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Historical Factors of Long-Term Economic Growth and Declination in Argentina: An analysis of the 20th Century

Factores del Crecimiento de Largo Plazo y Declinación en Argentina: Un análisis del Siglo XX.

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Abstract

This paper explores the historical long-term determinants of economic growth in Argentina along the XX century. The evidence indicates that at the beginning economic openness plays a key role to explain the successful performance achieved until the great crisis of 1930. From there on, and until the middle of the ´70s, Argentina maintained a similar growth of the previous period, which was driven by the domestic demand via investment. Nonetheless, in the last quarter of the past century economic growth slowed drastically, which was mainly associated with economic instability, approximated by inflation and the per capita growth rate output volatility. The intuition is that once the country lost foreign markets for its exports, could temporarily sustain growth thanks to domestic demand, but once this strategy petered out the economy was signed by a long period of turbulence and stagnation, specifically since 1975 onwards. Thus, economic policy recommendations are to develop new led export-oriented sectors, so that alleviate the external restriction, as to avoid procyclical policies in order to reduce the economic instability.

Keywords: Long term growth, Economic instability, Argentina, 20th Century.

JEL Code: O14, N16.

RESUMEN

Este trabajo explora los determinantes históricos del crecimiento económico de largo plazo en Argentina durante el siglo pasado. La evidencia indica que a principios de siglo la apertura económica jugó un rol clave para explicar el exitoso desempeño alcanzado hasta la gran crisis de 1930. De ahí en más, y hasta mediados de los ´70s, la economía mantuvo un crecimiento similar al del periodo previo, el cual estuvo impulsado por la demanda doméstica vía la inversión. Sin embargo, en el último cuarto del siglo pasado el crecimiento económico se redujo drásticamente, lo cual estuvo principalmente asociado con la inestabilidad económica, aproximada por la inflación y la volatilidad del crecimiento del producto per cápita. La intuición es que una vez que el país perdió mercados para sus exportaciones pudo mantener temporariamente el crecimiento gracias a la demanda interna, pero una vez que esta estrategia se agotó la economía entró en un largo periodo de turbulencia y estancamiento, específicamente desde 1975 en adelante. Por tanto, las recomendaciones de política son desarrollar nuevos sectores productivos orientados a la exportación, de manera de mitigar la restricción externa, así como evitar políticas procíclicas a fin de reducir la inestabilidad económica.

Palabras clave: Crecimiento de largo plazo, Inestabilidad económica, Siglo XX.

Códigos JEL: O14, N16.

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I. INTRODUCTION

There are multiple factors behind the long run economic growth, as prolonged stagnation that can constitute in cases of failures in the process of economic developing. Moreover, such factors may be differs among countries with different level of development and openness, as it will be detailed

in the next section. In the case of Latin America, Astorga (2010) presents evidence of a negative conditional correlation between trade openness and growth in the long run for the region, but this has a positive impact via investment. In this sense, the author finds that investment in physical and human capital favors long run economic growth, while macroeconomic instability is particularly harmful. More generally, the empirical literature has identified a substantial number of determinants. Otani and Villanueva (1990), in a sample of 55 developing countries grouped by income levels, show that savings rate, export performance, expenditures in human capital, population growth and the real interest rate on external debt are the key factors to explain economic growth.

In the particular case of Argentina, this is a country whose economic history in the past century can be divided in three main periods. As it will be explained below, according to Ferrer (2004) and Rappoport (2007), these span from 1900 to 1930, from there to 1975, and from 1975 to 2001, respectively. In particular, until the great crisis Argentina enjoyed of a very favorable international environment for its agricultural exports. From then on the country has faced serious difficulties for the expansion of foreign markets, which is known as the external restriction. This limitation signed the economic history from the crisis of 1930 onwards, associated with a low degree of economic openness, as a clear limit for a sustained growth in an economy with a small domestic market. In this frame, since the 30´s, and along the second period, Argentina adopted the Industrialization Substitutive of Imports (ISI) Strategy. There Argentina maintained a similar growth of the previous period, which was driven by the domestic demand via investment. Nonetheless, once this strategy petered out the economy was signed by a long period of turbulence and stagnation, specifically since 1975 onwards. After that, during the last period the country entered in a stage of long run stagnation, associated with high economic instability, given by high levels of inflation and growth rate volatility. These factors could have been behind its poor and unstable long run economic trend, but there is not a clear consensus yet on which were more relevant. In this context, the motivation of this work is to understand the causes behind the long run transition from an initial prosperity in the early XX century to a later long run declination period of a reach country in natural resources like Argentina. The contribution of this study is to identify what internal and external factors are behind the long-term declination of the Argentinian economy, into each one of the three periods

that signed its evolution during the past century. In this sense, the country evolved since a successful growth export-led model until the great crisis of 1930, followed by a closed strategy associated with a defensive strategy based in the protection of the local industry, and a later period of high instability and stagnation since the middle of the ´70s. As each period is clearly different to the others and presents idiosyncratic aspects, the idea is find the main explanatory factors of the economic performance for each period. This allows establish with greater precision the causes of the initial progress and later declination, as to arrive to policy recommendations in order to remove the limitations to achieve a sustained long-term economic growth. In this framework, the goal of this paper is to find out the main internal and external determinants within each of the three periods that have signed the economic history of Argentina during the past century. In base to the widely consensual factors of economic growth and stagnation detailed in the literature mentioned in the next section, in this work the main internal factor considered as potentially relevant to explain the economic performance of Argentina is economic instability, approximated by inflation and the growth rate volatility. Meanwhile, the external determinants are the terms of trade and the degree of economic openness. The study is carried out for the XX century, and into this for three periods with different economic features and levels of growth.

