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**A Tale of Two Monetary Reforms:
Argentinean Convertibility in Historical Perspective**

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Working Paper No: 2007-01

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Abstract

Argentina adopted currency type board arrangements to put an end to monetary instability in the nineteenth and the twentieth centuries under very different historical circumstances and contexts with very different results. The first currency board functioned within an international system that functioned in manner similar to a closed economy. The second currency board experiment the historical conditions. The poor export performance, and the unsustainable trade and current account deficits, resulting from the process of external liberalization, and the process of international financial liberalization eventually led to the collapse of the Convertibility experiment. The role of economic ideas – in particular, the incorrect lessons taken from the first globalization period – in furthering the economic imbalances were central to the failure of the 1991 Convertibility experiment.

Keywords: Globalization, Monetary Reform, Argentina

JEL Classification: F330, N260, O540

Introduction

According to the ‘official story,’ the Argentinean Convertibility Plan of 1991 was implemented as a necessary measure to end the chronic inflationary process begun in 1945 and that reached its climax in 1989. Its proponents also defended it from a broader perspective, as a key element of a set of institutional changes aimed to create a free open market society begun in 1983 with the re-instatement of the state of right and which included later on, the adoption of a foreign policy meant to ‘insert Argentina in the world’.

These set of reforms had a historical precedent in the period running from 1899 to 1930. During part of this period a currency board, the Conversion *Caisse*, operating in a democratic and globalized environment put an end to monetary and price instability, managed to attract foreign investment and was conducive to high rates of growth. In particular during this period the income per capita of Argentina was close to, and sometimes even higher than, some Western European countries. The return to a currency board a hundred years later was prefaced on that experience to produce similar results, embodying an implicit promise of a return to an Argentinean *Belle Époque*.

The Argentine situation can be viewed as an outcome of the globalization and growth paradox. During the first period of globalization (1870-1913) Latin American economies grew fast while in the current one starting in 1973 they slowed down, in particular after the 1982 debt crisis. In fact, from 1870 to 1913 Gross Domestic Product per capita grew at 2.5 percent, while in the second globalization period starting in 1973 until now it has been roughly 1% (Maddison, 2001). A similar solution, a currency board, applied to a similar problem that of monetary instability produced very different outcomes.

The paradox is explained by a set of very specific and historically contingent circumstances which characterized the first globalization period and which could not be reproduced during the second globalization period.

During the first globalization period there was a coincidence of wants and interests between the center of the international system and the developing country periphery. The former were rich in natural resources, had little or no manufacturing industry and possessed underdeveloped financial markets and structures. The latter had sophisticated capital markets for that time and spare industrial capacity.

Within this particular set of circumstances the international division of labor and the free movement of capital allowed an expansion of investment, an incredible export boom in the periphery and at the same time income growth in the center. More to the point the international system operated in a manner resembling a closed system that guaranteed over time the equality of credits and debits.¹ As a result, income flows circulated within the system making possible its growth and expansion.

During this time the 19th Century Argentinean currency board, the Conversion Caisse lived up to its promise delivering currency stability, growth and improvements in welfare. In the early part of the first decade of the twentieth century Argentina supplanted the United States as the main exporter of beef to Great Britain. The clear cut division of labor, in which Argentina exported commodities and imported manufactured goods, particularly if the country, as in the case of Argentina, had luck in what Díaz-Alejandro termed the 'commodity lottery,' allowed for considerable expansion of income per capita. This division of labor suited very well the Argentinean economy that was only incipiently industrialized.

The closure of the Conversion Caisse in 1914 and its final demise in 1930 was not caused by internal factors to the Argentinean economy, but by the collapse of the inter-war Gold Standard, and the Great Depression, with its epicenter in the center, rather than the periphery of the system. The particular nature of the relationships underpinning the first globalization period and which guaranteed that the international system worked in a manner akin to a closed system were forever shattered.

¹ This is the generalized banking principle. See Keynes (1980 pp.44-5). This obviously requires the cooperation and coordination of national central banks. See Eichengreen (1992).

Circumstances in the second globalization period were far more complex. In particular there were no mechanisms for the articulation between the international division of labor and financial flows. In fact finance in many developing countries turned out to be more of a speculative than of a productive nature. Within these circumstances the limits of outward oriented and external liberalization strategies were far more evident independently of the choice of exchange rate regime. The 1991 Convertibility experiment ended due to poor export performance, and the unsustainable current account deficits, resulting from the process of external liberalization, and not, as argued by the International Monetary Fund (IMF), from fiscal laxity.

The role of economic ideas – in particular, the incorrect lessons extracted from the first globalization period and the derivation of mistaken analogies between the nineteenth and the twentieth century– in furthering the economic imbalances that led to the 2001 peso crisis have not been explored in the literature.² This paper tries to fill this important gap and explores the differences between the 1899 and 1991 reforms to shed light into the causes of the 2001 crisis.

The paper comprises five sections. The next two sections describe the 1899 reform and the performance of the Conversion Caisse (currency board), while the two that follow do the same for the 1991 reform. The fifth section deals with the reasons for the different performance in the two periods. The two said reforms provide a case study, in which neither geography nor cultural characteristics, nor, the occurrence of external shocks *per-se* can be identified as key explanatory variables for the different performance of the economy. The international institutional environment, however, and the ideas of policy makers are central to understand the results of the two reforms.³

² See Pérez-Caldentey and Vernengo (2007).

³ On the role of institutions and natural experiments in economic history see Acemoglu, Johnson, and Robinson (2004).

The 1899 Monetary Reform

José María Rosa y Pons, the finance minister during the second presidency of General Julio A. Roca (1898-1904) formulated the Conversion Law of 1899.⁴ The monetary reform of 1899 was implemented following a period of monetary instability as reflected in the sharp rise and fall of the gold premium before and after the Baring Crisis (1890-1897).⁵

The reform sought to suppress the effects of a fluctuating gold premium which were detrimental to the commercial interests of Argentina. The gold premium, which reflected the relationship between the internal and external value of the domestic currency stood at 257 percent in 1894 and decreased to 125 percent in 1899. A rising gold premium favored the economic interests of exporters while a falling gold premium favored those of the importers (See Figure 1).⁶

Exporters made their payments for variable costs (wages, salaries, interests, and rents) in fiduciary money while they received their proceeds in gold. When the gold premium stood high their profits increased. In the opposite way a decline in the gold premium meant lower profits unless costs and especially wages could be brought down to reflect the new value of gold. In 1899, variable costs were thought to be rigid downwards

⁴ Julio A. Roca was also President from 1880 to 1886. He belonged to the Partido Autonomista Nacional (PAN). Roca tried unsuccessfully to establish a metal backed currency in the 1880's. It has been argued, however, that Carlos Pellegrini's (interim president of Argentina from 1890 to 1892) failed attempt at proposing a metal backing of the currency (silver or gold) to eliminate unwarranted monetary fluctuations following the onset of the Baring Crisis formed the basis of the 1899 Conversion Law (Hodge, 1966 and 1970). This may explain the references of Cavallo to Pellegrini as the architect of a Monetary Board functioning in Argentina from 1890 to 1930. The Conversion Office was created during Pellegrini's term but did not manage to become a currency board.

⁵ On the Baring Crisis see Wirth (1893) and Ferns (1992) for an early and an updated analysis.

⁶ Williamson (1920) attributed the depreciation of the peso paper exchange rate (rise in the gold premium) during 1888-1891 chiefly to the cessation of borrowings and to excessive growth in the money supply. For the period 1894-1899, he considers that speculators and European Syndicates that had underwritten Argentinean securities had a temporary influence on the evolution of the gold premium and that the main explanatory variable is the favorable account on the balance of payments. According to Williamson there is no association for this period between the gold premium and the money supply. Ford (1962) explains the decline in the gold premium (1897-1899) as a result of rising export volume and international prices. Other explanations at the time were founded on political events and expectations. Della Paolera and Taylor (2001) adopt a monetarist-rational expectations explanation and view the gold premium as being determined by a 'credible' fiscal and monetary policy in combination with favorable external conditions.

and thus the disparity between prices and costs was inevitable causing a decline in exports and an increase in imports.⁷

This was the argument put forward by Rosa (1909, pp. 69-70). The decline in the gold premium affected fundamental economic interest of Argentina's economy, which were at the time exporter interests. More specifically Rosa (op. cit. p. 70) made reference to agriculture and grazing activity (beef, wheat, corn, linseed, hides and wool), which dominated economic activity. In addition, but to a lesser extent the finance minister pointed out to the negative effects on debtors and working classes caused by the slowdown of economic activity provoked, in turn, by the decline in exports and consequent increase in unemployment.⁸

Rosa discarded any solution to this problem based on a soft peg exchange rate regime. He explicitly stated that in situations of a falling gold premium a 'crawling peg' type regime would simply recreate over time the disparity between costs and prices. Prices could adapt gradually to the fluctuations in the value of gold while costs would fail to adjust. As he put it (op. cit., p.98):⁹

“To establish a gradual falling exchange rate is to decree disequilibrium, the stoppage of economic life, the permanent crisis. Those who propose a gradual exchange rate assume, without doubt, that the law can decrease concomitantly, year by year or semester by semester, the prices of all goods and services. This is the most grave error; wages, rents, capital interests, the articles of national

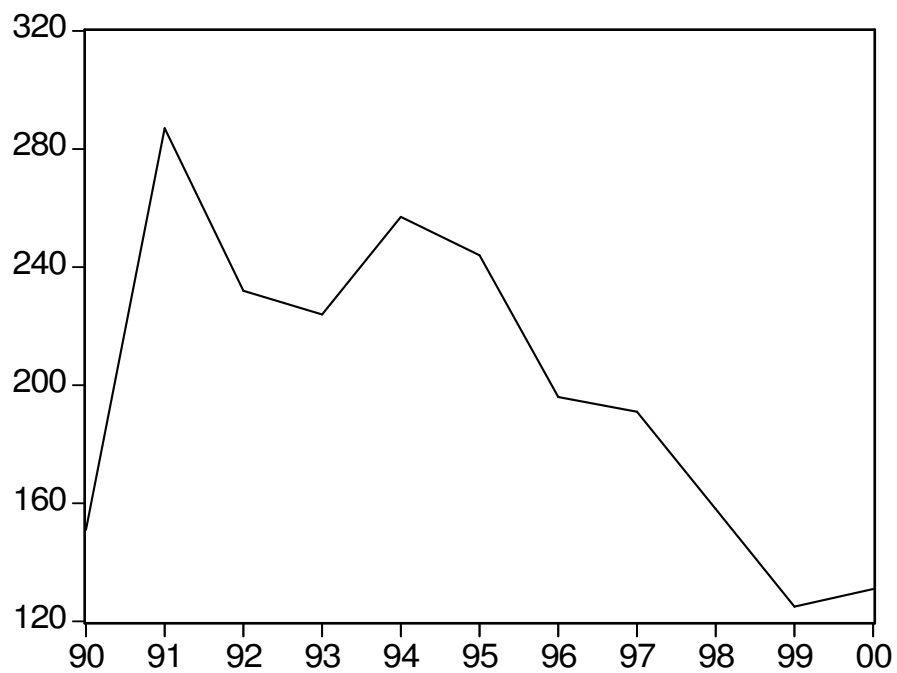
⁷ Ford (1962, pp.91-92) provides some evidence of the sluggishness in wage adjustment. Between the 1894-96 years, the gold premium declined by 17 percent and export prices by 2 percent. Urban nominal wages rose by 10 percent. In the same way in the 1896-99 period, the gold premium decreased 13 percent and rural nominal wages remained constant. Curiously enough the cost-price argument was a key component in the early quantity theory 'monetary disequilibrium' hypothesis (Warburton, 1966). It was also a crucial component of the 1930's Chicago monetary thought.

