

MEDZINÁRODNÉ VZŤAHY SLOVAK JOURNAL OF INTERNATIONAL RELATIONS Faculty of International Relations, University of Economics in Bratislava 2021, Volume XIX., Issue 1, Pages 48 – 62 ISSN 1336-1562 (print), ISSN 1339-2751 (online) Submitted: 30. 9. 2019 | Accepted: 1. 3. 2021 | Published 15. 3. 2021

# CURRENCY BOARD V ARGENTINĚ CURRENCY BOARD IN ARGENTINA

# Lukáš Krupka<sup>1</sup>

Text se zabývá tématem currency board (pevný měnový kurz) a jeho implementace v Argentině v 90. letech 20. století. Argentina se v 90. letech 20. století dostává do stavu stagflace, kdy roste inflace a naopak růst HDP stagnuje. President Menem, jako součást svého stabilizačního plánu, proto nasazuje systém currency board (ve formě currency board-like), aby snížil inflaci. Ta klesá v absolutních číslech i míra její volatility (prokázáno modelem GARCH). Nicméně tím, že implementace currency boardu postrádala zavedení i dalších makroekonomických politik a změnu institucionálního zázemí, tento systém nebyl plně funkční. Argentina se následně ocitá v prohlubující se krizi a roku 2002 vyhlašuje státní bankrot.<sup>2</sup> Klíčová slova: Argentina, currency board, inflace, stagflace, GARCH model, Menem

The paper deals with currency board system implementation and inflation development in Argentina in 1990s. Argentina's development in the 20th century resulted in hyperinflation in 1980s and not-growing GDP. Argentina was, hence, in a state called stagflation. The president Menem implemented currency board system (fixed exchange rate system) to fight against hyperinflation there. The GARCH model proved the currency board was successful in decreasing the level of volatility in Argentina. The inflation in absolute numbers decreased too. Argentina, however, implemented so-called currency board-like system that does not follow all needed macroeconomic policy and institutional changes and therefore the model is not fully effective.

<sup>&</sup>lt;sup>1</sup> Ing. et Ing. Lukáš Krupka, MIM, DiS., Department of International Economic Relations, Faculty of International Relations, Prague University of Economics and Business, nám. Winstona Churchilla 1938/4, 130 67 Praha 3, e-mail: lukas.krupka@vse.cz

Lukáš Krupka is an alumnus from the University of Economics in Prague and currently is a Ph.D. candidate there at the Department of World Economy. His disseration thesis is focused on the economic crises (mainly debt crises) in Latin America. His other fields of studies are state capitalism and regional integrations in Latin America and Asia.

<sup>&</sup>lt;sup>2</sup> The paper was written as part of the project IGS 65/2019 "Sudden Stops".

 $<sup>\</sup>textbf{48} \circ$  Slovak Journal of International Relations, 2021, no. 1

Key words: Argentina, currency board, inflation, stagflation, GARCH model, Menem JEL:P16, P24, E42, E58

#### **1** INTRODUCTION

Argentina is one of the biggest economies in Latin America as well as in the macroregion America (according to the classification of the WTO (World Trade Organization)). The economic development of Argentina is very interesting and could be even considered as unique. During the 20th century the Argentinian economy went through a very dynamic economic cycle. At the beginning, Argentina was considered as one of the most developed economies in the world (1st half of the 20th century) that later on continued with an era of decline, political coups, financial and social instability etc. in the 2nd half of the 20th century. Such a development finally ended up with the bankruptcy of the whole economy in 2002. At the end of the 20th century, specifically in the 1980s, Argentina struggled with high level of instability caused by severe inflation. Its development was very volatile which resulted in price instability in terms of assets as well as consumer goods. This naturally brought problems like stimulation of the domestic demand and financial instability of the local companies.

For these reasons, Argentina decided to implement the "currency board" system. Currency board is an exchange rate system, so-called fixed exchange rate system in which the domestic currency is issued solely against one selected strong foreign currency (in today's world typically to US dollar or EURO). This, of course, leads to the elimination of certain functions of the central bank, such as monetary regulation or being a lender of the last resort. In order the system to work, the central bank is required to fully renounce these functions. Such set-up is needed so that the system can fully work. The main purpose of the currency board system is to decrease the inflation rate and mitigate inflation volatility. Last but not least, another advantage of this system is that it dissuades and nearly eliminates all speculation attacks and reduces interest expenses. (IMF, 1997).

