
macroeconomía del desarrollo

Development cycles, political regimes and international migration: Argentina in the twentieth century

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Summary

At the turn, of the twentieth century, a large number of Europeans –mainly Italians and Spaniards– left their homelands and headed to the distant southern shores of Argentina responding to the good economic opportunities, fertile land and a better future that were to be found in this country, at the time one of the most vibrant world economies. Around 7 million people migrated from Europe to Argentina between 1870 and 1930, although near 3 million returned back at different point in time during those years. Also foreign capital responded to the opportunities opened in Argentina and British financial institutions funded an important part of the construction of national infrastructure needed to support growth. In contrast, since the 1950s, European migration to Argentina virtually stopped and the country become in the next 30 years or so a net exporter of professionals, scientists, intellectuals that were flying economic decline, poor opportunities and authoritarian regimes. Moreover, during this period, financial capital steadily left Argentina looking for safer places. Nowadays, and in the reversed direction of a century ago, Argentineans are leaving in large numbers to Spain, Italy and other destinations. This time, emigration is associated with the collapse of the country's currency experiment of the 1990s –the convertibility board and its ensuing short lived prosperity– that left a legacy of massive output decline, high unemployment, financial crisis and lost hopes.

This paper investigates the main patterns of international migration to and from Argentina in the twentieth century. The study examines the effects of relative income differentials, persistence effects, economic cycles and political regimes on net migration estimating econometrically a net migration model for Argentina using time series data for the twentieth century.

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I. Introduction¹

International migration is like a barometer of economic and societal conditions in home countries with respect to the rest of the world. Poor economic performance, lack of employment and wealth-creation opportunities, weak respect for civil and economic rights at home prompt emigration of nationals. Conversely, good economic opportunities, jobs and open policies to migrants act as a magnet for immigration from abroad.

The case of Argentina in the twentieth-century and before is a very interesting case, albeit dramatic, of a country that switched from being a net importer of people and capital in the first few decades of the twentieth century to become a net exporter of workers, professionals and financial capital to the rest of the world in the last decades of the twentieth century. Immigration and emigration patterns to and from Argentina (particularly immigration flows from Europe) followed the long run development cycle of growth and prosperity early in the century, followed by lagging growth performance and recurrent crises that have characterized the Argentinean economy (with exceptions) since, at least, the 1930s. Argentina has also lived through a pattern of volatile politics. Moreover, democracy and authoritarian regimes alternated in the period spanning from the 1930s until the 1980s. The last phase of the political cycles is democracy that has prevailed in Argentina since 1983. Diminished economic prospects and volatile politics combined to turn Argentina into a net emigration country in recent decades.

¹ An earlier version of this paper was presented at the WIDER Conference “Poverty, International Migration and Asylum”, Helsinki, Finland, September 27-28, 2002. Comments by Tim Hatton, George Borjas, Jeffrey Williamson, Roxana Maurizio are appreciated. Efficient research assistance provided by Clauio Aravena is greatly appreciated

This was in contrast, with the last decades of the 19th and the early twentieth century in which Argentina received mass migration from Europe, chiefly from Italy and Spain, following the opportunities provided by a country with vast unexploited land and ample export opportunities of grain, meat and other staples coupled with liberal policy toward international migration. Immigration from Europe slowed-down in the early interwar period, resumed again in the mid 1940s until the early to mid 1950s when it virtually stopped given the recovery of Europe and the looming economic decline of Argentina.

Since the 1950s immigration from Europe was replaced by immigration of people from neighboring countries. Thereafter, there has been a steady process of emigration of Argentinean professionals, scientists and intellectuals due to declining economic performance and unstable and often, non-democratic, politics.

Market-oriented reforms were tried since the mid-1970s with more intense efforts in the 1990s. In spite of the hopes that these policies would recreate the prosperity that characterized Argentina early in the twentieth century, those efforts were often disappointed by frequent macroeconomic and debt crisis. The last example is the collapse of the currency board experiment in 2001–2002 that left a legacy of output collapse, high unemployment and a severe financial crisis. These developments have prompted a new wave of emigration from Argentina to Spain, Italy and other countries. This flows are in reverse direction of the flows of immigration received from Europe until the 1950s.

The purpose of this paper is to look at the main economic and political determinants of migration flows to and from Argentina in the twentieth century. The paper is organized in four sections besides this introduction. Section 2 provides the main stylized facts of migration patterns, development cycles and political regimes in Argentina during the twentieth century in international perspective; section 3 looks at the main conceptual issues regarding the economic and political determinants of international migration relevant to this study. Section 4 presents the empirical analysis based on econometric estimates of net immigration equations for Argentina based on time series for various sub-periods of the twentieth century. Section 5 concludes.

II. International Migration to and from Argentina in the last century

The last 130 years or so of economic and political history in Argentina are a fascinating period for studying issues of international migration. The period of 1870–1914 has been labeled by economic historians as Argentina’s “*belle époque*” (see Diaz Alejandro, 1970; Bunge and Garcia Matta, 1969; Cortes–Conde, 1994; Taylor, 1994). This was a period characterized by rapid economic growth, large inflows of foreign capital and massive immigration to Argentina coming from Europe. The two main source countries of emigrants were Italy and Spain, which accounted for near 80 percent of total migration to the country (see Bunge and Garcia Matta, 1969). In addition to receiving inflows of people the country received significant flows of foreign capital in that period, mainly from England through bonds that helped to finance the building of domestic infrastructure in the second half of the 19th century and until 1914. Massive international migration to Argentina in that period was associated with diminished economic opportunities in Spain, Italy and other European economies. In contrast, Argentina had abundant land, scarcity of labor and (to a extent) entrepreneurship, and a dynamic export industry of grain and meat, oriented mainly to the British market. Foreign capital provided resources to built (and upgrade) infrastructure such as railroads, ports and roads. In turn, foreign immigration provided labor and entrepreneurial capacities to seize those opportunities. In that period 1870–1914, the Argentine

economy managed to grow at an annual rate of 5.9 per cent per year, one of the highest in the world economy at that time. The level of income per capita of Argentina was between 33% and 38 % *higher* than the per capita income of Spain and Italy respectively (see table 1). However, that income per capita advantage for Argentina was eroded in the second half of the twentieth century as Spain (in the 1970s) and Italy (in the 1960s) caught-up and surpassed the living standards of Argentina. As a consequence of Argentina's economic decline, its GDP per capita was, in the period 1975–2000, on average below the GDP per capita of Spain (72% of its level) and Italy's (55% of its level), see table 1.

In the period 1870– 1914 the average annual net immigration to Argentina was near 57,000 people per year and the rate of net migration per 1000s population was near 15 percent (see table 1). Interestingly, annual net migration in the period 1900–1914 went up sharply to 103,000 per year from around 34,000 in the period 1870–1900.

Net immigration fell sharply in the early interwar years, 1914–1929, to around 40,000 net immigrants per annum (near half of the number of annual immigrants of the period 1900–1914). The early interwar years were highly disruptive for the world economy and Argentina was not immune to that situation. World war I interrupted the process of global integration that had developed in the first wave of globalization until 1914. In addition, world capital markets collapsed with the war and its reconstruction was a slow and erratic process. Argentina's access to external financing was restricted by the disorganization in world capital markets ².

The 1930s were bad years for the Argentine economy: GDP growth declined to an annual rate of 1.5 percent in the period 1930–1940³. Like the trend in other Latin American economies at that time, Argentina also adopted an inward looking development strategy in the early 1930s raising tariffs to imports of intermediate and capital goods⁴, restricting the allocation of foreign exchange to government-mandated priority goods. The economic decline in Argentine also reduced sharply net European immigration flows to the country to near 22,000 immigrants per year between 1930–1940 to resume again since the mid 1940s until the mid 1950s (see Solberg,1978) when it virtually stopped. The human and economic devastation brought about by World War II compelled Europeans to leave their home countries and Argentina was a natural destination because of previous ties and knowledge of the country established during the large migration waves of the late 19th century and early twentieth century. However, as mentioned before, the combination of a rapid economic recovery in Europe in the late 1940s and 1950s along with lagging economic performance in Argentina in the 1940s and 1950s steadily reduced incentives for immigration to the country as income per capita gaps between Argentina and European countries, were closing (see figures 1–6).

Immigration from Europe to Argentina virtually stopped in the late 1950s (see table 6). Coinciding with the decline in immigration from Europe, since in the 1950's there has been an increase in international migration to Argentina (mainly of rural workers and unskilled urban labor) coming from neighboring countries such as Paraguay, Bolivia and Chile (see tables 6 and 7). Paraguayans and Bolivians went, mostly, to northern areas in Argentina. Chileans immigrants, often went to work in southern farms and in the oil fields of the Patagonia. In addition to this change in the origin countries there was also, since the 1930s an important phenomena of internal migration from rural areas to cities within Argentina, associated with import-substitution industrialization, the growth of government and deepened urbanization. So immigrants coming from neighboring countries went to perform jobs in rural areas that were no longer performed by

² See Della Paolera and Taylor (1997).