⁸ The negative effects of deflation were also highlighted by Silvio Gesell (1862-1930), a German economist who resided in Argentina from 1886 to 1900. Referring to the specific period of the end of the 19th century in Argentina, Gesell stated: “the increase in the value of money is the common cause for all the country's economic troubles” (*La Anemia Monetaria*, 1898).

⁹ All English translations of Spanish references are by the authors of this paper.

production... as is well known, are by nature refractory to the movements of gold and that their changes proceed with extreme slowness...What will then happen with every decrease in the peso-gold exchange rate? A disequilibrium will occur between those values that are sensitive to gold changes and those that are refractory to the movements of gold...We will have a disequilibrium and a perpetual monetary disorder. Under such circumstances only the holders of cash balances would benefit from the decline in the value of gold and at the same time debtors would be ruined and the expectation of a further appreciation in the value of paper money would inhibit contractual obligations.”

Figure 1



Gold Premium (1890-1900)

Rosa's main reform concern was the choice of the peso-gold exchange rate parity. He realized the dangers in establishing a parity that was too low or high. Rosa was aware that

a high peso-gold exchange rate by discouraging exports would negatively affect production and output and increase imports.

A low peso-gold exchange rate would have the opposite effects. In addition, it could lead to a deterioration of the state of public finances by increasing external debt obligations. The fiscal deficit had increased from 21 to 70 millions of paper pesos between 1894 and 1898 and the development of Argentina's economy was highly dependent on foreign capital and loans.

Since at least the middle of the 19th Century, Argentina had imported capital to develop and transform itself "from a simple pastoral community to a modern close-knit agricultural nation, well equipped with railroads, ports, power and production facilities" (Peters, 1934, p.33). The economic transformation of Argentina was accompanied by an increase in the stock of external debt. Between 1887 and 1888 the stock of foreign debt increased by almost a 100% from 142 to 278 million gold pesos and further by 33% between 1887 and 1891. In 1900 it had reached 447 million gold pesos (Table 1).

For these reasons a return to the old parity would have been detrimental to Argentinean interests and caused an unwanted disruption in the economic life of the country. The alternative chosen by Rosa was to fix the parity at the on-going market rate. According to Rosa this decision responded to expediency, to the needs of consolidating the existing state of affairs and to erase the monetary past of Argentina.¹⁰

Rosa's monetary law was passed in 1899.¹¹ It consisted of six main features. First it preserved the gold peso created in 1881 and adjusted the paper peso to the existing premium of gold, corresponding to 127.3 percent. The exchange rate was thus fixed at 44 *centavos* of gold for a paper peso. Second, the law followed the Currency Principle and distinguished between an issue and a banking department. The functions of the issue department were assumed by the *Caisse de Conversion*, which converted pesos into

¹⁰ Rosa also defended this decision by citing the cases of France in the 19th century, Austria (1811 and 1819) and Russia (1839).

¹¹ The precise date is 31 October 1899.

gold.¹² The Banco de la Nación, which held the excess gold reserves, assumed the functions of the banking department. Third, it sought to establish a powerful gold base to guarantee the stability of the currency. This gold base was named the Conversion Fund. The conversion fund would draw its main resources from: (i) a 5 percent tax on imports; (ii) the profits of the Banco de la Nación; (iii) the earnings from the sale of a state owned railway; and (iv) the regular government budget.¹³ Fourth it maintained the peso-gold parity through two mechanisms: the *Caisse de Conversion* acted as an automatic regulator of the money supply and foreign exchange intervention.

Year	Revenues (1)	Expenditure (2)	Revenues/expenditures (3)	Funded debt (4)
1879	21.0	22.5	93.3	77.7
1880	19.6	26.9	72.9	86.3
1881	21.3	28.4	75.0	107.1
1882	26.8	58.0	46.2	124.1
1883	31.0	44.8	69.2	128.0
1884	37.7	56.4	66.8	122.5
1885	26.6	40.5	65.7	113.4
1886	30.4	39.2	77.6	117.2
1887	28.2	48.2	58.5	141.7
1888	34.9	51.6	67.6	277.5
1889	38.2	55.8	68.5	295.2
1890	29.1	38.1	76.4	355.8
1891	19.5	33.7	57.9	370.1
1900	....	....	....	447.2

Note: “....” Denotes not available.
Source: Peters (1934), p. 35.

The *Caisse de Conversion* guaranteed that any addition to the money supply should have a 100 percent gold backing. In the same way, any withdrawal of gold would be

¹² The conversion *Caisse* was administered by a board of five directors appointed for a period of five years by the executive and subject to the approved by the Senate.

¹³ According to Della Paolera and Taylor (2001, p. 120), the Conversion Office was not able to generate the required gold backing for paper issues: “The level of specie reserves at the Conversion Office throughout the period 1891-99 was zero (...) In the end, under the constraints of no fiscal resources (...) and no specie whatsoever – and in a leap of great faith- the law went into effect anyway.” According to both authors the required reserves were obtained only by 1910.

accompanied the withdrawal of an equal amount of paper pesos. The Banco de la Nación carried out foreign exchange interventions by exchanging its gold reserves for the peso notes of the *Caisse de Conversion*. In this way the system sought to provide elasticity to the money supply avoiding temporary excesses or shortages of currency that could undermine the functioning of the *Caisse*. The Banco de la Nación could also function, to some extent, as a lender of last resort.¹⁴

Fifth the law contemplated the decline in government expenditure to ensure an equilibrated state of public finances. The contraction in government expenditure was achieved by curtailing public salaries and wages by 10 percent. Finally the authorities would ensure the decline and eventual extinction of the floating debt of Argentina.

The Performance of the Conversion Caisse

The *Caisse de Conversion* functioned smoothly between its entry into force in 1900 and 1912-13. In 1914, unfavorable external developments led to the suspension of convertibility and the closing of the *Caisse*. The *Caisse* resumed operation in 1927 but was definitely shut down in 1929 as a result of the deterioration of international conditions and in particular the closure of the international capital markets.

In the 1899-1912 period, fair weather conditions reflecting the functioning of the pre WWI international system facilitated the operations of the *Caisse*. The terms of trade were favorable for Argentina's agricultural export products (Table 2), which in turn improved the credit rating of the country. This responded to the fact that the country's foreign credit base depended on the value of its main exports. As put by Peters (1934, p.50):

¹⁴ Ford (1962, p. 103) writes: "besides using the Conversion Fund to smooth out temporary fluctuations in the foreign exchange rate market, the Bank of the Nation which held a much larger amount of gold in its vaults than its gold peso liabilities, would, in the event of heavy seasonal gold shipments by other banks which had obtained the gold by depositing paper notes in the *Caisse*, at its discretion pursue the opposite course and deposit gold from its vaults in exchange for notes at the *Caisse*. Thus if other banks were unwilling to grant loans or discounts because of inadequate cash reserves, the hard pressed merchant might obtain funds from the Bank of the Nation. This offsetting policy was limited by the extent to which the Bank was prepared to run down its gold holdings and by the size of its Conversion Funds..." Della Paolera and Taylor (2001, p. 120) consider that the monetary law suppressed the function of lender of last resort.

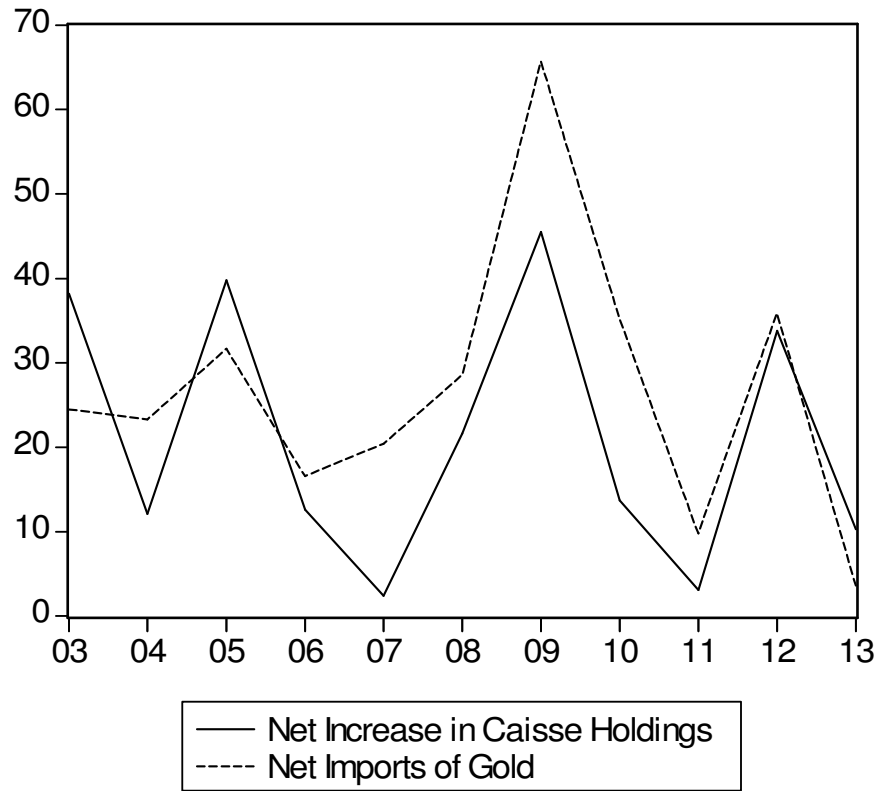
“The picture is amazingly simple; the basis of the nation's prosperity lies almost entirely in agricultural and grazing products. With its beef and wheat, corn, linseed, hides and wool, the country pays for all that it imports from abroad, and it is upon the value of these commodities that its credit rests....As a result it is not at all an unfamiliar spectacle to find the credit of the entire nation measured in the exchanges of the world with complete reference to the value of a single commodity – wheat...When grains and meat are high so are the Argentine bonds.”

