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Deconstructing the myth of a speculative attack

Florin V. Citu

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Abstract:

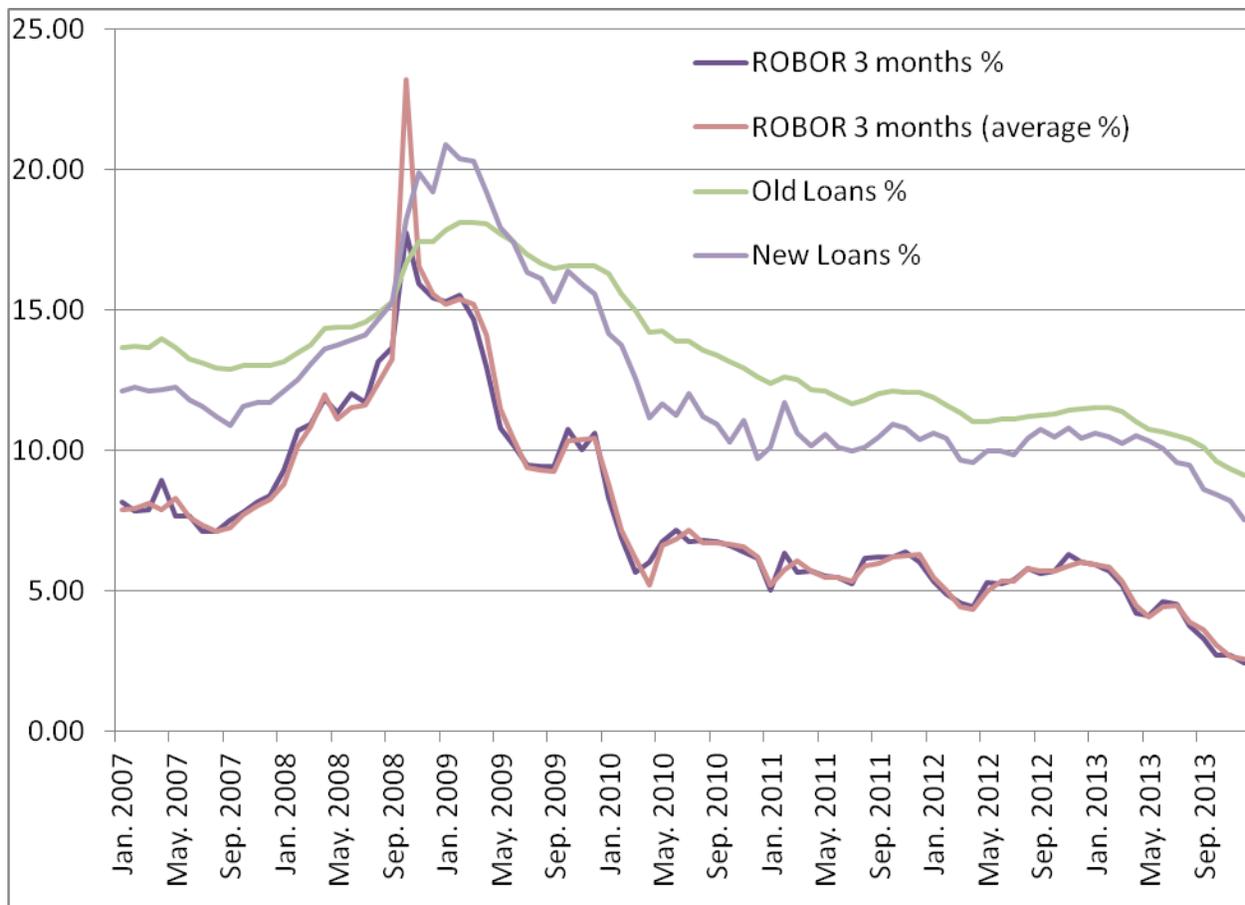
DRAFT

The Romanian central bank (NBR) justified aggressive and direct intervention in the foreign exchange (FX) market on October 2008 as a response to a speculative attack. A study published by the NBR in 2011¹ and used as evidence in public debates identifies that date as an attack on the local currency. Croitoru (2011) designs ad-hoc indicators based on the exchange rate and an average measure of the market interest rates to identify a speculative attack on the Romanian leu. The conclusions are used by the NBR to justify direct interventions in the FX market that led to market interest rates increasing to 90% on the interbank market and 1000% on the FX SWAP² market. Most of the increase in the funding costs recorded by the ROBOR interbank rates were transferred to clients and then to the rest of the economy³. Interest rates for new and existing loans denominated in leu and foreign currencies increased with 10 percentage points which led to a fall in demand for credit but also increased few times the costs of servicing existing credit. The NBR justified its actions as a response to a speculative attack on the domestic currency.

