

Seminar Paper

How Currency Boards Collapse – The Case of Argentina

*Institute for Foreign Trade and Payments and European Integration,
Economics Department, University of Basel, Switzerland.*

Abstract:

This paper first gives a concise overview of the currency board era in Argentina, then offers a summary of why economies may adopt fixed exchange rate regimes, and how the currency board is canonically defined.

The main part of the paper then states eight conditions necessary to make a currency board sustainable and analyzes these conditions both in a general and in respect to the situation in Argentina in the currency board era.

It then turns to what may be considered the two main factors (these two being peso overvaluation and fiscal policy) which led to the collapse of the currency board system, analyzes them in some more detail and shows the linkage between the two.

In the last part, this paper addresses alternatives Argentina could have taken in different phases of the currency board era, first and foremost dollarization, and what lessons might be learned from Argentina's experience.

Daniel Frank
Spalenvorstadt 9
4051 Basel

Email: daniel_frank@gmx.ch
Phone: +41-79-366-14-10
Matrikel: 99-051-450

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Introduction

After more than ten years of success, the currency board arrangement in Argentina collapsed around the turn of the year 2001 – 2002. This paper first gives a concise overview of the currency board era in Argentina, then gives a summary of why economies may adopt fixed exchange rate regimes, and how the currency board is canonically defined.

The main part of the paper then states eight conditions necessary to make a currency board sustainable and analyzes these conditions both in a general sense and in respect to the situation in Argentina in the 1990s.

It then turns to what may be considered the two main factors (these two being peso overvaluation and fiscal policy), analyzes them in some more detail and shows the linkage between the two.

In the last part, this paper addresses alternatives Argentina could have taken in different phases of the currency board era, first and foremost dollarization, and what lessons might be learned from Argentina's experience.

For currencies, this paper uses the standard currency codes according to ISO 4217, especially:

ISO 4217 international currency codes used in this paper		
Currency Code	Currency Name	Country
ARS	Argentine peso	Argentina
BRL	Brazilian real	Brazil
USD	U.S. dollar	United States

Table 1 Source: www.wikipedia.org

The case of Argentina in the 1990s

Argentina has a history of more or less frequent financial crises since the 1970s. In 1989 again, the Argentine economy was facing hyperinflation, deteriorated social indicators and per capita GDP about 10% lower than ten years previous. These developments culminated in street riots and social unrest, which forced former president Raul Alfonsin to resign in July. Newly elected president Carlos Menem tackled the problem with yet another inflation stabilisation plan, the so called BB plan, which ended after only seven months with the peso devalued another 220% and a central bank that had lost 58% of its foreign exchange reserves.¹ As a last attempt to prevent the Argentine economy from definitely falling apart, the Menem administration – led by minister of economy Domingo Cavallo – adopted a currency board arrangement called the Convertibility Plan as of April 1991.

¹ Gurtner (2004), pp. 682.

Argentine key indicators in the Convertibility era							
Year	1989	1990	1991	1992	1993	1994	1995
GDP Growth [annual %]	-7.50	-2.40	12.67	11.94	5.91	5.84	-2.85
GDP Deflator [annual %]	3057.63	2076.79	132.95	11.92	-1.47	2.85	3.17
Current Account [% of GDP]	-1.70	3.22	-0.34	-2.47	-3.45	-4.33	-2.01
Budget Balance [% of GDP]	-0.38	-0.35	0.02	0.58	0.68	-0.16	-1.16
Exports of Goods and Services [% of GDP]	13.06	10.36	7.68	6.60	6.91	7.52	9.65
Year	1996	1997	1998	1999	2000	2001	2002
GDP Growth [annual %]	5.53	8.11	3.85	-3.38	-0.78	-4.41	-10.89
GDP Deflator [annual %]	-0.05	-0.46	-1.71	-1.84	1.04	-1.10	30.56
Current Account [% of GDP]	-2.51	-4.18	-4.86	-4.22	-3.14	-1.48	9.40
Budget Balance [% of GDP]	-2.21	-1.46	-1.48	-2.85	-2.27	-3.03	..
Exports of Goods and Services [% of GDP]	10.40	10.53	10.39	9.79	10.89	11.53	27.67

Table 2

Source: World Development Indicators, 2004

As the figures indicate, the plan worked initially. Inflation plummeted from triple-digit to international levels within two years. The economy emerged from a deep recession and in the first years reached high, later moderate growth rates. Cavallo and Cottani (1997) report that factor productivity increased from negative figures in the 1980s to around 6% between 1991 and 1994.²

The Argentine currency board system faced its first hard test with the emergence of the "Tequila" crisis in Mexico in early 1995. The Mexican peso had been devalued on December 20 1994, which led to liquidity problems in the Mexican banking sector. The crisis in the Mexican economy had considerable contagion effects in all of South and Central America and led to a sharp, although short, recession in Argentina in 1995. The Argentine banking system lost 18% of deposits in just three months, and credit contraction resulted in a 4.4% reduction in output as well as a sharp increase in unemployment.³

The currency board arrangement emerged from this short period of crisis unscathed. But it had reached its zenith. Problems started to build up, both internally and externally. Budget deficit began to grow, slowly but steadily. The unemployment rate declined somewhat after the spike in 1995, but never returned to the levels of the early 1990s.⁴

² Cavallo and Cottani (1997), pp. 17.