As a result the authorities were able to substitute short term for long term foreign debt. They also obtained loans under very favorable conditions such as the Public Works Loan of 1909 and the Internal Gold Loan of 1911 which were payable in gold at fixed exchange rates.

At the same time this state of affairs led to a favorable outturn in the balance of payments and an increasing level of gold stock guaranteeing the safe functioning of the Conversion *Caisse*. Between 1900 and 1914, total exports grew on average 8 percent (the main categories of exports such as grain and grazing exports increased 12 percent and 7 percent respectively) and imports 12 percent. However in all years with the exception of 1911, the result of the trade balance remained positive and yielded on average a surplus of 59 million gold pesos.¹⁵ The surplus in the trade balance and the capital inflows (estimated at 40 million gold pesos annually) allowed the country to service its foreign debt obligations and to obtain a surplus in the balance of payments. Estimates by Martinez and Tornquist show a surplus of 27, 39, 159 and 30 million gold pesos in the balance of payments for the years 1904, 1908, 1914-15 and 1915-16.

¹⁵ According to Williams (1920) the trade surplus ranged between 10 and 118 gold pesos with an average of 75 million.

Figure 2



As a result the imports of gold also showed a rising trend evident especially from 1903 to 1910 which translated into a net increase in the net gold holdings of the Conversion *Caisse*. This is illustrated both in Figure 2, which plots the net imports of gold and the net increase in *Caisse* Holdings (the simple correlation coefficient is 0.73). A similar picture emerges from the fact that the actual note creation as a percentage of the potential note creation based on the net gold imports (Table 2, Column 3) was equal or greater than 96 percent between 1903 and 1908 (Ford, 1962, p. 98).

In accordance with the performance of the external accounts real GDP grew on average by 7 percent between 1901 and 1912. For the same period inflation remained subdued at 2 percent and the fiscal result (1.3 percent) benefited from higher trade tax revenues (Table 2) and a decline in the foreign debt service due to higher export prices (Ford, *ibid*, p. 156). This state of prosperity was accompanied by lax commercial bank

lending and greater speculation particularly in land and property. Real estate prices increased by 350 percent in the 1904-13 period.¹⁶

Thus in summary the overall economic context allowed the 1899 monetary law to meet its objective. The regime was able to maintain a fixed gold-peso exchange rate. At the same time, it succeeded in abolishing speculation regarding the future value of the gold and thus the fluctuations in the gold premium thereby helping to achieve macroeconomic stability. Seven years after the start of operation of the *Caisse*, Rosa expressed satisfaction with the results obtained. As he put it (op. cit. pp. 162-63):

“We could say that we have today a stable and healthy national currency that represents the wealth of the country...that increases or decreases according to the needs of the country and aids the movements in public wealth, a currency that has produced the great benefit of having money at the low rates of interest of industrialized nations, a currency that stimulates commerce and trade and that is the most potent element that concurs to our progress.”

However at the same time he was well aware that a currency board, under ‘foul weather’ conditions, could be the source of violent fluctuations in the value of the currency thus undermining its very foundation. Rosa stated (ibid): “In the situation which we find ourselves it is true that a crisis, produced by disorderly speculations, a panic, a political commotion could bring violent contractions in our monetary market, bringing the end of the of the Conversion *Caisse* and the return to inconvertibility.”¹⁷ In order to avoid situations such as a flight from fiduciary paper to gold, Rosa urged that the gold reserves of the *Caisse* be increased. Only then would the public be assured of the full gold backing of the paper currency at all times.

¹⁶ Real estate prices are measured by “the price per square meter of residential properties in Buenos Aires” (Della Paolera and Taylor, 2001, p. 128).

¹⁷ Similar concerns were voiced by Silvio Gesell: “Our money is so intimately and solidly linked to gold, as the pound sterling is and even more so than the franc or the mark...If, in some far off country with a gold standard, a crisis develops, this crisis will have immediate repercussions for the Argentine paper currency...He than enjoys the advantages of an international money must also accept its inconveniences, the pros and cons of monetary solidarity” (*apud* Della Paolera and Taylor, 2001, p. 129).

Table 2
Argentina: economic indicators
1900 – 1914

Year	Real output (1)	Trade Balance (2)	Net imports of gold (3)	Actual note creation as a percentage of potential note creation (4)	Inflation (5)	Fiscal deficit as percentage of GDP (6)	Terms of trade (7)	Differential interest rates on domestic debt and UK consols (8)	Issues on London Stock Exchange for Argentina (9)
1900	9,430	42	6.7	95	....	0.6	100.0	2.6	7
1901	10,220	54	0.1	95	-12.0	0.7	88.9	2.3	25
1902	10,020	76	5.8	93	9.1	3.2	97.0	2.3	16
1903	11,450	90	24.5	100	-5.2	0.4	91.0	2.2	26
1904	12,670	77	23.3	96	2.2	0.4	92.1	2.1	21
1905	14,350	118	31.7	104	8.6	0.0	100.0	2.1	61
1906	15,070	22	16.6	104	5.9	0.2	104.9	2.1	63
1907	15,390	10	20.4	98	2.8	0.1	105.8	1.9	72
1908	16,900	93	28.6	97	-3.6	-0.1	103.9	1.9	80
1909	17,730	94	65.7	92	9.4	2.5	112.6	1.8	109
1910	19,020	21	35.3	88	7.8	3.0	117.9	1.7	115
1911	19,370	-42	9.8	87	-0.8	3.1	115.9	1.6	84
1912	20,950	95	35.9	87	2.4	1.6	115.5	1.5	101
1913	21,160	63	3.6	88	0.0	1.5	113.4	1.5	60
1914	.....	77	-13.3	83	0.8	....	113.3	1.6	76

Note: (1) Refers to a real output index in millions of 1950 pesos; (2) and (3) are expressed in million gold pesos; (4) Obtained by dividing actual note issue by the note issue creation of net gold imports; (5) Inflation refers to the rate of change of the Wholesale Price Index for Argentina with 1900=100; (6) refers to the fiscal deficit deflated by the wholesale price index divided by the real output index; (7) calculated as the ratio of Argentina's Wholesale Price Index to the UK's Consumer Price Index; (8) refers to the difference between Argentina's Custom Loan.

Sources: Ford (1962); Williams (1920); Nakamura & Zaragaza (1998) and Della Paolera and Taylor (2001).

Rosa's premonitions were not unfounded. In 1913-1914, the *Caisse* was subject to severe external pressures. Ultimately the demise of the pre WWI relationships which sustained Argentine prosperity during the functioning of the *Caisse*, turned a virtuous economic cycle into a vicious one. Argentina suffered a failure of the cereal crop representing close to 50% of the country's total exports. This had a negative effect on agricultural exports. Cereal exports declined by 43 percent between October 1912-September 1913 (322 gold pesos million) and October 1913-September 1914 (182 gold pesos million). The fall in export production affected not only the balance of trade position but also had a depressing effect on land values and thus on capital outflows. Most importantly, this effect was reinforced by the needs to finance the war efforts of European countries, which dried up the Argentina's external sources of finance. As shown in the Table 3 below, these were instrumental in guaranteeing a positive overall balance of payments equilibrium and the necessary reserves for the smooth functioning of the *Caisse*.

	1911-1912	1912-1913	1913-1914
Balance of trade	20	52	12
Debt service	-168	-161	-139
Tourism and remittances	-87	-87	-38
Current account	-235	-196	-165
Capital account			
Net gold movements	35	35	-13
Δ Foreign debt	200	161	178

Ford (1962), p. 173. And own estimates.

The unfavorable balance of payments result caused a contraction in the liquidity of the financial system, which responded pro-cyclically by increasing the reserve ratios of commercial banks. In turn, the decrease in the money supply had a negative effect on income and employment and resulted in a plummeting of asset prices (land values).¹⁸ It

¹⁸ Dell Paolera and Taylor (2001) report that in 1914 asset prices responded with a great degree of flexibility to the restriction in the supply of foreign capital and fell by 33% in one year. Note, *in passim*, that according to Paul Krugman traces the Thai Crisis (1997), in part, to land and property speculation and the ultimate drastic decline in their prices.

also aggravated the financial situation of the farmers affected by the poor climatic conditions thus impinging on the recuperation of exports and land values. This provided a further blow to the confidence of foreign investors.

Two examples illustrate this point. The shares of the Spanish Bank declined from 200 to 150 between the 11 of January 1913 and July 4th 1914 and the ordinary shares of *Edificación Argentina* followed the same trend from a peak of 157 on January 1913 to 79 at the end of March 1914 (Williams, 1920). Imports responded rigidly to the decline in income and with a lag thus aggravating the fluctuations in the downward phase of the cycle. Imports were rigid because they included among others raw materials, machinery and final goods, which were essential for on-going production and consumption.

In addition as pointed by O'Connell, (1984, p. 192): “import demand ... revealed a rather perverse lagged response which meant that it would remain at a high level even after exports and the level of activity were falling creating thus a severe external payments problem in the downward phase of the cycle.” Imports eventually responded and the effect was positive for the external position. But this was not the case for domestic finances. Import duties represented more than 53 percent of all government revenues (Peters, 1934, p. 68). Their fallout translated in a fiscal deficit. Between 1913 and 1931, government revenues fell 24 percent and the deficit increased fourth-fold, from 14 to 60 million of gold pesos (See Table 4).