¹ Croitoru, L. 2011 - In Romanian only

² FX SWAP Market : is used as a short term funding market by local banks in Romania – an extension of the deposit market.

³ R. Radu (2010) shows that a 100 basis points increase in ROBOR rates transfers to new credit rates in 9 months, 70% of the increase observed at 3 months (Romanian only)



Source: NBR and author's calculations

Considering that the NBR's actions were followed by the worst recession since the fall of the communist regime the central bank used extensively in the media the speculative attack defense as a justification. Even in February 2014 the Governor of the NBR, Mr. Mugur Isarescu, put the blame on the "speculators" who wanted to buy euro for leu. Again, the Governor explained that the NBR was there just to satisfy the demand for euro. However, the NBR never mentions a reason for not sterilizing those interventions other than using the speculative attack defense. Therefore in order to understand the central bank's behavior it is important to see if there is evidence that support a speculative attack on the Romanian leu in October 2008. This is our objective in this paper. In future research we look at the effect of the NBR's decision to lower the money supply via foreign exchange interventions on the rest of the economy.

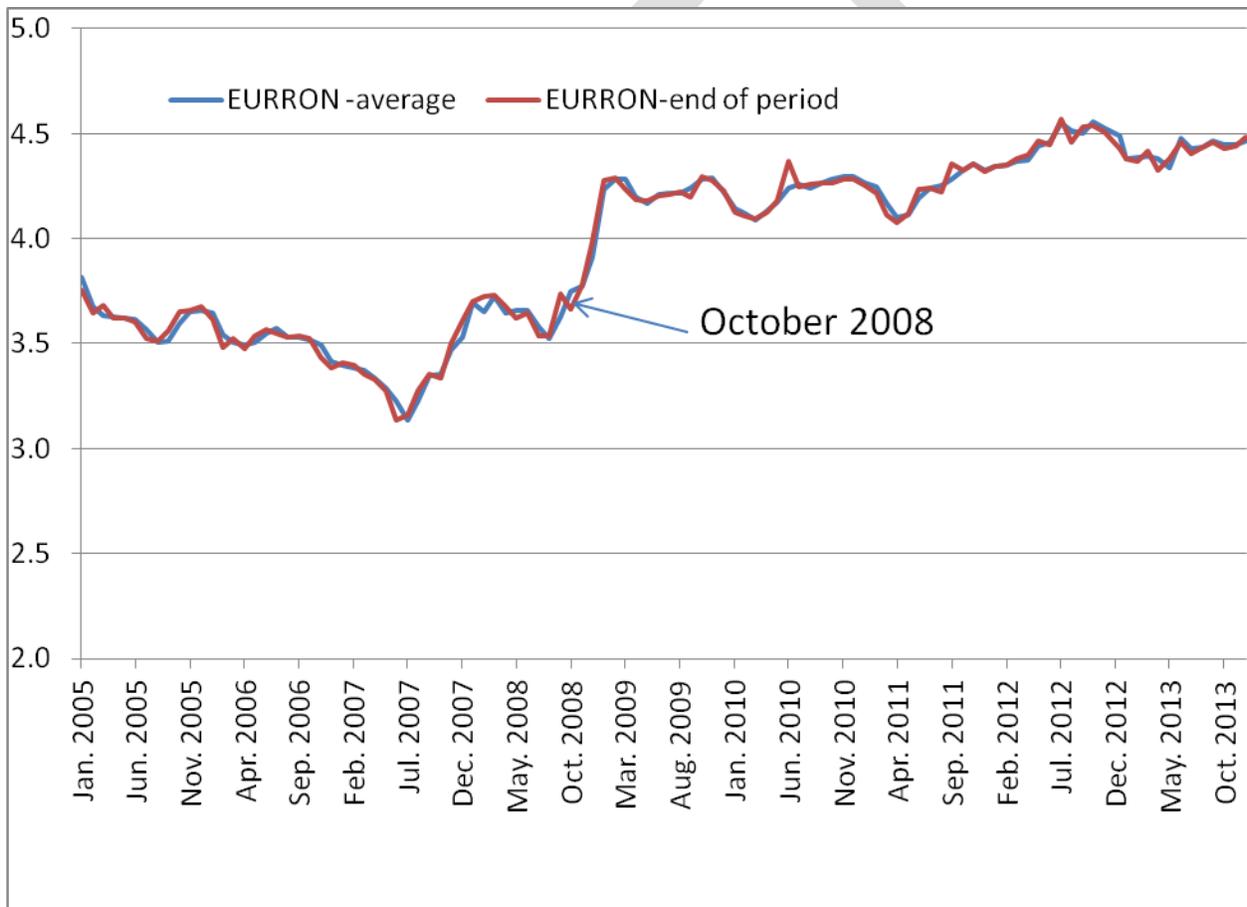
Thus, in this paper we test the claims of Croitoru 2011 using the same variables, the exchange rate and the interest rate. We show first why using daily data is not suitable for such tests. Second, we show that if we do not use daily data the evidence supporting a speculative attack disappears. Third and finally, we add few different interest rates and show that the bid rates (interest rates at which banks accept funding from each other) do not support the claim of the NBR while the offer rates (interest rates at which banks offer funding to each other) cannot be used as the central bank imposed a ceiling in October 2008. Specifically, we show that Croitoru 2011 is using the wrong frequency for the exchange rate and interest rates. Also, we show that both the exchange rate and interest rates are biased by central bank interventions and regulations, especially at the frequencies used in the study. Using the correct frequencies, suggested by the literature and by the particularities of the Romanian data, and the right interest rate measures we eliminate October 2008 as the date for a speculative attack on the Romanian leu. However, we acknowledge that Romania has suffered a currency crisis that extends over the period July 2007 – June 2009⁴.