³ Cavallo and Cottani (1997), pp. 18.

⁴ compare table 2 pp. XXX and World Development Indicators (2004)

In summer 1998, the credit environment for emerging economies deteriorated and credit spreads increased with Japan's sovereign debt placed under review, Russia defaulting on its public debt and the Wall Street Journal reporting losses from LTCM. These events ultimately led to the financial crisis in Brazil in early 1999.⁵ Brazil devaluated subsequently, increasing Argentine export prices and significantly reducing the competitiveness of Argentine exporters, Brazil being Argentina's main trading partner. This led to a strong recession in Argentina.

After 1994, Argentine fiscal policy became less and less restrictive, with a growing public debt. With the country's credit rating reduced various times, and credit spreads generally higher after the emerging markets crisis of 1998, refinancing public debt, although not particularly high, became impossible, and Argentina found itself on the brink of insolvency.⁶

In December 1999, Fernando De La Rúa took office as new President of Argentina. In an attempt to erase fiscal deficits, he increased taxes on three occasions. This had, however, not the desired effect: the Argentine economy, after showing signs of recovery from the depreciation in Brazil, tumbled back into recession. In March 2001, three months after receiving a rescue package of USD 40 billion, the coalition governing Argentina broke up, and Domingo Cavallo – who had been minister of economy under Carlos Menem from 1991 to 1996, and one of the main designers of the Argentine currency board system – was appointed minister of economy again. Cavallo was very active from March to December 2001, and spent most of his tenure "either exploiting loopholes in the Convertibility Law or dismantling the system", as Hanke (2002b) alleges.⁷

The currency board in Argentina as a matter of fact ended, when on December 1, 2001 deposits were frozen and overnight interest rates soared to 689%.⁸ This led to a collapse of the payments system and political destabilisation, forcing president De La Rúa to resign. Argentina subsequently declared default on its debt of USD 141 billion.

On January 6, 2002 the Peso was devalued by 40% and a dual exchange rate regime was established. Foreign exchange trading was suspended and bank holiday declared until January 11. A month later, on February 11, exchange rates were unified and the Argentine peso was left to float, thus completely abandoning the currency board regime.

Rationales for fixed exchange rates

In the end Argentina was not very happy with the fixed exchange rate regime. This second part of the paper gives a very short overview of what the motivation for adopting a fixed exchange rate regime may be.

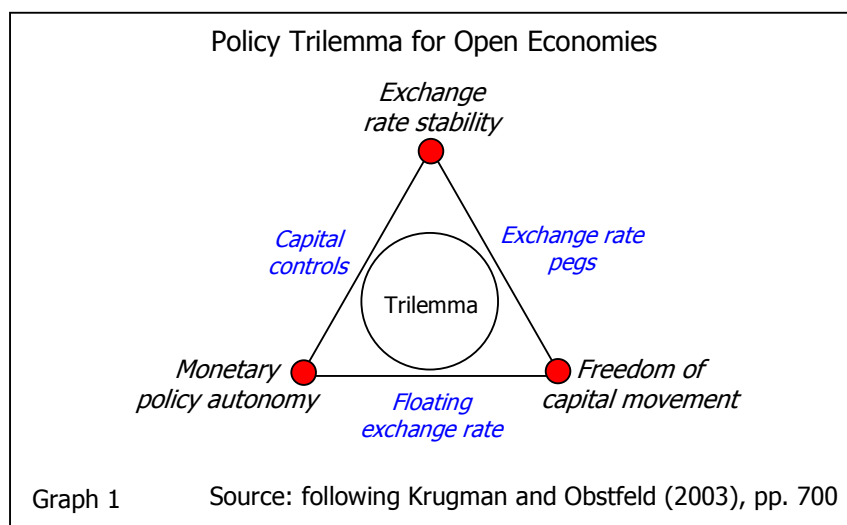
⁵ Committee on the Global Financial System (1999), pp. 3.

⁶ Maniam, Hadley and Patel (2004), pp. 438.

⁷ Hanke (2002b), pp. 211.

⁸ Hanke (2002b), Table III, pp. 212.

For most of the 20th century, fixed exchange rates dominated the international foreign exchange markets. Even if all major currencies abandoned pegs in 1973 with the end of the Bretton Woods system, exchange rate pegs and other market interventions are still predominant in most emerging economies. And the European Monetary Union, creating the euro-zone, has taken fixed exchange rate regimes between countries to yet another level.



Policy makers are faced with the classical trilemma of monetary policy. Integrated capital markets with high freedom of capital movement generally allow an optimal allocation of risk and resources, leading canonically to a Pareto efficient outcome. Major achievements of integrated capital markets thus encompass

- risk pooling among residents of different countries,
- channelling world saving to its most productive uses,
- and disciplining policymakers who might otherwise exploit a captive domestic capital market through e.g. excessive government borrowing or inadequate banking regulations.⁹

However, integrated capital markets under a regime of fixed exchange rates are prone to speculative attacks. Exchange rates cannot work as automatic stabilizers. There is no monetary autonomy to react on internal or external shocks quickly.

