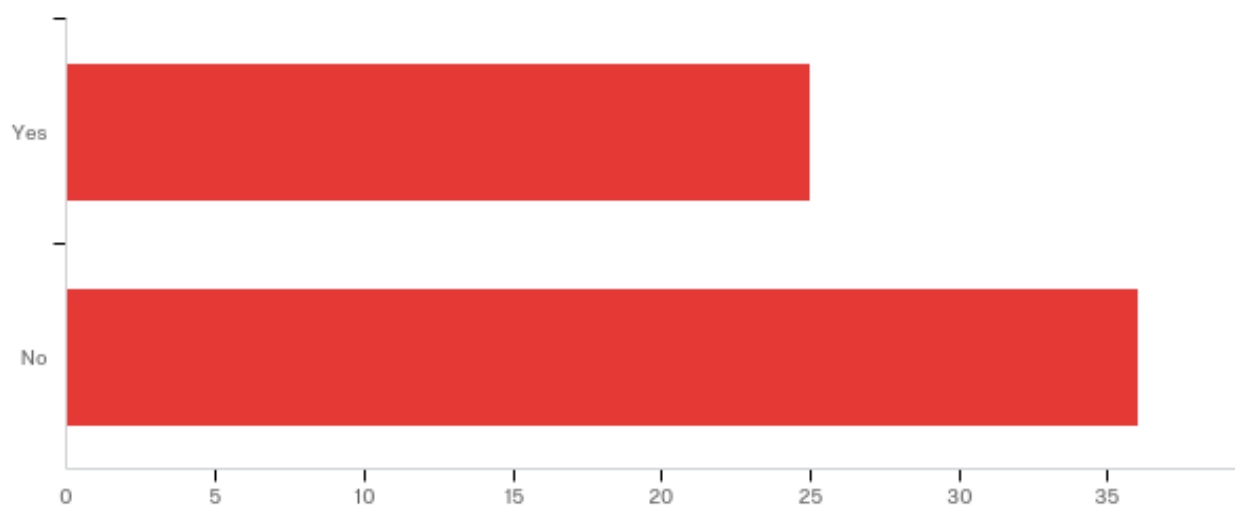
To finish my studies

Q23 - Would you like to move abroad on a PERMANENT (=FOREVER) basis?



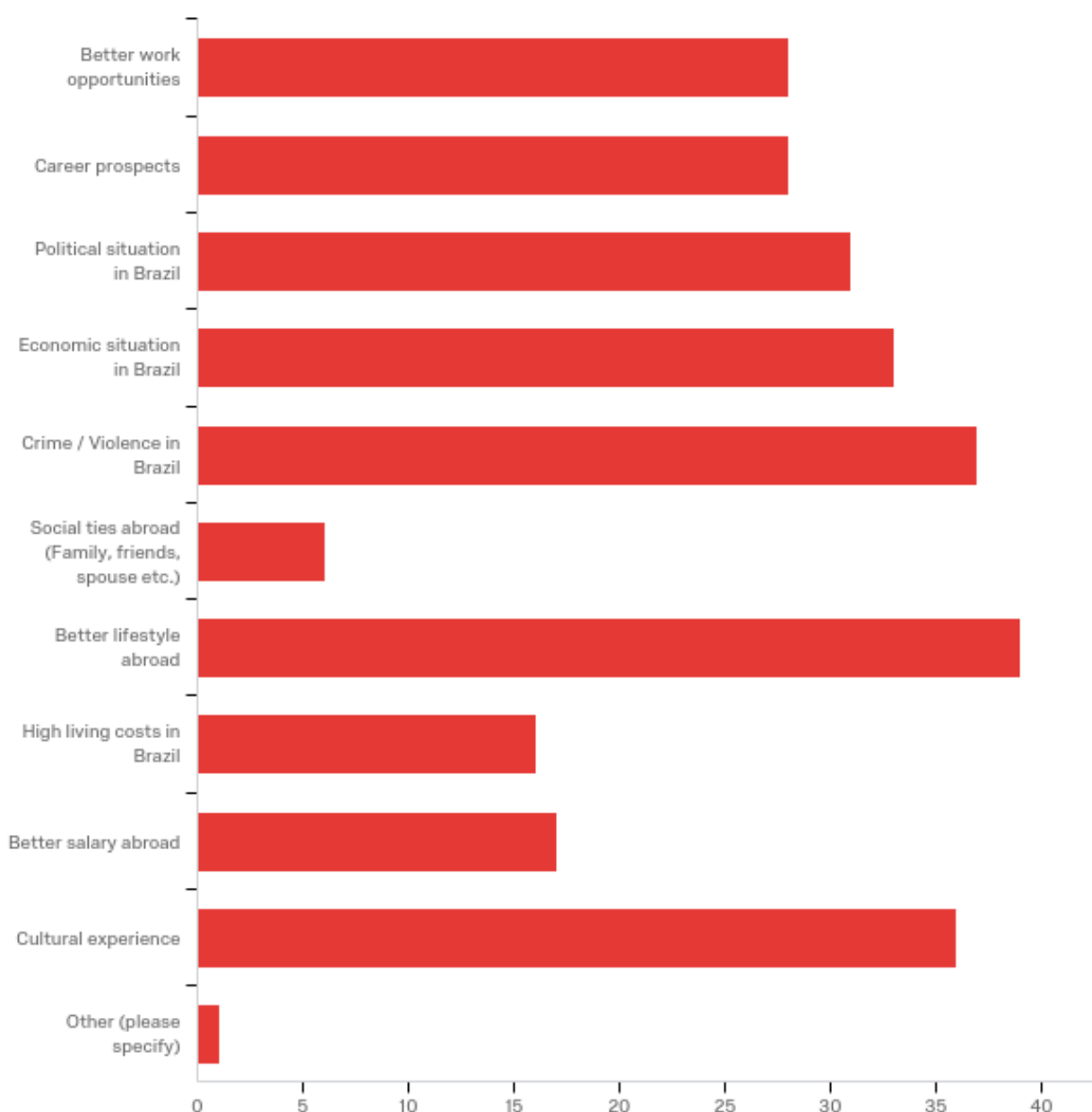
#	Answer	%	Count
1	Yes	65.59%	61
2	No	34.41%	32
	Total	100%	93

Q24 - Have you taken serious steps to emigrate on a PERMANENT basis?



#	Answer	%	Count
1	Yes	40.98%	25
2	No	59.02%	36
	Total	100%	61

Q30 - Why do you wish to move abroad on a PERMANENT basis?



#	Answer	%	Count
12	Other (please specify)	0.37%	1
7	Social ties abroad (Family, friends, spouse etc.)	2.21%	6
9	High living costs in Brazil	5.88%	16
10	Better salary abroad	6.25%	17
3	Career prospects	10.29%	28
2	Better work opportunities	10.29%	28
4	Political situation in Brazil	11.40%	31

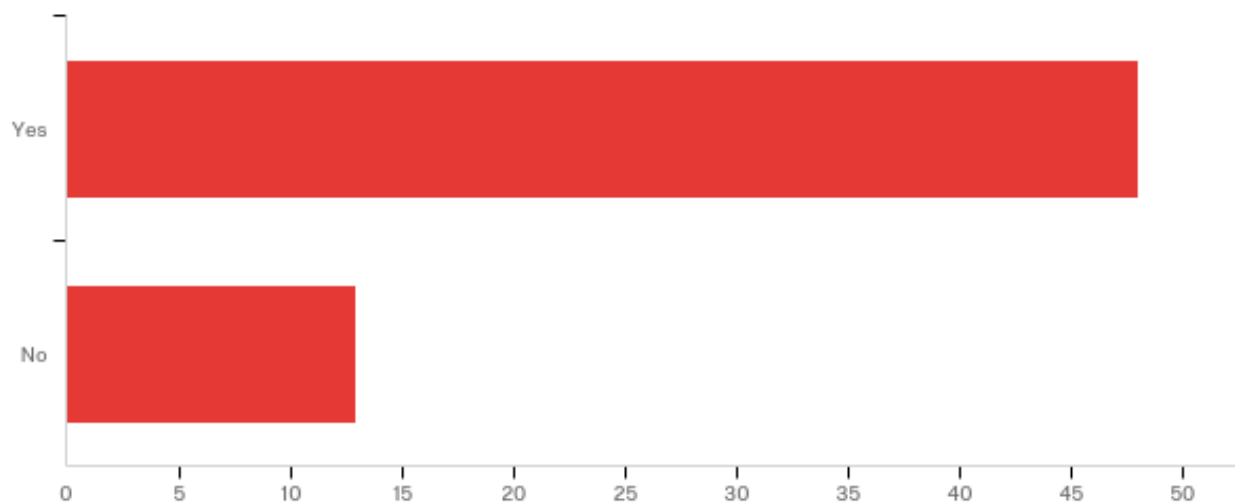
5	Economic situation in Brazil	12.13%	33
11	Cultural experience	13.24%	36
6	Crime / Violence in Brazil	13.60%	37
8	Better lifestyle abroad	14.34%	39
	Total	100%	272

Other (please specify)

Other (please specify) - Text

PhD programme

Q26 - Has your wish to emigrate on a PERMANENT basis increased over the past 3 years, with the worsening of the economic situation in Brazil?



