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Abstract

During the last decade Argentina passed through many different experiences. After the hyperinflation process of 1989-1990, the country -following the 10 points of the Washington Consensus- experienced the liberalization and fostering of its economy. But unfortunately, that golden period lasted no more than a couple of years. In the last 3 years, Argentina passed through its deepest economical, political and social crisis. In the beginning of the crisis some economists and former politicians claimed that a solution for the crisis shall be found if the country achieves to Dollarize its economy, and end with the pegged exchange rate system established in 1991.

The present paper will try to analyse if that solution -not implemented- would have been a real and sincere one to the exchange rate problems faced by the country. And if in case of achieving the Dollarization, the 2001-2002 Argentine crisis would have been prevented or avoided. To do so the paper will analyse: (i) chronology of events to know Argentine current situation; (ii) definition of Dollarization; (iii) main advantages and disadvantages of Dollarization; (iv) would it have been a solution in Argentina?; and (v) conclusion.

I. Chronology of Argentine events

During the nineties, Argentina lived an important process of reform and liberalization. The exchange rate system established by Carlos Menem as the Argentine President and Domingo Cavallo as its Economy Minister was a hard-pegged exchange rate together with a currency board regime. This regime deterred the inflation and lead the country to years of growth and stability.

Even though some of the reforms were good and important the whole process has been incomplete. The reforms lacked a State reform and an adequate fiscal policy, especially regarding the public debt, which enlarged the insolvency of the public sector.

That insolvency in the public sector is the principal rationale of the Argentine crisis.

In the abovementioned decade, "*Argentina increased considerably its primary public consolidated expenses (Federal and Provinces). At the same time, it maintained the offer of public goods that was inefficient in both quality and quantity.*

And even thought the tax collection also increased due to the growth of the taxes (new taxes and increase in the rates of existing taxes), Argentina incurred in fiscal deficits."[1].

This accumulation of fiscal deficit was obviously absorbed by public debt. As the latter was increasing, the interest rate for Argentine debt was increasing in the same proportion of the EMBI rate.

As parts of the reforms in the 90's Argentina privatised many of its public services providers companies that generated incomes for approximately US$ 28 B.

[1] Pieckarz, Julio. *"Crisis Financiera y Reforma Del Sistema Financiero"*. February 2003.

Notwithstanding those incomes, the public debt reached very high levels in relation with most of the relevant variables.

"*This huge public indebt ness created a massive crowding out of the private sector from the capital and financial market. Moreover, the sovereign ceiling clause increased the cost for finance to -a big part- the private sector. Argentine products had no possibilities to compete in the international market, and the US$1:$1 basis established by the Convertibility in 1991 made imported goods cheap for the Argentine domestic market*"[2].

With this high level of risk, Argentina had no chance to keep on issuing debt (sovereign bonds) at international standard cost, so, in 2000 he received a huge stand-by credit from the multilateral lenders, known as "blindaje" and one year later (June 2001) another instrument to roll over -and decreased the interest rates- the sovereign debt, but without any attempt to decrease the public expenses ("megaswap").

The "Zero Deficit" programme -implemented by the Economy Minister Domingo Cavallo just after the megaswap- was different to the precedent instruments. By this programme, the public debt should be stabilized and the required finance shall not be use to finance expenses or debt service. But it was implemented late, when the domestic and international market had already taken any kind of "voluntary" finance to the Argentine Government.

In this context, the Argentine Government used for the first time since the Convertibility Regime the finance of the Central Bank. "*This undoubtedly created more uncertainty in the markets about the sustainability of the exchange change system. This uncertainty was increased when in September 2001, the Government requested more financial aid to international organisms*"[3].

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[2] Supra 1.
[3] Supra 1.

In the end the Argentine Debt was too big to be absorbed by the domestic market: 142% of the total amount of the domestic market in 2001[4].

By the enlargement of the sovereign debt, the permanent resistance to decrease the cost of public expenses, and due to the clear signs of the expiration of financial resources, the convertibility regime established 10 years before, was going to an inevitable death.

That death started on December 3, 2001, with the implementation of the assets freeze known as "Corralito". <u>The Convertibility Regime was only an allusion</u>. Then, the new and current Government did not maintain the suspense for long: instead of cutting the expenses and enforcing the financial system, they decided to devaluate, and pesified the accounts, that was a confiscation and consequent violation of propriety rights to the depositors.