³ See Della Paolera and Taylor (1998) and Diaz-Alejandro (1970) for analysis of the impact of the 1930s on Argentina and its domestic policy response.

⁴ Diaz-Alejandro (1970) and Taylor (1994) have shown that the import substitution policies adopted in the 1930s in Argentina contributed, significantly, to increase the relative price of capital goods at home thereby discouraging capital formation and growth.

rural Argentineans workers that had migrated to the cities. Another important trend of the 1950s, 1960s and 1970s was the emigration of Argentineans, particularly, professionals, high skilled people, scientists and intellectuals⁵. An important reason for this emigration of scientists and highly qualified Argentineans of the country in that period –besides the pushing factor of the economic decline– lie in the policies of both the Peron administration that excluded non-peronist intellectuals and professionals and the open hostility of military regimes against dissent in the universities. This situation reached a dramatic high point in 1967 under the government of general Juan Carlos Onganía. Only in the University of Buenos Aires 1,305 faculty members were expelled by the Onganía's government intervention of that university (Graciera, 1986). In addition to directly expelling professors from universities, a “brain drain” dynamics followed afterwards as intellectuals started to leave Argentina because of the risk of being fired (and eventually imprisoned). Moreover, the military regime undertook large budget cuts in the universities that retarded the development of research, teaching and the development of culture in the country⁶. After an interlude of democratic governments in the early 1970s (see in table 3 the succession of governments of Campora, Lastiri, Peron and Isabel Martinez de Peron), the political situation worsened again after the military coup of 1976. In that period, the military again led a massive depuration of scientists, professionals and students as part of an overall repressive strategy to abate potential opposition to the military regimes that tried to consolidate in Argentina at that time⁷.

In the last quarter of the twentieth century, Argentina became a country of *net emigration* to the rest of the world. The combination of macroeconomic instability (higher inflation), slow and unstable growth in the 1960s, 1970's and 1980s, (partially reversed in the first half of the 1990s), clearly changed the economic incentives for immigration that had existed in the late 19th century and early twentieth century. In addition, the political history of Argentina combining populist–nationalist regimes and repressive military regimes (particularly in the second half of the 1950s) with unstable and fragile democracy also conspired against sustained immigration from Europe⁸. Authoritarian regimes⁹ compelled the best qualified and, hence, more mobile Argentineans to emigrate in significant numbers in the second half of the twentieth century (see table 5)

⁵ See Lattes, Oteiza and Graciera (1986). See table 5 for statistics of emigration of Argentineans medical doctors, engineers, scientist and “technicians” to The Unites States in the period 1950-70.

⁶ The case of Cesar Milstein is telling this is an outstanding Argentinean scientist that emigrated from Argentina and went to work in the University of Cambridge, receiving after a few years, the Nobel Prize abroad.

⁷ An empirical complication here to understand the effect of this period on migration flows, lies in the fact that the military during the period 1976-1981, largely stopped recording the outflows of Argentineans. It is worth noting that there were also military regimes in Bolivia and Paraguay during most of the period of emigration from these countries to Argentina.

⁸ Apparently, these political features of Argentina did not deter immigration from Bolivia or Paraguay that also had their own share of authoritarian regimes.

⁹ Argentina lived a history of considerable political instability and frequent change between democratic and authoritarian regimes since the early 1930s and throughout the early 1980s. The cycle of replacing democratically elected governments by authoritarian regimes started with Jose Uriburu in 1930, following the last government of Hipolito Irigoyen and ended with the military regime of General Galtieri in 1983, followed by democratically elected President Raul Alfonsín inaugurating an almost 20 year cycle of uninterrupted democracy in Argentina (see table 3).

1. Argentina's experience with foreign migration in international perspective

Argentina's belle époque and period of mass immigration coincided with a period of free trade, free capital mobility and ample international mobility of labor in the global economy. The prevailing monetary regime in that period was the gold standard¹⁰. This period from around 1870 to 1913 has been termed by economic historians as the "first wave of globalization"¹¹. Those years were also accompanied by large flows of international migration known as the "age of mass migration" (see Hatton and Williamson, 1998). It is estimated that in this period around 60 million people migrated from resource-scarce, labor-abundant Europe to the resource-abundant, labor-scarce countries of the New World including Argentina, Australia, Brazil, Canada, New Zealand and the United States. Migrants came from both "core Europe" (England, Germany, France) and "peripheral Europe" (e.g. the Scandinavian countries, Spain, Italy and Portugal, Poland, Russia, Rumania and the former nations of the Austro-Hungarian empire). In Latin America the main destination country for migrants from Europe was Argentina. Other countries that received a relatively considerable number of European migrants were Uruguay, Cuba, Mexico, Chile.

World war I interrupted the growing process of economic interdependence and labor market integration across countries that characterized the first wave of globalization. The year of 1914 inaugurated near 30 years of economic instability and political turbulence characterized by world war I, high inflation in Europe in the 1920s, economic depression in the 1930s and world war II in the first half of the 1940s. All this turbulence led to increasingly restrictive policies for international migration in some countries such as the U.S that enacted immigration quotas in 1921 and 1924 reducing the flow of immigrants coming from Europe. Migrants then switched to Brazil and Argentina. The later received around 3 million immigrants from Europe in the 1920s although as many as 2 millions returned (see Chiswick and Hatton, 1920). At the same time *emigration* restrictions were enacted in the Soviet Union, thus reducing Russia's share in global migration flows to the Americas. The Soviet experience also indicates a positive correlation between emigration pressures and authoritarian regimes. The difference with Argentina is that the former Soviet Union, in general, suppressed exit (that was not the case in Argentina during the military regimes) or managed it very controlled and selectively as an expedient of getting rid of political dissidents.

The post-1950 period which gave rise to the so-called "second wave of globalization" has been characterized by constrained international labor markets. In fact, the increasing global integration in goods and capital markets of the second wave of globalization has not been followed by an equal degree of integration in international labor markets that operate under a far more constrained immigration policy framework than the one existing until 1913. The configuration of economic incentives for international migration to Latin America during the twentieth century were such that the inflows of people (immigration) from Europe—until the 1950s and mainly to Argentina—co-existed with outflows (emigration) from various Latin America countries to the United States, Canada and other developed nations. It is interesting to notice that while most of the migrants in the 19th century to the United States were Europeans (slightly more than 91 percent of total migration in the period 1820–1870 and 88 percent of total migration in the period 1820–1920), this percentage of European migration to the U.S. declined to around 14 percent in the period 1971–1998. In contrast, during the same period the main source region of immigration to the U.S. was Latin America (46 percent of the total and mainly from Mexico), followed by

¹⁰ See Eichengreen (1995) for an analysis of the gold standard in this and subsequent periods.

¹¹ See Eichengreen (1995) and Solimano (2001)

immigration from Asia (34 percent). Finally, a note on another country that switched from net emigration to net immigration in a period of a century and a half or so. This is the case of Ireland, that was a main emigration nation since the mid 19th century following its famine. In contrast in the late twentieth century the rapid economic progress of Ireland is turning it into a nation of net immigration. This is, of course, the opposite mirror image of Argentina which switched from being a net immigration into a net emigration country during the course of the twentieth century.

III. Issues and determinants of international migration

This section reviews main issues regarding international migration relevant to the purpose of this paper. The reviews focuses on the determinants of migration, the links between labor market adjustment, growth and international migration, the specificities of migration of human capital and the interactions between democracy, authoritarianism and emigration.

1. Economic Determinants

The economics of migration identifies the expectations of higher incomes abroad compared to those at home as a chief cause of emigration decisions. Besides, there are other variables that exert also an important influence on the decision to migrate. Moreover, there are also non-economic reasons for emigration, such as war, ethnic discrimination, political persecution at home, etc. The choice of the country of destination is often dictated by the existence of a network of family and friends that have previously migrated to that specific country¹². More systematically, the magnitude and direction of international migration are often influenced by the following factors, some of a long run nature and others cyclical: a) *Per capita income or*

¹² Migration equations usually include as determinants the following variables: the ratio between real wage (or real per capita income) in the home country relative to the wage in the destination country, a lagged migration variable capturing persistence effects and friends and relatives effects (social network considerations), a two-decades lagged demographic variable representing population growth and a variable denoting the degree of industrialization in the home country, see O'Rourke and Williamson, 2000.

real wage differentials between sending and receiving countries for a given skill level: net immigration flows are positively correlated with the ratio between the per capita income (or real wage) in the receiving country and the per capita income in the country of origin of the migrant¹³; b) *State of the business cycle and economic prospects in both sending and receiving countries*.