The conventional wisdom is that central banks should defend their own currency during a speculative attack (Braghion, Chrisitiano and Roldos, 2006). The Romanian currency, the leu, lost 40% of its value from July 2007 to February 2009. Half of the depreciation occurred in just few months from October 2008 to February 2009. In the following years the leu continued to depreciate further, albeit at a slower pace. However, the evolution of the (EURRON) exchange rate is at odds with the rhetoric from the Romanian central bank (NBR) which claims that in October 2008 the leu was the victim of a speculative attack and its interventions successfully defended the currency.

A successful defence from a speculative attack would mean that the currency returns to its value before the attack and remains there. In the same time we assume that a speculative attack should

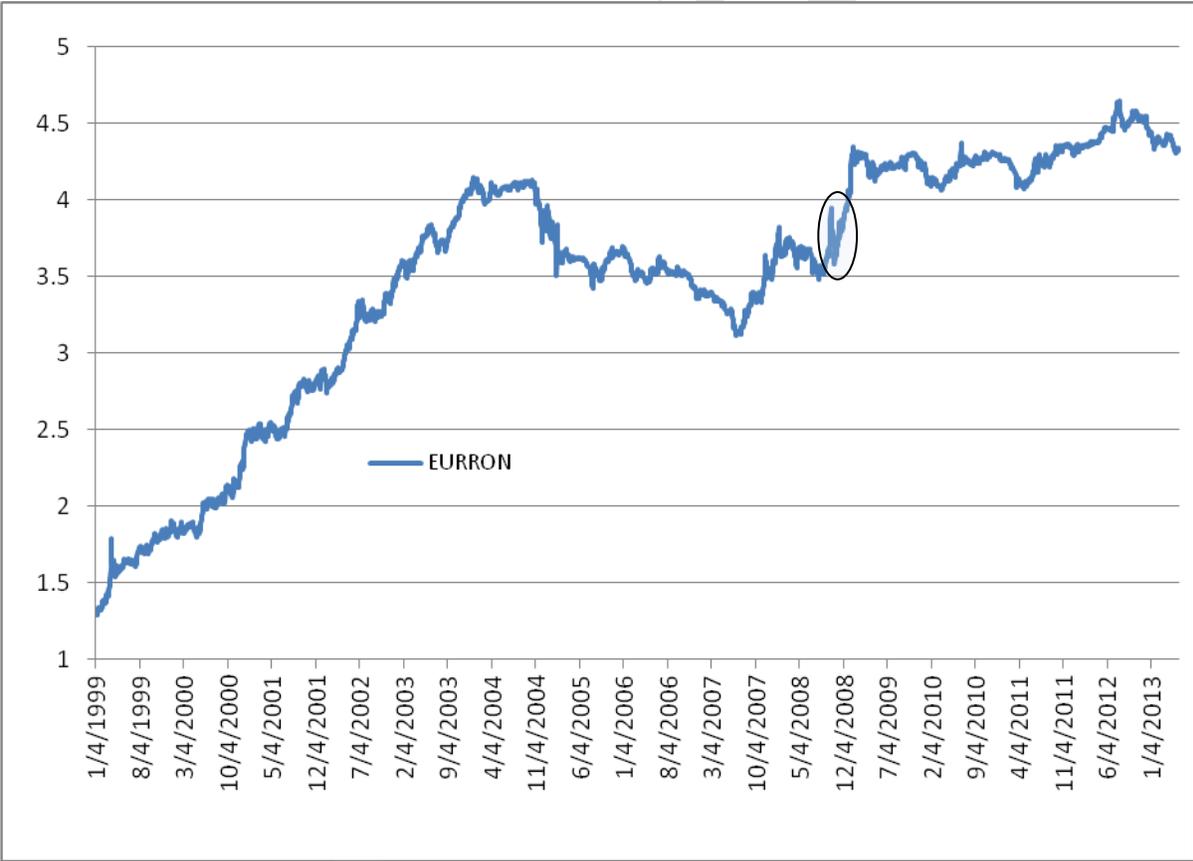
⁴ In Citu 2014 (forthcoming) we look at the implications for the economy of the central bank decision to defend the leu and we show that the interest rate defense should not be the default solution especially for economies that rely on credit for their short term economic development..