On the other hand, there are worthwhile aspects of exchange rate pegs. The most obvious advantage is that fixed exchange rates simplify the production planning and price setting processes for firms which trade across borders. In addition, fixed exchange rates reduce or eliminate hedging costs. Destabilizing speculation is discouraged, thus resulting in less money market disturbances. Pegging the exchange rate determines the domestic monetary policy. Countries under a fixed exchange rate regime have no discretion about their

⁹ Obstfeld (1998), pp. 10.

monetary policy, because e.g. a unilateral domestic monetary expansion would lead to a decrease in domestic interest rates, thus creating via the interest rate parity condition devaluation pressure on the domestic currency. With rigid prices, such pressure can only be compensated by reducing money supply, thus offsetting the initial policy instrument. On the other hand, fiscal policy instruments are more effective, as its effects are intensified through monetary interventions mandatory for keeping the exchange rate fixed.

The classic example for creating hyperinflation is printing money without respect to real economic developments, a policy typically adopted by non-independent central banks under governments that have to serve a high debt burden. Because pegging the exchange rate determines the monetary policy of a country as shown above, adopting a fixed exchange not only sets domestic interest rates and domestic inflation, the peg also prohibits inflationary policies of the central bank and thus keeps domestic inflation low.

As a fixed exchange rate regime makes it impossible to eliminate a debt burden by raising inflation, and with the government knowing this, it offers strong incentives for it not to embark upon such policies; it thus helps a government to control its budget and fiscal policy.

The currency board in detail

The literature defines a currency board quite strictly. Note however, that the Argentine flavour of a currency board differs in various points from the orthodox form. This paper first explains the classical form of a currency board and then turns to the distinguishing features of the Convertibility Plan in place in Argentina from 1991 to 2002.

First and foremost, to understand the real implication of a currency board, one must note that a classical currency board is not, strictly speaking, a central bank. The only function of the currency board is to work as "an institution which issues domestic bank notes in exchange for a specific foreign currency [...] and promises to continually maintain this conversion at a constant rate. [...] The crucial point is that [an orthodox currency board ...] is not a money producer; it is not even a money changer. It is a mere warehouse, which issues receipts for the deposit of a specified foreign fiat paper money, which is the genuine money in the [currency board] country."¹⁰

The currency whereto the currency board is pegged is called anchor currency. In case of Argentina's currency board arrangement, this was the USD at parity of 1 ARS/USD. A currency board must dispose of a 100% coverage of its monetary base in the anchor currency, such as the currency board is always able to meet the demand for the anchor currency by domestic residents. Note that keeping the reserves at 100% coverage in an

¹⁰ Gertchev (2002), pp. 63f.

orthodox currency board is an automatic process. When a domestic resident sells domestic currency for the anchor currency, the monetary base and the currency board reserves are reduced in exactly the same amount. Thus, while the coverage remains always at 100% of the monetary base, the amount of foreign reserves fluctuates constantly.

Reserve coverage adjustment				
A		Currency board balance sheet		L
Reserves		Deposits		
USD 1'000		ARS 500 (=USD 500)		
		Money in circulation		
		ARS 500 (=USD 500)		
USD 1'000		ARS 1'000 (= USD 1'000)		
A		Currency board balance sheet		L
Reserves		Deposits		
USD 900		ARS 500 (=USD 500)		
		Money in circulation		
		ARS 400 (=USD 400)		
USD 900		ARS 900 (= USD 900)		

The currency board takes ARS 100 from a domestic resident and pays out USD 100 (because the peg is at ARS/USD = 1). Thus, money in circulation is reduced by ARS 100, while USD reserves are reduced by the same amount. Coverage remains at 100% of the monetary base.

Graph 2

A currency board is unable to serve as a lender-of-last-resort. The lender-of-last-resort's role is to provide liquidity to the banking system in case of a bank run and thus to prevent such an event (or, at least, to prevent the contagion among various financial institutes, which would result in a banking panic). Under a currency board regime, the central bank must not increase the monetary base on its own discretion, as this would (at least in the short run) cause a deviation from fixed parity.

In Argentina, the currency board was established in form of a law, called the "Convertibility Plan". This law guaranteed convertibility at the prespecified exchange rate. In addition, to emphasise the commitment to parity, the US dollar was granted the status of legal tender. Bank deposits and loans could be denominated in US dollars. Thus, the Argentine economy under the currency board regime de facto became strongly dollarized.¹¹

Requirements for a well functioning currency board

A stable, well functioning currency board requires eight conditions.¹² Some of these requirements are short term, necessary to establish a currency board in the first place, others are long term, necessary to make a currency board sound and durable.

¹¹ Bleaney (2004), pp. 700.

¹² compare Gurtner (2004), pp. 680ff, who states ten such requirements.

In the case of Argentina, all of these factors contributed in some way to the ultimate downfall of the currency board. In some cases, the problem arose from external effects the Argentine officials were unable to influence, and where they chose the second best solution, as available. In other cases, the problems arose from the internal structure of the country, and the government found the necessary consequences politically infeasible. And, regrettably, in some cases Argentine officials appear to have acted against better judgement. This main part of the paper examines these eight conditions that make a currency board sustainable, and refers to the situation in Argentina.