The evidence found here is in general in line with previous studies for the region cited before, but with the particularity of distinguishing between internal and external factors of the evolution of the Argentine economy in the long run. In this sense, the main detrimental internal factors in the last period were those related with economic instability, which are inflation and growth rate volatility. In relation with the external factors, similarly to the evidence presented by Dabús and Delbianco (2019) in a study of the role of the exports/GDP ratio in Latin America, openness was favorable in the first period that spans from 1900 until 1930, which indicates the limitation of the external restriction to understand the lower growth of Argentina after the great crisis.

The next section presents a survey of the literature on economic growth determinants for different countries and regions. Section III explains the methodology applied in the empirical work, and the econometric results. Section 4 asses the empirical evidence, and finally the conclusions are presented in section 5.

II. Literature Review

There is a vast literature that research the main determinants of successful and failures in the process of economic developing. Ojo and Oshikoya (1995), in a study for the African economies during the 1970-1991 period, find that investment, external debt, population growth, human capital, inflation and exchange rates are the main determinants of the long run growth in this region. Sala-i-Martin et al. (2004) examines the robustness of the variables and find that specially the relative price of investment, primary school enrollment and the initial level of real GDP per capita are significant to explain the long-term economic growth. Differently, in a cross-country analysis Minoiu and Reddy (2010) state that this is mainly promoted by developmental aid.

More recently, Kalyuzhnova and Patterson (2016) find that oil exports promotes sustained the long run economic growth in Kazakhstan, which is an expected result in a country whose production depends substantially of this resource. For a case of Oman, i.e. an economy also intensive in oil production, Kharusi and Ada (2018) show that into the 1990-2015 period external debt reduces economic growth, while gross fixed capital has a positive influence. Differently, for an economy that also bases its activity mainly in primary production, Mbulava (2017) shows that in the case of Botswana long term economic growth is explained by two infrastructure components, electricity distribution and in special maintenance of roads.

With regards to economic openness, even though the literature in general states that this enhances growth, it is not conclusive. On one hand, evidence supports the idea that openness boosts economic growth. In this sense, for a wide sample of countries Oskooee and Niroomand (1999) find a positive long-run "growth-openness" relationship. Similarly, for a sample of 158 countries over the period 1970-2009 Gries and Redlin (2012) show a positive significant causality between them. In turn, Zeren and Ari (2013) present evidence of a bi-directional causality between openness and growth for the G7 countries in the 1970-2011 period. Sakyi et al. (2015) show a positive bi-directional relationship between trade openness and income level in the long run for a sample of developing countries in the 1970-2009 period. Furthermore, the evidence presented in Idris et al. (2016) indicates positive causality in a wide sample of 87 developed and developing countries during

the 1977-2011 period, while Bakari and Krit (2017) state show that exports (imports) has a positive (negative) effect on growth in Mauritania during the 1960-2015 period. Vogiatzoglou and Nguyen (2016), in a study of the five founding member countries of the Association of Southeast Asian Nations (ASEAN) over the 1980-2014 period, find that export-led growth is the main economic growth factor in most countries. Finally, Dao (2014) shows a positive impact of trade liberalization on economic growth for a sample of 71 developing and developed countries during the 1980-2009 period, while Tahir and Azid (2015) find that the trade openness-economic growth relationship is positive and significant in developing countries. On the contrary, Hye and Lau (2015) for India show that trade openness affects negatively economic growth in the long run. Finally, in a panel data estimation Ulaşan (2015) shows that the openness is not related with growth, while Menyah et al. (2014) in a panel data analysis for 21 African countries state that attempts of trade liberalization do not seem to have made a significant impact on growth.

For the Euro zone the literature present diverse evidence. In this vein, for the 1961-2013 period Pradhan et al. (2016) states that financial development and enhanced innovative capacity are favorable for the long-term economic growth. Also, for this area, Simionescu et al. (2017) find that heterogeneous factors are behind long run economic growth in five countries of the East Europe between 2003 and 2016: Czech Republic, Slovak Republic, Hungary, Poland and Romania 2003-2016. First, FDI increases economic growth in all countries, except the Slovak Republic. Secondly, only in the Czech Republic the expenditure on education has a positive effect, while the expenditure on R&D are growth promoting effects in Romania, Hungary and the Czech Republic. Similarly, in a recent very long run study Tamura et al. (2019) find that very different factors explain economic growth. First, inputs variations explain 46% of the long run living standards variation. Capital intensity give account of 25%, while intergenerational human capital accumulation near 50%.

In turn, as it is reported in Dabús and Delbianco (2019), empirical evidence for Latin America is also eclectic. In this sense, De Gregorio and Jong-Wha (1999) show that inward looking development strategy is one of the responsible of the low growth in the region. Moreover, Taylor (1998) finds that this strategy provoked distortions that had negative effects

on the growth process. On the contrary, Awokuse (2008) re-examines the trade-economic growth relationship for Argentina, Colombia, and Peru, and states that the import-led growth is particularly favorable for growth. Most generally, there is an open debate about the factors behind the episodes of fastest growth and the long run stagnation of the region. For example, in a study of the economic growth determinants for Latin America during the 1950-1985 period De Gregorio (1992) finds that factor productivity growth accounts for a large proportion of growth in the fastest growing countries, while macroeconomic stability and physical and human capital investment are also key factors of economic growth. In turn, in a study of the twelve more important economies of the region during the 1960-2002 period Solimano and Soto (2003) show a notorious variability in growth patterns, across countries and over time. Nonetheless, the economic performance was clearly poor; the per capita GDP growth rate was of only 1.6 percent. The authors argue that the declination in growth is to some extent the result of changes in capital accumulation and lower levels of public investment in seven of the twelve countries under study[1]. Similarly, In the same sense, for a long-term empirical study of the South American countries during the 1960-2008 period Vedia-Jerez and Chasco (2016) find that human and physical capital accumulation, as sectorial exports and institutions policy are the main drivers of economic growth in the region, while macroeconomic disturbances have a significant detrimental effect.