During the process of huge indebt ness, as believing that the exchange rate system established 10 years before was leading to its own collapse, many economist and some politicians believed that the best way to avoiding the crisis was amending the convertibility by Dollarizing the Argentine economy. They claimed that the Argentine crisis might have been prevented or avoided by Dollarizing the economy.`

The idea was to derogate the National Law 23.928 that set forth the Convertibility Regime, and replace it by an "Official Dollarization". Finally, the idea did not prosper but the aim of the present paper is to analyse the feasibility of said solution.

II. Definition of Dollarization

This term has been very used in Latin America especially in the last decade. It has been used with many different meanings. Some use the term Dollarization (widely, but wrongly, regarded as a synonym for currency substitution) to describe the

[4] See www.indec.gov.ar

occurrence of capital flight, others to explain the behaviour of the parallel (black) market exchange rate, and yet another group -a growing majority- to refer to the use of foreign money as a store of value, unit of account, and/or medium of exchange within the domestic economy[5]. But these meanings are different ascriptions within what is understood as "unofficial Dollarization".

Official, Semi-official and Unofficial Dollarization.

Currently, it is understand that Dollarization occurs "*when residents of a country extensively use the U.S. dollar or another foreign currency alongside or instead of the domestic currency"*[6].

Dollarization can be divided into three: (i) Official, (ii) Semi-official, and (iii) Unofficial.

According to Schuler's definition Unofficial Dollarization occurs when individuals hold foreign-currency bank deposits or notes (paper money) to protect against high inflation in the domestic currency. Official Dollarization occurs when a government adopts foreign currency as the predominant or exclusive legal tender[7]. Official is also known as Full Dollarization that "*means taking the next step, from informal, limited Dollarization* (we defined it as Unofficial) *to full, official use of the foreign currency in all transactions*"[8].

A third ascription of Dollarization is known as "Semi-official Dollarization". Under this, foreign currency is legal tender and may even dominate bank deposits, but plays a secondary role to domestic currency in paying wages, taxes, and everyday expenses such as grocery and electric bills. The latter does not happen in official or full Dollarization where the payments, and the everyday expenses are released in the foreign currency, usually the U.S. Dollar.

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[5] Savastano, Miguel A. "*Dollarization in Latin America: Recent Evidence and Some Policy Issues*".

[6] Schuler, Kurt. "*Dollarization, Basic understanding*". 2001 at http://www.stern.nyu.edu/globalmacro/

[7] Supra 6.

8 Berg, Andrew and Borenztein, Eduardo. "*Pros and Cos of Dollarizing*". IMF Publication Services. See http://www.imf.org/external/pubs/ft/issues/issues24/note1

Argentine situation.

Under this 3 different understandings of Dollarization, Argentina was considered -according to the IMF in 1998- as to have a Unofficial Dollarized Economy because it "*allows foreign currency a legal role but apparently not so intensive as Semi-official Dollarized economies*" [9]. I do not agree with said interpretation. Taking into account the afore-mentioned definition, the Argentine economy's Dollarization -during the nineties- should be regard as a semi-official one. The Convertibility Law 23.928 (modified by Law 25.445) and Decree 2128/91 named the argentine currency "peso convertible" (convertible peso) meaning that the Argentine currency was convertible into US Dollars in the 1:1 basis established by those rules. But the aim of the present paper is not discuss said issue, but to analyse the possible consequences of an official Dollarization in the country.

Official Dollarization: How it works.

An officially Dollarized country is part of a "unified currency zone" with the country whose currency it uses, called the issuing country. The Dollarized country set asides its monetary policies and imports the ones from the issuing country. Within this unified currency zone, arbitrage[10] tends to lower as the gap in the price of similar goods between the two countries is reduced as a consequence of the Dollarization.

Dollarization[11] helps to maintain inflation within the same level in the zone. This does not mean that the inflation will be exactly in the whole region, as there are some goods that are more mobile than other, like real state and labor. Thus, where these variables more rapidly, the goods will be more valuable, therefore inflation will not be exactly the same in the whole zone. But of course, in the whole economy, the inflation rates of the two different countries will show not significant differences.