Table 4
Argentina
Exports, exchange rate, government revenues and expenditures
1927 – 1931

Year	Grazing Exports (1)	Agricultural exports (2)	Total export (3)	Unit value (4)	Exchange rates (5)	Revenues (5)	Expenditures (6)	Deficit (7)	Total debt (8)
1927	1650	16263	18740	53.8	0.9630	.....	.....	.....	281.8
1928	1323	15010	17029	62.0	0.9648	319	389	70	289.8
1929	1268	14761	16703	59.4	0.9513	348	436	88	289.8
1930	1212	9279	11027	55.7	0.8551	324	482	158	339.8
1931	1149	16877	18477	34.7	0.6674	336	390	54	309.8

Note: (1), (2) and (3) in thousands of tons. (4) Unit values were obtained by dividing total export values expressed in million pesos divided by export volumes expressed in millions tons. (5) The exchange rate refers to the ratio of United States and Argentina wholesale prices (1926=100). (5) And (6) are expressed in million gold pesos. (7) Refers to the difference between (5) and (6). (8) Refers to the sum of funded and floating Argentine debt in the United States expressed in million dollars.

"...." Denotes not available.

Source: Peters (1934)

The consequences of the liquidity shortage made it difficult to maintain the backing and convertibility of the currency. In August 1914, gold payments were suspended and the Conversion Office was closed. In that month the authorities passed an emergency law allowing the Banco de la Nación to engage in rediscounting operations with the financial system. The law also gave the Conversion Office a rediscounting facility.¹⁹ Argentina did not return to a gold standard regime until 1927.

In 1927 the peso returned to par with gold. However, starting in 1928 the convertibility scheme was confronted again with unfavorable external conditions. The monetary authorities tried to respond differently than in 1914, using their reserves to finance gold exports. From 1928 to 1931, Argentina faced unfavorable terms of trade for its export products. For that period according to O'Connell (1984, p. 196) export prices declined by 64 percent. As a result as in 1914, gold reserves would have declined directly. However, contrarily to the earlier *Caisse* period this did not translate into a contraction in liquidity. The monetary authorities had sufficient reserves accumulated during 1927-1928 and decided to intervene to maintain the convertibility by financing the concomitant export of gold without causing a liquidity contraction. More precisely, the Banco de la Nación used its own reserves to pay for gold exports. This allowed banks to expand credit and thus undertake a counter-cyclical monetary policy. This scheme was eventually faced with failure due mainly to closure of the international capital markets brought on by the Great Depression. As put by Eichengreen (1992, p. 236), "Once the capital markets closed down, budget deficits and the gold standard were rendered incompatible"²⁰.

¹⁹ The Conversion Office did not make use of its rediscounting prerogative until 1931. Della Paolera and Taylor (2001) see the start of discounting by the Conversion Office as the most important monetary event of the 1930's. Raúl Prebisch played an instrumental role in putting in motion the rediscount law setting the stage for a smooth transition to a fiduciary monetary regime (ibid, p. 218).

²⁰ See also Peters (1934, p.156): "the decision to abandon the gold standard was greatly influenced by the large amounts of government paper held by the banks...Bulking as one-third of the bank credit outstanding, the floating debt was like a great indigestible lump private borrowers would be completely excluded by the squeezing process."

The 1991 Convertibility Plan

If the 1889 reform had followed the Baring crisis and was central in the strategy of integration with international markets, sometimes referred to as the first globalization, then, the debt crisis of 1982, and the increasing consensus (e.g. Williamson, 1989) that another wave of integration with international markets could revive the growth process were behind the 1991 monetary reform. The 1989 hyperinflation created the conditions for bold experiments.

The 1991 reform fixed the exchange rate at one peso per dollar and gave agents the possibility of freely using the dollar or the peso to settle monetary transactions.²¹ Concomitantly the law suppressed foreign exchange controls, permitted the settling of contracts in foreign currency and prohibited indexation clauses in the terms of contracts. The law provided close to full foreign currency convertibility for the money supply. The law permitted that up to 10% of the money base could be backed by dollar-denominated government bonds. This made it illegal for the authorities to issue currency without foreign exchange backing and transformed the central bank into a quasi-monetary monetary board.²² Also the convertibility law forbade the alteration of the exchange rate parity and Central Bank lending to the government.

The convertibility plan was supported by a set of key measures which were meant to reflect changes in ‘fundamentals.’ These measures responded to the so-called ‘necessary preconditions’ for adopting and defending a currency board. These consisted in a set of measures to liberalize and deregulate the economy, expose the productive apparatus to competition and privatize the government’s resources.

The average tariff rate was reduced from 22% to 11% between 1991 and 1998, price controls abolished and traditional sectors such as the mining sector were opened to

²¹ Cavallo (1996, p.176-177) considered the freedom to choose the currency in which contracts should be settled as a key feature of the stabilization plan since as he put it, it “sustained the prohibition on monetary corrections or indexation clauses in contracts. This was very important to the elimination of all vestiges of inflationary inertia in the system.”

²² Unlike the Argentine currency boards, the more orthodox currency boards normally do not have a central bank and leave no room for discretionary monetary policy.

foreign capital. The privatisation of state owned assets began in 1990 with the sale of the telephone company (ENTEL) and the national airline (Aerolíneas Argentinas). Other industries affected by privatization included the state petroleum company, electricity, gas, transportation, water utility, and petrochemical plants (Baer, Elosegui, and Gallo, 2002). This market-oriented strategy was accompanied by measures to strengthen the state of public finances. Tax increases and decreases in government expenditure were decreed. Public sector employment was downsized by 20%, and public sector wages were frozen. The government also liberalized the financial system. From 1994 onwards, it allowed foreign financial institutions to compete with domestic owned ones. The share of foreign bank deposits in total deposits increased during 1994-1998 from 26% to 41% of total deposits.

Domingo Cavallo, the Finance Minister in 1991, justified the reform as a return to the prosperous period of the *belle époque*. For Cavallo (1993, p. 40):

“Argentina did have a very important historical period during which a market economy, with a relatively well-managed Government, was well integrated into the world economy. A monetary board produced very good economics results – going from 1890 to 1930. We had a monetary board that was created by Carlos Pellegrini. This was the President who had to face the great crises of 1889-90; this resulted in Argentina’s failure to pay her debt because there had been tremendous overspending and borrowing abroad during the 1800s. Pellegrini’s monetary board operated very well beginning in 1901. With a brief interruption during the First World War, it continued to operate until the big depression of 1929.”²³

²³ According to Cavallo (ibid.) the reforms undertaken during the Menem government had the objective of ‘recreating’ basic economic and social institutions that were non-existent in post WWII Argentina. These were however present in the period 1890-1930. Moreover, he explicitly states that after 1983, Argentina had been able to ‘recreate the representative republican and federal systems of government embodied in the 1853 National Constitution’ which according to Ferns (1950) placed such an important role in promoting investment in the period 1890-1930. Historical comparisons are obviously always possible. Diaz Alejandro remarks that in fact the 1967 Argentine stabilization plan followed the example of the Conversion Caisse (Diaz Alejandro, 1970, p.352). Such a historical judgment was not only put forward by

Cavallo who modeled his plan on the conversion *caisse*²⁴(*ibid.*) even emphasized the fact that the peso, after the monetary reform, stamped the effigy of Pellegrini, supposedly a good omen for the Convertibility Plan. Dornbusch (2000, pp. 289-90) also emphasizes the similarities between the Gold Standard period and the Convertibility Law period.

The interpretation of the crisis that led to the Convertibility Plan of April 1, 1991 followed the conventional wisdom of the time that suggested that over-issuing of currency resulting from excessive fiscal laxity coupled with widespread indexation were the root of the inflationary process.²⁵ The plan intended to restore the confidence in the currency while postulating a break with the past behavior of inflation, that is, with the inertial behavior of inflation through an “abrupt change in the continuing government policy, or strategy as to be widely believed” (i.e. a regime change).²⁶

Furthermore, the main tenets of the plan were validated by an increasingly held belief that in the case of developing countries with weak domestic institutions only fixed exchange rates are compatible with exchange rate stability (e.g. Giavazzi and Pagano, 1988). A return to policies that resembled the strict monetary commitments of the *belle époque* was seen as a necessary step to re-enter international financial markets after the 1982 debt crisis. In fact, Bordo and Rockoff (1996) argued that adherence to the gold standard rule of convertibility of national currencies into a fixed weight of gold served as a ‘good housekeeping seal of approval’ which facilitated access by peripheral countries to foreign capital from the core countries of Western Europe.

It should be noted that in the aftermath of the New Classical Revolution in macroeconomics the Gold Standard was seen as a rule that promoted the commitment of

the proponents of the 1991 Convertibility Plan but is also shared by other economists. See for example Guillermo Calvo’s entry on Argentina in the Palgrave Dictionary of Money and Finance.

²⁴ See, Della Paolera and Taylor (2001), p.17.

²⁵ Prior to the establishment of the currency board Argentina implemented several stabilization plans including the Austral Plan (1985-1987), the Primavera plan (1988), the Bunge and Born plan (1989), and the Bonex Plans (1990). For a taxonomy of the different views regarding inflation and hyperinflation see Vernengo (2006).

²⁶ See, Sargent (1982).

the monetary authority preventing it to modify future monetary policy, and, thus, precluding the so-called time-inconsistency problem (Bordo and Kydland, 1996).²⁷ The implication of the modern time-inconsistency view of the functioning of the Gold Standard is that it is a binding policy over time, and not a simple automatic mechanism. Hence, countries could temporarily abandon parity in an emergency provided there is a credible commitment to return to convertibility at the original parity.

The views about the advantages of Gold Standard like arrangements, in particular, the adoption of a Currency Board,²⁸ suggested that once convertibility was adopted foreign capital inflows would lead to an increase in competitiveness and that, in turn, would lead to an export boom that would allow to service the debt commitments resulting from the inflows.