Moreover, economic instability constitutes another benchmark of investigation about long term economic growth determinants. In fact, there is abundant evidence showing a negative economic instability-growth relationship. Bermúdez et al. (2015) find strong support about the negative influence of the variability of per capita output growth rate on economic growth during the 1960-2011 period in Latin America. Meanwhile, in the pioneer contribution of Ramey and Ramey (1995) the authors present evidence of a negative effect of the volatility of economic fluctuations on economic growth. Later, Hnatkovska and Loayza (2005), in cross country study, found a negative effect of the per capita GDP growth rate volatility on long run economic growth[2]. This is particularly clear in developing

1. Differently, Soto and Zurita (2011) show that the poor economic performance of Latin America was not due to low factor accumulation, but to low productivity levels and low productivity gains.
2. Additional contributions that analyze the relationship between macroeconomic instability (approximated by the variability of the GDP growth rate) and economic growth can be found in Kose et al. (2006) and Tochkov and Tochkov (2009). Meanwhile, there is a vast literature that

countries, and in special in economies that are unable to implement counter-cyclical fiscal policies, because the existence of greater social spending faced by the public sector, as a weaker tax base due to the smaller size of the economy of developing countries. In this sense, in concordance with Latin America, in Argentina the long run economic growth has been meager and unstable. This performance can be explained by several causes, like the recurrent economic crisis that have accompanied the long run output trend. In this sense, Buera et al. (2011) find that the long-term growth of per capita GDP in Argentina was only nearly 1%. They state that the departures of this trend were due to fiscal mismanagement, and that the reasons of the Argentine chronic stagnation are "the recurrence inability of government administrations to pay for its economics obligations" (p. 135). Meanwhile, the periods of rapid convergence to the long run trend were associated to macro fiscal discipline. Thus, this line of argument suggests that underlying to the macroeconomic instability is a procyclical fiscal policy, which increases the amplitude of business cycles and then reduces investment and growth in the long run. In this sense, a widely used measure of instability is the volatility of government expenditure. For example, Afonso and Furceri (2010) and Fatás and Mihov (2013) find that the volatility of fiscal policy diminishes long-term growth[3]. In particular, for the case of Argentina Gerchunoff and Rapetti (2016) suggest that a distributive conflict underlying to the stop-go cycle can provoke recurrent crises and then can be a crucial obstacle for the sustained growth. In turn, they suggest that such a conflict has been influential until the present.

Thus, in general empirical evidence indicates that macroeconomic instability plays a crucial role to explain the poor economic growth in developing countries. Besides, such instability is not only related to the business cycles but also to inflation. In particular, Dabús et al. (2012) state that this is a useful indicator of the general price level instability. In the same vein, previously Dabús (2000) presents evidence for Argentina reporting that high

studies the relation between inflation, like an indicator of instability, and economic growth. In this branch we have the works of Bruno and Easterly (1998), Bittencourt (2012), Dabús et al. (2012) and Bittencourt et al. (2015), between others, who find a negative relationship between both variables. Similarly, Alagidede (2017) presents evidence indicating that excessive exchange rate volatility is detrimental for economic growth in Ghana.

3. Instead, more than the volatility of fiscal policies Hussain et al. (2017) states that the relevant kind of public development expenditures (e.g. expenditure in infrastructure, energy and similar) are growth-oriented, while current public expenditures reduce economic growth.

inflation is more volatile and increases both aggregate uncertainty and relative price variability, which perturbs the normal functioning of the price system as allocator of resources. Moreover, evidence presented in Dabús and Viego (2003), for a sample of 7 Latin American countries with experiences of high inflation, indicates that effectively both higher inflation and relative price variability reduce and economic growth. In relation with the volatility of the output growth rate, this is a measure of instability because a more volatile growth it widens the range of possible values of futures rates of growth. This increases the uncertainty about the potential profitability of investment projects in an economy with more unstable growth, i.e. the volatility of the output growth rate. In fact, theoretical analysis developed, among others, in Pindyck (1991) and Aizenman and Marion (1993), concludes that in presence of irreversibilities in investment higher output growth volatility can lead to lower investment and economic growth. In this sense, Pindyck states that irreversibility is a key factor to understand the aggregate investment behavior, because this is especially sensitive to various forms of risk, such as uncertainty over the future product prices and operating costs that determine cash flows, uncertainty over future interest rates, and uncertainty over the cost and timing of the investment itself. Meanwhile, Aizenman and Marion developed an endogenous growth model in which domestic investment is characterized by irreversibilities and policy fluctuates between a high- and a low-tax regime. In this frame, the authors present a study of a cross-section regressions analysis for 46 developing countries over the 1970-85 period, and support the hypothesis that policy uncertainty is negatively correlated with both investment and growth.

In addition, there is vast literature that finds a negative impact of inflation on economic growth (De Gregorio, 1992; Bruno and Easterly, 1998). More recently Kremer et al. (2013) state that an increase in inflation and inflation variability, via creating macroeconomic uncertainty and distorting information, would adversely affect economic growth at least through three mechanisms. First, uncertainty affects negatively the efficiency of price system, reducing both the level and the rate of productivity. Secondly, this also reduces the rate of private investment. Finally, it promotes capital flight, which lowers capital accumulation and then economic growth.