#	Answer	%	Count
1	Yes	78.69%	48
2	No	21.31%	13
	Total	100%	61

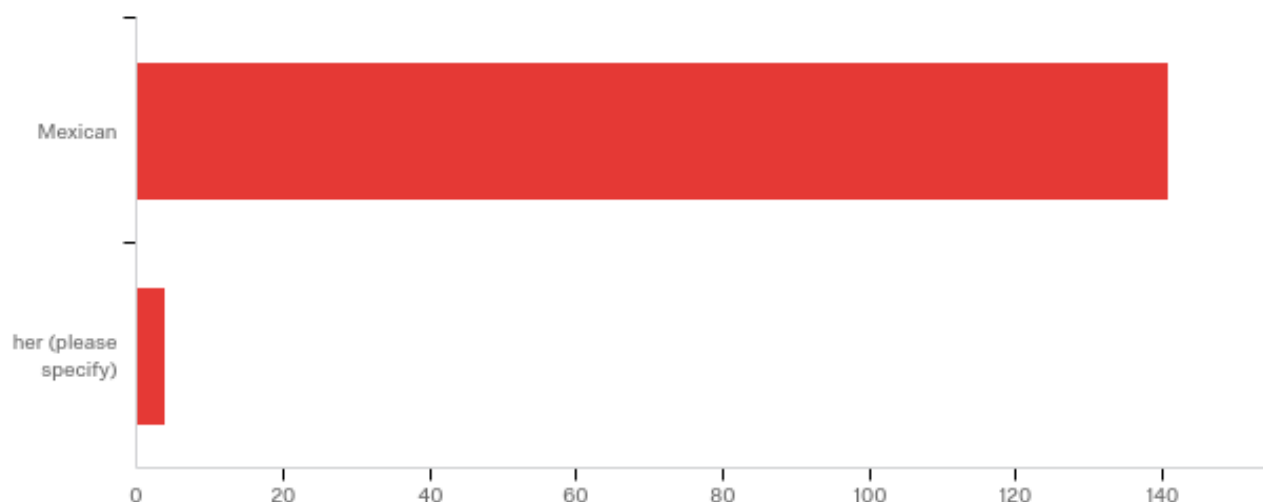
11.5. Survey Mexico

Default Report

Brain drain - Mexico

December 19th 2017, 12:30 pm MST

Q1 - What is your nationality?



#	Answer	%	Count
1	Mexican	97.24%	141
2	Other (please specify)	2.76%	4
	Total	100%	145

Q1_2_TEXT - Other (please specify)

Other (please specify) - Text

Spanish

British (double nationality)

Mexican and british

german

Q2 - What industry do you work in? If student, what is your field of studies?

What industry do you work in? If student, what is your field of studies?

Wind Energy

Wind energy

visa services

Veterinary medicine

Urbanism

Telecom

Technology, real estate, construction

Technology

Sw engineer

Student, Civil Engineering

Software

Software

Sociology

Social entrepreneurs

Services

Semiconductors

Retail

Retail

Research centre (think tank)

Research

Renewable Energy

Real Estate development

Real Estate

Real estate

Public relations. Government affairs

Public policy

Public Opinion Research

Public Administration

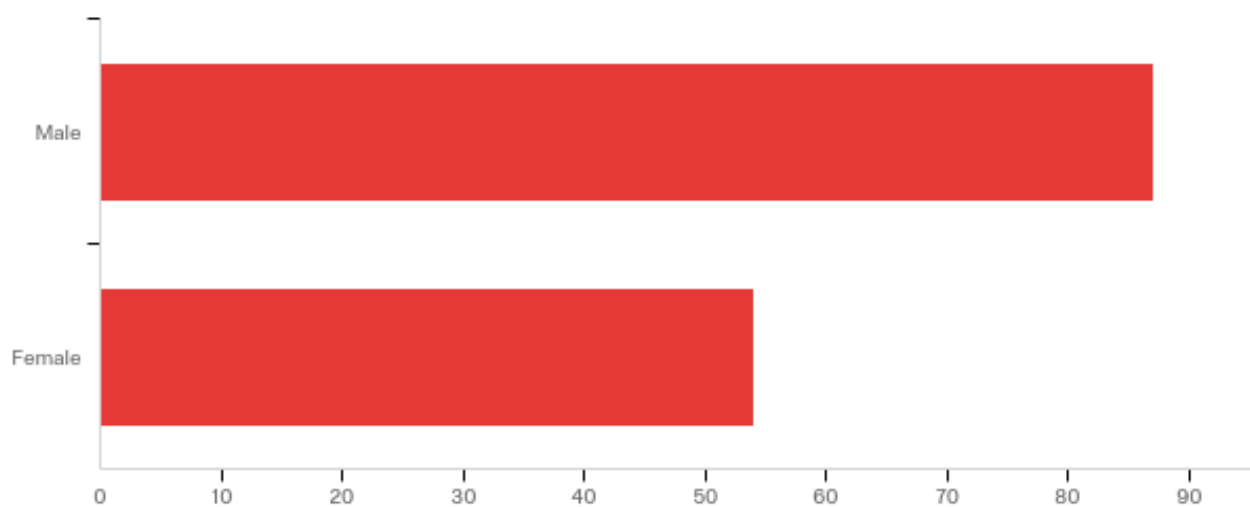
Private Equity
Private
Political Science
Physics
Phd student. Environmental studies.
Pharmaceutical
Pharmaceutical
Packaging
Online sales
Online marketing
Online Fashion Retail
Neuroscience
Mining
Medicine
MBA
MBA
Marketing
Marketing
Marketing
market research
Market research
Market research
Manufactory
Manufacture
Management consultancy and design
MA. Art History
Loyalty Program / Travel
Legal
Legal
Law
Law

Law
Law
Law
IT
International Relations
Insurance
Ingeniería Civil
Industrial design
Industrial automotive
Hospitality
History student
Historiador
Health care/ home care
Health
Health
Graphic design
Graphic Design
Government
Global health
genomics
Food industry
Food & Beverages
Fintech
Finance and business administration
Finance
Finance
Finance
Finance
finance
Finance
Finance

Exterior commerce
Environmental engineering: water
Energy savings and indoor comfort
Energy industry
Energy
Electric Industry
Education/Research
Education
Education
Economics
Digital Marketing
Digital Marketing
Design
Design
Consulting services
Consulting Data and Analytics
Consulting
Consulting
Consulting
Consultancy
Consultancy
Construction Economics and Management
CONstruction
Construction
Communications
Computer Science
Computational Biology
Communication
Chemistry
Cedis
Business-finance

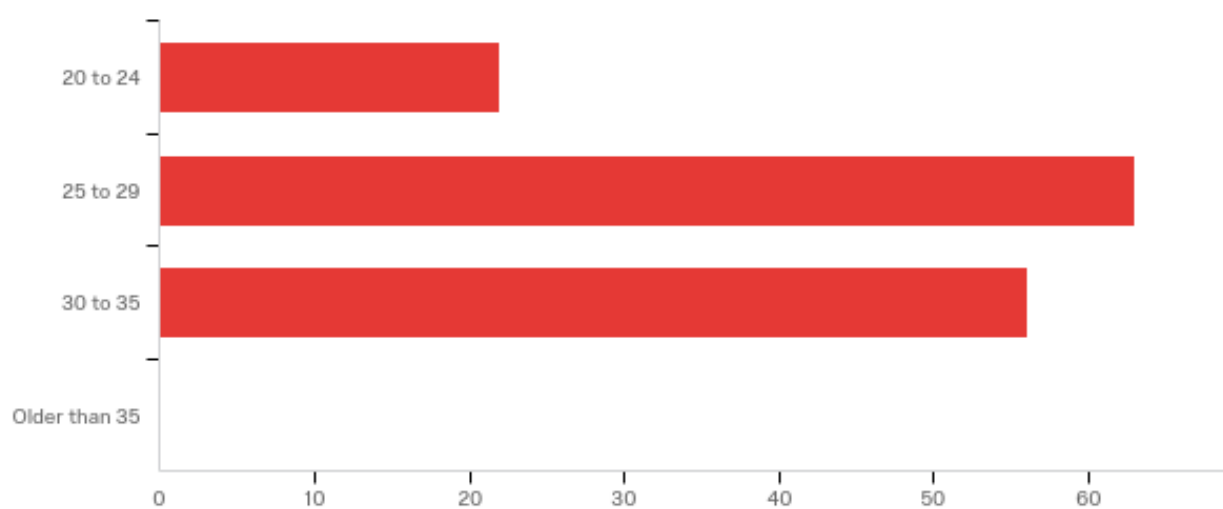
Business (MBA)
Blinds
Biomedical engineering
Biology
Bioethics
Banking
Banking
Bank
Automotive
Automotive
Automotive
Art
Architectura/urban planning
Anthropologic Marketing
Aerospace
Aerospace
Aeronautics
Aeronautical
Advertising
Accounting

Q3 - What is your gender?



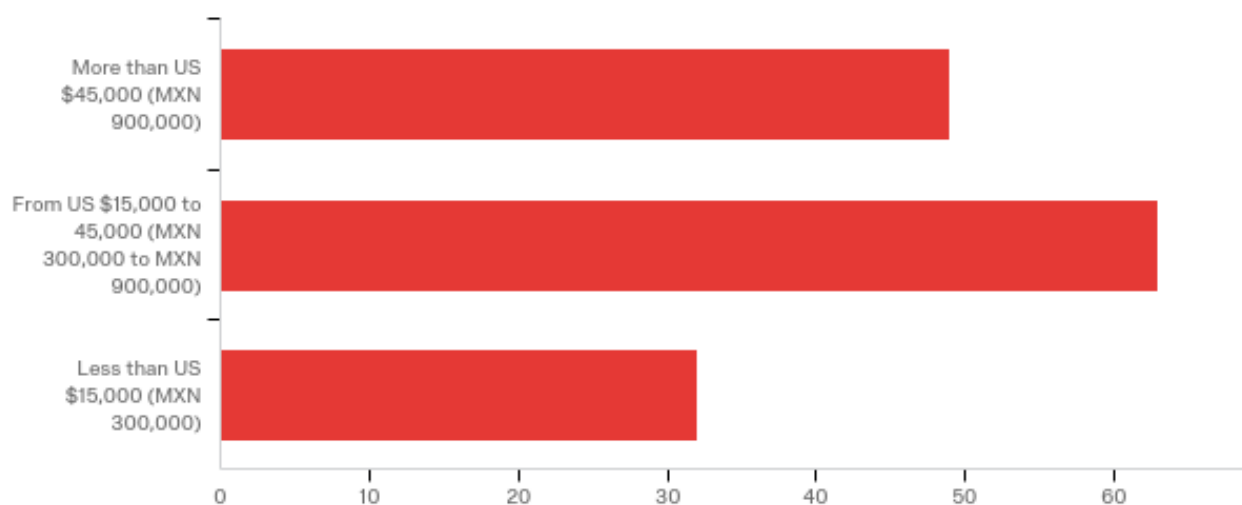
#	Answer	%	Count
1	Male	61.70%	87
2	Female	38.30%	54
	Total	100%	141

Q4 - What is your age?