This is precisely the main aim of this paper. The goal is therefore to prove or disprove the hypothesis that currency board was indeed successful in decreasing the inflation rate and in mitigating the inflation volatility in the case of Argentina in 1990s.

In order to get the needed results and to fulfill the objective of this paper, the ARMA-GARCH model was applied. This model is used to determine whether there was indeed a decrease in the inflation volatility and to which degree. More precisely, the results of the GARCH model applied on monthly inflation rates in the period from January 1981 to February 1997 are compared with the results in the period from March 1991 to December 2001. The turning point is March 1991 when the currency board was implemented.

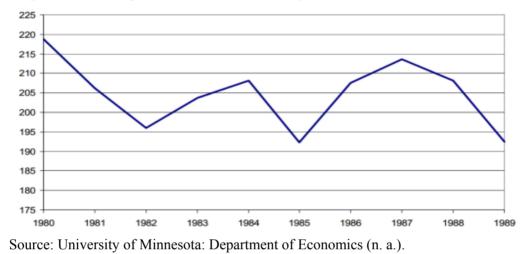
The paper is divided into two main chapters. The first chapter deals with the economic and political development in Argentina in the 1980s and 1990s. This chapter summarises the differences in opinions of several governmental settlements that took power in the different periods of time and their approaches to the given economic situation of that period. The chapter then describes the development of inflation and the subsequent policies implemented by the government in order to mitigate its progress. The second chapter attempts to prove whether the currency board system achieved its original goal or not. The GARCH model is used for further calculation and the whole methodology is explained there.

# 2 ECONOMIC AND POLITICAL DEVELOPMENT OF ARGENTINA IN THE 1980S AND 1990S

Argentina is a country that experienced many turning points in the 20th century. It serves as an example of a country that was at first perceived as one of the global leaders but subsequently underwent a significant decline that forced the country to declare a state bankruptcy in 2002. At the beginning of the 20th century, Argentina was ranked among the four countries with the best economic development in the 1st half of the 20th century. However, an era of so-called Peronism was established in the 1950s which resulted in an economic stagnation, caused mainly by Peronist protectionist policies that led Argentina towards an economic crisis. Subsequently in the 1960s and 1970s several political coups took power through political upheavals which destroyed Argentina politically as well as socially and economically. The inflation began to rise already in the 1970s. Between 1974 and 1975 it even reached the critical level of 300% which, according to Samuelson, falls into the category of so-called galloping inflation (Chalupa, 1999).

After the left-wing government of Juan Domingo Perón in the 1950s and 1960s and many military juntas and coups in the 1970s, Argentina returned to democracy in the year of 1983. The elections were won by the new president Raúl Alfonsín who brought neoliberal economic mindset and thoughts. The president Raúl Alfonsín came with new structural reforms such as opening of the trade policy, deregulation, monetary and fiscal liberalisation, privatisation, normalisation of international financial relations and restoration of access to international markets. His focus was also put on the low and middle income population. For instance he implemented the so-called National Nutrition Program that focused on delivering foods to the starving population (Camdessus, 1996).

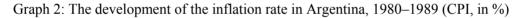
Although the government of Raúl Alfonsín promised economic upraise through its reforms, the interventions did not bring any significant improvement. The development of the real GDP did not show any significant growth in the given period of time (graph 1). The real GDP growth was not stable but rather followed a downward trend. At the same time, it is important to emphasize that other countries in the world economy in 1980s, such as the USA or Japan, with which Argentina competed at the beginning of the 20th century, they thrived. Argentina unfortunately went in the opposite direction.

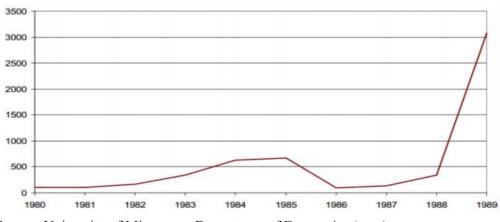


Graph 1: The development of the real GDP in Argentina, 1980–1989 (million of USD)

Moreover, the inflationary spiral took its place in Argentina in the 1980s. The average inflation rate in this period reached 565.69%. The development of the annual

inflation rate is seen in the graph 2.





