

Fear of Floating: Algeria's exchange rate regime

خطر التعويم: نظام سعر الصرف الجزائري

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Abstract:

The purpose of this paper is to identify the de-facto classification of the Algerian exchange rate using monthly data for the period (M6:2006 till M11: 2015). We capture the de facto peg of Algerian exchange rate over the sample, which in contrast of what was announced by the Central Bank of Algeria, it the managed floating during same period.

Keywords: Algerian exchange rate, De facto exchange rate, De jure exchange rate

المُلخَص:

تقترح هذه الدراسة التعريف بنظام سعر الصرف المطبق في الجزائر خلال الفترة الممتدة من جوان 2006 إلى نوفمبر 2015 إذ يصرح البنك المركزي على انه سعر صرف مدار De jure في حين استخلصت هذه الدراسة على أن النظام سعر الصرف الواقعي De facto هو نظام سعر الصرف الجامد خلال الفترة المدروسة. الكلمات المفتاحية: سعر صرف جزائري، نظام معطن، نظام سعر صرف واقعي.

I. Introduction

The Algerian central bank was used the dinar in the first time on 1 April 1964, replacing the Franc. It was pegged to the franc between 1964 and 1973 (long equal in value). As far as the Algerian exchange rate is concerned, the central bank adopted, since 1996, a managed floating exchange rate after a long experience with beg regime to a basket of currencies (1974-1995; **Kamel et al, 2015**) that was built upon a strong concentration of the US dollar that played an important role due to its 98% in hydrocarbon export receipts.

During the 1990s the US Dollar increased to nine *Algerian Dinar* in 1990 from 35 in 1994 and 47 dollar again the Dinar year a later. In addition, the nominal exchange rate index was characterized by increasing in levels to 2 and 8 percent for nominal and real exchange rate respectively during 1997-1999. Between January 2003 and January 2009, the Algerian exchange rate has varied continuously; from January 2003 to September 2008, the U.S dollar depreciated monthly against the Algerian Dinar by about 19%, followed by a depreciation of 6% during the financial crisis. Between January 2010 and January 2015, the Algerian dinar decreased against the U.S. dollar on 71.3 to 107.35.e

This study aim to identify the de facto classification of the Algerian exchange rate using monthly data for the period M6:2006 till M11: 2015.

The rest of the paper is organized as follows. In section 2, we present Review Literature. Section 3 presents an Overview of the

Algerian case, followed by the results and discussion results and discussion. Section 4 contains the main conclusion.

II. Review Literature

In this context, *choosing an exchange rate regime by countries* is an appropriate for their policy makers to affect on the macroeconomic, the monetary and capital markets. Of course, there are two classifications in the exchange rate regimes, the first is de jure regime as identified by IMF which based on the announcement and the documents of officials of the central bank; (**See IMF classification**).

The second is the de facto regime that based on exchange rate volatility and the Central Bank intervention in the reserve market; (**Levy-Yeyati and Sturzenegger, 2005; Reinhart and Rogoff, 2004; Shambaugh, 2004, Bénassy-Quéré et al 2006, Frankel and Wei, 2008, Habermeier, K et al 2009**).

. **Levy-Yeyati and Sturzenegger, 2005** constructed de jure classification from all IMF-reporting countries (183) over the period 1774-2004. they found divergence between the de facto regimes and de jure regimes and shown an increase in the number of de facto dirty floats (“fear of floating”).

Frankel (1999) found that there are several actions on intervention in foreign exchange market by countries whose adopt floating regimes. **Ghosh et al (1997)**, investigated whether the link between regimes, growth and inflation. In nine regime-types covering 149 countries over the period 1960-1990, results suggested that the

lower inflation is more stable under pegged regimes and provoke more volatility in growth economy.

Tony Cavoli (2009) examined the justifications of fear of floating in the East Asia experience. Flexible domestic inflation targeting and the interest rate instrument are the most reason can be justified fear of floating behaviour by central banks.

Park, et al 2001 used granger causality tests and variance decomposition in Korea to arrive at the conclusion that a free floating is still fearful for many raisons over three sub-periods: pre-crisis, crisis (1999), and post-crisis.

Nogueira Jr and Ledesma (2009) pointed out in their study that interventions in the foreign exchange market should not be seem as fear of floating, but as necessary to implement Inflation Targeting (IT) in Brazil.