Monetary policy and institutions

A country who wants to establish a currency board has to abandon any form of independent monetary policy. To keep the set parity against the anchor currency, the country with the currency board has to duplicate the monetary policy of the anchor currency's country. Note that this is typical for all fixed exchange rate regimes. The problem is that the monetary policy of the anchor currency may not be optimal or desirable for the country under the currency board regime, especially as economic developments in the two countries may diverge over time.

The foundation of the currency board is the ability of the central bank to meet all demand for foreign currency by holders of domestic currency. Therefore, to install a currency board system, a central bank must possess foreign exchange reserves which cover the full amount of the monetary base. These reserves may also consist of other readily marketable assets with good conservation of value, like precious metals. However, such reserves bear a price risk against the anchor currency, which may undermine the stability of the currency board. Note however, that even 100% coverage of the monetary base does not offer a complete protection against speculative attacks. Typically, the banking system works as a money multiplier. This means that in case of a bank run, the central bank reserves may be depleted, thus forcing a devaluation of the domestic currency.

On the other hand, central bank reserves exceeding 100% of the monetary base leave the central bank with discretion about monetary policy, an unwanted condition in a currency board arrangement, especially so if the central bank has a history of little independence.

The Banco Central de la República Argentina (BCRA) was forced by law to maintain reserves equal to 100% of the monetary base.¹³ It is noteworthy, that up to one-third of the backing may have been in the form of dollar-denominated government debt.¹⁴ Through this, together with exploitation of legal opportunities and engagement in discretionary monetary policies,

¹³ Balasundram, Leavell and Vrishali (2004), pp. 436.

¹⁴ Enoch and Gulde (1998); as cited in Visser (2000), pp. 113.

the central bank reserve coefficient fluctuated.¹⁵ Argentina's central bank "in virtually every month of convertibility's existence [...] neutralized changes in its foreign reserves, and in most months after 1994, it did so aggressively."¹⁶

Natural anchor

The most important feature of the anchor currency is, naturally, its stability in respect to the rest of the international markets. Ideally, a country should thus choose one of the major currencies (e.g. USD, EUR, GBP), as they have both huge liquidity and independent central banks. In addition, a major part of the country's trade should be with the anchor economy. Otherwise, devaluations and revaluations of the currency of the main trading partners against the anchor currency transmits directly to the exchange rate of the domestic currency against the currency of the main trading partner, most probably in spite of actual economic fundamentals.

Argentina chose the USD as anchor currency. With the United States being Argentina's second most important trading partner (after Brazil), this was a fairly obvious choice; in 1991, when Argentina adopted the currency board, Brazil was still frequently hit by currency crises and hyperinflation, before it adopted the Real with a peg to the USD in 1994. However, although the USD was arguably the best available choice for an anchor currency, it was not optimal. When in 1999 Brazil gave up the peg to the USD, this had considerable impact on the Argentine economy.

Institutional implementation

In the 1990s, currency boards or currency board-like arrangements have been adopted by various economies in transition.¹⁷ In the case of Argentina, the currency board was adopted as a last measure through a government facing social unrest and a collapsing economy. It was thus highly important that the monetary authority and the government bound themselves firmly to the new regime. Such firm bindings to a regime are only achieved by law, instead of a (discretionary) promise by the monetary authority to maintain the peg. Thus, Argentina chose to adopt a law called the "Convertibility Plan".

Note that the legal implementation of a currency board itself is only one part of a wider legal framework accompanying the introduction of the fixed rate regime. To make the currency board sound and stable, the economy must possess certain characteristics (see below), which need to be established or conserved.

¹⁵ Hanke (2002b), Table III, pp. 212.

¹⁶ Hanke (2002b), pp. 211.

¹⁷ Hanke (2002b), pp. 204.

In hindsight, the law in place in Argentina was far from perfect. Throughout the whole convertibility era, and especially after 1994, the Argentine central bank engaged in discretionary monetary policy. And after Domingo Cavallo was appointed minister of economy again in 2000, he pursued a very active policy that exploited loopholes and institutional leeway.¹⁸

Financial sector

With the lender-of-last-resort absent, a financial system with fractional reserves is unprotected from confidence shocks and liquidity crises causing bank runs and banking panics. Such events have devastating effects on the affected economy. It thus is highly important that adequate regulation of the financial sector accompanies the introduction of a currency board, so as to prevent such events long before they occur.

Such regulation¹⁹ encompasses a variety of measures, some of which are:

- Deposit insurance
 - through the government
 - through a private insurance company

Deposit insurance through the government has to be treated with caution though, as a loss event may force fiscal expansion depending on the severity of the event. Such fiscal expansion may be prohibited by law accompanying the currency board, that denies the government increasing its indebtedness.

- Regulatory capital requirements

Commercial banks who need not hold full reserves on their deposits (i.e. banks who are permitted to give loans) are susceptible to bank runs. However, the bank makes its profits canonically from the difference between interest rates to depositors and borrowers: bank loans cost higher interest than bank deposits pay. Thus, profits for the bank increase with the portion of deposits that is lent to borrowers. On the other hand, the bank faces bankruptcy costs which occur when the demand for deposit payout is higher than the reserves held by the bank (the bank is run). Arguably, the bankruptcy costs to society as a whole are higher than the bankruptcy costs for the bank's owners: there are external costs of bankruptcies (like information costs, relationship costs and similar intangible assets). This implies that the chosen reserves by the commercial bank are too low, some sort of regulatory capital requirements are needed to establish optimum.