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[9] Supra 6.

[10] "*Arbitrage: The simultaneous purchase and selling of a security in order to profit from a differential in the price. This usually takes place on different exchanges or marketplaces*". See Investopedia.doc at http://www.investopedia.com/terms/a/arbitrage.asp

[11] In the rest of the paper, the term Dollarization (and different ascriptions) will be used referring to Official Dollarization, except it is clearly specified in the contrary.

Similar situation will occurred with interest rates. They will be likely to be similar between the two different countries. Notwithstanding, there could be some differences because of the country risk of the Dollarized country. If the country's risk -measured by different risk rates like EMBI[12]- is high, this could lead to an increase in its interest rates.

In an officially Dollarized country the supply of money is determined "automatically" by the balance of payments[13]. The balance of payments reflects people's preferences for saving against spending money. The issuing country determines the amount of the monetary base in existence (notes and coins in circulation, plus bank reserves).

In case of external shocks, a Dollarized country cannot alter or make changes in its exchange rate of its currency. This can be done with others exchange rate systems. But there are some other methods of adjustment that can be used in case of a Dollarized economy: flows of capital in or out of the country to offset the shocks and that will modify the monetary base, and changes in prices and wages. Thus, can deal with the balance of payments to adjust external shocks.

According to Berg and Borenztein the main attraction of Official Dollarization is "*the elimination of the risk of a sudden, sharp devaluation of the country's exchange rate. This may allow the country to reduce the risk premium attached to its international borrowing. Dollarized economies could enjoy a higher level of confidence among international investors, lower interest rate spreads on their international borrowing, reduced fiscal costs, and more investment and growth*"[14].

Schuler believe that Dollarization is not efficient unless it counts with a financial integration. This one is achieved when the Dollarized country allows foreign financial institutions to freely compete with domestic institutions. This competition shall be

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[12] The J.P. Morgan Emerging Markets Bond Index (EMBI) is a total-return index that tracks the traded market for U.S. dollar-denominated Brady and other similar sovereign restructured bonds.

[13] "*Balance of Payment: A record of all transactions made by one particular country during a certain period of time. It compares the amount of economic activity between a country and all other countries".* See Investopedia.doc at http://www.investopedia.com/terms/b/bop.asp

[14] Infra 8.

without any kind of discrimination against the foreign institutions. The financial integration shall allow foreign banks to establish branches in the Dollarized country, buy assets of domestic banks, and inflow and outflow money freely.

With financial integration, the Dollarized country is incorporated to a pool of funds. Within this, the money will be borrowed where the cost is lower and will be lend where the profit (considering also de risk) is the highest.

Furthermore, the financial integration will underpin the financial system thanks to the introduction in the market of worldwide recognize financial institutions. Domestic institutions will have to improve its quality to compete with the foreign ones, and could require them -foreign institutions- for borrowing money if necessary. This possibility liberates the Central Bank function as lender of last resort.

Unilateral and Bilateral Dollarization.

Dollarization implementation can be classified into two main groups: (i) unilateral decision, and (ii) bilateral decision. Within the first one, the decision to Dollarize the economy is taken individually by the country, without the intervention or recognition of the issuing country. On the other hand, bilateral agreement means pursuing Dollarization by making a treaty with the issuing country in which the parties will specify the conditions of the Dollarization. Among other things, the parties will determine if they will share or not the seigniorage[15] revenue and how, the access to the Fed discount window, and the voting rights on the Federal Open Market Committee (FOMC). This type of Dollarization can be seen as a middle system between unilateral Dollarization and a monetary union (Euro, for instance)[16].

Unilateral Dollarization has the advantage that it can be implemented without negotiation with the issuing country that can be costly and long. But on the other hand, bilateral Dollarization might have the advantages of sharing the seigniorage

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[15] "*Seigniorage: The difference between the value of money and the cost to produce it. Seigniorage revenue is often used by governments to finance a portion of their expenditures without having to collect taxes*". See http://www.investopedia.com/terms/s/seigniorage.asp

16 Schclarek Curuchet, Alfredo. "The Benefits and Costs of Official Dollarization for Argentina". See at www.nek.lu.se/nekasc/research/dollarization.pdf

revenue, the access to the Fed discount window, and the voting rights on the FOMC. Bilateral Dollarization also increases the credibility of the measure. The way to go back from a unilateral Dollarization is much easier -changing laws, adopt a new currency and re-establish its Central Bank- than withdrawing a bilateral Dollarization where a agreement must be changed or withdraw.