In turn, there is a body of works showing that inflation is particularly harmful for growth beyond a certain inflationary threshold. This is the

case of Gylfason and Herbertsson (2001), who find an inflationary threshold around 10%-20%. In the same sense, Vaona and Schiavo (2007), for a wide sample of countries, show a threshold of annual inflation level around 12%; only above this value the inflation has negative effects on economic growth. Also, Baglan and Yoldas (2014), by estimating a flexible semiparametric panel data model for a set of developing countries, find that inflation is associated with significantly lower growth only for an annual inflation rate higher than 12%. Previously, Kremer et al. (2013), in an empirical analysis that is based on a large panel-dataset of 124 countries, presents evidence for non-industrialized countries. This shows that inflation rates exceeding 17% are associated with lower economic growth. Meanwhile, Bermúdez et al. (2015) find that Latin American economies exhibit a negative effect of inflation on growth when the annual inflation rate surpasses 19%. Interestingly, the threshold seems to be lower in developed countries. In fact, Khan and Senhadji (2001) state that the threshold of inflation is 1% for industrialized countries, while for the case of developing economies this value is 11%. This suggests that more inflationary countries have a higher inflationary threshold beyond which inflation reduces economic growth. In turn, more recently Balcilar et al. (2014) present long run evidence for U.S. during the 1801-2013 period, which indicates that the inflation- growth relationship is hump shaped; in particular, an inflation above 2% affects negatively economic growth.

Similarly, the literature indicates that political instability is also prejudicial for economic growth. In this line, in a pioneer paper that investigates this issue in a sample of 113 countries for the 1950-1982 period, Alesina et al. (1996) find that political instability, defined by the propensity of a government to collapse, reduces economic growth. More recently, Aisen and Veiga (2013), in a study for 169 countries for the 1960-2004 period, show that such instability lowers productivity and then the per capita GDP growth rates. Similarly, Musa and Al-Jaberi (2014), in a study for Iraq during the 1980-2014 period, present evidence on a negative effect of political and social instability on economic growth and development.

III. Data and Methodology

In the empirical study a regression approach is used, in order to see the association between the economic growth determinants of the Argentinian case.

Considering the determinants found in the literature the model selected here is defined in equation (1):

$$G = f\,(LG, I, INF, OP, ER, HK, GMA) \quad (1)$$

Where:

G: Growth of the real per capita GDP.

LG: first lag of economic growth.

I : Investment (as % of GDP)

INF: Annual Inflation Rate

OP: Openness (X+M/GDP)

ER: Real Exchange Rate

HK: 5- year moving average mean of the total school enrollment (as a ratio of total population). The five-year moving average in human capital is motivated by the fact that there are gaps in the yearly series of school enrollment.

GMA: 5- year moving average mean of the economic growth, which measures the volatility of the rate of growth. The moving average in the context of a regression captures the upward or downward movements of the last years, so a strong variation from one period to another is capturing an increase in volatility, while in times of low volatility a more smooth and stable behavior of the moving average is expected.

The data was obtained from Orlando Ferreres (2005). Following the criteria presented in Ferrer (2004) and Rapopport (2007), the total period is divided in three subperiods: 1900-1930, 1931-1975 and 1976-2001.

The variables result stationary after perform the Dickey-Fuller (1979) test, with the exception of openness. The results of the stationarity tests are shown in the Table 2. In light of this evidence, the work is performed with the first difference of the openness variable.

The estimations of the model with ordinary least squares performed in the mentioned above are in the Tables 3 and 4. In both cases these add the post estimation test of heteroskedasticity of Breusch and Pagan (1979), the Breusch-Godfrey autocorrelation test (Davidson, 1993) and the Akaike information criteria (AIC). In turn, in order to control for the influence of the hyperinflation that Argentina suffers at the end of the '80s, in the last period the estimation includes a dummy variable. In Table 4 the model is restricted according to the results obtained in the full model, removing both the lagged growth and human capital. A F-test of joint significance was applied for these variables, and the null hypothesis of non-significance was not rejected. Besides, the AIC points that the restricted model fits better the data.

IV. EMPIRICAL EVIDENCE

As it was aforementioned, following the pioneer studies of the Argentinian economic history of Ferrer (2004) and Rapoport (2007) the total period under study is divided in three subperiods. The first spans from 1900 to 1930[4], the second period goes from 1931 to 1974, and the last from 1975 to 2000. During the first period Argentina developed an growth export led agricultural economy, whose production was mainly to the central countries, and particularly to UK. As after the great crisis the advanced countries closed their markets the region in general, and Argentina in particular, adopted the ISI strategy. Finally, the depletion of the ISI was followed for a period of high economic instability.