Source: University of Minnesota: Department of Economics (n. a.).

The inflation rate of Argentina reached the level of so-called hyperinflation (according to Samuelson's classification) when it exceeded firstly 500% and subsequently the incredible values from 1000% to 10,000% at the beginning of the 1990s – see the graph n. 3. In case of Argentina, we can demonstrate the risk of the galloping inflation that can very quickly grow up to hyperinflation level. Hyperinflation then impacts the economy as a whole and has an impact on each economic sector. Moreover, the progress from galloping inflation to hyperinflation can be quite fast (as it can be seen in both graphs 2 and 3) (Samuelson, 2007).

As already mentioned, the inflation rate in Argentina grew rapidly, especially in 1980s. The typical average inflation rate for the whole period was even at the level of 565.69%. The inflation rate experienced massive growth in 1988 when it even reached four- and five-digit numbers. As already mentioned, the inflation rate of Argentina used to fluctuate at the level of galloping inflation with a high rate of volatility before it reached the point of hyperinflation. This is dangerous for the whole economy since there is a large instability of prices which has an impact on almost every economic sector both in private as well as public sphere. The graph 2 shows the inflation rate between 1981 and 1991.

The inflation rate values in Argentina changed frequently during the 1980s even though its volatility cannot be directly seen in the chart n. 2. The chart is limited due to a large increase in the first quarter of 1990 when the inflation values reached 5-digit figures. The peak was in March of 1990 when the inflation value was 20,262.80%.

If the graphs 1 and 2 are compared, it is evident that the so-called stagflation is very typical for Argentina as well. This situation was supposed to be solved by setting a new currency to be pegged to the US dollar (but not fully as e.g. in the case of the currency board which was introduced later in the 1990s), freezing wages and prices and implementing cost-cutting measures in the public expenditures. These measures mitigated the inflation rate but limited the economic growth (graphs 1 and 2). Considering the overall poor economic development of Argentina in the 2nd half of the 20th century, the country opened negotiations with the IMF about being granted with a Stand-By Arrangement loan already in 1982. This loan was supposed to facilitate the cost-cutting program of the Argentinian president Alfonsín. This program was based on cuts in public expenditures, higher interest rates on private bank loans and ongoing regular devaluation of the currency. In the year of 1985, the so-called Australan plan was also launched with an aim to help the country to get from the long-lasting stagflation (Argentina - Economic development, 2012).

Although this emergency loan was in place and should have led to a costcutting governmental program, the inflation did not slow down. On contrary, it started to grow and Argentina reached the state of stagflation in 1982. Therefore, Argentina launched the so-called Austral Plan in 1985. Its task was to improve the condition of the Argentinian economy and release it from stagflation. The Austral Plan should have brought price and wage freezes, a creation of a new currency pegged to the US dollar, and an establishment of new cost-cutting measurements in the public finance sphere. These measurements seemed to be successful at the beginning and they helped Argentina to regulate the inflation rate.

Shortly afterwards, between 1984 and 1989, another wave of stabilizing regulations in the form of devaluation was accepted since devaluation had been considered as a cure against stagflation in the 1980s. In addition, the devaluation should supposedly bring competitiveness as well as to create trade surpluses that afterwards were used for foreign capital operations and repayment of the foreign debt that Argentina used to have. It can be even said that Argentina was going through a debt crisis period. Nevertheless, this policy requires an accompanying fiscal discipline that Argentina lacked. It then led to a vicious circle of changing inflation and devaluation (Argentina Crisis: Analysis and Policy Recommendations, 2009).

All these measures unfortunately did not bring the desired effect, i.e. getting Argentina out of the stagflation. On contrary, they contributed to the decline of the real GDP and increase of the inflation rate – thus to further deepening of the stagflation. Therefore, the tendencies towards Peronism in Argentina started to rise again, as democracy didn't improve the living conditions of its people. In addition, the IMF and foreign banks claimed that Alfonsín's government is not capable of solving the Argentinian situation. The growing dissatisfaction with Alfonsín's government culminated by riots around Buenos Aires led by the group MTP (Movimiento Todos por la Patria) at the beginning of 1989. All economic but also civil problems and riots led to a change of government in the 1990s. In 1989, the president Menem came to power. His task was to get Argentina out of severe economic problems that the economy faced (Mainwaring & Shugart, 1997).