It is important to take into account this differentiation as the advantages and disadvantages discussed below might differ according to the type of Dollarization.

III. Advantages and disadvantages of Dollarization

It is very difficult to analyse and balance the pros and the cons of Dollarization since the absence of historical experiences and because of the countries that have already achieved this system to its economies. Besides Ecuador –population of 9.9 M people- Panama is several times larger in population and economy than all the rest Dollarized countries combined. Panama is only a country of 2,7 M people and a GDP of US$8,7 B. On the other hand, Panama has a very close historical, political and economic link with the United States, the issuing country. Thus, is general the Dollarized countries are very small in population and economy and have close links with the issuing country. Furthermore, it is difficult to draw definite conclusion about Dollarization since the short period of time passed since the countries decided to Dollarize. This is supposed to be a permanent implementation, and some of its benefits are supposed to be seen in the long term.

However, it is possible to draw some general conclusion about the advantages and disadvantages of Dollarization that will then be analysed in the particular case of Argentina, in order to help us to see if the Dollarization would have prevent to 2001-2002 crisis.

Advantages.

It is widely accepted that Dollarization enhances the reduction of transaction costs. As the domestic currency is replaced by the foreign currency, the exchange risk is completely eliminated[17]. It also reduces the costs associated with foreign exchange that arises in currency transactions between different parties with different currencies. This costs depends on the fees banks or other institutions usually charge for foreign currency conversion, or maybe costs that arises from when companies have to keep separate foreign exchange department. With a Dollarization, this cost will simply disappear. Thus, there will be a reduction on transaction costs, associated with trade and investors. Some authors (see Stein et al., 1999) believe that this reduction in transaction costs will boost bilateral trade and investment with the issuing country and also with other countries that establish this kind of system. There will be a closer integration between the Dollarized country and the issuing one.

An immediate benefit widely believed of Dollarization is the elimination of the devaluation risk. There will no longer exist domestic currency, and the exchange and monetary policy will be imported from the issuing country. Thus, the country risk premium should be reduced, and interest rates for the Government and private borrowers should be lower. Some experts believe Dollarization eliminates the "exit option" provided by other exchange rate systems, even a currency board. However, the exit option can be really burdensome if not used in a very sensible and reasonable form.

It is important to point out that for countries whose debt is in Dollars or another foreign currency, devaluation will increase its amount of debt. In semi of Unofficial Dollarized economies it will also lead to an increase in the prices for many of the products even nationals contain imported parts.

Without the possibility of the State to issue money, the inflation rate and its volatility will be reduced. Some authors believe that the inflation rate will ultimately converge to the level prevailing in the U.S. Following Schuler's ideas "*low inflation increases*

[17] Stein, Ernesto; Talvi, Ernesto; Panniza, Ugo and Marquez, Gustavo "*Evaluando la dolarizacion: Una aplicacion a paises de America Central y del Caribe"*. 1999 at www.iadb.org/oce/exchange_rate/evaluan.pdf

the security of private property. Money is the most widely held form of property. Inflation is a kind of tax on money, and the lower and less variable inflation is, the more secure are property rights in money. Because other financial assets are denominated in money (currency units), low inflation also increases their security, which encourages saving and long-term lending".

Last but not least, Dollarization eliminates balance of payments crises and the rationales for exchange rate controls. Without domestic currency there is no possibility of sharp depreciation, or sudden capital outflow motivated by fears of devaluation. Furthermore, the Government has no way to create inflation, so this fosters budgetary discipline (Schuler, 2001). Berg and Borenztein sustain that "*Dollarization is perceived as an irreversible institutional change towards low inflation, fiscal responsibility and transparency"*[18]. Thus, the budget deficits will be financed through transparent methods of higher taxes or more debt rather to printing money.

Disadvantages.

The costs of Dollarization can be divided into: (i) monetary policy independence loss, (ii) seigniorage loss, (iii) lost of last resort function, and (iv) citizen's shock for lost of own currency. However some authors (Curuchet, 2001) believe that "seigniorage" and "last lender resort function" cannot be strictly seen as cost or disadvantages of Dollarization, we will consider them as costs or disadvantages of the system.