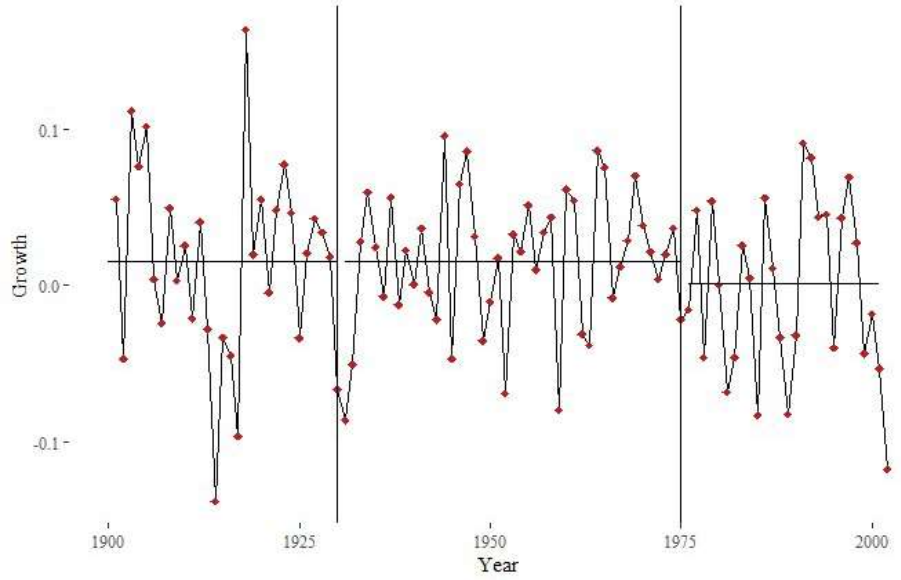
For a first approximation of this performance, Figures 1 to 5 includes the evolution and the average values into each period of the main variables under study, i.e. the growth rate, the level of openness, the volatility, approximated by the standard deviation, and moving average of the economic growth rate, and inflation. At first glance, Argentina suffered a substantial decrease of the openness degree in the last two periods under study. This was associated with a more adverse international economic environment, which is explained by two key episodes. First, after the great crisis USA displaced England as emerged as the main world economy. Unfortunately for Argentina, USA was historically a competitor of its agricultural exports, while England was its main customer. In second place, after the great crisis of 1930 the central countries applied protectionist policies. Both events

4. The original period starts in 1880, but the explanatory variables are disposable since 1900.

reduced drastically the foreign markets for the argentine exports. This prompted Argentina to close its market to imports, which became known as ISI (Industrialization Substitutive of Imports) policy. In this context, the country reached a satisfactory level of growth until the middle of the 70´s, which seems to indicate that policy was transitorily successful in mitigation the loss of foreign markets. In this sense, the estimation results presented below show that during this period investment was growth promoting, so that domestic demand via investment seems that transitorily could substitute the lost of foreign markets. On the contrary, once such strategy was exhausted the economy experienced a more volatile evolution of the per capita GDP, associated with stagnation and high inflation, in particular along the third period. In this sense, Figures 4 and 5 show a similar evolution of both the moving average or as a moving standard deviation. In fact, until the 70´s Argentina reached a satisfactory annual per capita GDP growth rate. Nonetheless, in the last period this experienced an abrupt drop, jointly with a substantial increasing of inflation, in comparison with the previous periods. In fact, since the middle of the 70´s the economy entered in a long run path of high instability, given by big fluctuations in the GDP evolution, and a higher and more volatile inflation rate. Moreover, at the end of the 80´s Argentina had two episodes of hyperinflations. Hence, the historical evolution of the main economic variables seems to indicate that since the great crisis Argentina had to face an external restriction, given by the lost of international markets, that limited its possibilities to achieve a sustained growth. This limitation induced to a defensive strategy that works successfully until the middle of the ´70s, which could explain the long run stagnation the Argentina experienced in the last decades of the past century.

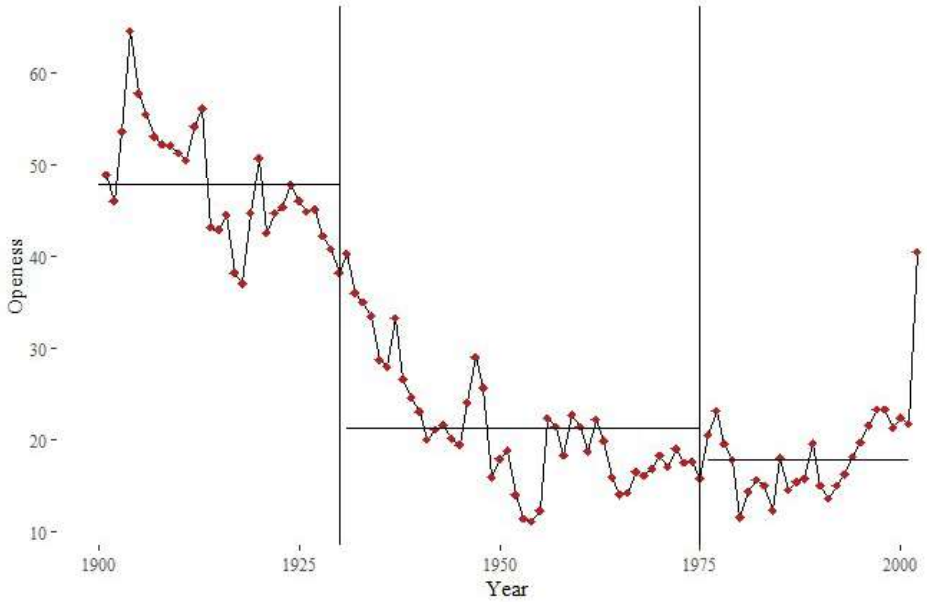
As it was mentioned above, the idea is that a small domestic market cannot offer the opportunities for the economic expansion that the country enjoyed until the great crisis, so that such limit must be a clear restriction for economic growth. In addition, the oil crisis facilitated the conditions for the stagflation that signed those years. This was the beginning of a long period of high inflation, growth rate volatility and poor performance. In the Apendix, Table 1 presents the average values, included in the figures mentioned above, of openness level, economic growth and inflation for the three periods and the total period. These shows a clear break in the average values of the three variables. First, the level of openness fell dramatically after the great crisis. Secondly, the average inflation increased markedly in