The new political management had appointed Cavallo as a new Minister of Economy. His task was to bring Argentina back to blossoming economy and to stabilize its development. That's why Argentina pegged its peso to the US dollar in March 1991, which led to the implementation of the currency board. The economy started to stabilize itself, the inflation decreased, and the stable economic environment began to attract the foreign investors who left the country in 1980s due to uncertainty (Chalupa, 1999).

Menem's government represented the so-called second wave of Peronism and introduced the convertibility plan, dominated by the implementation of the currency board. The whole reform package included privatisation of the public sector, disciplined fiscal policy that was aimed to increase revenue and lower expenditure, and most importantly the implementation of the currency board as the main instrument to decrease the inflation rate and its volatility. The currency board was at first highly successful but subsequently failed to ensure the overall stability and led along with the other reforms (executed by Menem's government) to the definitive bankruptcy of Argentina in 2002 (Mainwaring & Shugart, 1997).

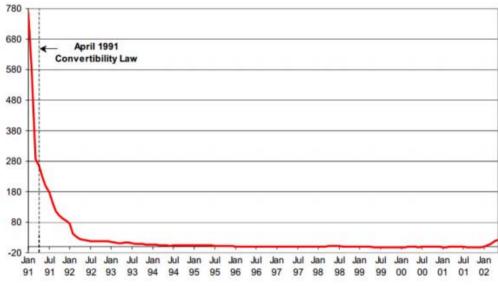
The Currency Board represents the fixed exchange rate system. The system is based on the exclusive exchange rate of domestic currency against strong foreign currency (usually US dollar or EURO) and being secured by foreign assets. The main added value of the currency board should be stabilization of inflation and its volatility. The currency board shall also eliminate speculative attacks on the currency and cut down interest costs. Thus, the currency board shall ensure the market stability (International Monetary Fund, Currency board arrangements: issues and experiences., 1997).

Menem's cabinet reached the success in reducing inflation via currency board implementation. The inflation started falling down all the way till 2002 when Argentina was forced to declare bankruptcy. Nevertheless, the fact of reduction of inflation rate together with a positive evolution of the exchange rate caused that Argentinian people were able to travel, could afford cheaper import and could purchase durable goods on credit. This fact led to increased consumerism. The increased consumerism brought reduced resistance against the country and its economy and overall welfare was improved. Last but not least, Menem succeeded in constitutional reform, which came into force in 1994 (Hedges, 2011).

Thanks to the stabilization of inflation rate and of the overall economic environment, the attractiveness of Argentina's economy was growing from the perspective of the foreign investors. Investors' environment was supported by nearly no regulation or supervision. Main investors were U.S., Chile, France, Italy and Spain. Thanks to taking control over the inflation rate and investment flow, GDP started to grow gradually to the rate of 8% in the first half of 1990s. In 1995 GDP of Argentina reached 267.7 billion USD. It is basically 40% growth from 1991 when GDP of Argentina had reached only 189.9 billion USD (Holman, 2010).

Argentina suffered from price-wage spiral from early 1970s which became more intense in late 1980s. The hyperinflation rate, which was present in Argentina, caused the fact that any reaction from banking sector was impossible and the government were not capable of any response to its debt crisis. The plan of convertibility and implanted currency board led primarily to rapid reduction of inflation rate (graph 3). There was a sudden slow-down of inflation rate from hyperinflation numbers to decimal or even single-digit inflation rate during the 1990s. In the late 1990s the rate oscillated about 2% or 4%. This inflation rate was considered as one of the best rates as it did not cause a depreciation of money and it did not lead to chaos in economy either. In some months the inflation rate was even negative which can be achieved by continuous price reduction. (Pilinkus, Svolka & Bartkus, 2011) The negative inflation rate was mostly connected to the Mexican peso crisis (Tequilla crisis). After 2000, the inflation rate began to grow; however, remaining in negative values.