During periods of boom, rapid economic growth and labor shortages receiving countries tend to absorb more migrants than in periods of sluggish growth and higher unemployment (moreover, in booming periods public attitudes become more favorable to immigration). In contrast, periods of sluggish economic growth and reduced economic possibilities in sending nations tend to encourage emigration; c) *Network effects*. Empirical analysis of migration flows (Hatton and Williamson, 1998 and Borjas, 2001) show that migrants tend to attach a high value to the existence of friends and relatives as an important factor in their selection of the country of destination. In fact, family, friends and ethnic/nationals networks constitute an important support factor for the migrant to get information about jobs and other relevant national characteristics of the host nation, thereby helping individual and family adjustment after migration; e) *Policies toward immigration*. If migration policies in host countries aren't favorable to immigration they deter it, although not completely as there is always some illegal migration f) *Costs of migrating*. Emigrating entails several economic and emotional costs. There are traveling costs such as air tickets, shipping costs and living expenses in the host countries, besides the costs of job search. Unskilled and poor migrants are more affected by the economic costs of migration than high-skills migrants, g) *Cultural differences across countries*. Features such as language, traditions, and family relationships affect migration patterns. As these cultural traits are often different in the host country than in the sending nation they tend to act as dampening factors to international migration; e) *Geographical distance and proximity*. In general, immigration to border countries (or countries of proximity) tends to be higher than immigration to countries located far away. Thus geography matters in the direction and size of emigration flows¹⁴.

2. The labor market, growth and migration

Large negative economic shocks affect the labor market through different mechanisms: a cut in real wages, an increase in unemployment, a rise in the pool of people working in the informal sector. Most analyses often concentrate on the *national* characteristics of labor market adjustment to adverse shocks such as unemployment and underemployment. However, the *international* dimensions of labor market adjustment are also important. These international adjustment mechanisms act, chiefly, through migration flows in response to labor market imbalances induced by different shocks¹⁵. On one hand, *flows of emigration* that reduce the domestic supply of labor serve to accommodate a decline in the demand for labor due to adverse aggregate shocks. On the other hand, *flows of immigration* in periods of labor shortages and rapid economic growth in which labor is in short supply play the role of increasing the total supply of labor, thereby easing adjustment in the labor market. Historically, the large flows of immigration to the countries of the New World (Argentina, Australia, Canada, Brazil, the US, New Zealand) in the second half of the 19th century and early twentieth century were associated with labor shortages and abundance of other factors such as land in the recipient countries. For these reasons, the labor market has been

¹³ This simple specification can be amended to include the expected real wage differentials. Empirical evidence in the literature is reviewed in Hatton and Williamson (1998), chapters 3 and 4 who undertake a detailed discussion of the impact of wage gaps on emigration flows from Europe to New World countries in the late 19th century and early 20th century. The real wage gap can be replaced by the gap of income per-capita between sending and receiving countries if migrants are also human capital and entrepreneurs, whose income are not necessarily following real wages.

¹⁴ See Jasso, Rosenzweig and Smith (1998) and Markusen and Zahniser (1997) for analysis of immigration patterns in terms of skill composition to the US.

¹⁵ See Solimano (2001a)

singled-out in the literature on international migration as an important mechanism that governs migration flows¹⁶.

The relation between growth and migration can be illustrated also by the historical example of European mass migration in the second half of the 19th and early twentieth century to the countries of the “New World”. A chief cause of migration at that time was the perception in Europe of the new economic opportunities opened in the resource-rich, labor-scarce countries of the New World. In turn, massive immigration allowed the mobilization of the large natural resources of the receiving countries and that was key engine in their growth process.

Analytically, the causality between immigration and growth can be two ways (see Solimano, 2001a): rapid growth, expanding opportunities, technological discoveries and land availability in the host country often *precedes* immigration. At the same time immigration is an important factor in sustaining and reinforcing a dynamics of enhanced growth and prosperity. Various mechanisms can account for a positive effect of migration on economic growth in receiving countries. The migration of people with entrepreneurial capacities and a favorable attitude towards risk-taking was an important contribution to business creation, resource mobilization, colonization and innovation in the countries of the New World in the first era of globalization (pre-1914). Another channel through which migration can increase growth in the host country is by moderating the growth of wages as the supply of labor increases, therefore contributing to keep profits high, rising the profitability of investment and accelerating growth. These two mechanisms (the transfer of entrepreneurship and increased labor supply) operate essentially through *investment-led growth* mechanisms (see Solimano, 1998). An additional macroeconomic mechanism from migration to growth operates through *savings*. As international immigration tends to raise profits by keeping wages down and profit-earners tend to have a larger propensity to save than wage earners, the net result is an increase in overall national savings. In a savings constrained economy this should get translated in more rapid economic growth in the recipient country.

By a symmetric logic, these mechanisms can account for a *growth-depressing effect* of emigration in *sending countries* when emigrants come from relatively productive activities at home rather than from the unemployment pool or from occupations with low labor productivity. Emigration of people with high educational levels and entrepreneurial abilities can have a positive growth effect in the recipient country and a negative growth effect in the sending country.

3. Migration of Human Capital¹⁷

The previous discussion of the determinants of international migration is applicable to individuals of different skills although some factors are more relevant for the unskilled migrant (costs of migrating, importance of network effects, cultural barriers, etc.) than for the emigration of human capital.

The international mobility of human capital (HC) entails the movement of people with high skills, special talents and specialized knowledge in the scientific, technological and cultural areas. Here we refer to scientists, engineers (e.g. in the information sector), executives, professionals, artists that move across national borders. Another dimension of the international mobility of talent is entrepreneurial migration, say people with talent for business creation and resource mobilization rather than necessarily individuals with a high stock of formal education.

¹⁶ See Hatton and Williamson (1998) and Timmer and Williamson (1996).

¹⁷ See Solimano (2002) for an extensive discussion of emigration of human capital and its impact on developing countries and the global economy. Earlier analysis of emigration of human capital and brain drain are Johnson (1964), Patinkin (1964) collected in Adams (1964). More recent treatments and empirical analysis of emigration issues are Haque and Kim (1994), Carrington and Detragiache (1998), Sutcliffe (1998), UNESCO (2001), OECD (2002).

The decision to emigrate for scientists and professionals has some specific traits that need to be mentioned. These people leave their home countries for a variety of reasons: the possibility of acquiring knowledge and first rate education in the best centers of the world (education phase), the lure of experiences derived from interacting with peers of international recognition, the aim of pursuing a successful career abroad (phase of staying abroad).

As the literature on growth and development emphasizes the emigration of human capital, of very practical relevance for Argentina, can lead to virtuous circles and also to poverty traps¹⁸. Receiving countries can set in motion a cycle of vigorous knowledge creation and application by attracting the most talented people from abroad, who combine with an often—strong knowledge base in the host country. Conversely, sending countries can enter in a phase of stagnation in the development of science, technology and knowledge following the outflows of talent as a critical mass of scientists and technical experts disappear, deteriorating the milieu for knowledge generation and assimilation at home.

4. Political Determinants of Migration: Democracy, Authoritarianism and Political Instability

Outflows and inflows of people do not only depend on economic considerations in sending and receiving countries. The political regimes prevailing in host and source countries —democracy or authoritarianism— also matter in the decision to emigrate. Individuals will prefer to go to countries where individual and economic rights (of speech, of voice, right to be elected in office, etc.) are protected (e.g. in a democracy) than in countries where those rights are restricted. Dictatorships tend to curtail individual rights and often engage in repressive activities¹⁹. At an analytical level Albert Hirschman in his book *Exit, Voice and Loyalty* draws the distinction between purely economic choice and collective action, identifying exit as a predominantly economic choice and voice as political action. In a market if a customer is not satisfied with the quality of a product or the price he (or she) is being charged for it, then he can just “exit” the store and abstain from buying that good. In the realm of collective action people exercises “voice” to try to change a situation through collective action. In turn, loyalty may lead people to avoid exit (and sometimes voice). In non—democracies the mechanism of voice can be suppressed or become very costly to exercise. In that situation, individuals that are unsatisfied or discontent with current political and economic conditions may choose to exit their home countries²⁰. This line of reasoning suggests a direct correlation between the emigration of nationals (or the repatriation of foreigners) and the existence of authoritarian regimes that suppress civil liberties. However, there are some qualifications here. Given the costs of migrating, it is likely that professionals, intellectuals, scientists and entrepreneurs (i.e. human capital) are more likely to emigrate, under regimes that curtail individual and economic rights than unskilled labor who is often less mobile internationally and face financial constraints to finance migration²¹.

¹⁸ See Easterly (2001).

¹⁹ See Olson (2000) for an insightful analysis of the economic consequences of democracies and autocracies.

²⁰ For an interesting albeit dramatic account of how emigration of the most talented individuals of the German Democratic Republic used as a state policy during communism to get rid of active opposition and discontent, debilitated so much the GDR contributing to its unexpectedly rapid demise after the end of the communist regime in 1990, see Hirschman (1995).