Figure 1: Economic Growth



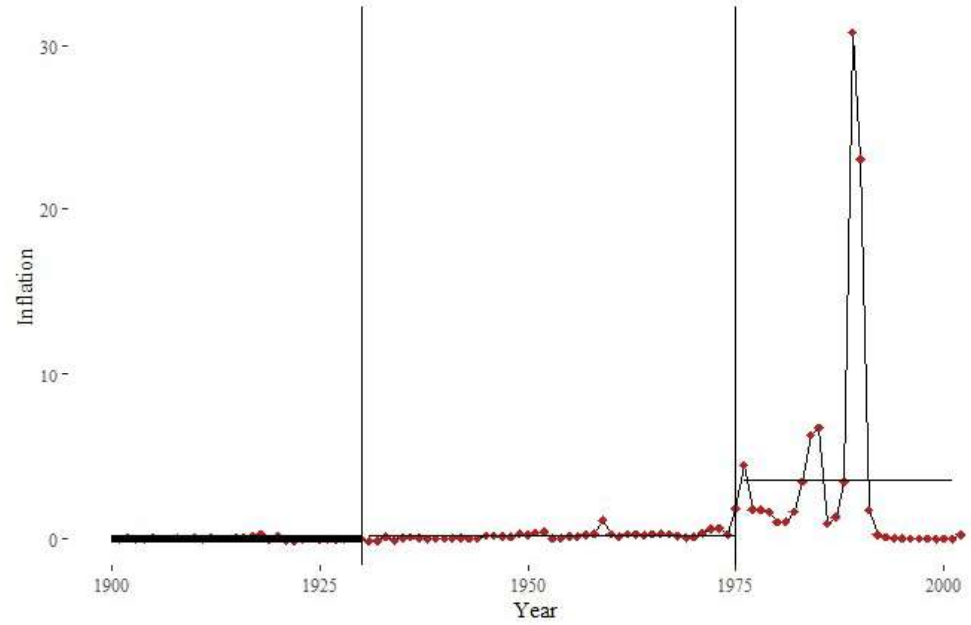
Note: vertical lines divide the three periods, while horizontal ones indicate the average for the period (same for the following figures). Source: Own elaboration with data from Ferreres (2005)

Figure 2: Openness as % of the GDP.



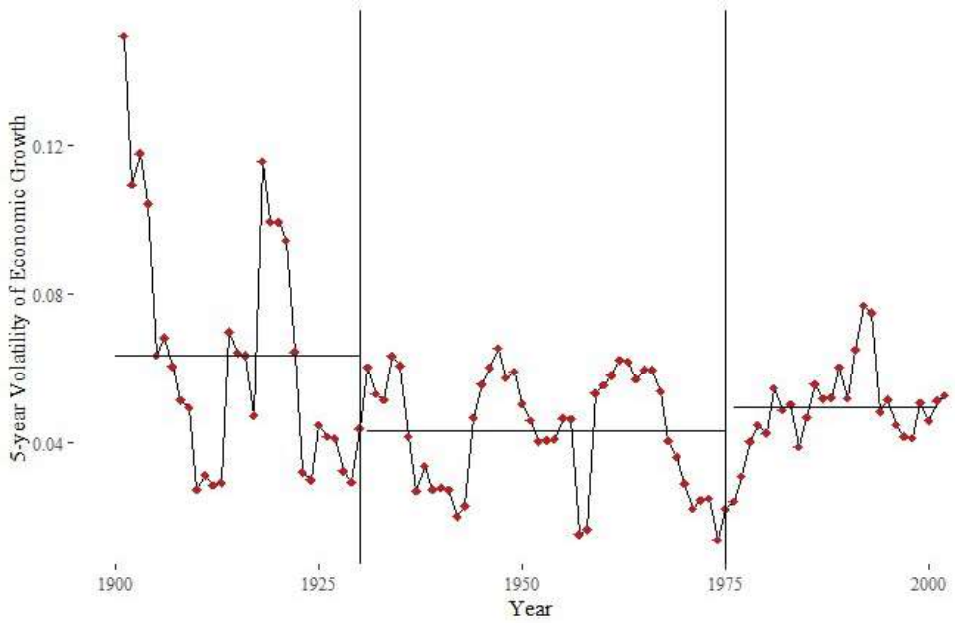
Source: Own elaboration with data from Ferreres (2005)

Figure 3: Inflation rate



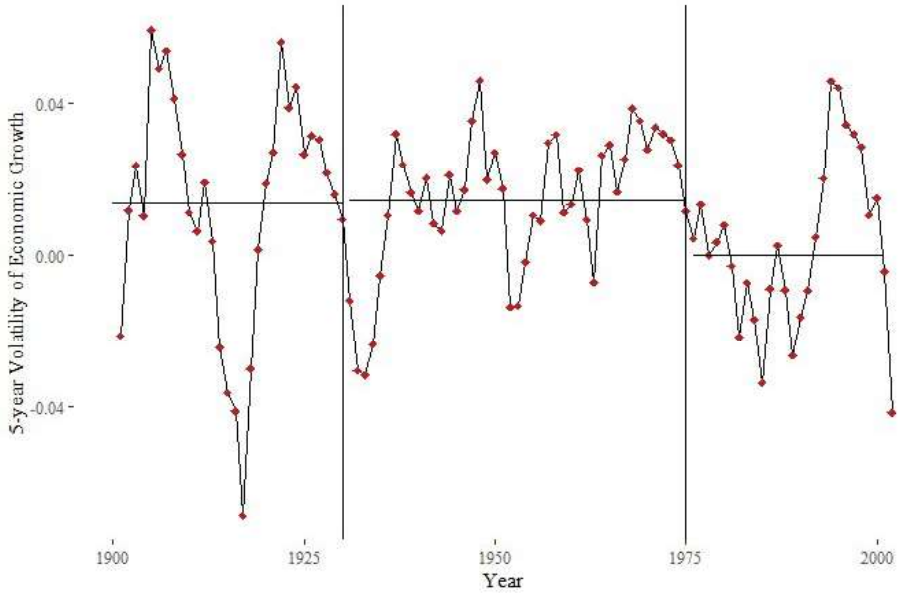
Source: Own elaboration with data from Ferreres (2005)