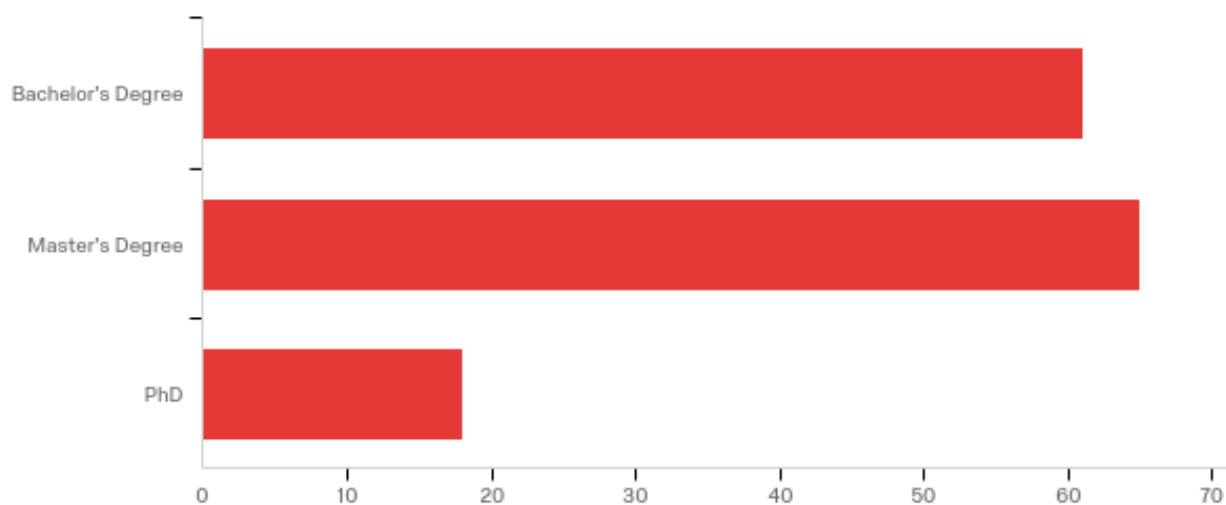
#	Answer	%	Count
1	20 to 24	15.60%	22
2	25 to 29	44.68%	63
3	30 to 35	39.72%	56
4	Older than 35	0.00%	0
	Total	100%	141

Q5 - What is the average income of your household (yearly basis)?



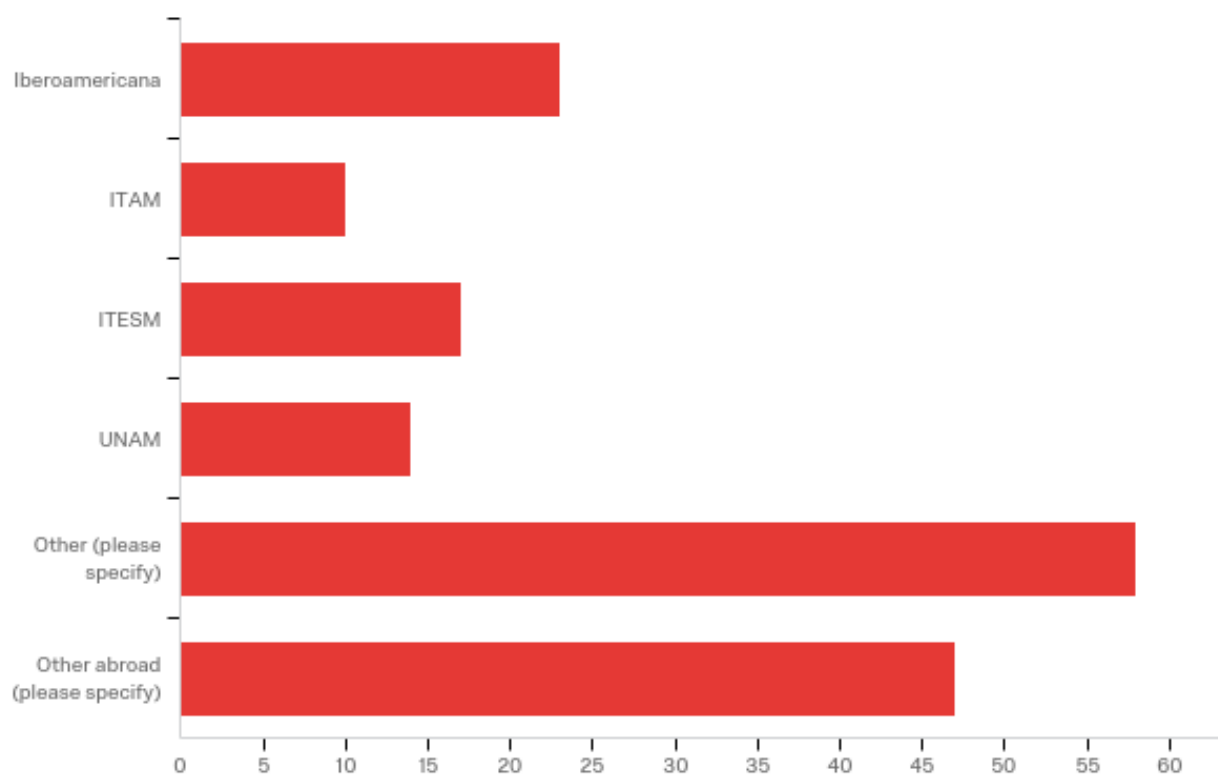
#	Answer	%	Count
1	More than US \$45,000 (MXN 900,000)	34.04%	48
2	From US \$15,000 to 45,000 (MXN 300,000 to MXN 900,000)	43.97%	62
3	Less than US \$15,000 (MXN 300,000)	21.99%	31
	Total	100%	141

Q6 - What is the highest university level you have achieved / are currently enrolled in?



#	Answer	%	Count
1	Bachelor's Degree	42.55%	60
2	Master's Degree	44.68%	63
3	PhD	12.77%	18
	Total	100%	141

Q29 - What university did you attend / are you attending?



Q29_7_TEXT - Other abroad (please specify)

Other abroad (please specify) - Text	Other (please specify)
	UVT
	UVM
	UVM
	UVM
	Uvm
	UVM
UEM	UVM
	UVM
University of South Wales	UP
Hult International Business School	Universidad Panamericana
	Universidad Panamericana
	Universidad Mexicana
	Universidad del Pedregal
University of Sheffield (MSc) and University of Cambridge (PhD)	Universidad de Sonora

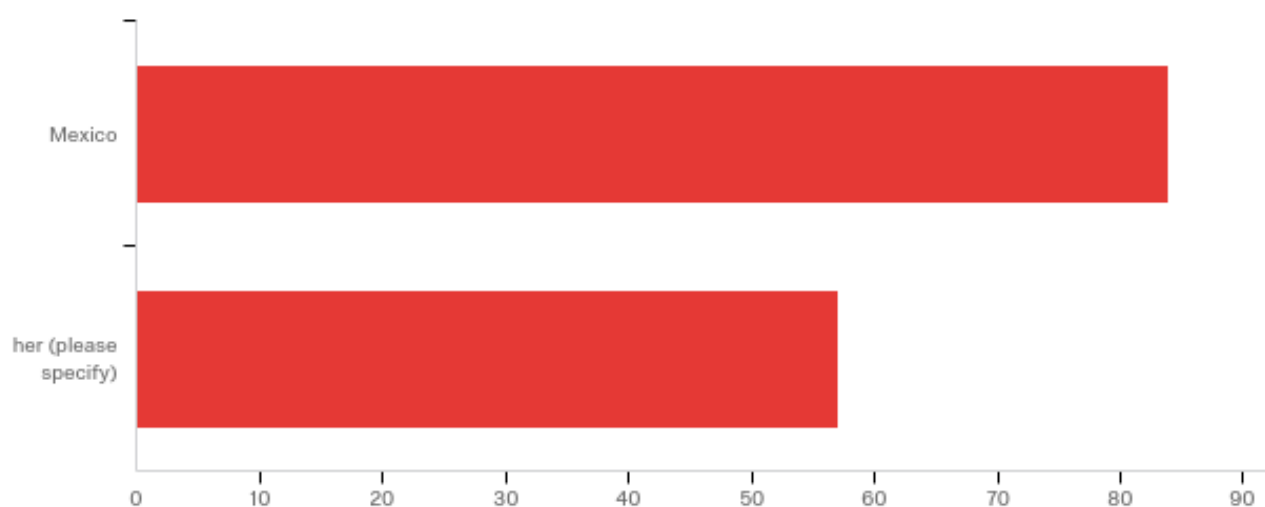
Universität Stuttgart	Universidad de Guadalajara
	Universidad de Guadalajara
	Universidad Anáhuac México Norte
	Universidad Anahuac
	UNITEC
	ULP Universidad Loyola del Pacífico
	UDLAP
	UDLAP
	UANL
	UANL
	UANL
	UANL
	UAG
	UAEMex
	UACH (Universidad Autónoma de Chihuahua)
	UACH
	UACH
	UACH
University of Cambridge	UABC
	Tec Milenio
	La Salle
USC	ITT
	Iteso
	IPN
Languages at ALI in Montreal	IPN
	IPN
	IPN
University of Cambridge	IPN
	IPADE
	IPADE
	ESCOGRAF/ UACH

	Escograf , Universidad autonoma de Chihuahua and master degree in web design at ES Design Escuela superior de Diseño de Barcelona.
Ehess Paris, France	El Colegio de México
	El Colegio de México
	EBC
	EBC
	Colmex
LSE	CIDE
	Centro de Investigación y Docencia Económicas (CIDE)
Brandeis University	Brandeis University
	Benemérita Universidad Autónoma de Puebla
	Anahuac Mayab
	Anahuac
	Anahuac
University of Twente and ETH	
New York University School of Law	
HULT IBS	
Harvard University	
HEC Paris	
UCL	
LSE	
JHU	
Macquarie University	
University of Denver	
King's College London	
Cambridge	
University of Cambridge, UK	
UBC Vancouver	
Cambridge	
University of Sussex	
Nottingham University	

Boston University & Harvard Business School	
University of Cambridge, Harvard University	
University of Cambridge	
University college London	
University College London	
Harvard, MIT, LSHTM	
RMIT	
Hult International Business School & LSE	
DTU Technical University of Denmark	
DTU	
Technical University of Denmark	
ISAE-SUPAERO	
The University of Melbourne	
UCL	
Attending to UCL	
Toulouse School of Management	
Santa Clara University	
University of Amsterdam	

#	Answer	%	Count
1	Iberoamericana	13.61%	23
2	ITAM	5.92%	10
3	ITESM	10.06%	17
5	UNAM	8.28%	14
4	Other (please specify)	34.32%	58
7	Other abroad (please specify)	27.81%	47
	Total	100%	169

Q8 - Where are you currently living?