²¹ See Pellegrino, A. and J. Martinez (2001); also Hansen et.al. (2002) for a discussion of emigration of scientists and professionals in the Latin American context. See Gokhberg and Nekipelova, 2002 for an analysis of emigration of professionals and scientists from Russia in the 1990s

IV. Econometric estimates of net migration equations for Argentina

In this section we shall present a time-series econometric analysis of a one-equation migration model that incorporates insights of the previous discussion on economic and political determinants of net international migration to and from Argentina:

$$(1) \text{ NM}(t) = a + b \text{ YPCGAP}(t) + c \text{ NM}(t-1) + d \text{ ECONCYCLE} \\ + e \text{ POLREGIME} + \text{random term}$$

with $b < 0$, $c > 0$, $d < 0$, $e < 0$

The variable $\text{NM}(t)$ represents the flow of net immigration in period t from the sending country(ies) to the recipient country. It is often recommended to normalize the net migration variable by population size (i.e. rate of migration per 1,000–population or so). The variable $\text{YPCGAP}(t)$ in period t denotes the ratio of the recipient country's real GDP per capita to the GDP per capita of the sending country (an alternative specification —often used in the literature— is to work with the ratio of the recipient country real wage relative to the real wage in the sending country, see Hatton and Williamson, 1998). In this study, we work with the GDP per capita variable as there is better availability of statistical information on GDP per capita than real wages for the sample period of this study and also since the migrants are not only labor, but also human capital and

entrepreneurs whose income is not necessarily derived from real wages. The coefficient of the YPCGAP variable is expected to be positive as an increase in the ratio of GDP per capita in the destination country relative to the sending country is expected to increase the flows of immigrants. The lagged net migration flow, $M(t-1)$, is intended to capture persistence effects, or path dependence, in the process of international migration²². Path-dependence is often associated with the relatives or friends effects already discussed in section 3. The coefficient of this variable is expected to have a positive sign. The variable ECONCYCLE is an index of economic cycles in the receiving country (this also could be extended to include economic cycles in the sending economies); capturing the short term prospects for employment and income in the host countries for the migrants; the coefficient of this variable, measured as deviation of current from trend GDP, is expected to be positive. The variable POLREGIME is an index of authoritarianism or democracy in the recipient country. The sign of this variable's coefficient is expected to be negative when measured as an authoritarian regime. In other words, people are less attracted to migrate when there is an authoritarian regime in the host country. On the same coin, nationals may consider to leave in non-democratic regimes for a given set of economic fundamentals.

Empirical Results

The model of equation (1) is estimated for Argentina by ordinary least squares correcting for serial-correlation and testing for co-integration. In all the specifications the dependent variable is the rate of net migration (immigrants minus emigrants per thousand population, see Box in the annex for details on the construction of the different variables). The model is estimated for three periods:

- a) the period 1900–1929 of large net flows of immigration to Argentina coming mainly from Europe;
- b) the period 1929–1960 in which there was a net slow-down in immigration flows to Argentina from Europe;
- c) the period 1960–1999 in which emigration from Europe is replaced by immigration from neighboring countries. This is also a period of emigration of professionals, scientists, intellectuals from Argentina led by the combination of economic decline, political instability and authoritarian regimes in the country.

For the sake of completeness, we estimate the model for the whole twentieth century, 1900–1999. In all specifications the dependent variable is the rate of net migration (immigrants minus emigrants) as rate per thousand-populations. The results of the estimations are reported in tables R1 – R4.

Estimates for the 1900–1929 period

The regressions for this period (reported in table R1) show a strong significance for the coefficient of the (log) of the ratio between the per capita income of Argentina and the per capita income of sending European countries (the largest weights in the average income per capita of Europe are given to the GDP per capita of Italy and Spain, see Box). Lagged migration, reflecting persistence and path dependence (e.g. driven by the relatives and friends effects) is significant in the specification of column (2) in table R1. A variable of cyclical output fluctuations in Argentina (log of ratio of current GDP over trend GDP the latter estimated by the Hodrick–Prescott filter)

²² Another alternative is to use the stock of foreign migrants from previous years to capture network and persistence effects.

appears as insignificant in the regression. The variable reflecting authoritarian political regime was not included, since this was a period of continuous democratic regimes until 1930. The quality of the explanatory power of the regression, R-squared is 0.76 a reasonably good fit.

Estimates for the 1929–1960 Period

The regressions of table R2 show that both lagged migration and, the log of the ratio of per capita income of Argentina with respect to the per capita income of Europe are statistically significant in explaining the rate of net migration to Argentina in the period 1929–1960. The index of cyclical output fluctuations in Argentina appears with a contrary sign to the one expected a priori. Interestingly the variable denoting the political regimes constructed as a dummy variable, with a value 1 for authoritarian regimes and 0 for democracy appears with the expected sign, i.e. negative. This supports the hypothesis that authoritarian regimes that curtailed civil liberties (and probably property rights) tended to deter immigration to Argentina over the sample period²³. The variable is also statistically significant at 10 percent significance levels in the sample period of this regression (1929–1960).

Estimates for the Period 1960–1999

In the last 40 years of the twentieth century, as we mentioned before, the main source countries of international migration to Argentina shifted from European nations to neighbor countries, chiefly Bolivia, Paraguay and Chile (also there was some immigration from Uruguay and Brazil to Argentina).²⁴ In line with this change in the main source countries of immigration we replace the relative income variable of GDP per capita of Argentina with respect to GDP per capita of Europe by the ratio of the log of the GDP per capita of Argentina to the average GDP per capita of Bolivia, Paraguay and Chile. The estimated coefficient for this variable, shown in table R3, is in general, statistical significant and has the expected (positive) sign. Lagged migration (one and two years) is significant although with the opposite sign. A bit surprisingly is the result that the index of political regime appeared as insignificant and with the wrong sign in the period 1960–1999 in which there were several military dictatorships in the 1960s and 1970s (although not after 1983) that could be expected to deter immigration. This surprising result may be in presence to two factors:

- (i) missing data on emigration during the military regimes of the second half of the 1970s. As mentioned before, statistics of flows of immigration and emigration to and from Argentina were suspended for several years in the 1976–1981 period in which the country was ruled by military juntas that apparently were not very keen to show statistics of emigration from Argentina in those years
- (ii) the share in the sub-sample of forty years corresponding to authoritarian regimes is not that large to influence the whole period when combined to the fact of missing data for the military periods.

²³ There were several episodes of authoritarian regimes in the 1930s, 1940s and 1950s (see table 3) along with “semi-democratic regimes” (i.e. the two Peron governments ruling from the mid 1940s to the mid 1950s).

²⁴ See Solberg(1973) and tables 6 and 7

The whole twentieth century estimates for: 1900–1999

The final set of regressions covering the full sample period 1900–1999 is reported in table R4. To abstract from year-to-year fluctuations in migration flows, all the variables used in the regressions are three-years averages. Interestingly, the ratio of Argentina's GDP per capita to GDP per capita of the main sourcing countries up to the late 1950s–Europe–appears as statistically significant in the whole period²⁵. Lagged net migration is insignificant and the index of political regimes (authoritarianism) appears with a negative sign (the expected sign) and statistically significant for the full sample period highlighting the importance of political regimes in the immigration/emigration decisions.

²⁵ We tried the ratio of GDP per capita of Argentina to the average of GDP per capita of Bolivia, Chile since 1950 in the regression, but it was statistically insignificant.

V. Concluding remarks

The paper has investigated the main patterns and determinants of international migration to Argentina in the twentieth century looking at the main economic determinants of international migration as well as the influence of political regimens (democracy and authoritarianism) on migration flows.

Argentina is an interesting case of a country that was one of the leading economies in the world in the late 19th century and the early twentieth century attracting massive flows of people and capital from Europe in that period. The rate of international migration was among the highest in the world in the early decades of the twentieth century. However, this situation started to change in the 1930s as Argentina was hit by world recession and, in response to the worsening external scenario, the country adopted inward-looking, import substitution policies until the 1970s. Since the 1930s until the early 1980s Argentina started to live through periods of authoritarian regimes that alternated with democratic governments.

As a consequence of the cumulative effects of a lagging growth and modest development performance of Argentina noticeable since the 1930s, in the second half of the twentieth century the country ceased to be a magnet for Italians, Spaniards and other European immigrants as it had been in the early decades of the century. By the late 1950s European migration to Argentina virtually stopped. The main sources countries for immigrants were neighboring nations such as Bolivia, Paraguay and Chile. At the same time since the second half of the

1950s through the 1960 and 1970s and early 1980s a considerable outflow of emigration of Argentineans to other Latin American countries (such as Venezuela and Mexico) as well as to the U.S, Canada and Europe in this period. Argentinean emigration had a considerable share of professionals, technicians and scientists that gave rise to concerns about “brain drain”. Modest and unstable growth rates in Argentina along with recurrent political crises in which democratic government were often ousted by military coups that installed regimes that curtailed civil rights encouraged emigration of (often well educated) Argentineans. Needless to say, this also discouraged European immigration to the country.

Our econometric estimates of net migration equations to Argentina find a positive, significant effect of the gap between the per capita income of Argentina (recipient country) and the per capita income of sending countries, chiefly Europe until the mid 1950s and then the GDP per capita of neighboring countries for the regressions covering the sub-periods 1900–1929, 1929–1960, 1960–1999.

The econometric estimates also show statistically significant adverse influence of authoritarian regimes on international migration flows to Argentina confirming the importance of political regimes on people’s decision to migrate. Summarizing, the paper finds that the two most important explanatory variables for explaining net international migration to and from Argentina in the twentieth century are the income per capita differential of Argentina with respect to the per capita income of source economies and the frequency of authoritarian regimes in the country.