Figure 4: 5-year period standard deviation of economic growth



Source: Own elaboration with data from Ferreres (2005)

Figure 5: 5-year period moving average of economic growth



Source: Own elaboration with data from Ferreres (2005)

the second period, and in particular since 1975, jointly with the noticeable reduction of the average economic growth that the economy suffered from there on. Finally, despite that at the beginning of the past century the mean value of such volatility was higher than in the later periods, this was mainly associated with three punctual episodes, the crisis inherited from the end of XIX century, and of the two negative external shocks given by the First World War and the great crisis. Nonetheless, as it will be shown below in the regressions result, such volatility was not enough to cancel out the positive effect on growth of the economic openness.

Table 2 shows the Dickey-Fuller tests of stationarity for the variables under study. Except the openness, the rest of the variables turn out to be integrated of order zero (I (0)). In turn, openness expressed in first differences is stationary. Hence, in order to avoid unit roots the first differences of openness is included in the estimation model.

In the Appendix, Tables 3 and 4 present the regressions results. In Table 4 the model is restricted according to the results obtained in the full model, removing both the lagged growth and human capital. A F-test of joint significance was applied for these variables, and the null hypothesis of non-significance was not rejected. Besides, the AIC points that the restricted

model fits better the data. In general, the evidence is compatible with the evolution of the variables. This indicates that in the first period openness plays a key role to explain the successful economic growth. From then on, and until de middle of the ´70s investment was the main growth promoting factor. Besides, since the ´30s economic instability, i.e. inflation and growth rate volatility, were particularly prejudicial for growth explain. In this sense, the poor performance of the last period was associated with the volatility of growth rate. In turn, in the second and third periods, economic instability (measured both as inflation and as standard deviation of growth) has a negative relationship with growth. On the other hand, if the entire period is taken, only the negative effects of volatility remain as significant. In general the results found here are rather intuitive, and are compatible with the evidence previously presented in the literature. Meanwhile, the particularity of this work is that the factors that determine long run periods of successful growth and prolonged stagnation were located within each period of the economic history of Argentina. This allows identify with greater precision the factors behind the stages of successful performance and poor economic growth in the case of Argentina.

In sum, the division of the total period according to the historical and economic context allows determine the main factors that have favored and reduced the economic growth. In this vein, during the second period, which begins after the great crisis of 1930, and spans until the middle of the ´70s, Argentina experienced a great change during the past century. There the economy had to face a hard closeness of foreign markets. This generated a defensive strategy signed by the ISI model. During these two first periods the economy achieved a relatively successful performance, with a sustained growth as a stable trend of its main macroeconomic variables. Unfortunately, in the middle ´70s the ISI sold out as alternative to replace the external restriction provoked by the lack of foreign markets. Unfortunately, this strategy seems not to have been enough to achieve sustained growth. In fact, once such defensive strategy was exhausted began a long period of instability and stagnation. the economy entered a path of high volatility of growth rate and high inflation, as in hyperinflation at the end of the ´80s, which were prejudicial for the economic growth. In fact, this fell from an average rate of 1.5% to values near 0. Therefore, from that evidence the reduction of inflation and output volatility is necessary to improve the economic performance of Argentina. Hence, economic policy recommen-

dations are to avoid growth output volatility by means of counter cyclical policies, as to apply lasting price stabilization policies in order to reduce the chronic argentine high inflation. In addition, it seems essential to alleviate the external restriction, which is in force since the great crisis, through the development of competitive productive sectors that can be inserted satisfactorily in the world market. In this sense, the policies must be oriented to expand a growth export led productive structure.

V. CONCLUSIONS

The Argentinian economy is known as a typical case of economic failure. Nonetheless, a more adequate approach seems to understand the deep causes of the long-term declination, as the factors that can be favorable for the economic performance. This allows carry out policies conducive to achieve to this country once again in a trend of sustained growth. The evidence found here indicate that economic policy should be oriented to alleviate the external restriction, as to reduce the high economic instability, given by high levels of inflation and growth rate variability, that signed the evolution of the country since 1975. Hence, in first place Argentina needs to reorient its productive structure to the production of goods and services for the external demand. This reinsertion in the world market is crucial to avoid the trap of facing the limit of its small domestic market. In turn, jointly with this policy is key to avoid the internal economic instability, as in terms of output volatility and inflation. Both require to carry out measures oriented to mitigate procyclical policies and excess of the aggregated expenditure, as to develop an export led the productive structure, in order to alleviate the external restriction and then achieve a more successful long run economic performance.

Future lines of investigation that rise from these results could be to explore what productive sectors will be able to achieve a significant increasing in exports, beyond the traditional agricultural and agro-industrial sectors. Perhaps new activities that are recently emerging as potentially promising such as tourism, the knowledge economy, products derived from regional economies with high added value and the export of energy-related sectors can achieve such a goal. Finally, to expand the regional integration can generate new export opportunities, as well as the development of new potentially exportable productive activities.