be seen in the evolution of the exchange rate. The monthly evolution of the EURRON, average and end of period, do not show such a pattern. In fact it we need to point out the October 2008 value of the EURRON as it does not stand out as one would expect given the central banks' rethoric. If one were to choose, just by looking at the evolution of the exchange rate, a possible start of the currency crisis the candidates would be July 2007 and August 2008. As we said speculative attacks preceede currency crisis and those points show the beginnig of long depreciation period for the leu.



Source: National Bank of Romania

Turning now to the daily exchange rate we observe that the first few days in October 2008 show an increase in the EURRON exchange rate but only if we consider a very short period. Also, it does not look as a crisis period when we consider a longer time span. For monetary policy and the public at large it is the long term evolution of the exchange rate that matters. The NBR is concerned with exchange rate volatility only if it is influencing price stability and inflation expectations – second round effects. The NBR has always claimed that it does not respond immediately to a tax increase or a oil price shock as it is the second round effect that matter. It is thus strange that it chooses to respond to daily exchange rate movements.

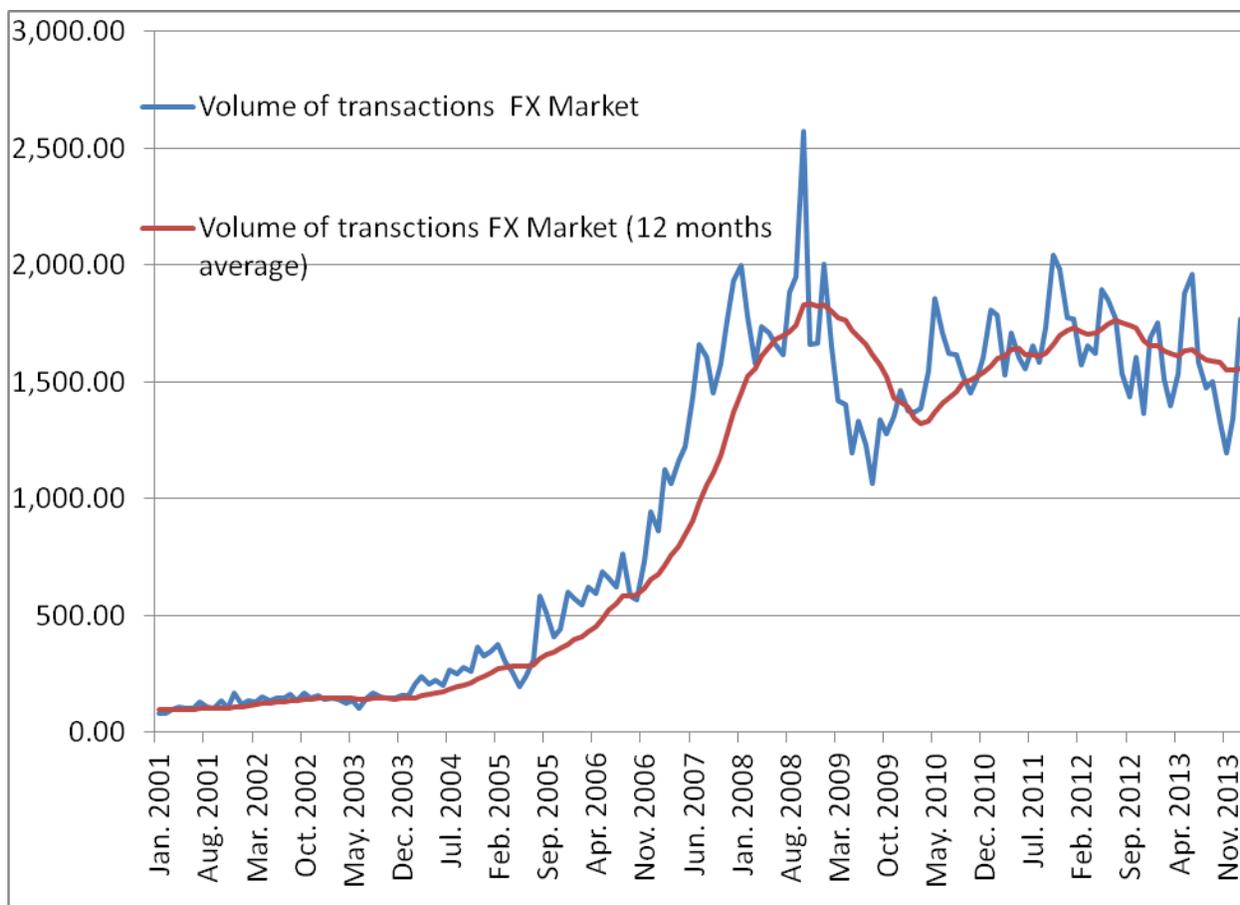


Source: ECB

It is true though that identifying a speculative attack while it is happening it is hard. In our view it is almost impossible by looking at daily data. Most research does not make a clear distinction