III. **Overview of the Algerian case**

Between 2004 and 2014, this sector accounted for 35% to 45% of GDP and 46% to 70% of government revenue, while trade openness exhibited a high figure of 60% during the same period, (**Table 1**). US dollar is not the only dominate currency used in the Algerian trade; the euro is Algeria's largest trading currency as far as imports are concerned. The Algerian imports mostly from The European Union are made in Euros, which account for more than 50 percent of total imports, while Total trade between the EU and Algeria amounted to €2.76 billion in 2014, (**Table 02**).

Table (1): GDP & government revenues dependency on oil

GDP (billions of dollars)	85	103	117	135	171	137	199	204	210	227
Share of oil in GDP (%)	35,5	45	45,4	43,3	45,4	31,6	39	31,7	34	36
Government expenditure (billions of dollars)	44,4	46,1	50,8	57,6	73,9	67,4	81	91,4	100	111
Trade Openness (%)	58,1	64,8	64,9	64,6	69,4	60,2	71	53,9	64	64,8

Source:* IMF Country Report of Algeria from 2004-2012.

**Statistics Algeria, The ministry of Finance:

<http://www.mf.gov.dz/rubriques/15/Activit es.html>

Table 02: Trade in goods 2012-2014,  billions

Year	EU* imports	EU* exports	Balance
2012	33	21	-11
2013	32	22	-10
2014	30	24	-6

Source: Indicator Source IMF (World Economic Outlook, 2012-2014)

- EU concerns the European Union of 28 members for all indicated years

1) Data sources:

The sample comprises 115 log monthly observations of the Algerian exchange rate, foreign asset, foreign liabilities and government deposit for the period M6:2006 M11 2015. These variables are collected from different issues of the IMF's International Financial Statistics and World Development Indicators.

2) Results

Before illustrating the main result of the Algerian exchange rate a de facto classification, we will apply the following E. Levy-Yeyati, F. Sturzenegger (2005) steps:

1. Exchange rate volatility (σ_e)
2. The standard deviation of the monthly percentage changes in the exchange rate ($\Delta\sigma_e$).
3. the intervention in the foreign exchange market calculated as:

$$R_t = \frac{\text{Foreign asset} - \text{Foreign liabilities} - \text{central government deposit}}{\text{exchange rate}}$$

And when find R, we measure the intervention volatility in the reserve market as bellow:

$$r_t = \frac{R_t - R_{t-1}}{\text{Monetary base } t-1 / \text{exchange rate } t-1} \dots\dots\dots (2)$$

Table 3 shows a classification regime, while, exchange rate volatility, standard deviation and intervention in the foreign market (r) are high and around between 0.72 and 2.73 we can conclude the pure float of the exchange rate. Conversely, fixed regime based on low change and standard deviation of exchange rate (0.00 to 0.6) in first part and shown high intervention in the reserve for defending their exchange rate (average between 5,6. to 7,51). However, Crawling exchange regime classification pointed mixed results, High of exchange volatility and intervention in the reserve market in first hand. On other hand, a low standard deviation will be pointed, (**table 3**). Finally adopted managed exchange rate requires high three levels

of Exchange rate volatility (σ_e), Standard deviation ($\Delta\sigma_e$) and Intervention volatility in international reserve (r_t)

Table 03: Bounds of the classification variables

Regime	Exchange rate volatility (σ_e)			Standard deviation ($\Delta\sigma_e$).			Intervention volatility in international reserve (r_t)		
	Min	Centroid	Max	Min	Centroid	Max	Min	Centroid	Max
Float	0.72	1.18	2.73	0.36	0.96	1.37	0.25	3.19	6.46
Managed	0.16	0.95	1.77	0.33	0.86	1.58	5.38	7.86	10.63
Crawling	0.02	0.53	1.05	0.24	0.50	1.44	0.35	4.29	7.53
Fixed	0.00	0.00	0.63	0.00	0.00	0.66	5.65	7.51	11.02

We note that the Algerian exchange rate exhibited a small volatility (less than 0.02) and low standard deviation (less than 0.02), (**Figure 1**). Moreover, policy instruments still a relatively high intervention (5.85%) that we can identify exchange rate regime as a regime fixed de facto regime were the IMF classification and Central Bank in Algeria declared as a managed floating.