¹⁸ Hanke (2002b), pp. 211f.

¹⁹ For an extended analysis, refer to e.g. Macey, Miller and Carnell (2001), pp. 275 – 344.

Modern banking regulation theory provides quite sophisticated means for determining capital requirements, most recently these have been incorporated in the Basel II capital accord.²⁰

- Prompt corrective action

Prompt corrective action "refers to a system of capital-based restrictions and requirements governing the supervision of [... commercial banks with deposit insurance]." ²¹ These requirements and restrictions are to cope with pervert incentives for regulators of the commercial banking sector, incentives to "forbear and to overextend the [...] safety net [provided by deposit insurance]. [Forbearance means ...] to take timely and appropriate action to reduce the risk an unhealthy institution poses to the deposit insurance fund (e.g., by limiting dividends, restricting excessive risk-taking, or requiring recapitalization). [... Overextending the safety net means] needlessly shielding an insured depository institution from market discipline [...]" ²²

- Prudential restrictions

These restrictions encompass a broad range of rules to constrain a bank's exposure to risk in general. Examples of prudential restrictions refer to limits on loans to one borrower, interbank credit exposure, insider lending and trading, brokered deposits or transactions with affiliated companies.²³

Argentina was aware of the necessity for a well regulated financial sector. Throughout the currency board era, and especially after the crisis in Mexico, Argentina pursued a distinct privatization policy of the provincial banks. In addition, the central bank of Argentina improved the regulation and supervision of banks' capital adequacy and provisioning requirements, as well as strengthening the enforcement capacity.²⁴

Exit strategies

Exit strategies mark a very difficult and delicate part in the design of a currency board arrangement. On the one hand, currency boards today are adopted by transition economies to impose some kind of external and / or jurisdictional control over the domestic government, not uncommonly emerging from a state of economic crisis. As mentioned earlier, the soundness of the currency board builds strongly on the firmness of the commitment of the domestic monetary authorities to the currency board arrangement; formulating exit strategies up front may state a wrong signal to investors and question this commitment.

²⁰ Basel Committee for Banking Supervision (2004).

²¹ Macey, Miller and Carnell (2001), pp. 307.

²² Macey, Miller and Carnell (2001), pp. 311.

²³ Macey, Miller and Carnell (2001), pp. 326.

²⁴ Carrizosa, Leipziger and Shah (1996), pp. 23.

On the other hand, economic conditions change over time. Just like the currency board system is a good way for an emerging economy to import stability from the anchor economy, deteriorating effects in the anchor economy can be imported once they appear. An illustrative example of such developments, although not in a strict currency board context, is the end of the Bretton Woods system in the 1970s.

It may thus become optimal for a country to abandon the currency board arrangement sooner or later. With the domestic currency still in use, this does not in fact present a major problem. However, it may be difficult to exactly determine adequate exit conditions beforehand. Gurtner (2004) recommends that a currency board “should ideally be abandoned during economic upturns when capital is flowing in and the objectives in terms of stabilisation have been achieved.”²⁵ Abandoning a monetary regime which obviously works well may prove difficult to implement politically, though.

A second question arises in the context of exit strategies: Once the optimal conditions for an exit from the currency board are determined, the next question is what new regime should be adopted in stead of the currency board. When economic developments both domestically and in the anchor economy justify abandoning the currency board (e.g. because of deteriorating economic conditions in the anchor economy), there are three possible choices:

- return to a more flexible exchange rate regime, thus reclaim monetary independence for the domestic economy,
- change the anchor currency of the currency board or change the peg, thus more or less keep the status quo,
- or go one step further and adopt the anchor currency as legal tender domestically, thus dollarize.

Which one of these scenarios should be chosen depends mainly on the domestic economic conditions inducing the exit process.

First, if the domestic economy is in a sound state, and if the exit process is induced because of deteriorating economic indicators in the anchor currency, it may be best to abandon the peg and return to a more flexible exchange rate regime.

Second, if the domestic economy is considered not stable enough to go “on its own”, it may be optimal to change the anchor currency or at least to adjust the peg. However, such a process will most probably involve major distortions of the domestic economy in the transition phase and undermine confidence, especially of foreign investors, in the currency board system.

²⁵ Gurtner (2004), pp. 681.

Third, if market pressures against the currency board become too strong, the domestic economy may opt to definitely give up monetary autonomy and adopt the anchor currency as legal tender, thus to dollarize. According to Hildebrand and Regling (1999), Argentina pursued this policy in 1998 and 1999.²⁶

Labour markets

With the currency board fixing the exchange rate at a specified rate, possible deviations of the implied exchange rate from this equilibrium must be compensated completely through real adjustments. If for example the anchor currency appreciates against the main trading partners of the domestic economy, wages should fall to compensate the increase in foreign consumer prices for domestic products, thus restore competitiveness of the domestic industry. To make this adjustment possible, the domestic economy thus must have sufficient flexibility in its labour markets. Although market pressures will finally enforce a real sector adjustment, it is slow, distorting and painful if labour markets as a whole and wages specifically are too rigid. Gurtner (2004) even states that “[f]lexibility of the labour market is [...] the key to [currency board] sustainability.”²⁷

Labour markets in Argentina were fairly inflexible during the currency board era. As of 2000, the nation’s constitution guaranteed workers the right to form unions and national minimum wage laws set minimum wage at USD 200 per month. Although union membership has declined over time, still about 35% of workforce are unionized, and unions are influential and active: in 2000 two general, nation wide strikes virtually shut down most government and many private businesses in response to government labour reform laws²⁸. This labour market setting resulted in significant and growing unemployment throughout the 1990s in Argentina.