between a currency crisis and a speculative attack. Under this view any capital outflow could be labeled as a speculative attack. However, this assumption is wrong as speculative attacks and currency crisis have different characteristics. Capital moves freely across the world and we observe from time to time periods of accelerated capital inflow into a country followed at some point by periods of accelerated capital outflow without any connection to a speculative move by the market participants. Central banks and governments tend to worry only about the capital outflow without considering the effect of the fast capital inflow. But the two are related and if one were to look at a speculative attack than considering the two makes more sense.

On a daily basis there are many decisions made by that market participants which influence the dynamic of the exchange rate. For example, in a small market like the Romanian one few commercial transactions totaling couple of hundred million euro would push the exchange rate instantly higher or lower, depending on the direction of the trade. Such a move, especially if unexpected, could lead to surprised market players closing losing positions and exaggerating the exchange rate movement. It could take few days for the market to regain composure and stabilize, usually close to the level seen before the big flows entered the market. To an untrained eye or someone looking from the outside such transactions based on commercial flows in a small market could look like a speculative attack. Successful central banks have learned to ignore short term movement in prices, consumer or exchange rates for example, and to focus on the medium term. This is why currency crisis literature (Kraay 2000 for a review) and central banks that do intervene in the foreign exchange market do not look at daily data to identify a speculative attack or a currency crisis.



Source: NBR and author's calculations

Thus, taking into account the past behavior of the NBR it is fair to say that the central bank was defending a specific level of the exchange rate in October 2008 and was not sure if that level was in danger due to short term commercial flows, speculative attack or capital outflows determined by a structural change in the global financing picture.

As we said, a major claim in Croitoru(2011) and supported by the NBR in public speeches is that the central bank had successfully **defended** the currency from a speculative attack. One way to define a successful attack is a large nominal depreciation preceded by a relatively fixed nominal exchange rate. A failed speculative attack, which is what the NBR claims that we witnessed in Romania, is defined as a situation where there were downward spikes in reserves or upward spikes in the spread (between the short term interest rates in the home country and the anchor country) that occurred during periods of relatively fixed exchange rates and were not

followed by a devaluation for at least three months (Kraay 2000). In Romania although we observe higher interest rates after the central bank intervention we also see an acceleration of the exchange rate depreciation in the same time. Considering these patterns we do not find it plausible that Romanian currency was the victim of a speculative attack rather the collateral victim from international capital movements.

The economic environment leading to the October 2008 event

It is believed, although not proven, that a currency crisis more often than not follows a speculative attack. If a central bank chooses to defend its own currency, maintain its short term nominal value, it needs to separate the attack from short term market volatility or structural changes in the market. Romanian central bank, the National Bank of Romania, has a history of intervening in the foreign exchange market for different reasons. Those reasons are rarely related to the main objective of price stability. For example, it depreciated domestic currency via interventions in the FX market until 2004 to support expansionary fiscal policies and maintain international competitiveness. As a result average annual inflation was around 45% for the period 1990-2012. After the current account liberalization as nominal interest rates remained high the pressure on the domestic currency to appreciate increased. This time the central bank intervened sporadically and not substantially to slow down the appreciation of the leu versus the euro. In true interventionist fashion the NBR has more tolerance for appreciation than for depreciation. There are two reasons for this behavior in our view. First, in an economy suffering from euroisation as a result of two decades of high inflation the public is very sensitive to depreciations. Second, the NBR is an inflation targeting central bank and a stronger exchange rate will help lower the inflation rate in the short term (Benlialper, A. and Comert, H. 2013).

The financial crisis that hit the global economy in 2007 put the NBR on the defensive mode again. Starting with July 2007 it intervened in the foreign exchange market to prevent the depreciation of the leu. The interventions to support the currency were substantially bigger in terms of the amounts traded and more frequent than those done to slow down the appreciation. Interbank interest rates show bigger differences relative to the key policy rate in this period than

when the central bank was trying to tame the domestic currency appreciation. One more proof that the central bank cares more about a weaker domestic currency than a stronger one.