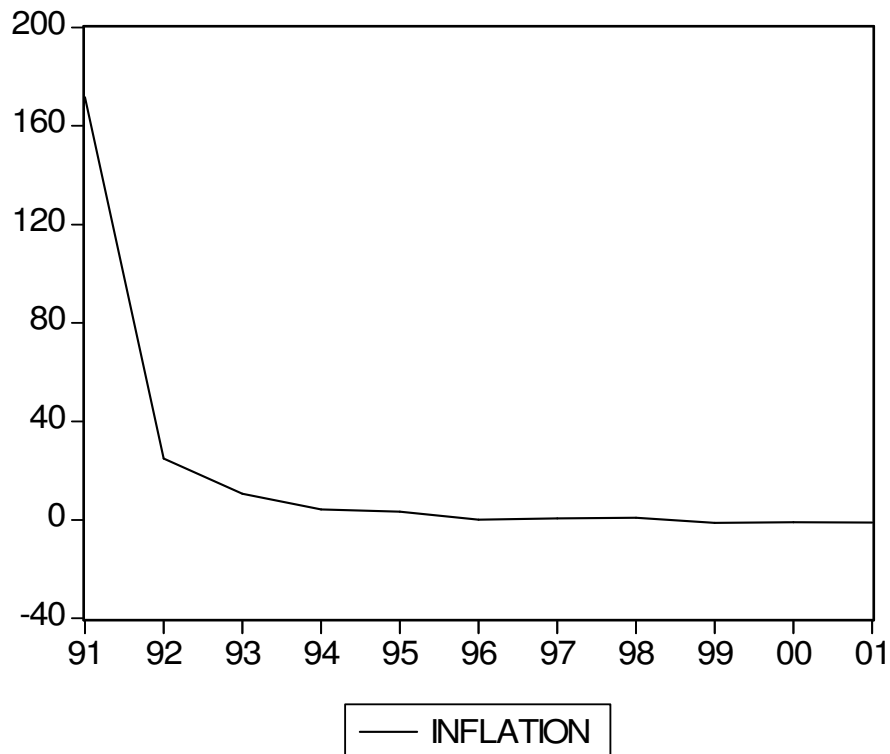
²⁷ New Classical Macroeconomists favored the use of rules prefaced on the 'efficiency of the private sector in ascertaining the true nature of policy and taking countervailing steps (Hoover, 1988, p. 69). Moreover the theory favored fixed over say contingent rules. Kydland and Prescott's (1977) initial analysis of dynamic inconsistency of optimal plans was further developed by Barro and Gordon (1983). The latter show that efficient economic policy boils down to identifying the rules that 'restrict the future evolution of money and prices'. In their model a gold standard regime leads to lower inflation rates.

²⁸ See for example Hanke and Schuler (1991).

The performance of Convertibility

The initial performance of the Argentinean economy after the Convertibility Plan was considerably good. The rate of inflation dropped sharply, the fiscal gap narrowed growth recovered, and real wages increased (See Figure 3 and Table 5). Leaving aside the rise in unemployment the main caveat to this performance was the significant appreciation of the exchange rate (see Figure 4). The real exchange rate appreciation was detrimental to the balance of trade and the current account position. The external imbalance ultimately undermined the Convertibility experiment.

Figure 3

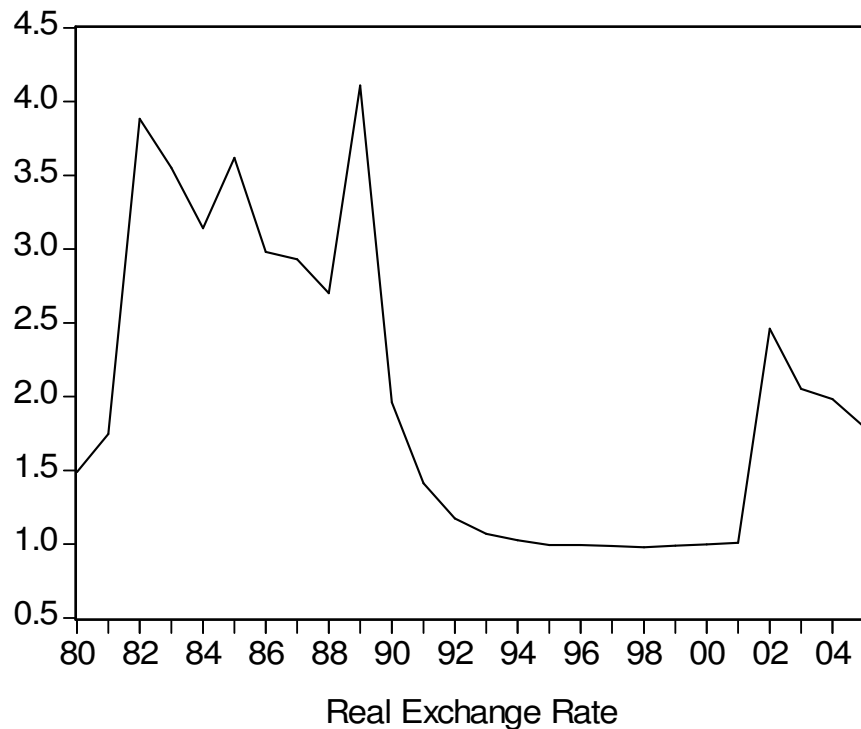


Source: IMF/IFS

The deterioration of the current account position which followed convertibility made it virtually impossible to earn the necessary amount of foreign exchange to pay for the required foreign capital and associated inputs boost growth or eventually to service debt obligations.²⁹

²⁹ Kregel, (2003), p. 18.

Figure 4



Source: IMF/IFS

Argentina made efforts to overcome this situation by attracting important volumes of foreign direct investment. But these proved to be insufficient to finance the current account imbalance. Indeed, the decomposition of capital flows into its different components shows that during from 1991 to 2000 debt flows represented on average 42% of the total.³⁰

In this way the external situation led to an increase in the country risk premium. The rise in the risk premium translated into higher interest rate payments on the external and internal debt. In turn the rise in interest rates contributed to a rising debt stock worsened the external imbalance.³¹

³⁰ Authors' own calculations based on the Global Financial Indicators database of the World Bank.

³¹ During the Convertibility Period the total debt stock rose from 30% to more than 50% of GDP. In 2000 30% of the debt stock was external debt and the rest internal debt. The internal debt increased faster than the external debt from 1997 onwards. See, Damill, Frenkel and Juvenal (2003, p. 216).

Table 5
Argentina
Economic Indicators
1991-2001

	GDP (constant prices)	Wages (% GDP)	Unemployment Rate	Exports	Imports	Debt Service to Export Ratio	Foreign Debt to exports	Terms of Trade (1995=100)	Gini Coefficient in Urban Areas
1991	100.0	35.0	6.0	11,978	11,835	36.1	426.3	103.9	0.441
1992	108.9	38.4	7.0	12,399	13,795	23.4	407.1	100.7	0.432
1993	115.0	36.2	9.3	13,269	15,633	23.3	441.9	104.8	0.432
1994	125.2	34.9	12.2	16,023	20,162	26.8	442.3	105.6	0.433
1995	125.5	31.5	16.6	23,888	23,825	28.2	395.8	100.0	0.454
1996	132.4	31.9	17.3	27,113	27,929	28.1	390.8	108.5	0.448
1997	142.4	34.2	13.7	30,940	37,241	29.9	405.6	108.9	0.447
1998	145.4	34.9	12.4	31,093	38,493	35.3	457.2	103.9	0.460
1999	137.9	34.0	13.8	27,300	32,050	40.8	523.5	98.5	0.447
2000	137.2	34.9	14.7	31,092	32,822	39.7	470.7	108.8	0.455
2001	131.1	26.6	18.3	30,846	27,360	39.2	453.2	108.2	...

Source: Ministry of Finance and Indec. Bauer et al (2001),

This set the stage for further rises in the risk premium. More importantly it had detrimental consequences on fiscal performance which was wrongly identified by the government as the pivot of the Convertibility Plan.³²

On average the consolidated fiscal accounts showed a marked improvement in the 1990s (see Table 6). In fact, global deficits fell from 7 percent of GDP to around 2 percent, while the primary outcome moved from deficit to a small surplus. However, this result hides significant disparities in fiscal performance during the Convertibility period.

Table 6 Argentina Fiscal Results (% GDP)		
	Primary Result	Global Result
1971-80	- 6.0	- 7.0
1981-90	- 5.1	- 7.0
1991-00	0.1	- 2.1
Source: Damill, Frenkel and Juvenal (2003).		

From 1991 to 1994, the consolidated fiscal accounts improved due to the temporary return of macroeconomic stability and the privatization process. Thereafter these began to deteriorate. The public deficit of the consolidated public sector expanded from -5 to -21 and -46 billion US\$ for the periods 1991-1994; 1995-1997 and 1998-2001. This was the result of increased social security expenditures and lower taxation (1994 to 1997), contraction of output (1998-2001) and most important the rise in interest rate payments for the whole period and especially from 1995 onwards (See Table 7).³³

³² See, Damill, Frenkel and Juvenal (2003, p. 224). Câmara and Vernengo (2004-5) also emphasize that fiscal crises can be endogenously caused by the increase of interest rates, even if government are fiscally responsible.

³³ A detailed analysis of the decomposition of fiscal expenditure show that the only relevant change was the decline in current transfers (25% and 20% in 1993 and 1999) as a result of the sale of state owned assets and the increase in interest rate payments. Interest payments as a percentage of total expenditure increased from 7% to 17% between the same period. Federal wage payments remained constant, pensions and transfers increased slightly (5.8% to 6.2% and 5.8% and 6.4% of GDP respectively between 1996 to 2000).