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Annex

Table 1

ARGENTINA: ECONOMIC PERIODS AND INTERNATIONAL MIGRATION 1870-2000

Period	Net Migration [a]		Total Population (Annual average, Thousands of people)	GDP growth Argentina (Annual average)	GDP per capita of Argentina							
	Annual average (Thousands of population)	Rate [b] (per thousand population)			Argentina (index 1990=100)	Ratio to GDP per capita						
			USA [c]	Spain [c]		Italy [c]	OECD [c]	Bolivia [d]	Chile [d]	Paraguay [d]		
Global integration and rapid growth (Belle Epoque)												
1870-1900	33962.0	11.5	3037.8	6.2 [e]	35.4 [e]	0.58	1.17	1.28	0.78	N.A.	N.A.	N.A.
1900-1914	103786.7	17.0	6183.6	4.3	52.0	0.68	1.65	1.62	1.06	N.A.	N.A.	N.A.
1870-1914	56957.9	15.1	4049.6	5.9 [e]	41.6 [e]	0.61	1.33	1.38	0.87	N.A.	N.A.	N.A.
Early inter-war years												
1914-1929	40436.5	4.4	9479.9	3.8	55.7	0.59	1.53	1.32	0.99	N.A.	N.A.	N.A.
Import substitution development strategy												
1930-1940	21945.0	1.7	13053.9	1.5	60.1	0.64	1.66	1.30	0.93	N.A.	N.A.	N.A.
1940-1950	47752.1	3.1	15490.5	3.7	70.9	0.47	2.01	1.65	0.94	N.A.	N.A.	N.A.
1950-1960	60158.2	3.2	18891.8	2.9	79.6	0.46	1.76	1.17	0.80	2.96	1.27	3.34
1960-1970	32969.3	1.5	22277.1	4.7	95.4	0.45	1.27	0.83	0.68	3.37	1.29	3.63
1970-1975	57986.1	2.8	26030.9	4.2	119.7	0.47	0.97	0.78	0.66	3.37	1.53	3.88
1930-1975	41268.5	2.3	18280.7	3.3	81.4	0.50	1.58	1.19	0.82	3.19 [f]	1.33 [f]	3.56 [f]
Early economic liberalization												
1975-1990	-1387.5	-0.05	29244.75	0.1	115.6	0.38	0.78	0.58	0.52	3.21	1.43	2.57
Intense economic reform and liberalization												
1990-2000	-2155.3	-0.1	34732.1	3.6	122.2	0.32	0.62	0.48	0.44	3.47	0.97	2.53
1975-2000	-1683	-0.05	31439.35	1.6	119.0	0.36	0.72	0.55	0.49	3.33	1.25	2.57
1870-2000 (average)	9685	6.4	18503.3	3.9 [e]	44.5 [e]	0.50	1.37	1.11	0.80	3.26 [f]	1.28 [f]	3.05 [f]

Source: Andrés Solimano (2002), "Development Cycles, Political Regimes and International Migration: Argentina in the twentieth Century". Paper presented at WIDER conference, "Poverty, International Migration and Asylum", september 27-28, 2002, Helsinki.

Notes: N.A.: Non-Available.

[a] Net migration = Immigration - emigration.

[b] Net migration Average / population of middle year of period

[c] in 1990 Geary-Khamis Dollars.

[d] in constant 1995 dollars.

[e] Since 1875.

[f] Since 1950.

Table 2
ARGENTINA, NET MIGRATION 1870-2000
(five years averages)

Year	[1] Net Migration	[2] Population <small>(in thousands)</small>	[1] / [2] Rate of Net Migration <small>(per thousand population)</small>
1870-1875	12302	2015	6.1
1875-1880	2363	2282	1.0
1880-1885	31970	2602	12.3
1885-1890	86358	3223	26.8
1890-1895	16002	3757	4.3
1895-1900	48968	4316	11.3
1900-1905	59482	5167	11.5
1905-1910	157350	6236	25.2
1910-1915	85946	7486	11.5
1915-1920	-20161	8454	-2.4
1920-1925	84029	9573	8.8
1925-1930	83952	11124	7.5
1930-1935	19785	12494	1.6
1935-1940	23698	13612	1.7
1940-1945	10532	14768	0.7
1945-1950	77483	16197	4.8
1950-1955	74203	18027	4.1
1955-1960	43585	19762	2.2
1960-1965	31433	21441	1.5
1965-1970	32737	23114	1.4
1970-1975	347916	24994	13.9
1975-1980	-264753	27071	-9.8
1980-1985	96406	29214	3.3
1985-1990	143372	31441	4.6
1990-1995	56371	33572	1.7
1995-2000	-82235	35868	-2.3

Source: Argentine Government's National Direction of Migration, 1970

[1] Net Migration = Immigration minus emigration.

Census Argentina, Demographic Bulletin 69, ECLAC, Ferenczi and Wilcox (1929) and Maddison (2001).

Table 3

ARGENTINEAN PRESIDENTS AND POLITICAL REGIMES 1874-2002

President	Period	Political regime
Nicolás Avellaneda	1874-1880	Democratic
Julio Argentino Roca	1880-1886	Democratic
Juarez Celman	1886-1890	Democratic
Carlos Pellegrini	1890-1892	Democratic
Luis Saenz Peña	1892-1895	Democratic
Jose Evaristo Uriburu	1895-1898	Democratic
Julio Argentino Roca	1898-1904	Democratic
Manuel Quintana	1904-1906	Democratic
Figueroa Alcorta	1906-1910	Democratic
Roque Saenz Peña	1910-1914	Democratic
Victorino de la Plaza	1914-1916	Democratic
Hipólito Irigoyen	1916-1922	Democratic
Marcelo T. de Alvear	1922-1928	Democratic
Hipólito Irigoyen	1928-1930	Democratic
Jose E. Uriburu	1930-1932	Authoritarian
Agustin P. Justo	1932-1928	Democratic
Roberto M. Ortiz	1938-1940	Democratic
Ramón S. Castillo	1940-1943	Democratic
Pedro P. Ramirez	1943-1944	Authoritarian
Edelmiro Farrel	1944-1946	Authoritarian
Juan D. Perón	1946-1951	Democratic [a]
Juan D. Perón	1951-1955	Democratic [a]
Eduardo Lonardi	1955-1955	Authoritarian
Pedro E. Aramburu	1955-1958	Authoritarian
Arturo Frondizi	1958-1962	Democratic
Jose M. Guido	1962-1963	Democratic
Arturo H. Illia	1963-1966	Democratic
Juan C. Onganía	1966-1970	Authoritarian
Roberto Levingston	1970-1971	Authoritarian
Alejandro Lanusse	1971-1973	Authoritarian
Héctor J. Cámpora	1973-1973	Democratic
Raúl A. Lastrí	1973-1973	Democratic
Juan D. Perón	1973-1974	Democratic
María E. Martínez	1974-1976	Democratic
Jorge R. Videla	1976-1981	Authoritarian
Roberto E. Viola	1981-1981	Authoritarian
Leopoldo F. Galtieri	1981-1982	Authoritarian
Reynaldo B. Bignone	1982-1983	Authoritarian
Raúl R. Alfonsín	1983-1989	Democratic
Carlos S. Menem	1989-1995	Democratic
Carlos S. Menem	1995-1999	Democratic
Fernando de la Rúa	1999-2001	Democratic
Adolfo Rodríguez Saa	2001-2002	Democratic
Eduardo Duhalde	2002	Democratic

Source: <http://www.historiadelpais.com.ar>

[a] Partial, with restrictions.

Table 4

ARGENTINA. MAIN ECONOMIC INDICATORS 1950-2000

Years	Population (Average, millions of people)	Rate of Growth of GDP (annual average, %)	Real GDP per capita [a] (annual average)	Rate of Growth of GDP per capita (annual average, %)	Average Real Wage, Index 1995=100 (annual average)	Inflation Consumer Prices (% annual average)
1950-1955	18.0	2.5	5045.4	0.5	101.8	20.2
1955-1960	19.8	3.4	5484.6	1.7	100.4	37.2
1960-1965	21.5	4.6	5883.0	3.1	99.9	24.0
1965-1970	23.1	4.7	6749.0	3.4	112.6	21.2
1970-1975	25.0	3.9	7918.0	2.4	125.6	62.4
1975-1980	27.1	1.3	8227.8	-0.2	113.0	206.4
1980-1985	29.2	-1.6	7606.1	-3.2	123.2	335.5
1985-1990	31.4	-0.9	7097.7	-2.5	114.5	1105.1
1990-1995	33.7	4.2	7702.6	2.9	100.5	421.5
1995-2000	35.9	3.2	8704.3	1.9	100.0	0.5
1950-1960	18.9	2.6	5261.6	0.8	100.8	30.2
1960-1970	22.3	4.4	6303.8	2.9	105.9	22.0
1970-1980	26.1	2.9	8058.3	1.4	117.6	130.0
1980-1990	30.3	-0.7	7384.1	-2.3	117.4	724.6
1990-2000	34.8	4.6	8243.8	3.3	100.2	229.9

Source: International Monetary Fund, Maddison (2001) and ECLAC.