In the period up to October 2008 the interventions were disruptive for the money market and the economy in general but were implemented in an economic environment still awash with liquidity, both domestically and internationally. As they were interventions that distorted the information sent by a price, they did influence the behavior of the market participants and led to over borrowing by the private sector⁵. The dynamic of the foreign currency borrowing accelerated in the period 2005-2007 leading to higher current account deficit and higher distance from peak to trough of the business cycle. NBR data shows that while minimum reserve requirements for foreign denominated deposits was increased to 40% in April 2006 from 25% in October 2004 the real annual credit growth for foreign denominated loans increased from 40% in December 2005 to 70% in 2008.

The intensity of the central bank interventions increased after the fall of Lehman Brother in September 2008. As parliamentary elections were getting closer, December 2008, and the evolution of the exchange rate was getting more publicity the NBR decided to stop and reverse the depreciation not just slow it down as it did with the appreciation trend. In October 2008 the NBR intervened directly⁶ and aggressively in the FX market to prevent the Romanian leu from depreciating further after a 20% loss against the euro from July 2007 to August 2008. The unsterilized intervention led to higher interest rates in the money market from July 2007 onwards but they did not stop the upward pressure on the exchange rate. As expected from previous financial crisis (Burnside, Eichenbaum, Rebelo, 2000) the central bank intervention intensified the capital flight as the intervention led agents to expect the economy will deteriorate via the interest rate channel – the Romanian economy has been experiencing high double digit credit growth fueled by high double digit money supply growth.

⁵ Citu 2014 (forthcoming) – the destabilizing role of monetary policy in Romania 2002-20012

⁶ In October 2008 the NBR asked prices directly from banks thus positioning itself as an aggressor in the foreign exchange market. Among traders an “aggressor” is the trader that initiates the transaction.

In our view, the foreign exchange interventions were the wrong tool to fight the capital flight which was generated by exogenous factors initially. As the direct interventions did not work and wanting to stop the pressure on the domestic currency, the central bank met in the second part of October 2008 with the heads of the banks in Romania and asked them to stop trading with foreign counterparties. In fact it demanded that local banks do not settle trades (to honor interbank transactions) with foreign counterparties. Acting in this manner NBR practically placed capital controls and created the impression that it had emptied the interbank market of RON⁷. In the same time to hide the effects on interest rates of the unsterilized foreign exchange interventions and capital controls to the public at large the NBR passed a new law that capped the ROBOR rates⁸. It made it illegal for the fixing rates to be higher by 25 % than the Lombard rate. The combination of foreign exchange interventions, capital controls and interest rate caps led to a deeper recession in 2009 and longer crisis period afterwards (real GDP still below 2008 level in 2013) via the credit channel.

The “speculative attack”

Analyses of speculative attacks on exchange rates documented in the literature rely on either monthly or quarterly data (Aart Kraay, 2003). Daily or even weekly data can be influenced by short term flows from commercial transactions, capital injections, repatriations of profits etc. A speculative attack presupposes that there is an intention in the part of some market players to depreciate a currency and profit from this depreciation. Could capital flight pass for a speculative attack for example? Not in our view. In fact agents wanting to take their cash out from a country, capital flight, would like stronger domestic currency to preserve the value of their profit made in the domestic currency. This way they preserve a higher return on their investment calculated in their own currency as a stronger domestic currency buys more of a foreign currency. Foreign

⁷ May 1st 2011, Ziarul Financiar <http://www.zf.ro/opinii/opinie-de-cristian-hostiuc-zf-cum-a-parjolit-bnr-pamantul-ca-sa-opreasca-atacul-asupra-leului-in-octombrie-2008-8213552> – Romanian only

⁸ Norm 12 from October 24th, 2008 <http://www.bnr.ro/apage.aspx?pid=404&actId=133>

investors in the end pay dividends in their own currency and thus do not like weaker domestic currency in the foreign country where they make their money especially during the time when they repatriate their profit.