#	Answer	%	Count
1	Mexico	59.57%	84
2	Other (please specify)	40.43%	57
	Total	100%	141

Q8_2_TEXT - Other (please specify)

Other (please specify) - Text

Shanghai

Hong Kong

United Kingdom

USA

Germany

Australia

US

London

UK

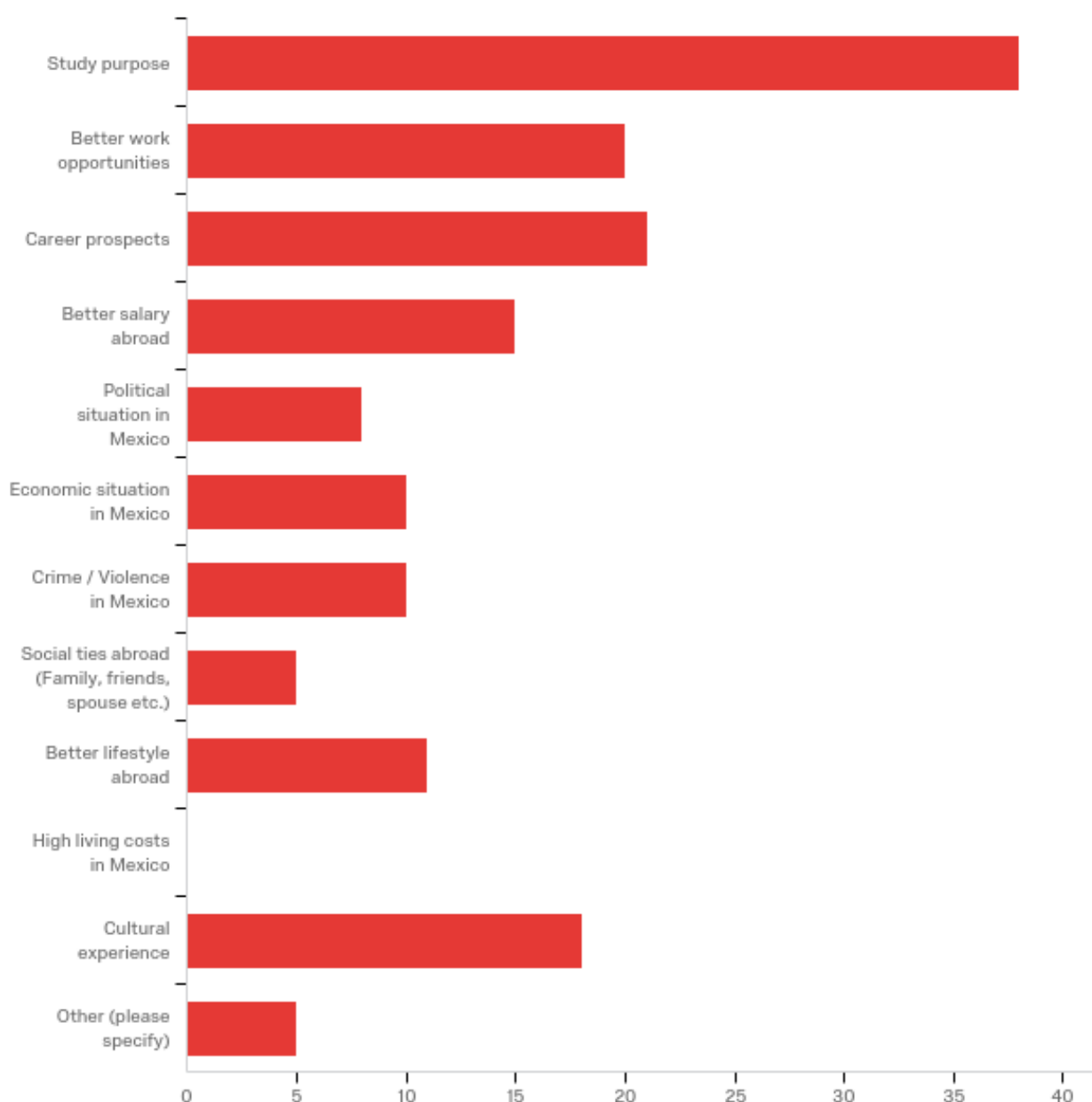
London

Germany

France
New Zealand
Cambridge, UK
Austria
Brazil
Germany
London
Uk
uk
USA
Germany
France
Denmark
United kingdom
London, UK
Australia
London
UK
Denmark, Copenhagen
Denmark
Denmark
FRANCE
United Kingdom
London
London
France
London
UK
London
Spain
Ireland

Germany
Slovenia
India
London UK
Denmark
UK
Germany
Germany
Netherlands
Germany
Frankfurt am Main, Germany
Germany
Germany
Germany
Munich, Germany

Q9 - What was the reason / were the reasons for you to move abroad?



#	Answer	%	Count
1	Study purpose	23.60%	38
2	Better work opportunities	12.42%	20
3	Career prospects	13.04%	21
4	Better salary abroad	9.32%	15
5	Political situation in Mexico	4.97%	8
6	Economic situation in Mexico	6.21%	10
7	Crime / Violence in Mexico	6.21%	10

8	Social ties abroad (Family, friends, spouse etc.)	3.11%	5
9	Better lifestyle abroad	6.83%	11
10	High living costs in Mexico	0.00%	0
11	Cultural experience	11.18%	18
12	Other (please specify)	3.11%	5
	Total	100%	161

Other (please specify)

Other (please specify) - Text

Transferred by my current work company

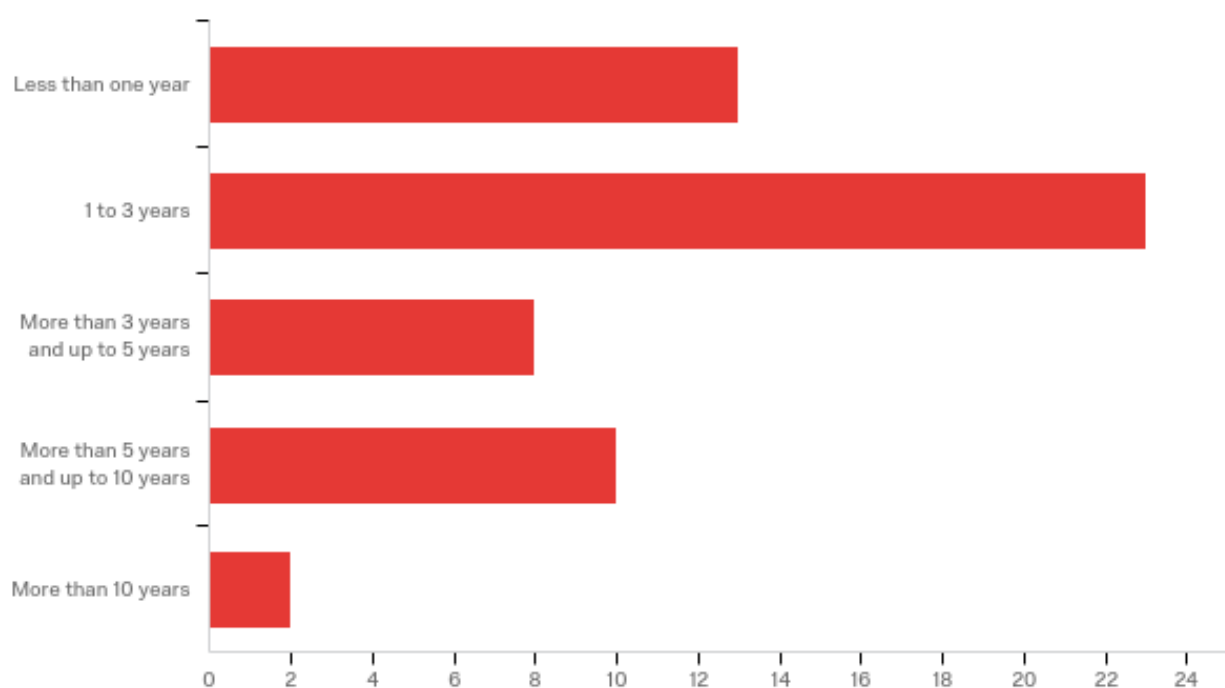
Not a 'better' lifestyle, but a lifestyle that was more culturally attuned to what I wanted.

Followed my parents as I was very young

I met my boyfriend who is spanish in mexico, after been dating he decided to come back to spain and we are living together now.

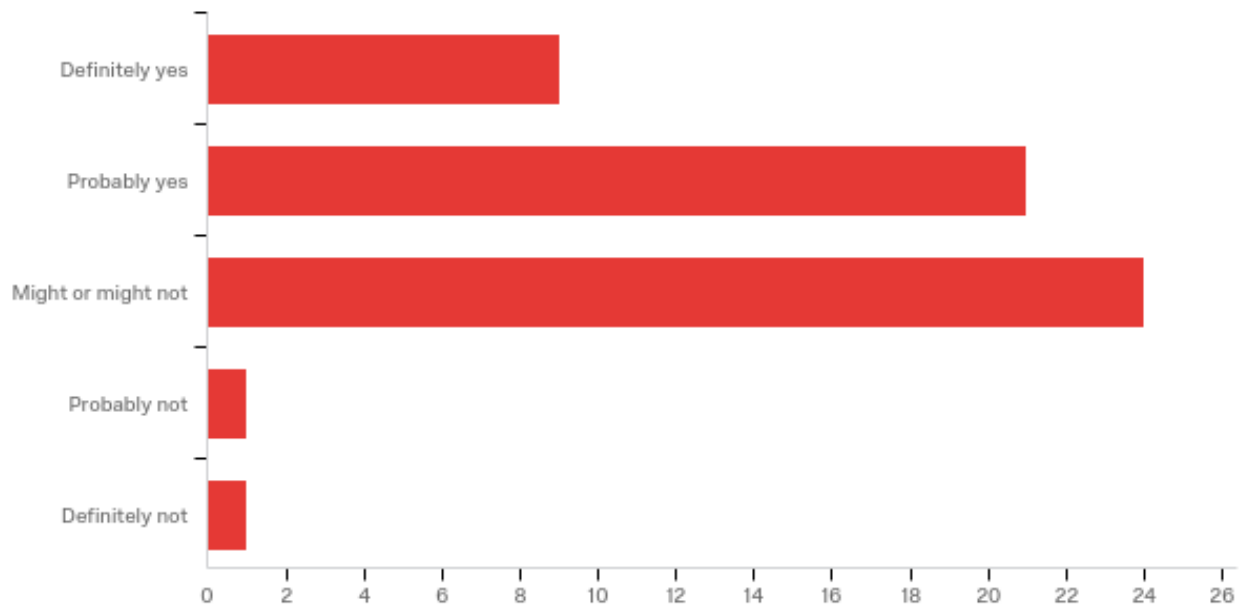
Internal movement from the company

Q10 - For how long have you been living abroad?