[a] in 1990 Geary-Khamis Dollars.

Table 5

EMIGRATION OF ARGENTINEANS PROFESSIONALS TO THE UNITED STATES 1950-1970

Period	Medical doctors	Engineers	Scientists	Technicians	Total of professionals and technicians
1950-51	10	13	N.A.	25	48
1951-52	19	13	2	46	80
1952-53	19	34	11	60	124
1953-54	26	37	13	86	162
1954-55	20	51	11	100	182
1955-56	37	71	17	171	296
1956-57	89	135	34	232	490
1957-58	103	146	37	342	628
1958-59	70	53	17	273	413
1959-60	97	78	14	229	418
1960-61	74	77	25	267	443
1961-62	94	59	12	239	404
1962-63	116	96	36	391	639
1963-64	151	121	43	597	912
1964-65	140	88	27	496	751
1965-66	115	59	25	356	555
1966-67	126	90	31	238	485
1967-68	95	93	40	316	544
1968-69	42	42	6	221	311
1969-70	32	25	9	129	195

Source: Oteiza, E. (1979)

TABLE 6
ORIGINS OF ARGENTINEAN IMMIGRATION, 1945-1964
(Five-year totals in thousands of persons)

Origin	1945-49	1950-54	1955-59	1960-64
Italians and Spaniards	256.3	276.1	73.9	3.9
Neighboring Countries				
Paraguayans	16.1	41.1	104.2	87.1
Bolivians	1.0	6.6	31.9	62.6
Chileans	8.3	23.5	9.6	39.0
Brazilians	4.7	9.5	1.4	6.7
Uruguayans	-33.8	9.0	19.3	6.0
(Sub-totals)	-3.7	89.7	166.4	201.4
Other Countries	76.3	52.8	10.1	13.0
Totals	329.0	418.4	250.4	218.3

Source: "Immigration into Argentina from Neighboring Countries", Migration Facts and Figures, No 74 (May-June 1970), p.2

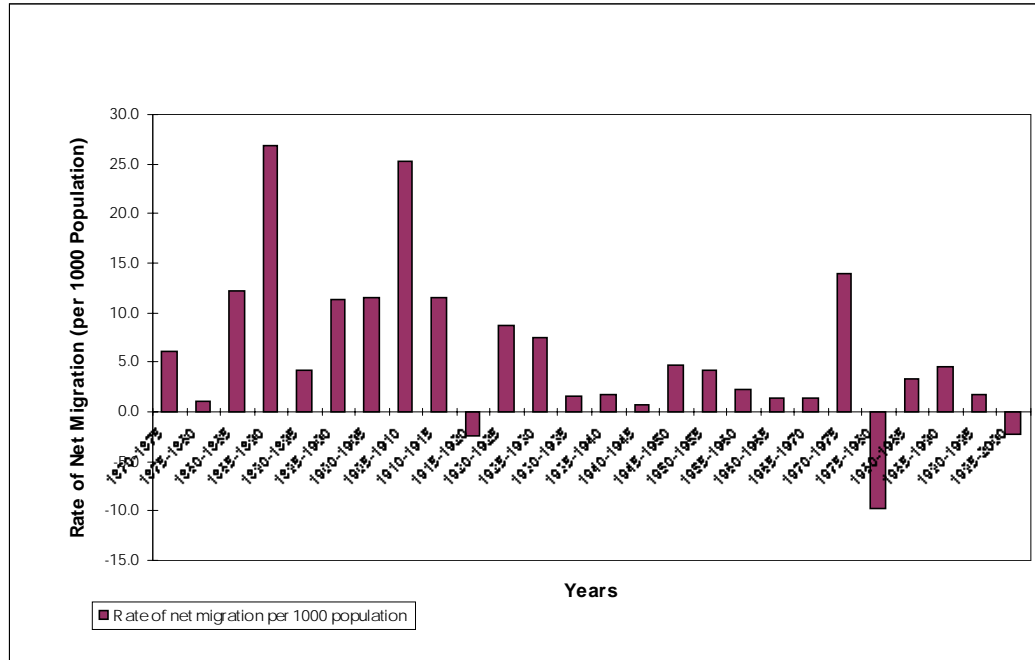
TABLE 7
IMMIGRANT POPULATION FROM NEIGHBORING COUNTRIES
RESIDING IN ARGENTINA, 1969 [A]

Origin	Population	
	Total	%
Paraguayans	600,000	38.0
Bolivians	450,000	28.5
Chileans	350,000	22.2
Brazilians	80,000	5.1
Uruguayans	100,000	6.3
Total	1,580,000	100.0

Source: "Immigration into Argentina from Neighboring Countries", Migration Facts and Figures, No 74 (May-June 1970), p.1

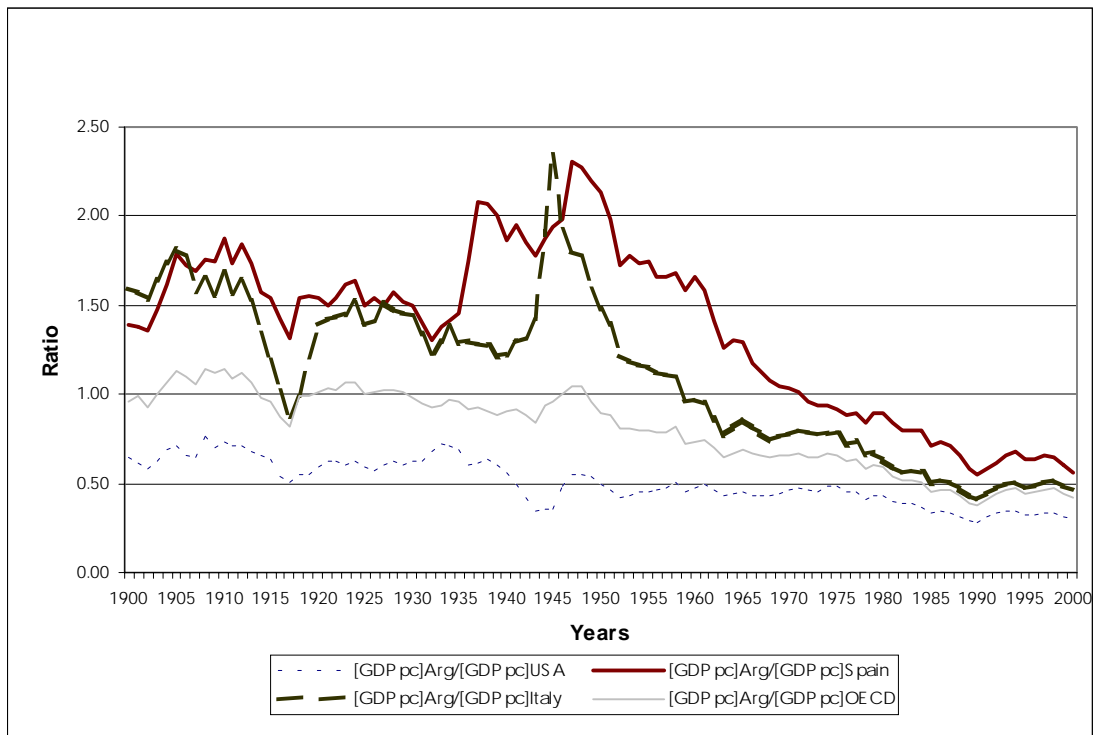
[a] These statistics are the estimates of a joint mission sent to Argentina in 1969 by the International Catholic Migration Commission and Caritas Internationalis.

Figure 1
RATE OF NET MIGRATION
 (per 1000 population)



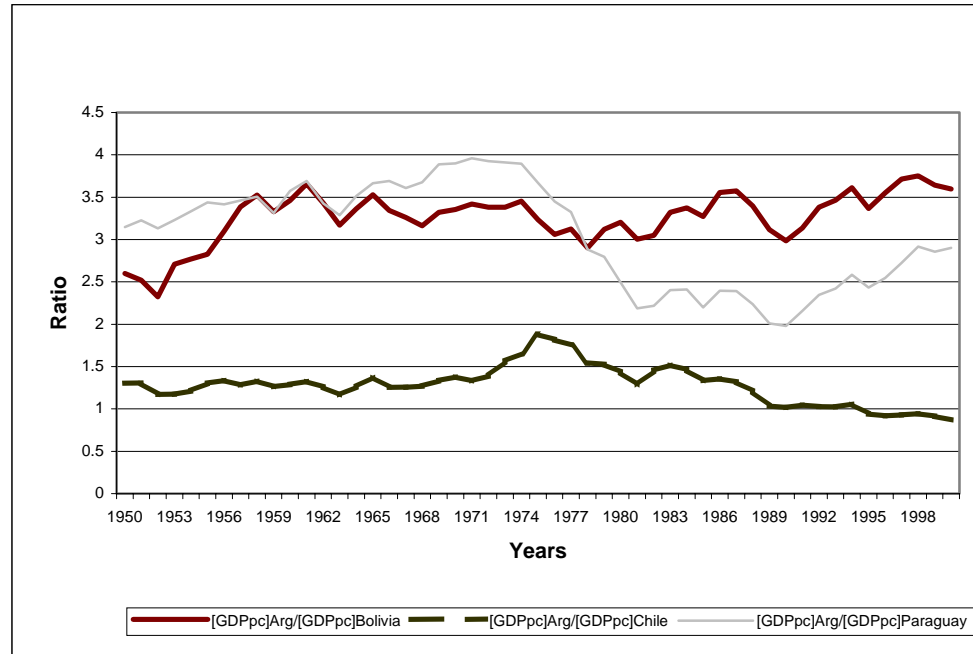
Source: Argentine Government's National Direction of Migration, 1970 Census Argentina and CELADE