Table 7 Argentina Current and capital expenditures (as percentage of the corresponding total) 1993 – 1999							
	1993	1994	1995	1996	1997	1998	1999
Current expenditures	90.6	92.0	91.8	91.1	91.3	91.5	92.5
Consumption	20.9	22.1	22.6	21.8	20.9	20.1	19.5
Remuneration	15.1	15.9	16.8	16.5	15.4	14.6	14.7
Goods and services	5.8	6.2	5.9	5.1	5.4	5.5	4.8
Interest	6.8	7.7	9.9	9.5	12.5	14.3	16.8
Social Security	37.6	40.2	37.3	39.0	38.3	37.3	35.7
Current transfers	25.2	21.9	21.9	20.7	19.6	19.8	19.9
To private sector	8.5	9.2	11.2	10.4	9.8	10.3	10.4
To public sector	16.4	12.4	10.5	10.0	9.5	9.3	9.3
Abroad	0.4	0.3	0.1	0.3	0.3	0.2	0.2
Capital expenditure	9.4	8.0	8.2	8.9	8.7	8.5	7.5
Direct investment	2.5	2.55	1.5	1.5	1.6	1.8	1.1
Capital transfers	5.0	4.9	6.4	6.9	6.6	6.4	4.8
Financial investment	1.9	0.6	0.4	0.6	0.4	0.3	1.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Source: Baer et al. (2002)							

Indeed, the most important increases in interest rate and for that matter in the risk premium took place following the onset of the Mexican Tequila (1994-1995) and the Asian and Russian (1998-1999) crises and the crucially important devaluation of the Brazilian Real in January 1999, in particular, given the latter's position as a main trading partner after the consolidation of the MERCOSUR, established in March 1991.³⁴

The Tequila crisis undermined investor's confidence in emerging markets provoked important capital outflows and threatened currency stability. Capital outflows resulted in heavy reserve losses for Argentina (the Central Bank lost a third of its international reserve stock), a decrease in both peso and dollar deposits and a contraction in the rate of growth of money supply which resulted in an increase in the interest rate structure.

See Baer et al. (2002). Damill et. al (2003) trace the sharp rise in interest rate to the 1998 Asian crisis. We emphasize the rising trend since 1995.

³⁴ For the effects of Mercosur on Argentine trade patterns see Berlinski (2004).

These effects were compounded by the decision of international banks to suspend the credit lines to their Argentine branches on the basis of an increase in the perceived country risk, forcing these to turn to the domestic market for funds which further increased the rate of interest. At a more fundamental level, the search for funding in the domestic financial market was interpreted as a signal of a systemic banking failure and contributed to trigger a run not only on peso but also on dollar denominated deposits.

The Asian and Russian crisis (1998-1999) and the devaluation of the Brazilian real that followed in 1999 provoked a confidence crisis, a severe loss of competitiveness in Argentina *vis-à-vis* its main trading partner (Brazil) and a decrease in its terms of trade.

The financial crises should be viewed as aggravating events acting on an economic basis that was unstable. Once Argentina found itself under a twin deficit situation within a fixed rate regime, the stage was set for process of debt accumulation and indeed one of a 'debt trap.' The linkages and feedback mechanisms between both were transmitted mainly through rises in the risk premium and increases in interest rates.³⁵

The situation was made worse by one of the key measures of the convertibility plan, namely that the peso and the United States dollar were substitutes. Following the implementation of the plan the Argentine economy saw a significant the growth in dollar denominated debt and dollar denominated assets. In 1997, 64% of all credit granted by the banking system was denominated in dollars. In addition besides the public foreign debt, the private sector issued 9\$ billion worth of bonds in foreign currency with short maturity periods (less than 5 years). The currency board created in fact an atmosphere of certainty that stimulated risk-taking and the expansion not only of public but also private indebtedness in the belief that "dollar contracting fixes at the same time the foreign

³⁵ In so far as the payment of interest go to the holders of public debt, which are mainly banks, corporations and the wealthy, and this implies a regressive income, interest payments have a negative effect on the trade balance.

currency value of claims and the domestic real value of obligations” (Fanelli and Heymann, 2002, p.12).³⁶

In the face of these events the government and central bank did not remain by any means passive. They took action to preserve the convertibility scheme rather than correct the twin deficit situation.

Following the Tequila Crisis the government and Central Bank increased bank liquidity by reducing reserve requirements, approved an amendment to the central bank law which allowed it to act as a lender of last resort to troubled institutions, and contributed to establish a privately financed deposit insurance fund. Finally, the creation of the Fiduciary Fund for Provincial Development to privatize provincial banks permitted the restructuring and consolidation of the financial system. After the Mexican crisis, the lender of last resort function was partly restored in a permanent way to the Central Bank by the provision of the Contingent Repurchase Facility allowing the Central Bank to sell assets with a repurchase clause (Repo option).

In order to overcome the effects of the Mexican and the Russian-cum-Brazilian crises, Argentina received substantial financial aid from multilateral organizations. In the former case, the international aid amounted to 7 billion dollars whereas in the latter it shot up to 39.7 billion dollars (the most substantial rescue package after Brazil (August, 1998) and Russia (July, 1999)). While the first financial package was destined to avoid a financial crisis the latter package was provided to avoid an external debt crisis.

However Argentina’s stagnant economy did not allow the country to service its foreign debt payments. The recession was long lasting and cast serious doubts on the ability of Argentina to confront its external debt obligations (14 billions dollars) due in 2001. In addition the government’s margin of action was constrained by a deteriorating fiscal balance which left no choice but to pursue contractionary policies. These, in turn, compounded the expectations of a stagnant economy.

³⁶ See also Kregel (2003).

Table 8 Chronology of selected events in Argentina 1999- 2001 From convertibility to devaluation	
Date	Event
December 1999	Country risk premium is equal to 6.10 percentage points.
January 2000	Increase in tax rates.
December 2000	IMF aid package of 40 US billion to Argentina.
March 2001	Succession of three finance ministers. Proposal to impose a financial transactions tax and increase tariffs.
April	Peso is partly delinked from the dollar through the adoption of a basket of currencies (Euro and Dollar) to determine the peso exchange rate.
June	Adoption of a dual exchange rate system (preferential exchange rate for exports).
July	Country risk increases above 13 percentage points. Congress approves the zero deficit law.
August-September	Increase in the IMF stand-by loan from 14 to 22 billion USD.
November	Debt swap for a greater par of the 132 USD billion public debt. Interest rates exceed 689%. Bank run
December 2001	Imposition of restrictions on deposit withdrawals and on transfer funds abroad. IMF announces it unwillingness to disburse 1.3 billion USD in aid to Argentina. Country premium exceeds 40 percentage points. Imposition of high reserve requirements on new deposits. Argentina defaults on its external debt.
January 2002	Law of public emergency and reform of the exchange rate. The peso is devalued.
Source: Schuler (2002)	

As in the very recent past several attempts were made to restore confidence in the economy and to get the 'growth ball rolling.' One of the last attempts included the re-appointment of the father of the Convertibility Plan, Domingo Cavallo, as minister of finance, the granting of special powers to Cavallo which allowed him to pass budgetary measures and change institutional arrangements without the approval of Congress. Cavallo also attempted to jump start growth by a set measures to stimulate investment, tax relief measures, the roll over of short term for long run external debt involving 29 billion dollars and differential exchange rate for exporters and importers.

These measures were ultimately unsuccessful, the country risk soared and Argentina suspended its foreign debt service payments at the end of 2001 signaling the end of the currency board regime. The fixed parity between the peso and the dollar was abandoned in early 2002 (see Table 8 for the chronology of events from 1999 to 2002).

Similar Reforms, Different Outcomes

Argentina adopted currency type board arrangements to put an end to monetary instability in the nineteenth and the twentieth centuries under very different historical circumstances and contexts with very different results. The second monetary experiment that of the Convertibility Plan of 1991, was prefaced on the success of the success of the 1899 Conversion Caisse.

Argentina's 20th Century quasi currency board commanded a broad base of support in official circles and international financial markets. The government's policies were more than simply tolerated by the International Monetary Fund. As noted by Mussa (2002, pp. 1-2):

“In the official international financial community, specially the International Monetary Fund, many of Argentina's economic policies were widely applauded and suggested as a model that other emerging markets countries should emulate – international approval that was dramatized by President Menem's triumphant address to the IMF-World Bank Annual Meetings on 4 October 1998.”

Furthermore, local criticism of the main tenets of the Convertibility Plan was inconceivable. For example, in the two major debates between Domingo Cavallo – the Finance Minister and architect of the plan – and Rodolfo Terragno – representative from the opposition Radical Party – televised in July 1993 and April 1995, Terragno although arguing that the Plan had already run its course in 1993 and should be abandoned, emphasized that he was not suggesting a devaluation of the peso (Cavallo and Terragno,

1999, p.74). In other words, Convertibility had run its course, but should not be abandoned, or at least not the fixed exchange rate that was at the heart of the Plan.³⁷

The views on the Convertibility Plan expressed by international investors, international organizations and in official circles responded in part to the growth prospects of the economy, the historical memory of inflation and the certainty created by the convertibility monetary rule.

However, contrarily to the *Caisse* experiment, the Convertibility failed to live up to its expectations. In light of the comparative analysis of the two monetary reforms, why did convertibility seemed to work in one period, but not in the other?

The *Caisse* was a 'fair weather scheme.'³⁸ But it was not created by *ad hoc* favourable external conditions but by a specific pattern of economic integration. A close analysis of both episodes indicates that the Conversion *Caisse* functioned smoothly for historical reasons specific to the first globalization period and that proved impossible to reproduce in the second globalisation period.

Convertibility (i.e. the gold standard) was in fact a complement to a successful integration with the hegemonic economy of the period (what Hobsbawm refers to as being part of the 'informal empire') that functioned for all purposes like a closed circular flow with no leakages.³⁹ Such a system guaranteed stability because it ultimately generalized to the international economy, the principle of banking according to which over time debits equaled credits.⁴⁰ Robinson (1985, p.85) put it succinctly in the following terms:

³⁷ The contradictions of this position would be felt later when Terragno became the Chef de Cabinet of the De la Rúa administration.

³⁸ The expression is from Ford (1962).

³⁹ Tariffs were essential for revenue purposes, allowing the State to promote investment in infrastructure and an environment conducive to the attraction of foreign direct investment. See Coatsworth and Williamson (2002).

⁴⁰ The idea that an international system can work under the generalized banking principle is found in Keynes (1980). While Keynes regarded the gold standard as a 'barbarous relic' he did admit that there were two periods in history when a metal backed currency 'for the conduct of international transactions be said

“On the one side there were untapped natural resources, a growing labor force and nations endowed with capitalist institutions and ideologies, offering dazzling prospects of profit to investors, but lacking development financial structures, and not yet provided with all-round manufacturing industry; on the other side were a sophisticated capital market and available industrial capacity. It was easy to borrow by selling bonds (...) Since Britain was the main source of supply [of means of production] the investment of finance generated a flow of exports from which loans came, as well as an import surplus for the borrower (...) High investment in the borrowing country generated an export surplus for the lender (...) later on the fruits of the investment produced an export surplus for the borrower, while growing income in the lending country generated demand for imports and there was no obstacle to repayment.”