Unemployment in Argentina						
Year	1991	1992	1993	1994	1995	1996
Unemployment [% of total labour force]	5.8	6.7	10.1	12.1	18.8	17.2
Year	1997	1998	1999	2000	2001	2002
Unemployment [% of total labour force]	14.9	12.8	14.1	15.0	18.3	17.8

Table 3 Source: World Development Indicators, 2004

Together with the currencies of the main trading partners, especially Brazil’s, depreciating against the ARS, the rigid labour markets became an ever growing problem. Adjustments in the wage level would have assured the competitiveness of the Argentine economy. The

²⁶ Hildebrand and Regling (1999), pp. 56.

²⁷ Gurnter (2004), pg. 681.

²⁸ Lansford (2002), pp. 20.

inability of the government to enforce labour market reforms against the pressure of the unions, making these adjustments slow if not impossible, must be regarded as one of the main factors ultimately leading to the collapse of the Argentine currency board.

Openness of the economy

Gurtner (2004) states that a candidate country for a currency board should not be subject to massive and frequent terms of trade shocks.²⁹ A country should thus distribute its exports more or less evenly between several trading partners, so that a demand shock in one country has only limited effects on the domestic export industry.

Argentina: export industries and proportions (2003, preliminary)			
Industry	Proportion	Industry	Proportion
Mining and fuel products	18.6%	Organic oils and fats	9.8%
Vegetable products	17.5%	Transportation equipment	7.5%
Food and luxury goods	15.9%	Live stock and animal products	6.8%

Table 4 Source: Fischer Weltalmanach (2005), pp. 53

Argentina's export sector accounts for roughly 10% of GDP, as table 2 shows. Thus, while Argentina's economy was not particularly dominated by foreign trade, strong changes in export markets nevertheless could had impact on the domestic economy. While it is quite broadly diversified across industries, as above table indicates, it is geographically focussed on Brazil as its main trading partner. The following table shows trade distribution with Argentina's main trading partners from 1999 to 2001.

Argentina: main trading partners and trade proportions						
Year	1999		2000		2001	
	Imports	Exports	Imports	Exports	Import	Exports
Brazil	21.9%	24.4%	25.9%	26.5%	26.0%	23.3%
USA	19.6%	11.3%	18.7%	11.8%	18.6%	10.9%
EMU*	22.7%	16.9%	17.4%	14.6%	17.3%	14.0%

*) The European Monetary Union (EMU) data is calculated from per country data as available.
 Imports: Belgium, France (incl. Monaco), Germany, Italy (incl. San Marino), Spain.
 Exports: Belgium, France (incl. Monaco), Germany, Italy (incl. San Marino), Netherlands, Spain.

Table 5 Source: Europa World Year Book (2004), pp. 535; and author's calculations

So, when a demand shock in Brazil occurred, like after the Brazilian currency crisis of 1998, this had repercussions in Argentina, although it can only be a partial explanation of the failure of the currency board.

Fiscal policy

Over the long run, the currency board can only remain credible with low indebtedness of the government. As long as a country can convince foreign investors that debt dynamics (i.e. the

²⁹ Gurtner (2004), pp. 681.

development of debt / GDP ratio) remain stable, they will remain that way.³⁰ On the other hand: as soon as a possible default must be taken into consideration, interest rates soar and it becomes increasingly difficult for the country to refinance its debt. Capital flight depletes the reserves of the currency board because of the multiplying effect of a fractional reserves banking system. The system collapses. Thus, firm commitment to budget balance by the government is important to ensure sustainability of a currency board.

Fiscal policy in Argentina was one of the central issues leading to the breakdown of the currency board. Imperfect budget discipline together with a difficult international financial environment built one of the two main factors leading to the final collapse.

The collapse of the Argentine currency board

The Argentine currency board collapsed after ten more or less successful years in December 2001. In discussing the requirements for a well functioning currency board above, several problems of the Argentine currency board were pointed out. The two main factors – fiscal policy on the one hand, the peso overvaluation on the other – and their interdependence are analyzed in some more detail in this part of the paper.

Argentina's fiscal policy

Argentina has long been known for weak tax collection. In addition, the federal structure of the Argentine government made it difficult for the central government in Buenos Aires to control expenditures on a provincial level.³¹ Part of this debt burden on the provincial level came from the prominent role of public banks among provincial banks, where after 1994 privatization was accelerated.³² From 1994, Argentina ran an ever growing budget deficit. Aware of the possibly destabilizing effects of growing public debt, Argentina under the lead of newly elected president Fernando De La Rúa and with the blessing of the IMF increased taxes in 2000. This had not the desired effect. In contrary, the tax increase was impeding the recovery and most importantly undermining investor confidence.³³ This loss of confidence resulted in a fall in net foreign direct investment, adding to the overvaluation pressure on the ARS.