Figure 2
RATIO OF GDP PER CAPITA OF ARGENTINA OVER GDP PER CAPITA OF USA, SPAIN, ITALY AND OECD



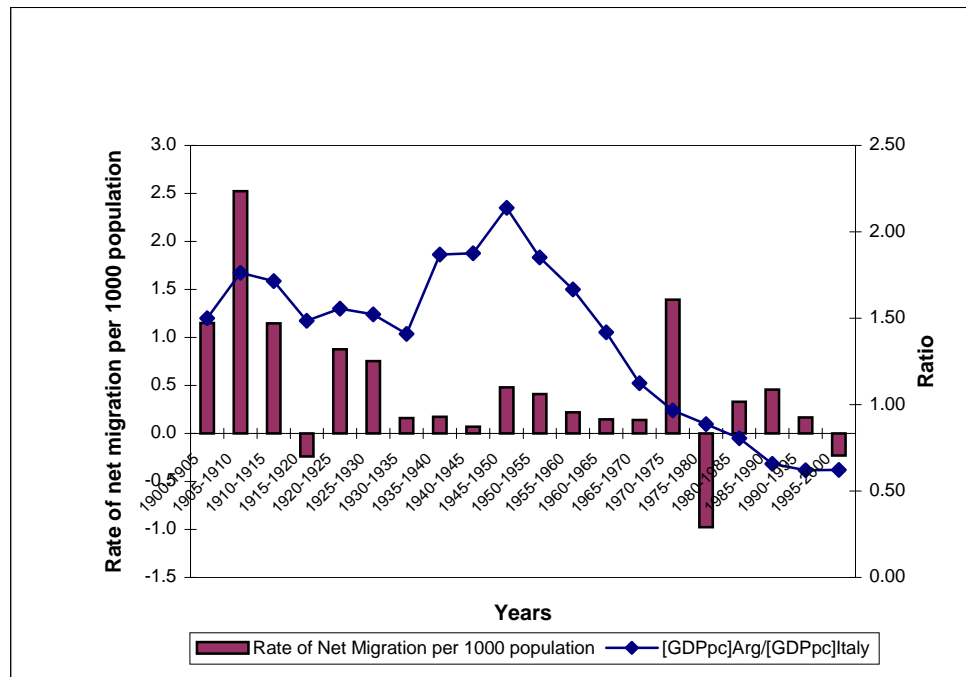
Source: Maddison (OECD) and International Monetary Fund.

Figure 3
RATIO OF GDP PER CAPITA OF ARGENTINA OVER GDP PER CAPITA OF NEIGHBORING COUNTRIES.



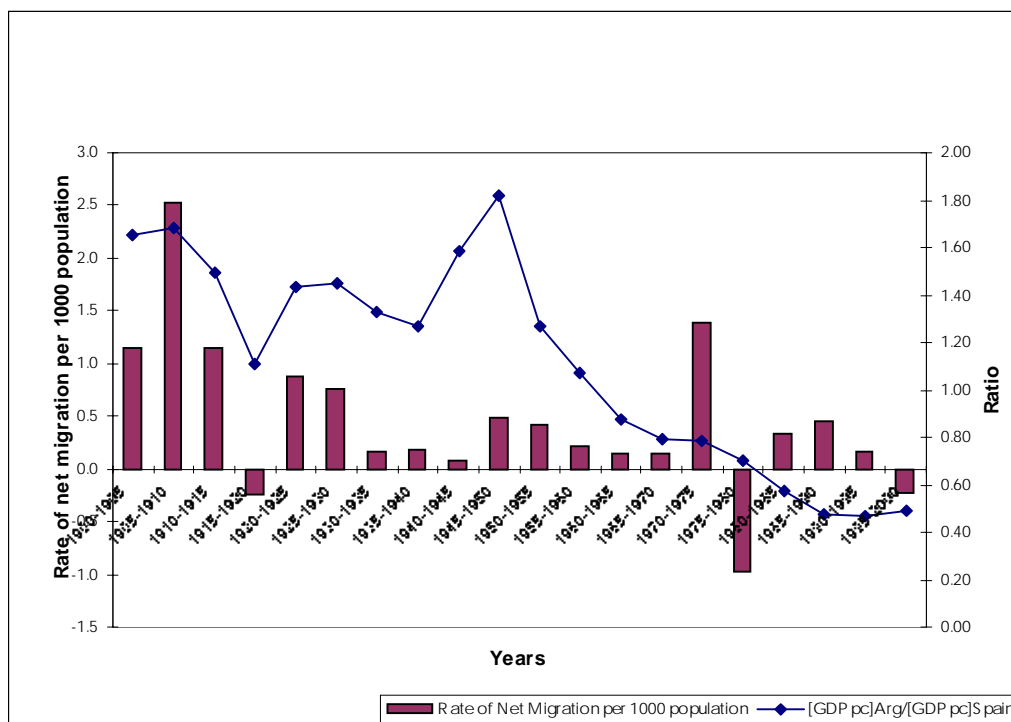
Source: Maddison (OECD) and International Monetary Fund.

Figure 4
RATIO OF GDP PER CAPITA OF ARGENTINA ON GDP PER CAPITA OF ITALY AND NET MIGRATION
(Rate per 1000 population)



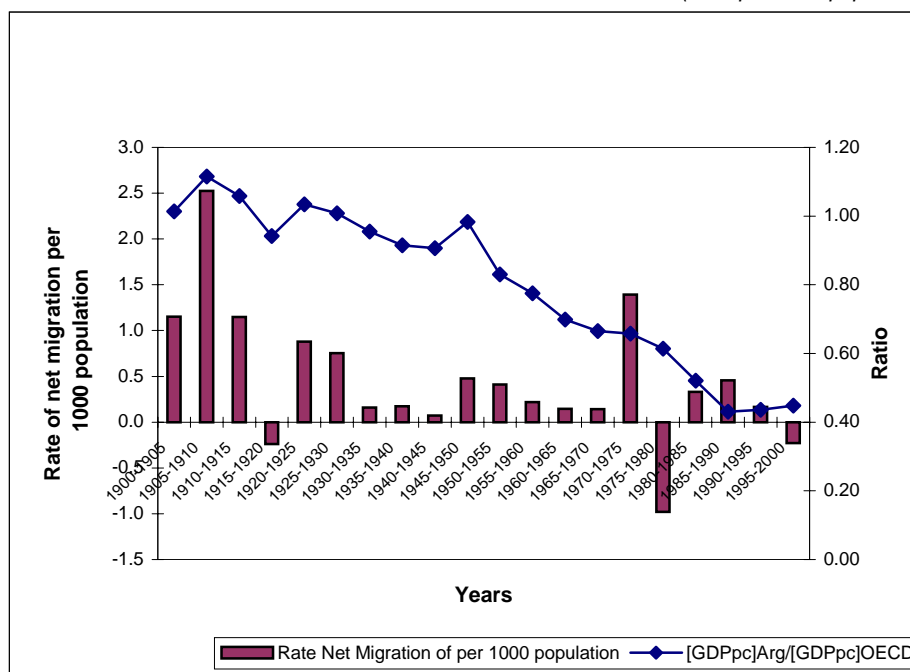
Source: Maddison (OECD), International Monetary Fund, Argentine Government's National Direction of Migration, 1970 Census Argentina and CELADE.