(i) Independence monetary policy provides three main benefits for an economy. First, allows isolation for the domestic interest rate from foreign ones. Secondly, it can be used as an instrument of anti-cyclical management of the aggregate demand. Finally, it can be used to avoid sever deflationary adjustments. Central Banks can influence the inflation with the money printer machine. Dollarization diminishes these benefits, even worse than in a pegged exchange rate system, for the monetary independence is lost even in the future (no "exit option").

[18] Supra 8.

(ii) A country adopting a foreign currency as legal tender sacrifices its seigniorage, the profits accruing to the monetary authority from its right to issue currency. The immediate cost of this issuance can be significant, and it continues on an annual basis thereafter.

Dollarization involves two kinds of seigniorage loss. The first is the immediate "stock" cost: as the dollar is introduced and the domestic currency withdrawn from circulation, the monetary authorities must buy back the stock of domestic currency held by the public and banks, effectively returning to them the seigniorage that had accrued over time.

Second, the monetary authorities would give up future seigniorage known as "flow cost". This is a continuing amount lost year after year. This seigniorage revenue is a consequence of the special characteristics of the elements composing the Central Bank's balance sheet. Its liabilities are generally composed by the reserve requirements, which are the deposits financial intermediaries hold in the central bank, and the monetary base, or stock of fiat money. Generally, none of those pays interest. In contrast, interest-bearing assets compose the asset side of the balance sheets such as government bonds denominated both in local and foreign currency. Clearly, the central bank is making a profit as the liabilities do not pay interest and the assets earn interest. This profit is the opportunity cost measure of the seigniorage revenue.

When dollarizing the economy, the country losses the ability to collect the seigniorage that is now collected by the issuing country. In case of bilateral Dollarization, the parties can agree to share the profits obtain by the seigniorage[19].

Schuler points out that there are other costs that should be taken into account in case of a Dollarization. Among others, the one-time cost of converting prices, computer programs, cash registers and vending machines from domestic to foreign currency. In the case of Argentina, this cost --pre-devaluation-- was almost null for the relation between the foreign and the domestic currency was 1:1.

[19] For further information about seigniorage, including cost for Argentina in case of Dollarization, and different technical mechanisms for obtaining and sharing the seigniorage revenue, see in detail infra 6 and 16.

(iii) Even though Dollarization eliminates the possibility of financial crises due to devaluation of the domestic currency, it does not eradicate all sources of banking crises. And when they occur, Dollarization impairs the Bank's lender of last resort function. How? Most of the times the function is exercised through the creation of new money. Thus, if a country dollarizes its economy the Central Bank losses the ability to issue money, and could not give financial aid to the banks that might need it.

Some authors believe that the Central Bank does not loose the complete ability to act as a lender of last resort. They suggest some ways to Central Banks to provide liquidity support to local banks[20]. Among others, allow local banks to have access to the Fed's Discount Window[21], established in the bilateral Dollarization agreement; create a stabilizing fund which could be used by the central bank to perform lender of last resort funds -for this the country needs reserves-; and/or arrange lines of credit from foreign banks to be used in case of crises. But in all this cases, the Central Bank will undoubtedly loose the autonomy that has without dollarizing the economy.

(iv) Finally, countries are reluctant to abandon their own currency, symbol of their nationhood in favour of that of other country. They believe they loose part of the country's identity. Thus, is a great risk for the Government that decides said measure.

The advantages and disadvantages can be summarized as follows:

Advantages	Disadvantages
Reduction of transaction costs and that boost bilateral trade with issuing country.	Monetary independence policy lost.
Elimination of devaluation risk.	Seigniorage lost.

[20] Infra 6 and 16.

[21] "*Discount Window: The discount window functions as a safety valve for relieving pressures in reserve markets. It helps to reduce liquidity problems for banks and assists in assuring the basic stability of financial markets"*. See http://www.investopedia.com/terms/d/discountwindow.asp

Inflation control.	Lost of last resort function.
Elimination of balance of payment risk.	Lost of identity and national symbol.