This set of successive episodes describes accurately the Argentine case. British investment took off in the second half of the nineteenth century rising from 2 to 189 million £ between 1857 and 1900. The increase in investment was accompanied by an increase in British exports to Argentina from 1.3 to 714 million £ in the same period.

The composition of British exports also changed from textiles to fuel and manufactures of metal. The textile share in British exports to Argentina declined from 79% to 41% between 1850-54 to 1891-95. Contrarily the share of fuel and manufactures of metal expanded from 10% to 36% of the total.

to have ‘worked’. The first was during the Elizabethan age and the second was during the Victorian age or in the last fifty years of the 19th Century. According to Keynes in the second period, the flow of gold received by the main creditor centers, Paris and London, translated ‘not in the first instance into a change of in pieces and wages, but into a change in the volume of investment’. In this sense, the burden of the adjustment was born mainly by the creditor countries. This was a key historical lesson setting part of the foundation for his Clearing Union proposal. From our point of view, both creditor and debtor carried part of the burden of the adjustment (perhaps the creditor to a greater extent than the debtor) and this was permitted by the fact that income flowed within a closed system.

As British investments matured Argentina was able to change in turn its export composition from pasture to agricultural products. The Anglo-Argentina balance of trade increasingly unfavourable to Argentina from 1855 to 1888 made a turn around and Argentina started to record surpluses by 1893.⁴¹ These were maintained throughout 1914 due to significant increases in the terms of trade (27% between 1901 and 1914).⁴²

Whereas within the specific historical context the international division of labor in the first globalization period – with peripheral countries producing commodities for the center, from which manufactures, intermediary and capital goods were imported, as theorized by Prebisch – provided a clear and successful role for the Argentinean economy, such was not the case in the latter phase. In fact, after the ISI period Argentina had undergone substantial industrialization, and the integration with the world economy did not fit anymore the old and rigid technological division of labor.

More to the point, the second globalization period lacked a mechanism through which to articulate financial flows with the canons of international exchange (or international division of labor). There were no explicit or tacit ‘rules of the game.’ In fact finance had little to do with the performance of real economy and was speculative in nature. Furthermore, the process of liberalization took place, the second time around, under more strict competition from other peripheral countries, in particular from East Asia, something that was already a preoccupation of some authors in Latin America (e.g. Fajnzylber, 1983).⁴³

⁴¹ See Ferns (1950). See also Rapoport (2005) for a more recent treatment of the trade relations between Britain and the center and the periphery of the international system.

⁴² The international system did not obviously evolve without disruptions. But it was able to meet challenges by concerted efforts and by the workings of the system itself. The Baring crisis was overcome on the one hand by international cooperation between the central banks of Britain, Russia and France (see Eichengreen, 1992, pp49-50). On the other hand the Argentine export boom from 1895 onwards permitted the increase in the prices of Argentine stocks and shares making it easier to liquidate the Barings portfolio (Ferns, 1992, p.271).

⁴³ It is however ironic that Cavallo defended the Menem reforms partly on the basis of a government interventionist constitution. The National Constitution of 1853 (art. 67) endowed the government with the responsibility of ‘promoting industrial enterprise, the construction of railways and navigable canals (...) the introduction and establishment of new industries and the importation of foreign capital’ (Ferns, 1950, p. 205).

In the second globalization period Argentina faced an unfavourable external situation from the beginnings of the Convertibility plan. The terms of trade deteriorated by 7.4 percent in the 1992-2001 period (see Tables 2 and 7), the real exchange rate appreciated by at least 20% and the current account deficit persisted throughout the entire period.

The external imbalance led to a rise in the risk premium which expanded foreign and local interest rate obligations. This in turn provoked an expansion in the fiscal imbalance. The end result was a twin deficit situation which set the stage for debt accumulation and unsustainability.

The point of unsustainability was reached following the financial crisis of the second half of the 1990's. Frenkel and Damill (2003) emphasize that at the end of 1994, when the economy confronted the Tequila effect, there was no sign of fiscal unsustainability (ibid., p. 216).⁴⁴

Similarly, foreign debt dynamics indicates that after the Tequila crisis the path was unsustainable, and, thus, the convertibility was doomed to collapse. Not only trade deficits – and current account deficits – were the norm during the convertibility period, but in addition after 1995 interest rates increased steadily (28% and 41% in 1995 and 1999).

Ultimately the increasing size of the debt to export ratio indicated that a default was inevitable, and the run on the currency was unavoidable.⁴⁵ The debt burden was

⁴⁴ Fanelli (2002) views the Argentine process as essentially unstable one. Two main features of this instability are structural changes and volatility. Structural changes refer to unforeseen and sudden changes in the parameters that define the structure of an economy. Structural changes are to some extent unique. They also modify the context within which the economy functions forcing agents' to engage in a learning process. This increases the difficulty of forming expectations as well as the probability of making mistakes and can lead to a climate of uncertainty and a loss of faith in the current economic model.

⁴⁵ The increase in debt in foreign currency (D) results from a trade deficit and the interest rate (i) payments on accumulated debt – assuming that other elements of the current account are balanced. Thus, we have

$$\dot{D} = (M - X) + iD \quad (1)$$

eventually reflected in the widening of the interest rate differential between the Argentine dollar interest rate and that of the United States Treasury Bill rates -measuring the compensation for perceived risk of default-, which by, May 2001 reached levels similar to those of strife-ridden African countries. Within this explanation fiscal factors matter but fiscal performance is endogenous to external performance.⁴⁶

In sum, once the country found itself confronted with a twin deficit situation there was no obvious exit except to abandon convertibility. Postponing this decision meant in turn a process of debt accumulation. Contrarily to the tacit economic organization of the first globalization period, the international environment prevailing in the second globalization period debt did not provide a mechanism through which to service or lessen the burden of debt. The end result was simply debt default. Kregel summarises the Argentinean episode in the following terms (2003, p.19):

The persistence of large stocks of external debt, meant that domestic policy remained constrained by external shocks, and in particular by the necessity to maintain flows of external finance and the impact of international capital market interest rates on the carrying cost of the outstanding debt. The failure of domestic producers to become major competitors in international markets in the short period in which this

where the dot represents change, M stands for imports, and X for exports. If we define d as the debt to exports ratio, which is the inverse of the measure of debt sustainability (i.e. the ability to repay), then, the rate of change of d is

$$\frac{\dot{d}}{d} = \frac{\dot{D}}{D} - x \quad (2)$$

where x is the rate of growth of exports. Substituting (2) into (1) we obtain

$$\frac{\dot{d}}{d} = \frac{(M - X)}{D} + (i - x)$$

That is, the debt-to-export ratio increases if the rate of interest grows faster than exports (or, in other words, if the financial costs of debt grows faster than the ability to repay), and if trade deficits increase incessantly.

⁴⁶ Orthodox tradition tends to place the focus on the fiscal situation only failing to take into consideration the interaction between fiscal and external variables and their historical specificity. Mussa, for example writes op. cit.10:“enumerating the many things that contributed to Argentina’s tragedy, however, should not obscure the critical, avoidable failure of Argentine economic policy that was the fundamental cause of the disaster – namely, the chronic inability of the Argentine authorities to maintain a responsible fiscal policy.” See also Schuler (2002), Perry and Servén (2002) and Calvo, Izquierdo, Sturzenegger (2003) and Talvi (2003) for similar interpretations that put the accent on the fiscal causes of the crisis. From the point of view of this line of thought, the various episodes – from the resignation of Álvarez to Cavallo’s exchange rate gamble – indicated that the government’s willpower to maintain the fixed parity was waning.

liberalization of domestic markets to foreign competition took place meant that when growth occurred it was not led by expanding demand via higher net exports, but rather via higher foreign capital inflows. This has been characterized as ‘debt-led’ growth, in contrast to ‘export-led’ growth, and has meant that any given level of economic growth has meant a higher share of imports creating a vicious circle of external financing crises that replaces the ‘stop-go’ cycles of the 1960’s balance of payments crises.

It certainly can be argued that both Argentinean regimes were subject to unforeseen external shocks that could be not withstood. Moreover the case has been made that these bear a great part of the explanation in the closure and eventual demise of the Caisse and in the failure of the Convertibility episode.

The shocks produced a reversal in expectations. This is especially clear in the case of the Convertibility Plan.⁴⁷ The *Caisse* faced the contraction in capital flows that accompanied the belligerent efforts of 1914. Later in 1929, it was faced with a pronounced decline in the terms of trade and a floating debt that could not be serviced. The Convertibility Plan confronted the Mexican crisis, the Asian crisis and the devaluation of the Brazilian Real. International financial liberalization and the risks of contagion played an important role in the final collapse of the convertibility system.

However, a closer inspection of the evidence reveals a key difference in the external shocks confronting the *Caisse* and the Convertibility Plan. In the case of the Convertibility Plan external shocks, mainly financial crises, were ultimately the result of an international system whose workings did not follow any rules. In the case of the Conversion Caisse the 1914 external shock was not due to any financial crisis but rather reflected the demise of the relationships that provided the foundations for the workings of the international system and the *Caisse* until that time.

⁴⁷ See for example Fanelli (2002) and Fanelli and Heymann (2002).

In this respect, it seems that a misconceived view about the possibilities of reproducing the economic arrangement of the *belle époque*, in a world that had changed substantially, are partly to blame for the failure of the 1991-2001 convertibility system. The globalization aspect was simply very specific to the times and the historical context. As noted by Coatsworth and Williamson (2002, pp. 3-4) the hypothesis that growth during the *belle époque* exploited globalization forces should be tempered by the fact that during that period Latin America had, with the exception of the United States, the highest protective tariffs in the world. In other words, export-led growth was not inconsistent with protectionism.

Concluding Remarks

The 1991 Convertibility Plan was promoted as a return to a Golden Age, in which price stability, and a relatively open economy, in an environment that attracted foreign investment, was conducive to high rates of growth. The argument was that by reproducing the monetary arrangement that had been successful in the last part of the first globalization period Argentina would recover from the lost decade of the 1980s.

The overall economic performance of both experiments in both periods was significantly different. The first currency board functioned within an international system that functioned in manner similar to a closed economy. The equality over time of demands and supplies, credits and debits and international cooperation and coordination were crucial conditions for its success.