VI. Apendix

Table 1: Descriptive Statistics

Period	Variable	Obs	Mean	Std. Dev.	Min	Max
1900-1930	G	30	0.015	0.063	-0.138	0.163
	I	30	0.208	0.085	0.068	0.381
	Inf	30	0.02	0.081	-0.16	0.26
	Op	30	47.837	6.42	37	64.6
	Tcr	30	2.499	0.438	1.836	3.337
	Hk	30	0.007	0.006	-0.005	0.018
1931-1974	G	45	0.015	0.044	-0.086	0.096
	I	45	0.173	0.038	0.106	0.239
	Inf	45	0.226	0.326	-0.14	1.83
	Op	45	21.26	6.726	11.1	40.3
	Tcr	45	5.494	1.755	3.369	10.281
	Hk	45	0.005	0.003	-0.005	0.013
1975-2001	G	26	0.001	0.052	-0.083	0.091
	I	26	0.19	0.035	0.123	0.264
	Inf	26	3.517	7.237	-0.01	30.8
	Op	26	17.846	3.579	11.5	23.3
	Tcr	26	3.902	2.141	1.682	8.963
	Hk	26	0.005	0.004	0	0.013
Full Period	G	101	0.012	0.052	-0.138	0.163
	I	101	0.188	0.057	0.068	0.381
	Inf	101	1.012	3.918	-0.16	30.8
	Op	101	28.275	14.152	11.1	64.6
	Tcr	101	4.194	2.05	1.682	10.281
	Hk	101	0.005	0.004	-0.005	0.018

Table 2: Dickey-Fuller test results

Variable	DF statistic	p-value
G	-13.683	0
I	-4.131	0.001
INF	-7.259	0
OP	-1.873	0.345
D. OP	-10.909	0
HK	-7.217	0.000
ER	-3.385	0.012
GMA	-4.75	0.000

Table 3: OLS Regressions Results

	(1)	(2)	(3)	(4)	(5)	(6)
	Period 1	Period 2	Period 3	Period 3	Periods 2 and 3	Full Period
VARIABLES	G	G	G	G	G	G
L.G	-0.0846	0.0769	0.0213	0.0522	0.0515	0.123
	(0.209)	(0.154)	(0.230)	(0.245)	(0.127)	(0.106)
I	0.0183	0.546**	0.0884	0.122	0.231	0.170
	(0.252)	(0.211)	(0.351)	(0.367)	(0.160)	(0.128)
INF	0.294	-0.0420*	-0.00236	-0.00599	-0.00394***	-0.00319**
	(0.187)	(0.0235)	(0.0019)	(0.0083)	(0.0013)	(0.0014)
D. OP	0.0067**	0.000660	0.00134	0.00164	-0.000132	0.00149
	(0.0024)	(0.00190)	(0.0042)	(0.0044)	(0.00168)	(0.00126)
ER	0.0695	-0.000894	-0.0108	-0.00785	-0.00285	-0.00108
	(0.0519)	(0.00404)	(0.00729)	(0.0100)	(0.00281)	(0.00275)
Hyper				0.0910		
				(0.203)		
GMA	-0.0148	-0.786*	-1.126	-1.161	-0.547	-0.527*
	(0.848)	(0.460)	(0.838)	(0.861)	(0.365)	(0.280)
HK	3.681	1.102	0.324	0.306	3.257	-0.255
	(3.378)	(4.806)	(6.472)	(6.621)	(3.395)	(1.591)
Constant	-0.197	-0.0592	0.0387	0.0265	-0.0212	-0.0055
	(0.166)	(0.0395)	(0.0824)	(0.0886)	(0.0334)	(0.0255)
Obs.	29	45	26	26	71	100
R-squared	0.371	0.246	0.317	0.325	0.188	0.108
Het. test	0.5622	0.4054	0.4814	0.6461	0.9503	0.5065
AC test	0.5628	0.8000	0.1967	0.2478	0.3849	0.0636
AIC	-75.98	-150.63	-75.13	-73.44	-231.67	-320.98

Standard errors in parentheses

Table 4: OLS Regressions Results (cont.)

	(1)	(2)	(3)	(4)	(5)
	Period 1	Period 2	Period 3	Period 2+3	Full Period
VARIABLES	G	G	G	G	G
I	0.076	0.565***	0.0877	0.255	0.169
	(0.245)	(0.197)	(0.323)	(0.157)	(0.114)
INF	0.218	-0.0421*	-0.00235	-0.0035***	-0.0034**
	(0.172)	(0.0228)	(0.0017)	(0.0012)	(0.0014)
D. OP	0.007***	0.00076	0.00135	-4.24e-05	0.00159
	(0.0023)	(0.0018)	(0.0040)	(0.0016)	(0.0012)
ER	0.0335	-0.00083	-0.0109	-0.00218	-0.0012
	(0.0391)	(0.0039)	(0.0067)	(0.0026)	(0.0026)
GMA	0.00102	-0.738*	-1.139*	-0.631**	-0.435*
	(0.787)	(0.412)	(0.656)	(0.313)	(0.252)
Constant	-0.0863	-0.0574	0.0407	-0.0129	-0.00504
	(0.128)	(0.0376)	(0.0672)	(0.0318)	(0.0253)
Obs.	30	45	26	71	101
R-squared	0.308	0.239	0.317	0.172	0.098
Het. test	0.2912	0.7226	0.4610	0.6171	0.0890
AC test	0.5904	0.7092	0.4421	0.3005	0.0851
AIC	-80.86	-154.22	-79.11	-234.32	-327.29

Standard errors in parentheses

Table 5: Dickey-Fuller test on regression residuals

Table 3	DF statistic	p-value	Table 4	DF statistic	p-value
Model 1	-5.404	0	Model 1	-5.489	0
2	-5.627	0	2	-5.558	0
3	-7.136	0	3	-6.824	0
4	-7.611	0	4	-8.3	0
5	-8.584	0	5	-8.843	0
6	-9.795	0			

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