#	Answer	%	Count
1	Less than one year	23.21%	13
2	1 to 3 years	41.07%	23
3	More than 3 years and up to 5 years	14.29%	8
4	More than 5 years and up to 10 years	17.86%	10
5	More than 10 years	3.57%	2
	Total	100%	56

Q11 - Are you more satisfied / happier with your current life than you were in Mexico?



#	Answer	%	Count
3	Might or might not	42.86%	24
2	Probably yes	37.50%	21
1	Definitely yes	16.07%	9
4	Probably not	1.79%	1
5	Definitely not	1.79%	1
	Total	100%	56

Q12 - Please specify why you are more satisfied.

Please specify why you are more satisfied.

Life quality

Solely, because of professional opportunities.

Working conditions

Security and career opportunities

Public transport, security, intellectual growing

Quality of life, security and job opportunities

Life is more peaceful

Quality of life

Cultural and academic life

Better life quality abroad

Safe easy-going

Better life quality, security and wellbeing

better life quality

Less violence and corruption

Remuneration is based on skills and even the minimum wage is acceptable to have a decent living. Taxes are super high but education, health and pension are free for all

The kind of work I do

I feel safer

The overall quality of my life has improved

International experience

Better academic level, peaceful city, more opportunities

Because the quality of living is definitely better. Work conditions are fair, plus life abroad (at least in Germany) represents tranquility in terms of very low crime rate.

Because the standards of living are much better here than in Mexico

I am able to be economically independent

Peace of mind, less violence, less problems in general. Also less sad/depressing news.

Safety, work development

Security

I can do whatever I want without being scared

Best way of living

The benefits and lifestyle are better

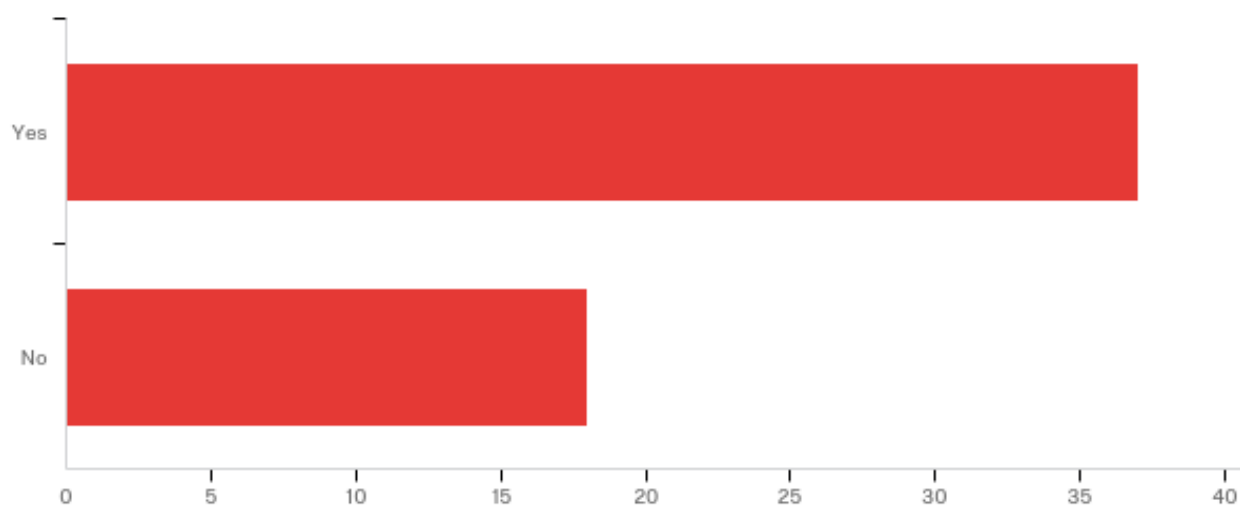
Q13 - Please specify why you are NOT more satisfied.

Please specify why you are NOT more satisfied.

Prefer living options, job, social activities back in Mexico

everything is way more expensive and difficult

Q14 - Are you planning on moving back to Mexico in the future?



#	Answer	%	Count
1	Yes	67.27%	37
2	No	32.73%	18
	Total	100%	55

Q15 - Why do you want to move back?

Why do you want to move back?

Finish my studies

Family, help Mexico

Family, friends and cultural ties

Family and friends

Invest on my own business

Family ties

Family is there. Love the culture.

I love the people, culture and food

Family ties, social and political commitment to improve the Mexican state

Family

Visa issues

Weather food culture

I want to go back to Mexico and do science there, also I want to promote better science policy in my home country

Family and friends

Emotional ties (family, friends); professional recognition, and rights to establish in the long term (e.g. long term contracts or access to a mortgage)

Family, costumes

It is home

To make a positive impact in Mexico's future

Family and friends

Family friends

Family and culture

To be with my family

I miss my family and friends

I am still trying to decide if going back or not

Start my own Business

My area of research (reptiles) could be better exploited in Mexico

México is more affordable than the UK. My opportunities to develop my professional career are better there.

I prefer it

Life is easier in mexico and happier

Family, Friends and Fun

Live is much easy in mexico

Give back to my country

Family

when I retire

The people

Start my own business

Family

Q16 - Why do you NOT want to move back?

Why do you NOT want to move back?

Why would I want to move back?

Violence, work opportunities, public transportation

Security

Overqualified

Lack of job opportunities, violence rates

Job opportunities

Is not in my plans yet, maybe eventually but who knows. Wanna keep experiencing the world.

Insecurity and low career opportunities

Inequality

I prefer the quality of life in here

I don't see any personal and professional growth potential.

I don't have plans for now. That's not to say I wouldn't consider it. I don't want to move back because I don't believe I would enjoy the lifestyle or know what to do with myself/what job to find.

Cultural environment

Crime

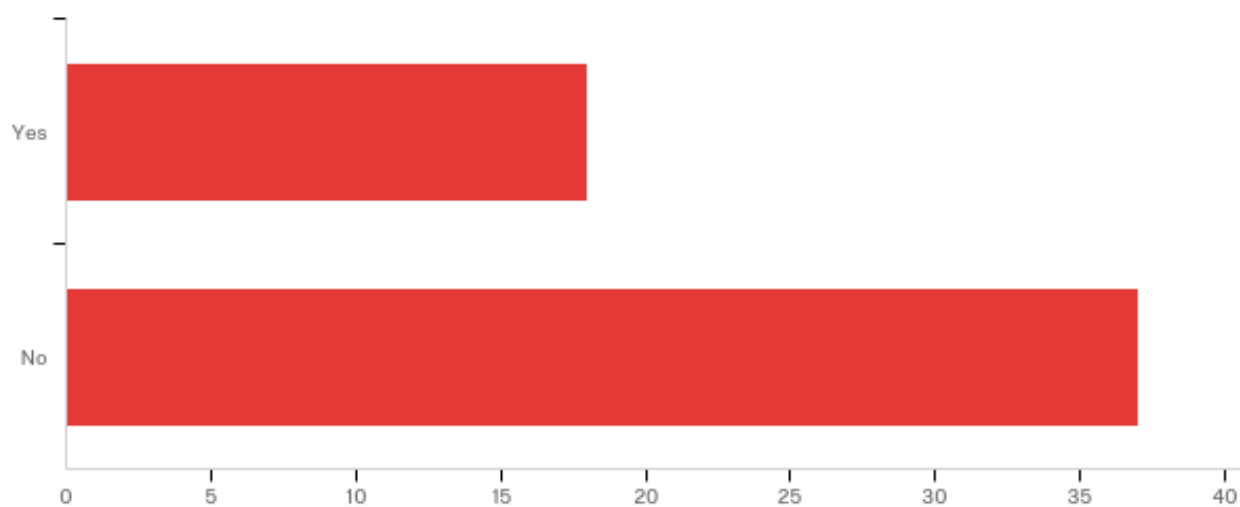
Better life standard here compared to Mexico

Better job opportunities abroad

Because I have a good job and there are better opportunities here than in Mexico

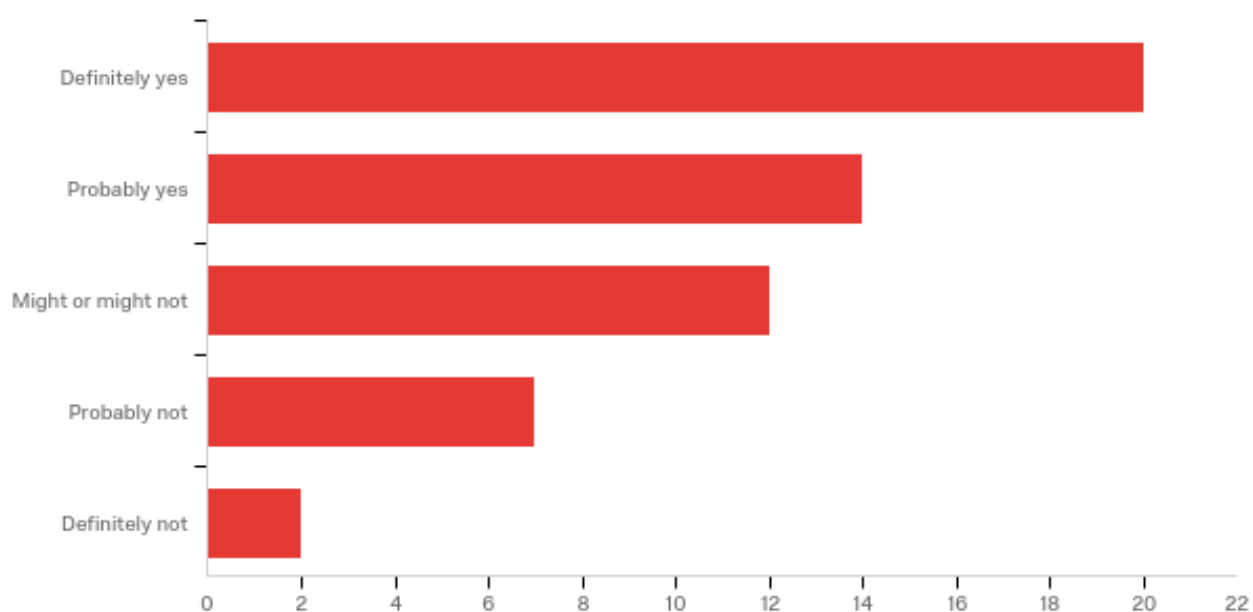
Because gender-related crime is rising, I wouldn't feel secure, plus I would definitely be underpaid (that's IF I'm lucky to get a job).