The debt burden as such had not been a major problem, but now several factors joined together and deteriorated Argentina's situation. As Bleaney (2004) notes, the debt burden was not a problem as long as international investors remained convinced of Argentina's

³⁰ Bleaney (2004), pp. 713 calls this the "good equilibrium".

³¹ Bleaney (2004), pp. 706.

³² Carrizosa, Leipziger and Shah (1996), pp. 22.

³³ Hanke (2002b), pp. 211.

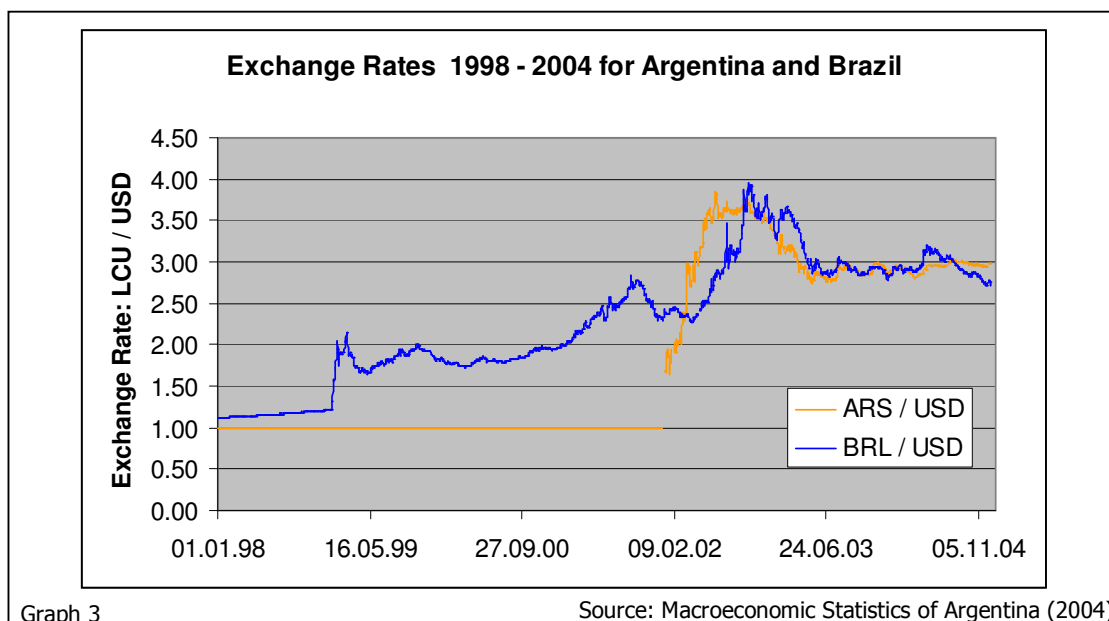
ability to keep control of debt dynamics.³⁴ But with investor confidence draining away, Argentina was heading rapidly for the 'bad equilibrium' of a debt crisis. This was aggravated by the increased cost for refinancing the Argentine debt after the emerging market crisis of 1998.

This negative effect could not be compensated by the moderate inflation of 1.04% in 1999, and inflation was at odds with the overvaluation of the ARS, which called for deflation instead.

The peso overvaluation

Most authors³⁵ conclude that the overvaluation of the Argentine peso was one of the main problems ultimately leading to the collapse of the currency board regime in Argentina, especially the overvaluation against the Brazil real, Brazil being Argentina's most important trading partner.

When in early 1999 Brazil abandoned its peg to the dollar and left the BRL floating, the export conditions for Argentina worsened practically over night. The BRL/USD exchange rate rose from around 1.2110 on 12.01.1999 to about 2.0500 on 29.01.1999 and later consolidated at levels between 1.7000 and 2.0000 levels throughout 1999 and 2000. In 2001, appreciation increased its pace and reached a peak in September, only three months before the crisis in Argentina became acute.



Hanke (2002a) on the other hand states that the peso was not overvalued. He asserts that "a classic sign of uncompetitiveness caused by an overvalued currency is declining

³⁴ Bleaney (2004), pp. 713.

³⁵ see e.g. Maniam, Hadley and Patel (2004); Gurtner (2004); Bleaney (2004)

exports."³⁶ And indeed, annual percentage growth of exports was positive through most of the currency board era. But in 1999, the same year Brazil abandoned its peg to the USD, and thus implicitly to the ARS, Argentine exports displayed negative growth for the first time in seven years. In the following year, exports were only slightly above 25% of what they had been in 1998 and before, and remained on these comparatively low levels since.

Argentina's annual percentage growth of exports						
Year	1991	1992	1993	1994	1995	1996
Exports of Goods and Services [annual % growth]	-3.62	-1.03	3.98	15.30	22.53	7.65
Year	1997	1998	1999	2000	2001	2002
Exports of Goods an Services [annual % growth]	12.18	10.62	-1.20	2.70	2.74	3.10

Table 6 Source: World Development Indicators, 2004

A statistical analysis of the available data shows that between 1998 and 1999 a structural break occurred in the development of Argentina's foreign trade environment: testing the two sub-periods (from 1991 to 1998 and 1999 to 2002) with a two-sided doubled t-test shows that the hypothesis of constant means must be rejected at 10% error probability. The p-value of 0.073 lies beneath the critical value for $\alpha = 0.1$.