The currency board also helped to stabilize the interest differential in rather quick time and for the whole period of the currency board implementation the figure of this differential was 0%. In addition, the devaluation pressures were effectively reduced. It stayed the same till 2001, when the Argentinian economy teetered on the brink of bankruptcy (Ho & Ho, 2009).



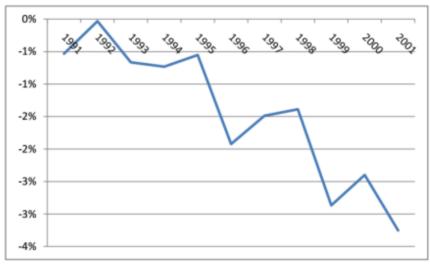
Graf 3: The development of inflation in Argentina, 1991–2002 (%)

Source: University of Minnesota: Department of Economics (n. a.).

Although the condition of the economy has been perceived as very good, in the second half of 20th century a reverse came in. In 1994 Argentina faced first speculative attack on the currency because of the devaluation in Mexico. Such attack disturbed the functioning of currency board system. Thus, the economy got into recession early in 1995. The currency board in Argentina had not been implemented in accordance with rules by IMF, therefore it is called "currency board-like system". In the Argentinian currency board concept, the cash reserve ratio was not defined. The standard currency board system allows to cumulate foreign reserves, which can exceed monetary base by 100%. The maximal surplus can be 10 %. The surplus shall not be for a discretional use and total gain must be transferred directly to the government. On the other hand, the currency board-like system allows to cumulate gains and to use

certain reserves in state budget. The country might use its surpluses also for discretional purposes, when governing as the creditor of last resort for commercial banks. Therefore, the rules of the system in Argentina were different than it should be in a standard form. (Hanke, 2008)

The next condition for successful functioning is the fiscal policy which must go hand in hand with the implementation of currency board system. The government debt was held at the sustainable level of 1.4% of GDP throughout in 1990s, but fiscal balance against GDP was getting worse in 1990s. This fact caused not only disruption of currency board system functioning, but also decline of its credibility. More detailed data are in the graph no. 4. (Ho & Ho, On the Sustainability of Currency Boards: Evidence from Argentina and Hong Kong, 2009)



Graf 4: Fiscal Balance to GDP in Argentina, 1991–2001 (%)

Source: Ho, Chun-Yu a Wai-Yip Alex Ho, 2009.

Despite the relatively successful implementation of currency board, there were significant cracks in its final implementation (described above). But not only that, the overall doing-well period of Argentina economy was over, which took Argentina into stalemate. By that time, Argentina was forced to declare state bankruptcy in 2002. After 1999 there were a massive FDI outflow because investors lost confidence in the market. GDP growth slowed down and failed even in 1995 and 1999. The unemployment rate grew stronger and reached 14.3% in 1999. The economy of Argentina got into collapse and declared official state bankruptcy on 2nd January 2002.

#### **3 RESEARCH DESIGN**

The whole paper describes the currency board implementation in Argentina. According to the literature review in the chapter 1, we know that the currency board was successful from the beginning of its implementation since it was beneficial for the economy. The currency board eventually started to fail which was caused by the incomplete implementation of this system by Argentina. On the other hand, was the currency board successful in its core – meaning in reducing inflation rate and its volatility?

Let's now have a look at the volatility rate moderation. Graphs 2 and 3 directly show us a reduction of the inflation rate in absolute figures as well as in clear absolute values. However, our point is also to prove that the volatility rate decreased. For this comparison, the ARMA-GARCH model was used. We compare two periods – a period before the intervention (implementation of the currency board) and a period afterwards. For the comparison, we take into our consideration two equally long periods (1981-1991 and 1991-2001) based on the monthly inflation values. It is necessary to subtract the month of implementation March 1991 and the following month from the calculation. The reason for that is a delay in the model as well as a delay of reaction of the currency board itself.

The GARCH model belongs to the ARCH model group. These models were a breakthrough in the field of volatility simulation. The ARCH model means a socalled autoregressive conditional heteroscedasticity. The GARCH model is de facto a generalization of the ARCH model. The GARCH model is the most developed model for the financial time series simulation and for the first time it was used for simulating the inflation of the United Kingdom. The GARCH model helps to avoid asymmetry and leverage effect that is normally not avoidable in normal ARCH models (Cipra, 2013).