In the second currency board experiment the historical conditions, in particular pertaining the style of integration with the world economy, were more complex and problematic. In fact the Convertibility Plan was an attempt to establish a national monetary rule within an international system that did not function according to any particular rule. The poor export performance, and the unsustainable trade and current account deficits, resulting from the process of external liberalization, the process of international financial liberalization, that made Argentina more vulnerable to contagion, and the increasing financial fragility evidenced in the high debt-to-export ratio eventually led to the collapse of the Convertibility experiment.

The role of economic ideas – in particular, the incorrect lessons taken from the first globalization period – in furthering the economic imbalances were central to the failure of the 1991 Convertibility experiment. Marx might have been right after all, history repeats itself; the first time as a tragedy and then just as a farce.

References

- Acemoglu, Daron; Simon Johnson, and James Robinson (2004), "Institutions as the Fundamental Cause of Long-run Growth," NBER Working Paper No 10481.
- Baer, Werner; Pedro Elosegui and Andrés Gallo (2002), "The Achievements and Failures of Argentina's Neo-liberal Economic Policies," *Oxford Development Studies*, 30(1), February, pp. 63-85.
- Barro, Robert and David Gordon (1983), "A Positive Theory of Monetary Policy in a Natural Rate Model," *The Journal of Political Economy*, 91(4), August, pp. 589-610.
- Berlinski, Julio (2004), *Los Impactos de la Política Comercial: Argentina y Brasil: 1988-1997*, Buenos Aires: Siglo XXI.
- Bordo, Michael and Finn Kydland (1996), "The Gold Standard as a Commitment Mechanism," in *Modern Perspectives on the Gold Standard*, edited by Tamim Bayoumi, Barry Eichengreen and Mark Taylor, Cambridge: Cambridge University Press.
- Bordo, Michael and Hugh Rockoff (1996), "The Gold Standard as a Good Housekeeping Seal of Approval," *The Journal of Economic History*, 56(2), June, pp. 389-428.
- Calvo, Guillermo and Sarah Guerschanik Calvo (1992), "Argentina: monetary and financial system," in *The New Palgrave Dictionary of Money and Finance*, edited by Peter Newman, Murray Milgate and John Eatwell, New York: Macmillan Press
- Calvo, Guillermo; Alejandro Izquierdo, and Ernesto Talvi (2003), "Sudden Stops, the Real Exchange Rate, and Fiscal Sustainability: Argentina's Lessons," NBER Working Paper No. 9828 July.
- Câmara Neto, Alcino F. and Matías Vernengo (2004-5), "Fiscal Policy and the Washington Consensus", *Journal of Post Keynesian Economics*, 27(2), Winter, pp. 333-343.
- Cavallo, Domingo F. (1993), "The Convertibility Plan," in *Proceedings of a Conference on Currency Substitution and Currency Boards*, edited by Nissan Leviatan, Washington, DC: World Bank.
- Cavallo, Domingo F. (1996), "Lessons from the Stabilization Process in Argentina, 1990-1996," in *Achieving Price Stability*, Jackson Hole: Federal Reserve Bank of Kansas City, pp. 169-177.
- Cavallo, Domingo F. y Rodolfo H. Terragno (1999), *Debate Cavallo/Terragno*, Universidad Nacional de Quilmes.

- Coatsworth, John and Jeffrey Williamson (2002), "The Roots of Latin American Protectionism," NBER Working Paper No 8999.
- Damill, Mario; Roberto Frenkel, y Laura Juvenal (2003), "Las Cuentas Públicas y la Crisis de la Convertibilidad en la Argentina," *Desarrollo Económico*, 43(170), Jul.-Set., pp. 203-229.
- Della Paolera, Gerardo and Alan Taylor (2001), *Straining at the Anchor*, Chicago: University of Chicago Press.
- Diaz Alejandro, Carlos F. (1970), *Ensayos sobre la Historia Económica Argentina*, Buenos Aires: Amorrortu editores.
- Dornbusch, Rudiger (2000), *Keys to Prosperity*, Cambridge: MIT Press.
- Eichengreen, Barry (1992), *Golden Fetters*, New York: Oxford University Press.
- Fanelli, José M. (2002), "Crecimiento, inestabilidad y crisis de la convertibilidad en Argentina," *Revista de la CEPAL*, 77, pp.25-45.
- Fanelli, José M. and Daniel Heymann (2002), "Monetary Dilemmas: Argentina in Mercosur," Serie Estudios y Perspectivas (7) ECLAC, Buenos Aires.
- Fajnzylber, Fernando (1983), *La Industrialización Trunca de América Latina*, México: Nueva Imagen.
- Ferns, H.S. (1950) Investment and Trade between Briatian and Argentina in the Nineteenth Century. *The Economic History Review*, Vol.3., No.2, pp.203-218.
- Ferns, H.S. (1952) Beginnings of British Investment in Argentina. *The Economic History Review*, Vol.4, No.3., pp.341-352.
- Ferns, H.S. (1992) The Baring Crisis Revisited. *Journal of Latin American Studies*, Vo. 24, No.2. , pp.241-273.
- Ford, Alec G. (1962), *The Gold Standard, 1880-1914: Britain and Argentina*, Oxford: Clarendon Press.
- Ford, Alec, G. (1956) Argentina and the Baring Crisis of 1890 *Oxford Economic Papers*, New Series, Vol. 8, No.2. pp.127-150.
- Frankel, Jeffrey (1999), No Single Currency Regime is right for all countries or at all times. Working Paper 7338. NBER.
- Gesell, Silvio (1898), *La Anemia Monetaria*, Buenos Aires, 1909.

- Giavazzi, Francesco and Marco Pagano (1988), "The Advantage of Tying One's Hands," *European Economic Review*, 32(5), June, pp. 1055-1075.
- Guy D. J. (1979), "Carlos Pellegrini and the Politics of Early Argentine Industrialization, 1873-1906," *Journal of Latin American Studies*, 11(1), pp.123-144.
- Reinhart, Carmen (2004), "Review of Straining at the Anchor: The Argentine Currency Board and the Search for Macroeconomic Stability, 1880-1935 by Gererado Della Paolera and Alan Taylor," *Journal of Economic Literature*, 42(1), pp.187-188.
- Hanke, Steve (1999), "The disregard for currency board realities," *Cato Journal*, 20(1). pp.49-59.
- Hanke, Steve and Kurt Schuler (1991), "Argentina Should Abolish Its Central Bank," *Wall Street Journal*, October 25, p. A15.
- Hodge, J. E. (1966), "Carlos Pellegrini: Argentine Nationalist 1846-1906," *Journal of Inter-American Studies*, 8(4), pp.541-550.
- Hodge, J.E. (1970), "Carlos Pellegrini and the Financial Crisis of 1890," *The Hispanic American Historical Review*, 50(3), pp.409-523.
- Hoover, Kevin (1988), *The New Classical Macroeconomics: a Sceptical Inquiry*, Oxford: Basil Blackwell.
- Keynes, John Maynard (1980), *The Collected Writings of John Maynard Keynes*. Vol. XXV, New York: Cambridge University Press.
- Kydland, Finn and Edward Prescott (1977), "Rules Rather Than Discretion: The Inconsistency of Optimal Plans," *Journal of Political Economy*, 85(3), June, pp. 473-491.
- Kregel, Jan (2003), "An Alternative Interpretation of the Argentine Crisis," *Investigación Económica*, 63(243), January/March.
- Maddison, Angus (2001), *The World Economy: A Millennial Perspective*, Paris: OECD.
- Mishkin, Frederic (1999), "Global Financial Instability: Framework, Events, Issues," *The Journal of Economic Perspectives*, 13(4), Autumn, pp. 3-20.
- Mussa, Michael (2002), *Argentina and the Fund: From Triumph to Tragedy*, Washington, DC: Institute for International Economics.
- Nakamura, Leonard and Carlos Zaragaza (1998), "Economic Growth in Argentina in the Period 1900-1930: Some evidence from Stock returns," in *Latin America and the*

World Economy since 1800, edited by John H. Coatsworth and Alan M. Taylor, Cambridge: Harvard University Press, pp.247-269.

Nakamura, Leonard and Carlos Zaragaza (2001), "Banking and Finance in Argentina in the period 1900-1935," Working Paper No01-7.

O'Connell, Arturo (1984), "Argentina into the Depression: Problems of an Open Economy," in *Latin America in the 1930s: the Role of the Periphery in World Crisis*, edited by Rosemary Thorp, New York: St. Martin's Press.

Pérez-Caldentey, Esteban and Matías Vernengo (2007), "Introduction," in *Ideas, Policies, and Economic Development in the Americas*, New York: Routledge.

Perry, Guillermo y Luís Servén (2002), "La Anatomía de una Crisis Múltiple: que Tenia Argentina de Especial y que Podemos Aprender de Ella," *Desarrollo Económico*, 42(167), Oct.-Dec., pp. 323-375.

Peters, H. G. (1934), *The Foreign Debt of the Argentine Republic*, Baltimore: John Hopkins.

Rapoport, Mario (2005), *Historia Económica, Política y Social de la Argentina, 1880-2003*, Buenos Aires: Ariel.

Robinson, Joan (1985), *Aspects of development and underdevelopment*, New York: Cambridge University Press.

Rosa, José María (1909), *La Reforma Monetaria en la República Argentina*, Buenos Aires.

Sargent, Thomas (1982), "The Ends of Four Big Inflations," in *Inflation: Causes and Effect*, edited by Robert Hall, Chicago: Chicago University Press.

Schuler, Kurt (2002), "Fixing Argentina," Cato Institute Policy Analysis No 445.

Vernengo, Matías (2006), "Money and Inflation," in *A Handbook of Alternative Monetary Economics*, edited by Philip Arestis and Malcolm Sawyer, Cheltenham: Edward Elgar.

Warburton, Clark (1966), *Depression, Inflation, and Monetary Policies: Selected Papers, 1945-1953*, Baltimore: Johns Hopkins University Press.

Wirth, M. (1893), "The Crisis of 1890," *The Journal of Political Economy*, 1(2), pp.214-235.

Williams, John H. (1920), *Argentine International Trade under Inconvertible Paper Money, 1880-1900*, Cambridge: Harvard University Press.

Williamson, John (1989), "What Washington Means by Policy Reform," in *Latin American Adjustment: how much has happened?* Edited by John Williamson, Washington, DC: Institute for International Economics, 1990.