Test statistic by Microsoft Excel for doubled t-test with unequal variances		
	Sub-period 1: 1991 - 1998	Sub-period 2: 1999 - 2002
Mean	8.45%	1.82%
Variance	74.27	4.25
Number of observations	8	4
Hypothetical difference between means	0	
Degrees of freedom (df)	8	
t-statistic	2.062	
p-value (two-sided)	0.073	
Critical t-value for a two-sided t-test ($\alpha = 0.1$)	1.860	

Table 7 Source: author's calculations

Of course it is not possible to say for sure that the significant structural change in foreign trade conditions for Argentina is due to the change in Brazil's exchange rate regime, and this event need not be the only one. The second half of 1998 was dominated by global financial markets instability, most pronounced in the credit markets for emerging markets. However, the change of the exchange rate regime in Brazil appears to have contributed a major part to the deterioration of the export environment, although it probably only give a partial explanation.

³⁶ Hanke (2002a), pp. 19.

In any case, the devaluation of the BRL made Argentine goods much more expensive, leading to a negative demand shock in Argentina's most important trading partner. GDP in Argentina contracted by -3.38% in 1999.³⁷ At least some of the change must be attributed to this effect.

The case against currency boards

In hindsight, the currency board system may appear inappropriate for Argentina, given the structure of the Argentine economy. However, currency boards are not the only way to fix exchange rates. Other systems have been proposed to be established in Argentina.

Proponents of flexible exchange rates may allege that the currency board – like all fixed exchange rate systems save monetary unification – is inherently unstable. Thus, as soon as inflation is under control and economic crisis overcome, the fixed exchange rate should be abandoned in favour of a more flexible system. Given the history of currency crises in Argentina, this was hardly an option. Discretionary central bank policy hadn't worked the past thirty years before. And although the government of Argentina had improved the institutional setup of the central bank and government, it found the necessary political reforms unfeasible.³⁸

At the opposite end of the spectrum from floating is dollarization, the ultimate currency peg. Dollarization means abandoning the domestic currency and replacing it with the USD as only national legal tender. Dollarization thus is nothing but a asymmetrical monetary union. Gurtner (2004) calls dollarization the best exit strategy for a country under currency board regime.³⁹ Others have argued, that dollarization should have been chosen in the first place, or that it should have been adopted as soon as problems with the currency board became apparent.⁴⁰ And indeed, Argentina negotiated possible dollarization in 1999.⁴¹

Dollarization on the other hand creates problems in its own light. There is de facto no exit strategy from a dollarized economy. First, Argentina has experienced the drawback of an "inappropriate" monetary policy from the anchor currency, when the USD appreciated against Argentina's trading partners' currencies. Under dollarization, these problems would be at least as pronounced. Second, abandoning the domestic currency always is a delicate political decision, as it implies giving up some of the sovereignty of the own country. For Argentina, this may have been only a minor consideration, however. The Argentine economy was both de facto as well as de iure strongly dollarized already, the USD being accepted as a

³⁷ World Development Indicators (2004)

³⁸ Maniam, Hadley and Patel (2004), pp. 437.

³⁹ Gurtner (2004), pp. 681.

⁴⁰ e.g. Hanke(2002a, 2002b); Hildebrand and Regling (1999).

⁴¹ Hildebrand and Regling (1999), pp. 56

second legal tender for domestic transactions. Even so, the symbolic importance of dollarization should not be underestimated. Third, the Fed may not be very enthusiastic about dollarization. Argentina was negotiating with the United States about dollarization in case market pressures would turn against the currency board. Argentina proposed that the Fed should take on banking supervision in Argentina and open the discount window for Argentine domiciled banks, while delivering the seignorage profit from dollarization back to Argentina.⁴² This plan was never realized.

Conclusion

Argentina's currency board system is another example of the trilemma of monetary policy. It is impossible to combine free capital mobility with discretionary monetary policy and fixed exchange rates; at least in times of crisis.

As is often the case, the failure of the Argentine currency board was the result of a complex combination of factors.

- The overvaluation of the ARS, especially against its most important trading partner Brazil.
- The fiscal policy measures adopted in 2000; the tax increase hampered economic recovery from the recession after the currency crisis in Brazil.
- The general global economic environment after 1998; costs for refinancing public debt increased, and investor confidence dwindled.
- Necessary political and administrative reforms, most importantly regarding the labour market, but also regarding independence of the central bank, were politically unfeasible.

This paper concludes, that for Argentina the currency board was the right regime to control inflation and lead the economy back to orderly conditions after 1989. But it also concludes that after 1995, when the Argentine economy prospered, the currency board should have been abandoned in favour of either dollarization or a more flexible currency regime. At least, the currency board should have been adapted to the changing fundamental environment.

Argentina in the past four years since the end of the currency board has embarked on an in depth reform of its economy, under the supervision and with the assistance of the IMF. This program must continue: reforms of the social security and labour markets, reforms of the central bank authority to promote independence of the BCRA, reforms of the fiscal structures, assertion of property rights and others.

⁴² Hildebrand and Regling (1999), pp. 56.

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