Figure 5
RATIO OF GDP PER CAPITA OF ARGENTINA OVER GDP PER CAPITA OF SPAIN AND NET MIGRATION
(Rate per 1000 population)



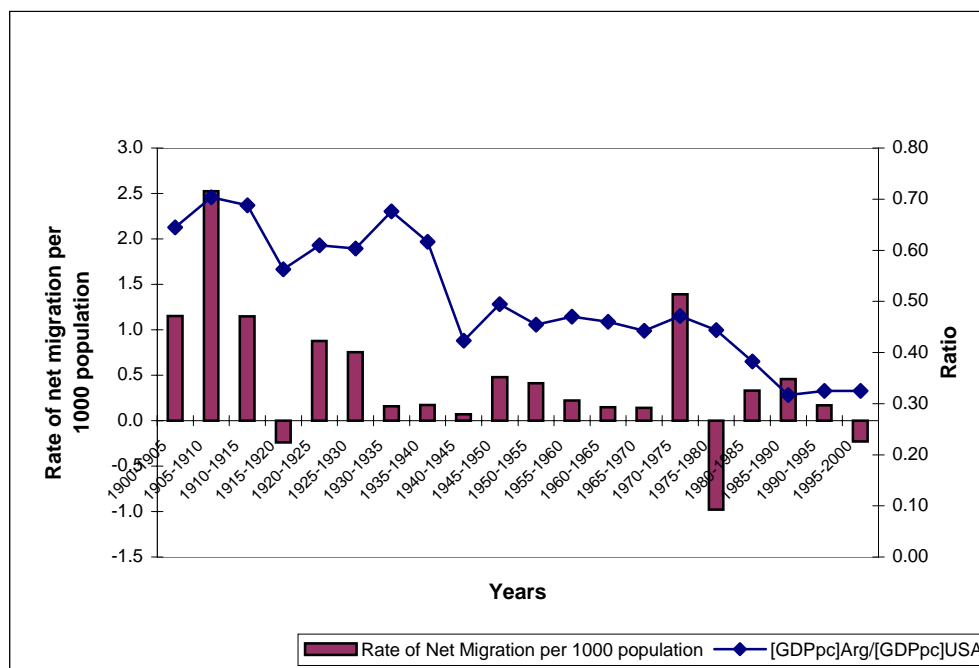
Source: Maddison (OECD),International Monetary Fund.Argentine Government's National Direction of Migration,1970 Census Argentina and CELADE.

Figure 6
RATIO OF GDP PER CAPITA OF ARGENTINA OVER GDP PER CAPITA OF OECD AND NET MIGRATION
(Rate per 1000 population)



Source: Maddison (OECD),International Monetary Fund.Argentine Government's National Direction of Migration ,1970 Census Argentina and CELADE.

Figure 7
RATIO OF GDP PER CAPITA OF ARGENTINA OVER GDP PER CAPITA OF USA AND NET MIGRATION
 (Rate per 1000 population)



Source: Maddison (OECD), International Monetary Fund, Argentine Government's National Direction of Migration, 1970 Census Argentina and CELADE.

Table R1
ARGENTINA. DEPENDENT VARIABLE: RATE OF NET MIGRATION 1900-1929
 (per thousand population)

	[1]	[2]	[3]
Constant	3.89 [2.46]	-14.86 [-3.96]	-16.81 [-2.97]
Lagged			
Net Migration (-1)	0.63 [6.20]	0.20 [1.74]	0.20 [1.43]
Log Argentina's GDP per capita over Europe's GDP per capita [a, i]		79.96 [5.08]	86.68 [4.02]
Log Cyclical Output Index in Argentina [b]			-11.16 [-0.46]
R-Squared	0.40	0.76	0.76
h of (D-W)	0.62	1.10	1.71
Number of Observations	30	30	30

Rate of net migration = Immigration minus emigration per one-thousand population.
 Method of estimation: OLS
 Values under parenthesis correspond to t-student
 [a] and [b] see Box 1 for definitions of these variables.

Table R2

ARGENTINA. DEPENDENT VARIABLE: RATE OF NET MIGRATION 1929-1960
(per thousand population)

	[1]	[2]	[3]	[4]
Constant	0.55 [1.33]	0.07 [0.16]	0.64 [1.83]	0.90 [2.43]
Lagged Net Migration (-1)	0.74 [6.91]	0.73 [7.50]	0.65 [8.31]	0.63 [8.23]
Log Argentina's GDP per capita over Europe's GDP per capita [a,ii]		5.58 [2.69]	2.74 [1.59]	2.97 [1.77]
Log Cyclical Output Index in Argentina [b]			22.86 [4.51]	21.32 [4.27]
Index of Political Regime [c]				-0.75 [-1.70]
R-Squared	0.61	0.69	0.82	0.83
h of (D-W)	2.91	2.48	1.32	1.18
Number of Observations	32	32	32	32

Rate of net migration = Immigration minus emigration per one-thousand population.
Method of estimation: OLS
Values under parenthesis correspond to t-student
[a], [b] and [c] see Box 1 for definitions these variables.

Table R3
ARGENTINA. DEPENDENT VARIABLE: RATE OF NET MIGRATION 1960-1999
(per thousand population)

	[1]	[2]	[3]	[4]	[5]	[6]
Constant	-20.51 [-3.20]	-21.15 [-3.44]	-25.31 [-3.50]	-40.52 [-4.98]	-58.85 [-1.50]	-56.08 [-1.36]
Log Argentina's GDP per capita over GDP per capita neighbor countries of Argentina [a]	9.19 [3.13]	9.60 [3.41]	11.51 [3.51]	18.24 [5.01]	25.24 [1.67]	24.07 [1.52]
Log Cyclical Output Index in Argentina [b]		27.46 [1.81]	27.51 [1.85]	34.12 [2.36]	41.68 [1.92]	41.27 [1.85]
Lagged Net Migration (-1)			-0.27 [-1.38]	-0.34 [-1.83]	-0.34 [-1.80]	-0.34 [-1.76]
Lagged Net Migration (-2)				-0.54 [-2.79]	-0.49 [-2.23]	0.50 [-2.20]
Log Argentina's GDP per capita over Europe's GDP per capita [c]					-6.49 [-0.47]	-5.78 [-0.41]
Index of Political Regime [d]						0.60 [0.38]
R-Squared	0.29	0.37	0.43	0.64	0.64	0.64
(D-W)	2.51	2.71	1.57 [e]	(-1) [f]	(-0.87) [f]	0.40 [f]
Number of Observations	32	32	30	28	28	28

Rate of net migration = Immigration minus emigration per one-thousand population.

Method of estimation: OLS

Values under parenthesis correspond to t-student

[a], [b], [c] and [d] see Box 1 for definitions of these variables.

[e] h of Durbin - Watson

[f] t-student of lagged resid(-1) (resid ecuacion with respect to your original ecuacion + resid(-1))

Table R4

ARGENTINA. DEPENDENT VARIABLE: RATE OF NET MIGRATION 1900-1999
(per thousand population) (3-years average)

	[1]	[2]	[3]	[4]
Constant	3.76 [3.30]	5.55 [7.33]	6.41 [8.11]	6.27 [5.52]
Log Argentina's GDP per capita over Europe's GDP per capita [a]	9.53 [3.20]	10.46 [5.63]	10.67 [6.18]	10.36 [4.68]
Log Cyclical Output Index in Argentina [b]		55.43 [6.81]	54.24 [7.18]	53.48 [5.67]
Index of Political Regime [c]			-3.55 [-2.37]	-3.39 [-2.00]
Lagged Net Migration (-1)				0.02 [0.18]
R-Squared	0.26	0.72	0.77	0.76
(D-W)	0.92	1.64	1.99	0.16 [d]
Number of Observations	31	31	31	30

Rate net migration = Immigration minus emigration per one-thousand population.

Method of estimation: OLS

Values under parenthesis correspond to t-student

[a], [b] and [c] see Box 1 for definitions these variables.

[d] h of Durbin - Watson

Box 1**CONSTRUCTION OF VARIABLES****Rate of Net Migration**

Immigration minus emigration per one-thousand population.

Argentina's GDP per capita

GDP of Argentina in million international 1990 Geary-Khamis dollars / Population of Argentina in thousands at mid year

Europe's GDP per capita

GDP per capita is measured in millions of international 1990 Geary-Khamis dollars / Population in thousands at mid year.

- i) Europe's GDP per capita (1900-1929, 1900-1999) = $1/3 [1/6 (\text{GDP per capita of Austria} + \text{GDP per capita of Belgium} + \text{GDP per capita of France} + \text{GDP per capita of Germany} + \text{GDP per capita of Switzerland} + \text{GDP per capita of UK}) + 1/3 \text{ GDP per capita of Spain} + 1/3 \text{ GDP per capita of Italy}]$.

Change in weights reflect decline in importance of Italy and Spain as source of immigration to Argentina.

- ii) Europe's GDP per capita (1929-1960, 1960-1999) = $1/8 [\text{GDP per capita of Austria} + \text{GDP per capita of Belgium} + \text{GDP per capita of France} + \text{GDP per capita of Germany} + \text{GDP per capita of Switzerland} + \text{GDP per capita of UK} + \text{GDP per capita of Spain} + \text{GDP per capita of Italy}]$.

GDP per capita neighborh countries of Argentina

GDP per capita is measured in million 1995 dollars / Population in thousands at mid year.

GDP per capita (1950-2000) of neighborh countries of Argentina = $1/3 [\text{GDP per capita of Bolivia} + \text{GDP per capita of Chile} + \text{GDP per capita of Paraguay}]$.

Cyclical Output Index

Ratio of GDP of Argentina in million international 1990 Geary-Khamis dollars divided by GDP trend of Argentina

in million international 1990 Geary-Khamis Dollars.

GDP trend of Argentina was constructed using the Hodrick - Prescott Filter.

Index of Political Regime

Dummy variable with 1 = Authoritarian and 0=democracy



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