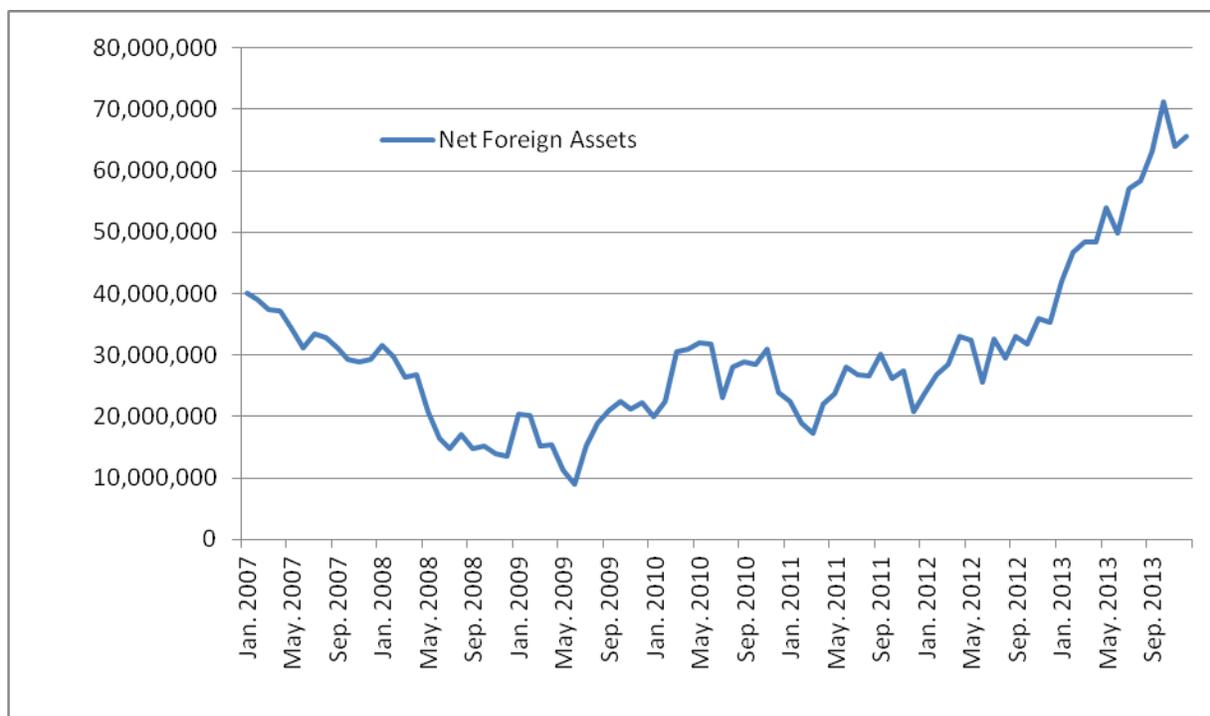
The mechanics and the logic of a speculative attack are quite simple. Agents will borrow a local currency and buy foreign currency with it. This way they drive up the exchange rate. When the exchange rate is high enough that it covers the borrowing cost and delivers a desired profit the agents will exchange their foreign currency for the local one (take their profit) and pay back the loan. (if the speculators are not followed by the rest of the economy then the selling of the foreign currency will drop the exchange rate to the original level and thus eliminate the profit). This sequence shows that a speculative attack is clear after the event and very difficult to identify while it is happening. That is why it is impossible for a central bank to identify a speculative attack after few days or even a week.

Let's look at an example. Assume the central bank mistakenly labels a capital flight (profit repatriation or portfolio change or lower than expected return on the investment or weakening of the economy) as speculative attack. Although its response should not be automatic and should consider the structure of the economy beforehand (Chang and Velasco 2001), the central bank decides to respond by withdrawing own currency from the market leading to increased interest rates at all maturities. This way the central bank tries to make it expensive for speculators but also to make its own currency attractive relative to similar currencies for investors. The main and only purpose of the central bank is to stop the depreciation – the conventional response to a speculative attack.

However, considering that it responds to a different shock than the real one, what should we observe? As the central bank keeps the exchange rate from depreciating via higher interest rates and lower money supply, fighting what it believes to be a speculative attack, the capital outflow is in fact encouraged. The stronger domestic currency offers an incentive to those exiting the market to continue to exit. As the central bank keeps the exchange rate fixed or even lower it offers a better price for foreign capital to exit. Thus, in the case where the capital flight is not related to short term speculative transactions, the central bank defense reinforces the pressures on

the exchange rate. Also, as interest rates are rising foreign investors that looked at medium to long term prospects of the economy might consider taking some of their profits early or cutting some of their financing lines short as they would expect that higher rates will depress economic activity in the future (Bernanke and Gertler 1995). As a result the pressure on the currency to depreciate will increase and the central bank will need to tighten policy even further if it wants to protect the short term nominal level of the exchange rate. Furthermore, if these changes happen in a weakening global economic environment, it should be expected that pressures on the currency will increase exponentially and give the impression of a speculative attack to inexperienced and myopic central bankers looking at daily data.

In our view this is what has happened in October 2008. After more than 12 months of steady capital outflow the pace picked up in September 2008 as Lehman Brothers filed for bankruptcy. For example, after couple of weeks the central bank's interventions to slow down the capital outflow led to an increase in the interbank interest rates from 6% to 14% while the key policy rate remained at 10.25%. The Lehman Brother bankruptcy was felt immediately on the exchange rate market and the appreciation trend imposed by NBR's interventions in August was reversed. The same conclusion can be derived by looking at the Net Foreign Assets data which show continuous and controlled depletion of foreign reserves.