ARCH models are focusing on AutoRegressive Conditional Heteroscedasticity (it is an acronym). The structure of conditional variance in ARCH model is very similar to the structure of conditional expectations in AR models. The GARCH models work with randomly varying volatility. This is the key feature for this paper. The GARCH models are also used because they can provide the conditional heteroscedasticity as well as the heavy-tailed distribution of financial markets data (Ruppert & Matteson, 2011).

GARCH model is a generalization model of ARCH model as mentioned previously. *The ARCH model allows the conditional variance to change over time as a function of past errors leaving the unconditional variance constant.* The GARCH model allows much more flexible lag structure than the eight-order linear declining lag structure that is seen in ARCH model. The GARCH model is definied as follows:

$$\epsilon_t = \sqrt{h_t} z_t$$
where
$$\epsilon_t | \mathcal{F}_{t-1} \sim \mathcal{N}(0, h_t),$$

$$h_t = a_0 + \sum_{i=1}^q a_i \epsilon_{t-i}^2 + \sum_{i=1}^p b_j h_{t-j},$$
(1)

where t is mean-corrected return,  $h_t > 0$  is conditional variance of t,  $z_t$  is independent identically distributed standard normally distributed random variable.

The ARCH model contains a parameter q that reflects the number of lag squared residual errors included in the model. The GARCH model adds on top a paramter p that means the number of lag variances. Based on the GARCH model introduced by Bollerslev both parameters must equal to or be higher than  $0, p \ge 0$  and  $q \ge 0$  (Bollerslev, 1986).

The data has to be stationary for the calculation purposes i.e. compared with the previous period by the formula  $t_k - t_{k-1}$ . This gives us stationary time series that we can subsequently use for the calculation itself. For these purposes we use an eViews statistical software.

## **4 RESULTS**

After comparing both results we find out following facts. Table 1 and 2 show the results. The estimated constant (value C in the pictures above) and its coefficient show the level of volatility, which is the average value. The level of volatility in Period 1 is 8.9307 and 0.0091 in Period 2. These numbers clearly show that the inflation volatility was after the currency board implementation stabilized.

Dependent Variable: INFLACE						
Method: ML ARCH - Normal Distribution (BFGS/Marquardt Steps)						
Variable	Coefficient	Std. Error	z-Statistic	Prob.		
Variance Equation						
С	8.930651	14.52673	0.614774	0.5387		
RESID (-1)^2	1.052962	0.378310	2.783330	0.0054		
GARCH (-1)	0.300703	0.120815	2.488953	0.0128		

Table 1: GARCH results, 1981–1991 (calculation based on monthly inflation rate)

Source: processed by author.

To confirm this statement, we take into consideration volatility fluctuation that is given by the sum of "RESID" and "GARCH" coefficients. This indicator amounts to

 $\textbf{58} \circ \textbf{Slovak}$  Journal of International Relations, 2021, no. 1

1.3537 in Period 1 and 0.9159 in Period 2. The volatility fluctuation, which is in fact its variation, reaches higher values in Period 1 than in Period 2. This proves the currency board's success in decreasing inflation rate volatility during the whole period. Coefficients used for computation are framed dark red in the pictures above.

Dependent Variable: INFLACE						
Method: ML ARCH - Normal Distribution (BFGS/Marquardt Steps)						
Variable	Coefficient	Std. Error	z-Statistic	Prob.		
Variance Equation						
С	0.009058	0.004051	2.236334	0.0253		
RESID (-1)^2	0.028278	0.375240	0.753589	0.4511		
GARCH (-1)	0.887653	0.047219	18.79861	0.0000		

Table 2: GARCH results, 1991 - 2001 (calculation based on monthly inflation rate)

Source: processed by author.

## **5** CONCLUSION

This paper dealt with the issue of fixed exchange rate regime known as currency board and its implementation in Argentina. In Argentina this arrangement was adopted in order to fight against high inflation rates which were reaching the level of hyperinflation. The aim of this paper was to prove or disprove the success of currency board in reducing inflation rate and its volatility in 1990s. This was illustrated in the case of Argentina.