This result founded of fixed regime criteria can be explained how the foreign exchange receipts from hydrocarbon exports helps well Algerian public spending that would cater for public budget deficit curtailment.

IV. Conclusion

In this paper, we investigated about the nature of the Algerian exchange regime, where we proved that there is divergence between the de jure regime (managed Float) and the de facto regime (Fixed) or as call dirty floats .

Annexe:

Figure 01: Exchange rate change

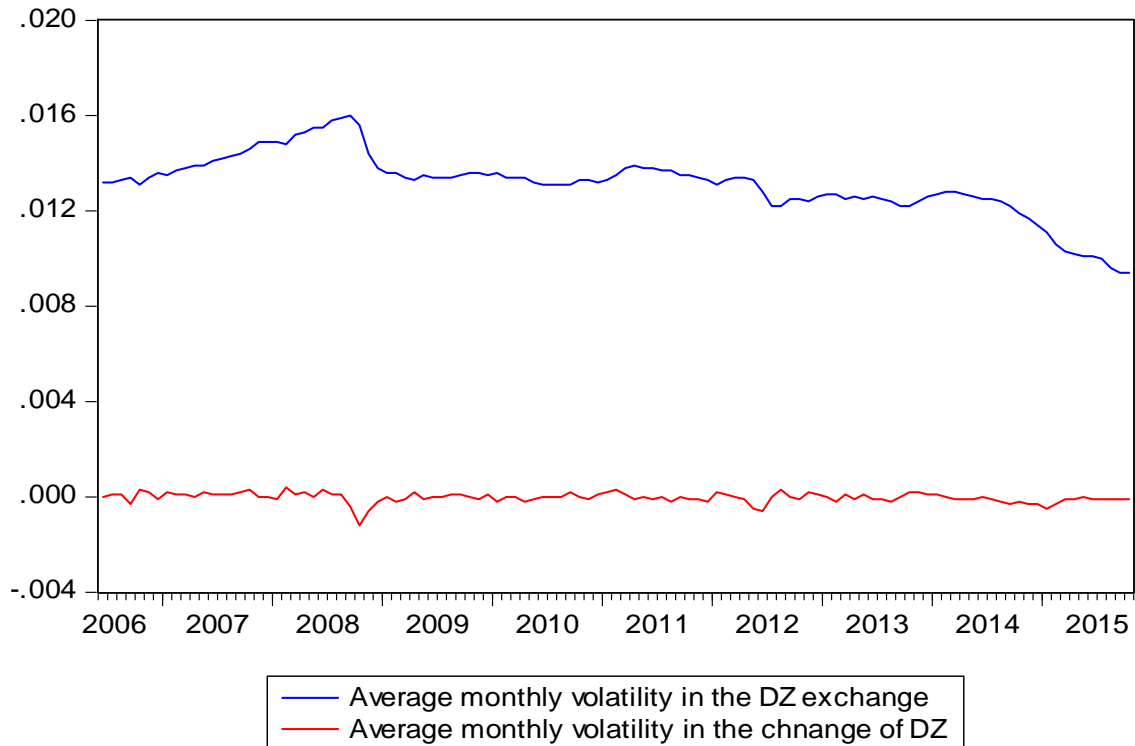


Figure 02: standard deviation in exchange rate

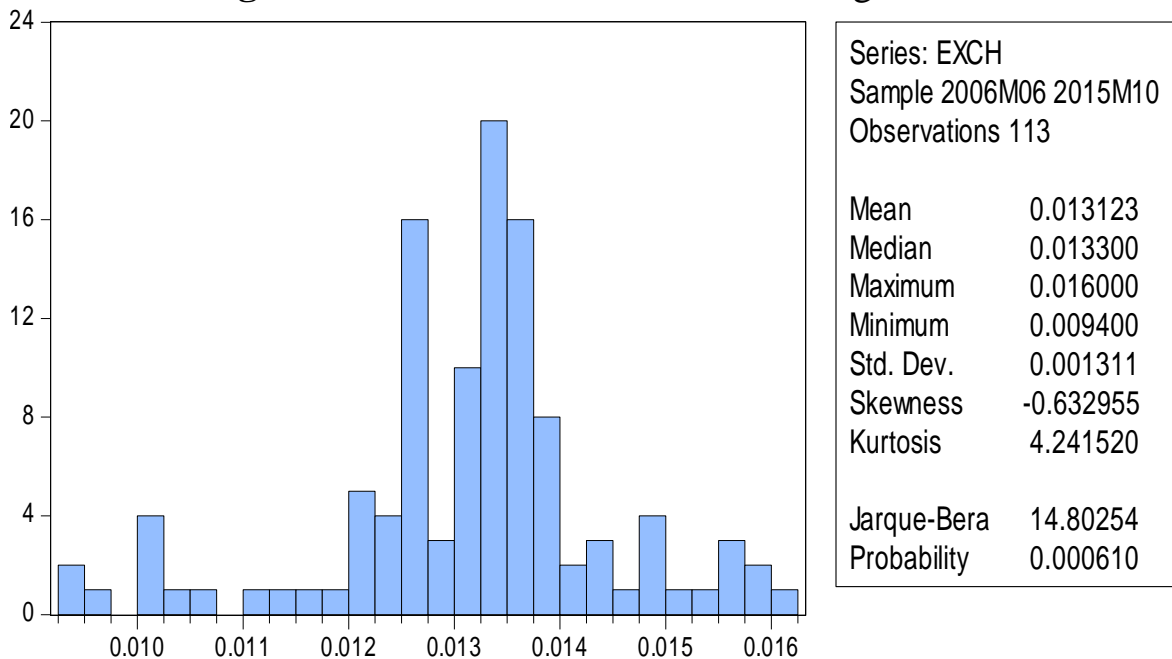
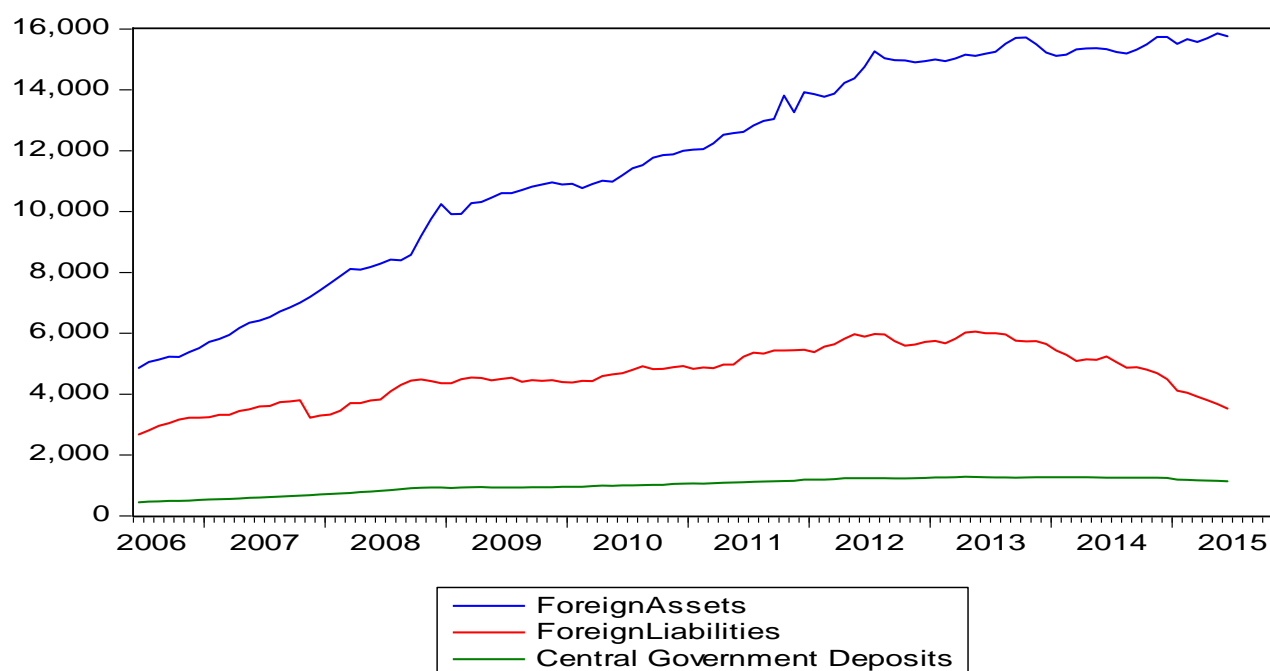


Figure 03: intervention in the exchange market

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