Q17 - Are most of your contacts abroad (more than 20%) Mexican?



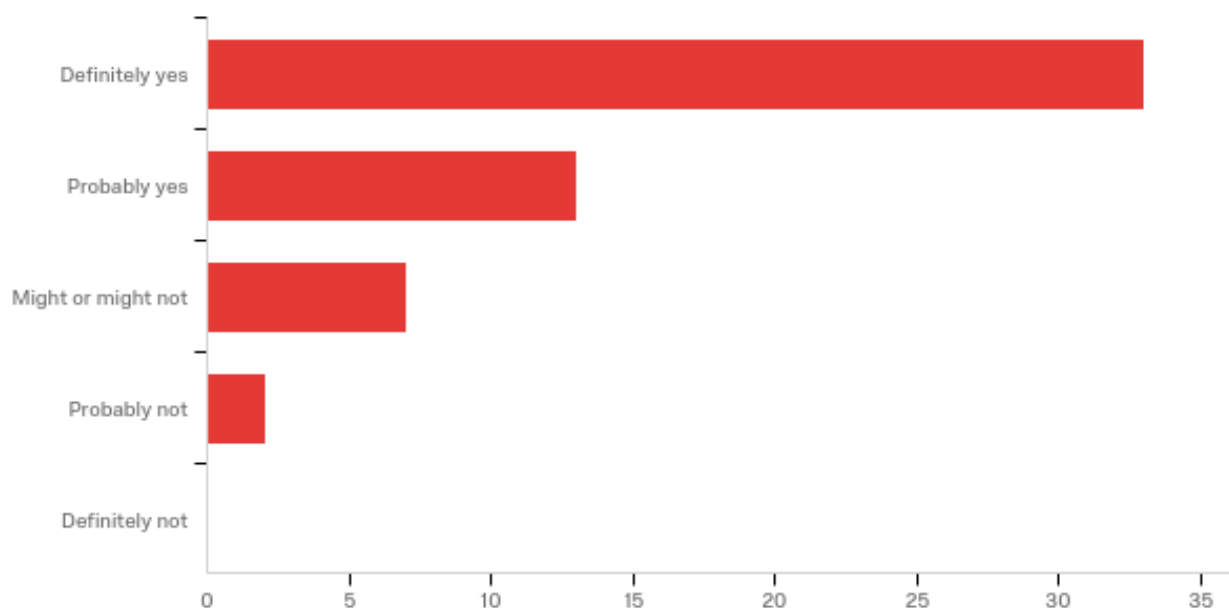
#	Answer	%	Count
2	No	67.27%	37
1	Yes	32.73%	18
	Total	100%	55

Q18 - Is your economic situation now better than it was in Mexico?



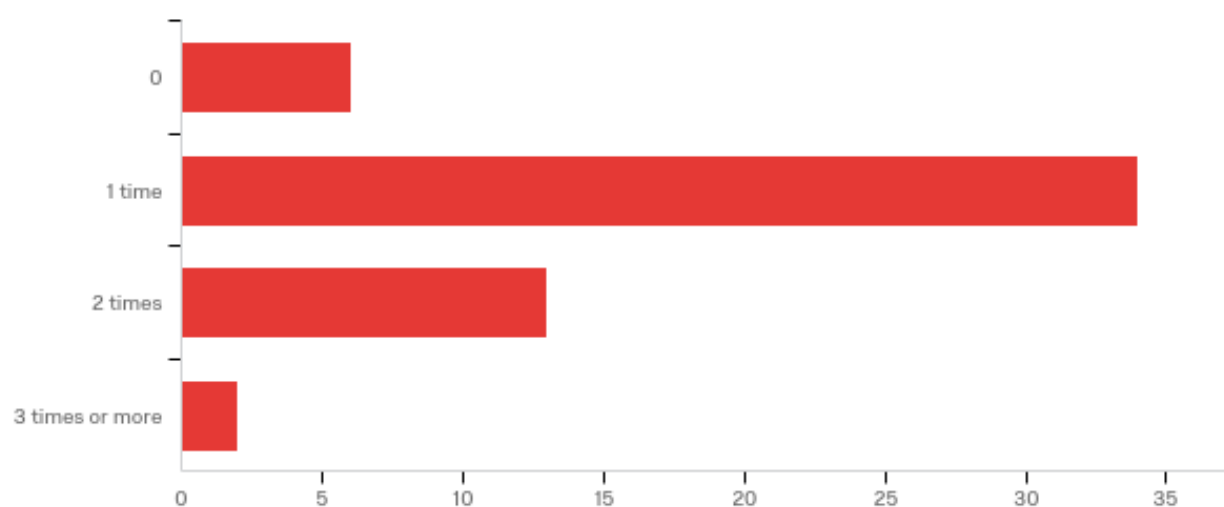
#	Answer	%	Count
1	Definitely yes	36.36%	20
2	Probably yes	25.45%	14
3	Might or might not	21.82%	12
4	Probably not	12.73%	7
5	Definitely not	3.64%	2
	Total	100%	55

Q19 - Is the political situation in your current country of residence better than in Mexico?



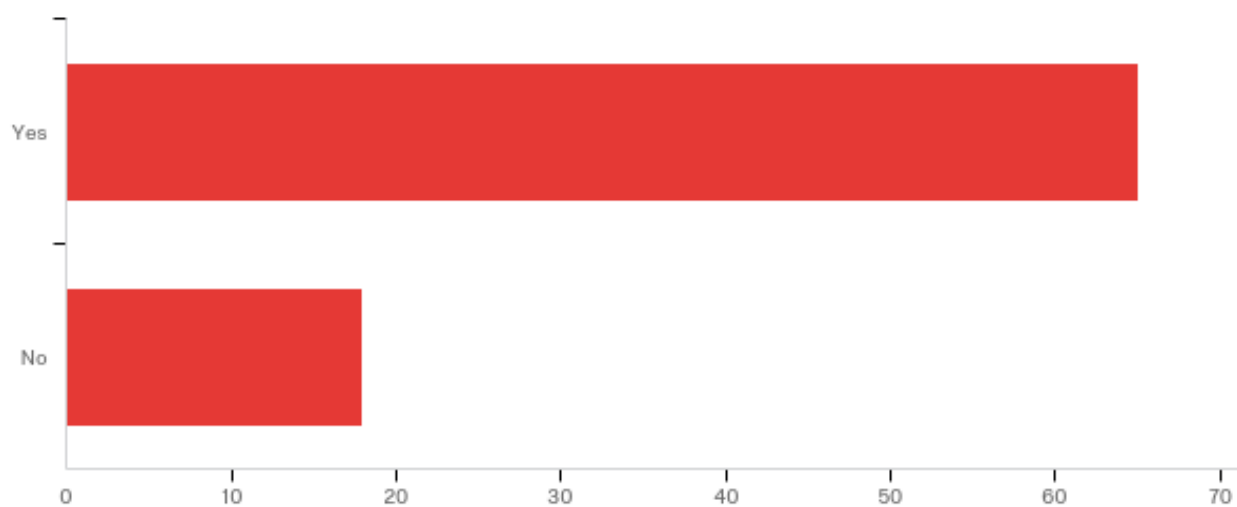
#	Answer	%	Count
1	Definitely yes	60.00%	33
2	Probably yes	23.64%	13
3	Might or might not	12.73%	7
4	Probably not	3.64%	2
5	Definitely not	0.00%	0
	Total	100%	55

Q20 - How many times do you go back to Mexico in a year?



#	Answer	%	Count
1	0	10.91%	6
2	1 time	61.82%	34
3	2 times	23.64%	13
4	3 times or more	3.64%	2
	Total	100%	55

Q21 - Have you ever lived abroad?



#	Answer	%	Count
1	Yes	78.31%	65
2	No	21.69%	18
	Total	100%	83

Q22 - Where have you lived?

Where have you lived?