The first chapter summed up the political-economic situation in the 1980's and 1990's. Argentina is an economy that went through several military coups in 1970s. Since the 1980s the political stability was restoring in the country with a new president Alfonsín who was elected in 1983. Alfonsín brought right-wing thinking after the years of left-wing points of view that started in 1950s and 1960s with Juan Domingo Péron. However, in 1980s the economy did not realize a stable economic growth that was expected. GDP was rather growing one year and falling the other one (year-on-year fluctuation) – such a situation we call an economic stagnation<sup>3</sup>. At the same period of time Argentina was going through a galloping inflation at first and later on even hyperinflation. A new president Menem being elected at the beginning of 1990s, Argentina implemented currency board to fight against inflation as part of Menem's stabilization plan. The main purpose of this exchange rate regime (currency board) was to reduce inflation rate and minimize or stabilize its volatility.

The second chapter discussed application of the currency board in Argentina and its impact on the level and volatility of inflation. The currency board's aim was to

<sup>&</sup>lt;sup>3</sup> As the GDP growth was not in place and the inflation was growing we talk about stagflation that Argentina went through.

lower inflation which was devastating the economic development in Argentina. The currency board was adopted in March 1991. At first, it seemed to be an ideal way to tackle with high inflation rates and to stabilize them. It is proven not only by the absolute values but also by the GARCH model econometric results. Absolute values clearly indicate the inflation rate decreased from hyperinflation rates to almost 0%. Apart from the absolute values, the GARCH model proves volatility reduction, which cannot be easily demonstrated by the absolute values. This GARCH model is a part of so-called ARCH models – so-called autoregressive conditional heteroscedasticity. The GARCH model is a tool to prove whether the volatility of a time series was or was not reduced. This is the reason why this model is a suitable tool to assess the inflation development in our case. There are two time periods compared in this calculation (before and after the currency board implementation). This model shows two figures – level of volatility (its average) and fluctuation of volatility (its variation). Both figures dropped after the currency board implementation. The level of volatility value dropped from 8.9307 to 0.0091. The volatility fluctuation value dropped from 1.3537 to 0.9159. This is a clear proof that the currency board was successful in terms of reducing the volatility of inflation over the whole period of time the system was in place. This paper hence proves the currency board managed to reduce the inflation rate as well as its volatility.

However it is important to mention that even though the currency board itself was successful in solving the inflation problem, the economic situation as a whole wasn't resolved and in 2002 Argentina declared its state default. The main reason behind is that there was just a partial implementation of the currency board in Argentina in the so-called form currency board-like system. Since it was not implemented in its full extent and standard way, the situation led to inefficiency of the whole system.

## **REFERENCES:**

- 1. ASCHINGER, G. (2002): Currency Board, Dollarisation or Flexible Exchange Rates for Emerging Economies? Reflections on Argentina; In: *Exchange Rates*, 2002 (University of Fribourg).
- 2. BOLLERSLEV, T. (1986): Generalized Autoregressive Conditional Heteroskedasticity. In: *Journal of Econometrics*, 1986, pp. 307-327.
- 3. CAMDESSUS, M. (1996): Argentina and the Challenge of Globalization. [Online.]. In: *IMF*, 1996. [Cited 12.02.2018.] Available online: <http://www.imf.org/en/News/Articles/2015/09/28/04/53/spmds9611>.
- 4. CHALUPA, J. (1999). *Dějiny Argentiny, Uruguaye, Chile*. Praha: Lidové noviny, 1999. 576 p. ISBN 9788074221934.