IV. Would it have been a solution for Argentina?

To determine if Dollarization is or not a good solution in a certain country, is necessary to take into account the series of variables of that country at the time of the possible Dollarization. In Section I we determined the economic and financial situation of Argentina when the idea of dollarizing its economy aroused.

Besides from the disadvantages established above, the aim of the present section is to analyze if the benefits were so important for Argentina to determine if dollarizing the economy would have prevented the 2001-2002 crises.

Transaction costs.

Even though Dollarization might reduce the transaction costs, it is difficult to achieve that it might boost the trade between Argentina and the United States. Argentine's trader's main partners are the European Union and its neighbor country Brazil. In the year 2002, Argentina exported US$5 B to the EU and US$4,7 B to Brazil, while the exports to US together with Mexico and Canada were only of US$3,7 B[22]. In this, we have to make a clear difference with Panama that before dollarizing its economy two thirds of their exports were acquired in US. We are reluctant to believe that the Dollarization will magically boost the trade between Argentina and the United States.

Devaluation risk.

Dollarization eliminates the devaluation risk. But devaluation is not always bad. Many experts believe that Argentine problem was mainly based on the extremely high value of domestic currency. Brazil devaluation and US Dollars appreciation make Argentine products very expensive in the world market. In some cases, devaluation may reduce default risk by improving the domestic economy and the fiscal position. This might not have been the Argentine situation as default was almost inevitable, but it seems that devaluation make Argentine product more competitive and the competitiveness will be the angular stone to start Argentine recovery. Briefly, devaluation was a major issue in Argentine economy where the most important aspect was weather to devaluate or not, and not to look for the way eliminate the devaluation risk.

Besides, and specifically in the case of Argentina, even Dollarizing the economy, there is not legal instrument that establish the impossibility of issuing legal tender or even change the form of circulation of the foreign currency. And even in the case this obligation can be set forth by law or even in the National Constitution, said decision can be reversed in the same way. During the pegged exchange rate regime Argentina implemented a currency board. Notwithstanding, many provinces issued their own currency and nowadays the National Government is paying the price of said un-backup issuances. With this we try to ascertain that the elimination of the exit option supposedly determine with the Dollarization is not as rigid as it seems, especially in countries like Argentina.

On the other hand, Dollarization can eliminate devaluation risk but cannot eliminate sovereign risk, also known as default risk. Even though it is widely understood that devaluation risk and default risk move closely together, it is impossible to establish a causal link from one to the other. This is exactly what happened in Argentina. Default risk was worse than devaluation risk, as the State was in a very difficult position to service its sovereign debt. And the country reached the point when it was impossible to pay the debt, so they had to default it. After that and as a possible solution the current Government decided to devaluate the currency. But this was thought as a solution of default. Consequently, Dollarization cannot be suggested as a solution to eliminate default risk that was the main issue in Argentine crises.

[22] Infra 4.

Inflation control.

Similar situation occurs with the inflation control. During the crises the Government never faced inflation problems. The convertibility system eliminated that risk. Inflation occurred after devaluation (January 2002) as a consequence of the semi-official Dollarized economy. A large amount of products were imported and national products had imported parts, thus the imported parts were translated to the final price of the products. There was no way to eliminate or avoid inflation. Argentina was not living an inflation crises, so the benefit of Dollarization to control inflation was not necessary. This cannot be taken as a benefit to claim Dollarization. This benefit had no relation with the crises.

Balance of payment.

It is unacceptable to believe that the importation of monetary and exchange rate policy will bring transparency and fiscal responsibility. Dollarization has no difference with pegged exchange rate system in relation with fiscal responsibility. Thus, Dollarization could not prevent the crises, based mostly in bad implementation of fiscal and monetary policies, and huge indebt ness.

V. Conclusion

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It is very difficult to balance the costs and benefits of Dollarization. The present paper's main idea was to determine if the Dollarization would have prevented or softened the 2001-2002 crises.

After the analysis realized we believe that the answer is no. The main advantages of dollarizing an economy were not needed in Argentine previous to its crises. Inflation was not a threat. Devaluation was being analyzed and not eliminated. Monetary and Exchange rate policies were not precisely incorrect. The Argentine problems were others. Is not the aim of the present paper make an analysis of the same or find a solution, if there is, to the Argentine crises. Dollarization, I believe would not have prevent or avoid the Argentine crises.

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