London, UK

Switzerland and Netherlands

Florence Madrid New York Berkeley Washington DC

Boston

Beijing

Boston, London

London, England

Montreal

Canada and china

France - London

France and the UK

United States, Israel, Hong Kong, India

Spain / uk

London, Madrid, New Orleans

Spain

Spain and Canada

South Korea

Nebraska, USA and Cardiff, Wales

Slovakia

Canada

Dominican Republic

Washington, Connecticut

Canadá

París

Canada

USA, Brazil

Madrid

Vancouver

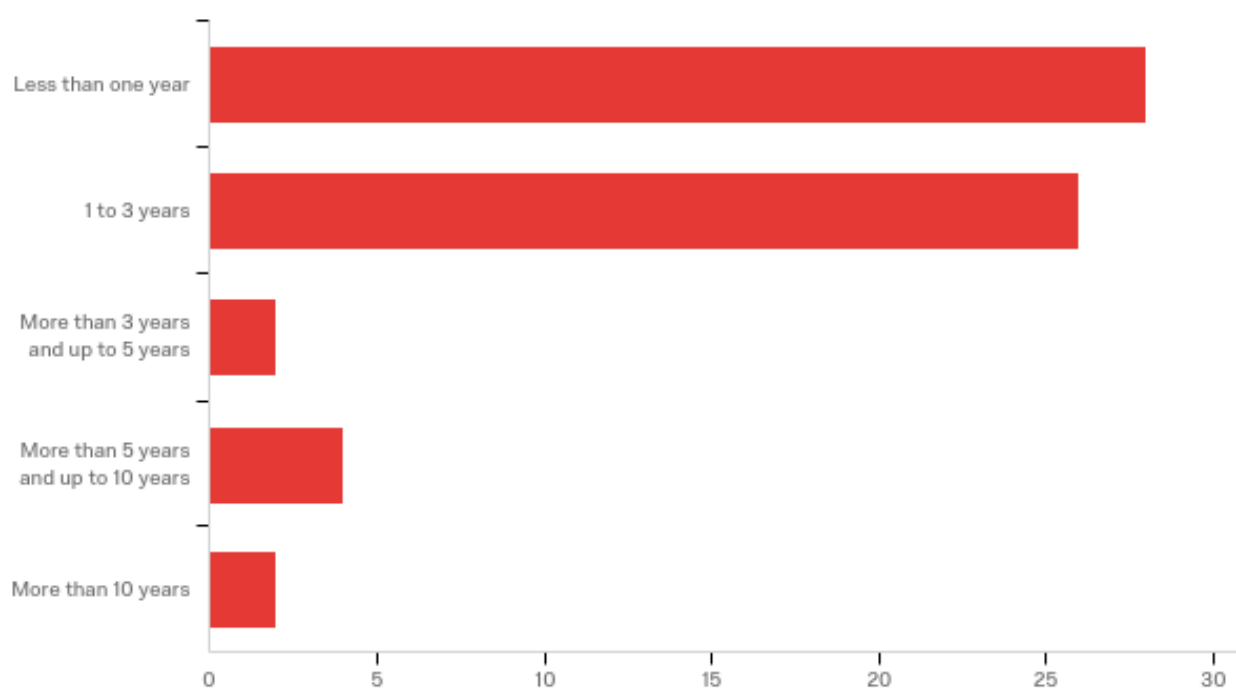
Spain
Vancouver
England and Switzerland
UK
United States of America
Boston
UK
US and UK
London
Minnesota, USA; Oxford, UK and London, UK
Australia
Usa, canada, netherlands, brazil
California, USA
USA
Canada
España
Wisconsin Rapids, USA
Bilbao, Spain
Dominicana republic
Brazil
Canada and USA
Germany and Spain
Chicago, Illinois
Germany
Montreal
England
London
Milan, Italy
Brasil and Spain
Toronto
United States and South Korea

Canada & United Kingdom

UK and France

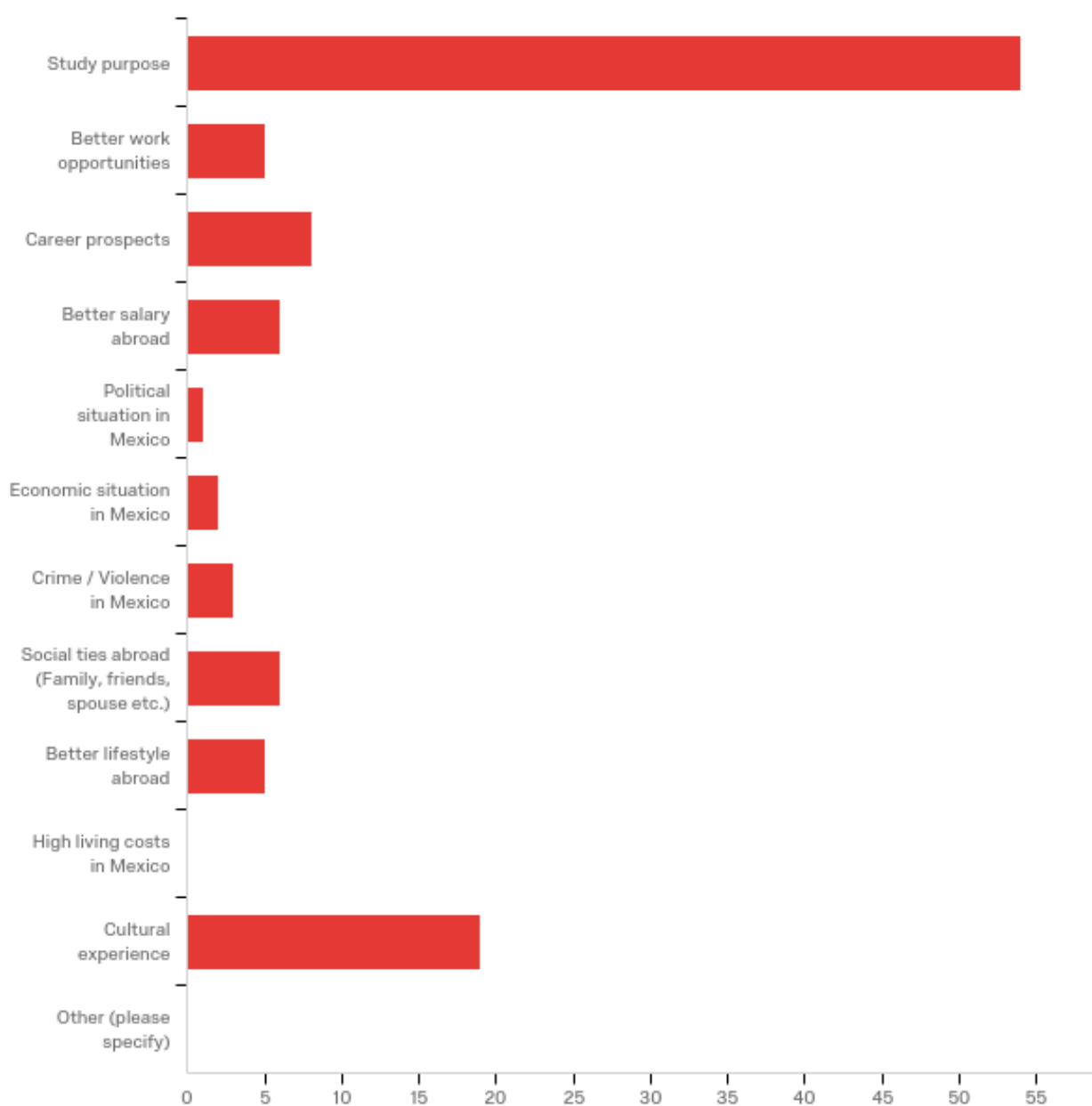
Arizona, US. Munich, Germany

Q32 - For how long did you live abroad?



#	Answer	%	Count
1	Less than one year	45.16%	28
2	1 to 3 years	41.94%	26
3	More than 3 years and up to 5 years	3.23%	2
4	More than 5 years and up to 10 years	6.45%	4
5	More than 10 years	3.23%	2
	Total	100%	62

Q30 - What was the reason / were the reasons for you to live abroad?



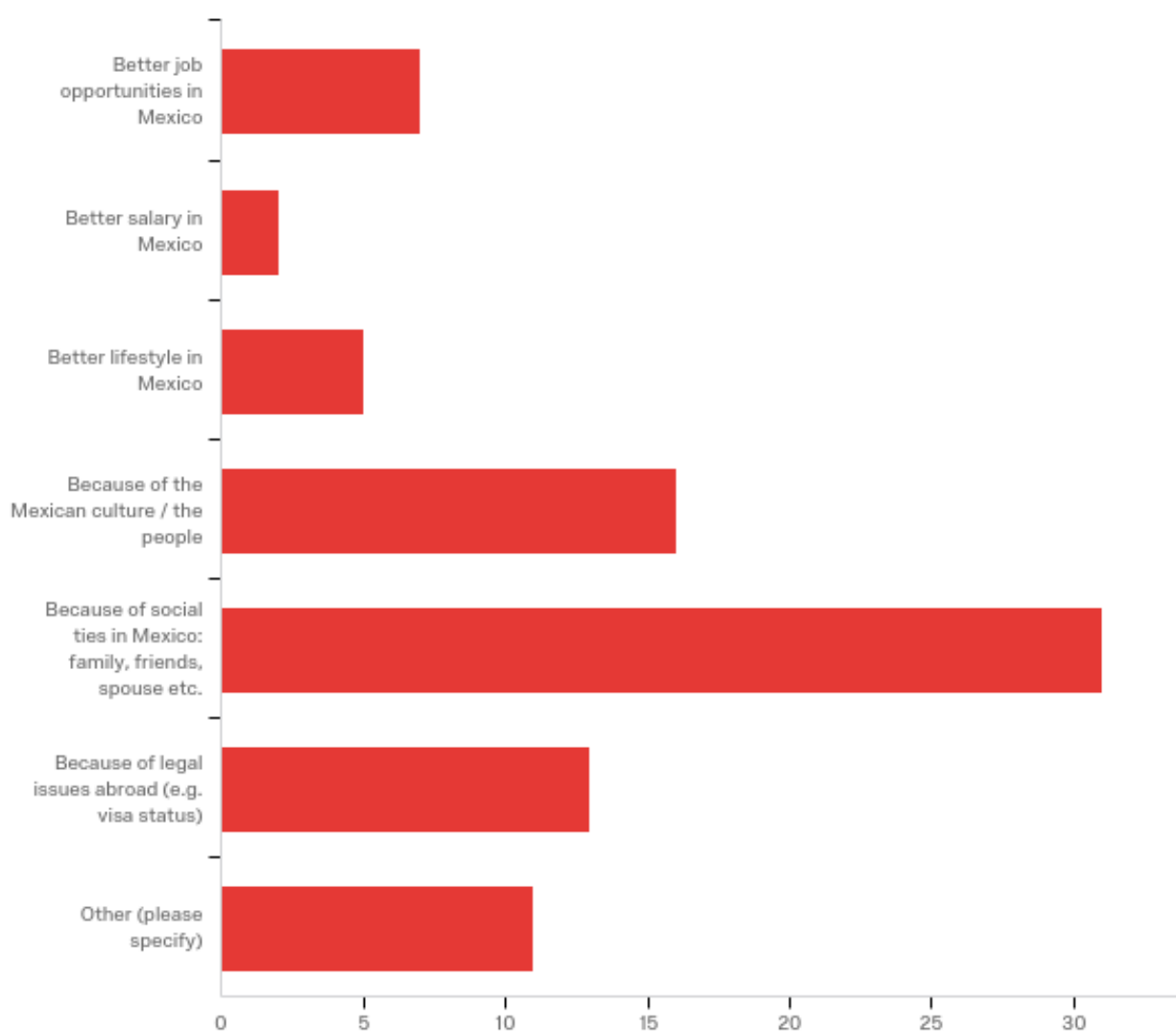
#	Answer	%	Count
1	Study purpose	49.54%	54
2	Better work opportunities	4.59%	5
3	Career prospects	7.34%	8
4	Better salary abroad	5.50%	6
5	Political situation in Mexico	0.92%	1
6	Economic situation in Mexico	1.83%	2
7	Crime / Violence in Mexico	2.75%	3

8	Social ties abroad (Family, friends, spouse etc.)	5.50%	6
9	Better lifestyle abroad	4.59%	5
10	High living costs in Mexico	0.00%	0
11	Cultural experience	17.43%	19
12	Other (please specify)	0.00%	0
	Total	100%	109

Other (please specify)

Other (please specify) - Text

Q24 - Why did you come back to Mexico?