- CIPRA, T. (2013): *Finanční ekonometrie*. Havlíčkův Brod: Ekopress, 2013. 538 p. ISBN: 978-80-86929-93-4.
- DAMILL, M. FRENKEL, R. MAURICIO, R. (2002): Argentina: A decade of currency board. [Online.] In: *International Labour Office Geneva*. *Employment Paper*, 2002. [Cited 11.04.2018.] Available online: <a href="http://www.ilo.org/wcmsp5/groups/public/---ed\_emp/documents/publication/wcms142375.pdf">http://www.ilo.org/wcmsp5/groups/public/---ed\_emp/documents/publication/wcms142375.pdf</a>>.
- ENOCH, Ch. BALIÑO, T. (1997): Currency board arrangements: issues and experiences. In: *IMF Occasional Paper*, Washington, 1997. 47 p. ISBN: 9781557756688.
- GUINEE POUR TOUS (2009): Argentina Crisis: Analysis and Policy Recommendations. [Online.]. In: *Guinee Pour Tous*, 2009. [Cited 8.2.2013.] Available online: <a href="http://www.guineepourtous.org/ac.pdf">http://www.guineepourtous.org/ac.pdf</a>>.
- HANKE, S. (2008): Why Argentina did not have a currency board. In: *Central Banking Publications Ltd.*, 2008, London UK: Central Banking Publications, The Johns Hopkins University.
- 10. HEDGES, J. (2011): Argentina: Modern History. New York: Palgrave Macmillan, 2011. 336 p. ISBN 9780857719768.
- HO, C.-Y. HO, W.-Y. A. (2009). On the Sustainability of Currency Boards: Evidence from Argentina and Hong Kong. [Online.] In: *Institute for Monetary* and Financial Stability, 2009. [Cited 10.04.2018.] Available online: <a href="http://www.imfsfrankfurt.de/documents/Working%20Paper%202009\_20\_Ho">http://www.imfsfrankfurt.de/documents/Working%20Paper%202009\_20\_Ho</a> \_Ho.pdf>.
- 12. HOLMAN, R. (2010): *Makroekonomie: středně pokročilý kurz*. Praha: C.H. Beck, 2010. 424 p. ISBN 80-7179-764-2.
- 13. KIGUEL, M. A. (2008): The Argentine Currency Board. Argentina. [Online.] In: *Ministry of Economics and Public Works and Services*, 2008. [Cited 10.04.2018.] Available online: <a href="https://ucema.edu.ar/publicaciones/download/documentos/152.pdf">https://ucema.edu.ar/publicaciones/download/documentos/152.pdf</a>>.
- MAINWARING, S. SHUGART, M. S. (1997): Presidentialism and democracy in Latin America. Cambridge: Cambridge University Press, 2012. 493 p. ISBN: 9781139174800.
- NATIONS ENCYCLOPEDIA (2012): Argentina Economic development. [Online.]. In: *Nations Encyclopedia*, 2012. [Cited 1.12.2018.] Available online: <a href="http://www.nationsencyclopedia.com/Americas/Argentina-ECONOMIC-DEVELOPMENT.html">http://www.nationsencyclopedia.com/Americas/Argentina-ECONOMIC-DEVELOPMENT.html</a>.
- PILINKUS, D. SVOLKA, A. BARTKUS, E. V. (2011): The Role of Currency Board Regime during Economic Crisis. [Online.]. In: *Inzinerine Ekonomika-Engineering Economics*, 2011. [Cited 12.02.2018.] Available

online: <file:///C:/Users/lkrupka/OneDrive%20-%20Lindt/Downloads/714-Article%20Text-2696-1-10-20111104.pdf>.

- RUPPERT, D. MATTESON, D. S. (2011): Statistics and Data Analysis for Financial Engineering. New York: Springer Science+Business Media, LLC, 2011. 638 p. ISBN: 9781441977861.
- 18. SAMUELSON, P. A. (2007): *Ekonomie*. Praha: Svoboda, 2007. 780 p. ISBN: 9788020506290.
- SAWYER (2018): The Crisis in Argentina. [Online.] In: *The Economy of Latin America*, 2018. University of Minnesota: Department of Economics [Cited 30.03.2019.]. Available online: <a href="http://www.econ.umn.edu/~schwe227/teaching.s12/files/slides/20-4311\_argentina\_crisis\_05\_part1\_28.pdf">http://www.econ.umn.edu/~schwe227/teaching.s12/files/slides/20-4311\_argentina\_crisis\_05\_part1\_28.pdf</a>>.
- 20. TRADE ECONOMICS (2018): Argentina Inflation Rate. [Online.] In: *Trade Economics*, 2018 [Cited 12.02.2018.] Available online: <a href="https://tradingeconomics.com/argentina/inflation-cpi">https://tradingeconomics.com/argentina/inflation-cpi</a>.