#	Answer	%	Count
1	Better job opportunities in Mexico	8.24%	7
2	Better salary in Mexico	2.35%	2
3	Better lifestyle in Mexico	5.88%	5
4	Because of the Mexican culture / the people	18.82%	16
5	Because of social ties in Mexico: family, friends, spouse etc.	36.47%	31
6	Because of legal issues abroad (e.g. visa status)	15.29%	13
7	Other (please specify)	12.94%	11
	Total	100%	85

Other (please specify)

Other (please specify) - Text

Because I couldn't find a job abroad

I was sponsored

Broke my arm playing soccer

To finish my studies

Family Economy

End of classes

I was living abroad during the exchange program

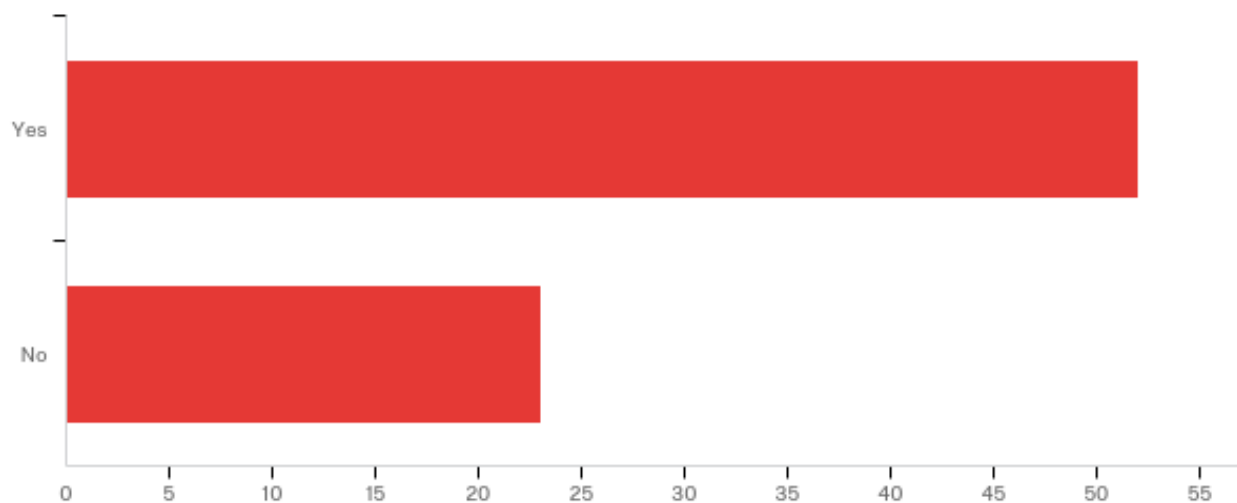
After finishing studies

The program ends

My shorts Term assignment ended

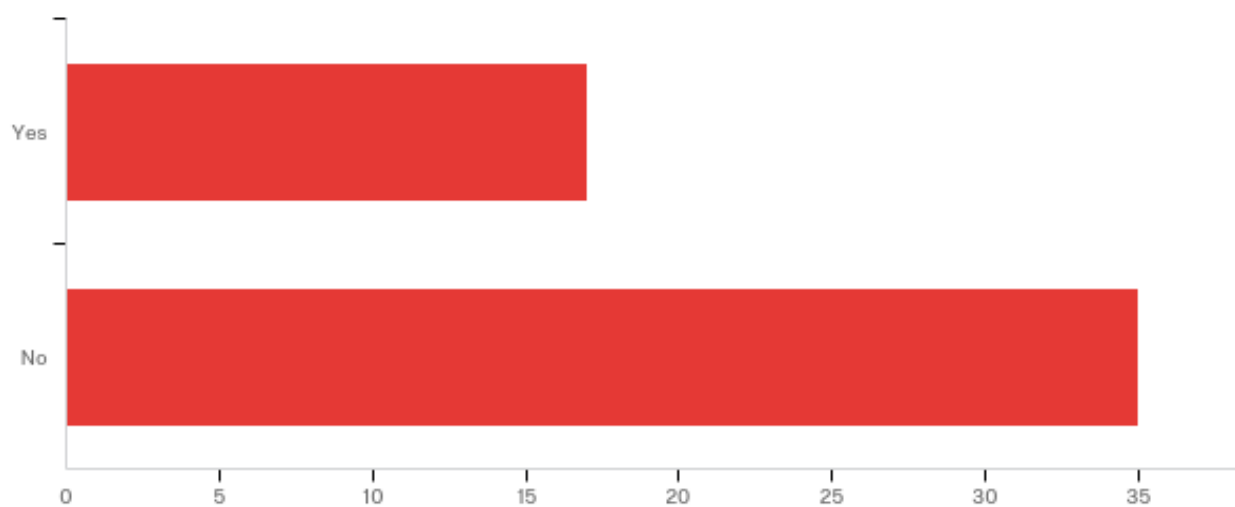
Studies

Q25 - Would you like to move abroad on a PERMANENT (=FOREVER) basis?



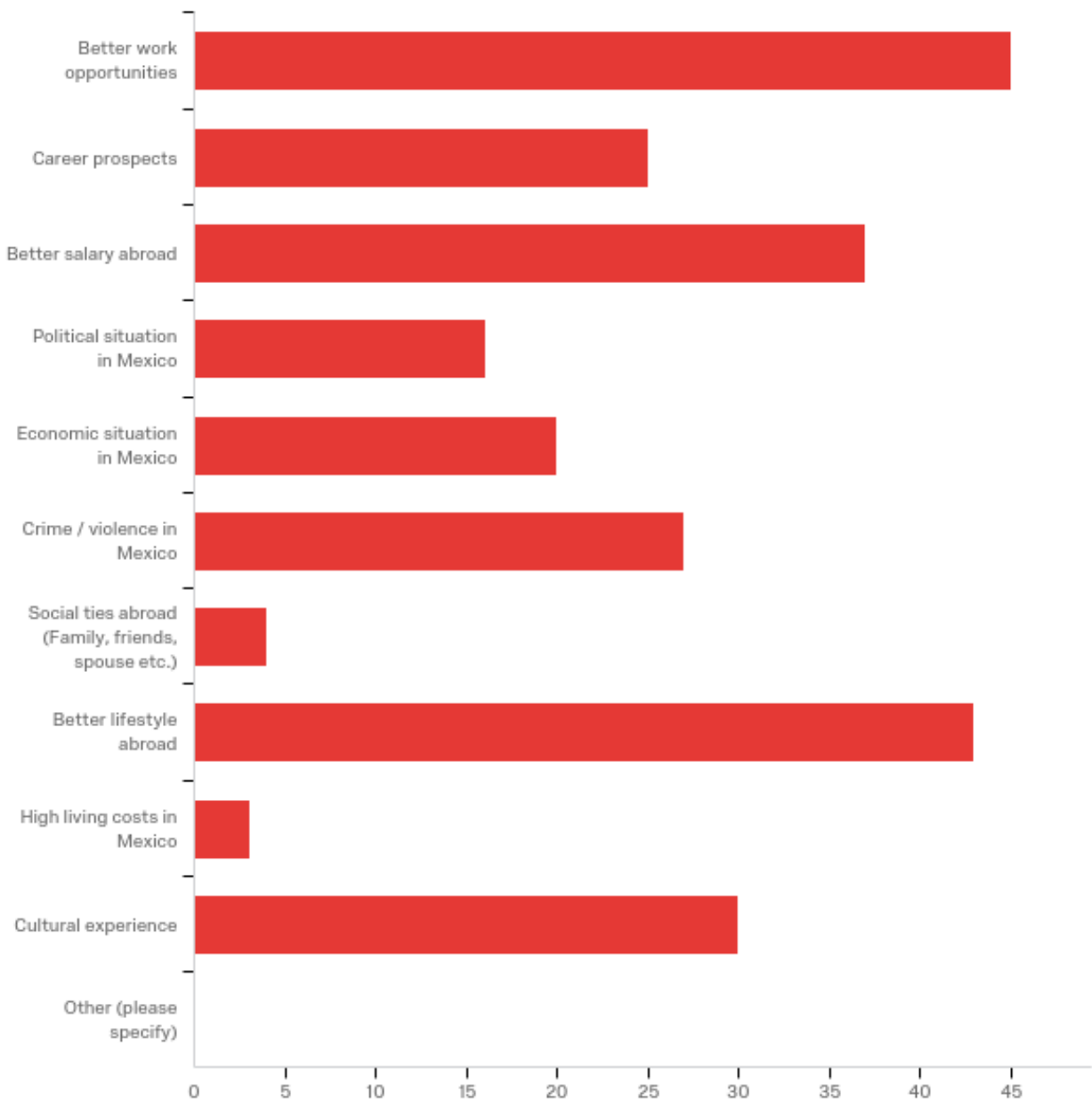
#	Answer	%	Count
1	Yes	69.33%	52
2	No	30.67%	23
	Total	100%	75

Q26 - Have you taken serious steps to emigrate on a PERMANENT basis?



#	Answer	%	Count
1	Yes	32.69%	17
2	No	67.31%	35
	Total	100%	52

Q31 - Why do you wish to move abroad on a PERMANENT basis?



#	Answer	%	Count
2	Better work opportunities	18.00%	45
3	Career prospects	10.00%	25
4	Better salary abroad	14.80%	37
5	Political situation in Mexico	6.40%	16
6	Economic situation in Mexico	8.00%	20
7	Crime / violence in Mexico	10.80%	27
8	Social ties abroad (Family, friends, spouse etc.)	1.60%	4

9	Better lifestyle abroad	17.20%	43
10	High living costs in Mexico	1.20%	3
11	Cultural experience	12.00%	30
12	Other (please specify)	0.00%	0
	Total	100%	250