Source: NBR

Nevertheless the NBR uses Croitoru (2011) as a proof of a speculative attack on the Romanian leu in October 2008. In the following sections we will show that those claims are not true as they are based on the wrong indicators, do not take into consideration all the available information at the time and finally the daily frequency of the data used in the study makes it impossible to differentiate between short term commercial flows, capital flight and a speculative attack.

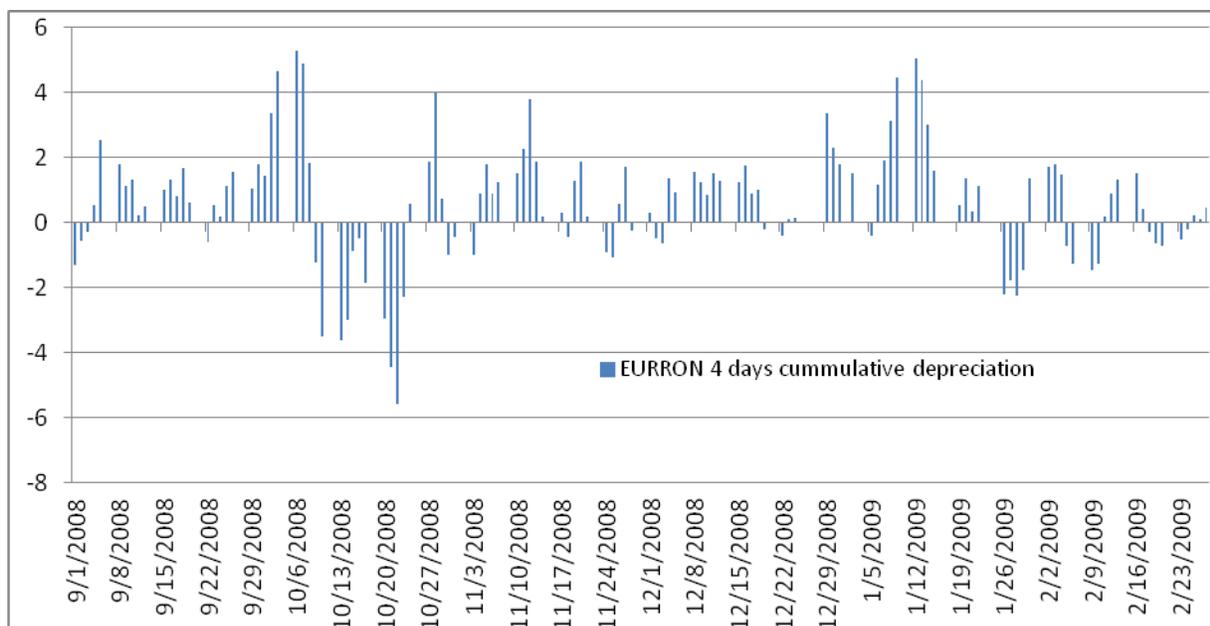
The exchange rate

To identify a speculative attack on a currency one has many options. In our view the best indicator for identifying a speculative attack or a currency crisis is the behavior of the exchange rate. For countries where an exchange rate peg is in place devaluations due to a currency crisis are obvious from the dynamic of the exchange rate. However, in countries where the central bank follows a moving exchange rate target, unknown to the public, the exact starting point of a currency crisis is harder to identify. In Croitoru (2011) the author builds an indicator based on

the exchange rate to identify the speculative attack. The indicator looks at the daily dynamic of EUR/RON exchange rate to find deviations from a value decided ad-hoc by the author⁹.

However, there is a major problem with using the EUR/RON exchange rate as indicator as it is not determined freely by the market. Therefore it is almost impossible to identify if deviation from the chosen value are driven by central bank intervention or by the actions of market participants. Also, the market interventions that came after October 2008 could have been done on purpose to shave off the peaks from the exchange rate to support the view of a speculative attack in the Romanian currency. Making the October 2008 the date of a speculative attack it is important to the NBR as the surprise increase in interest rates due to foreign exchange interventions pushed the economy into recession faster and also kept the economy on slow recovery path. Considering the way the indicator was built it is conceivable that the central bank just intervened to control the depreciation, especially since the indicator used by the NBR study uses the fixing value which later we show it was manipulated daily by the central bank. In fact, even Croitoru 2011 finds January 2009 as a better candidate for a speculative attack but it dismisses it based on lack of evidence from the interest rate indicator. In the interest rate section of the paper we explain why the author is wrong as it is overlooking crucial evidence about the interest rates.

⁹ The author uses 3? day cummaltive depreciation as a signal for the speculative attack. Higher or lower number of days would not identiy the October 2008 as a date for an attack but the January date still stands out



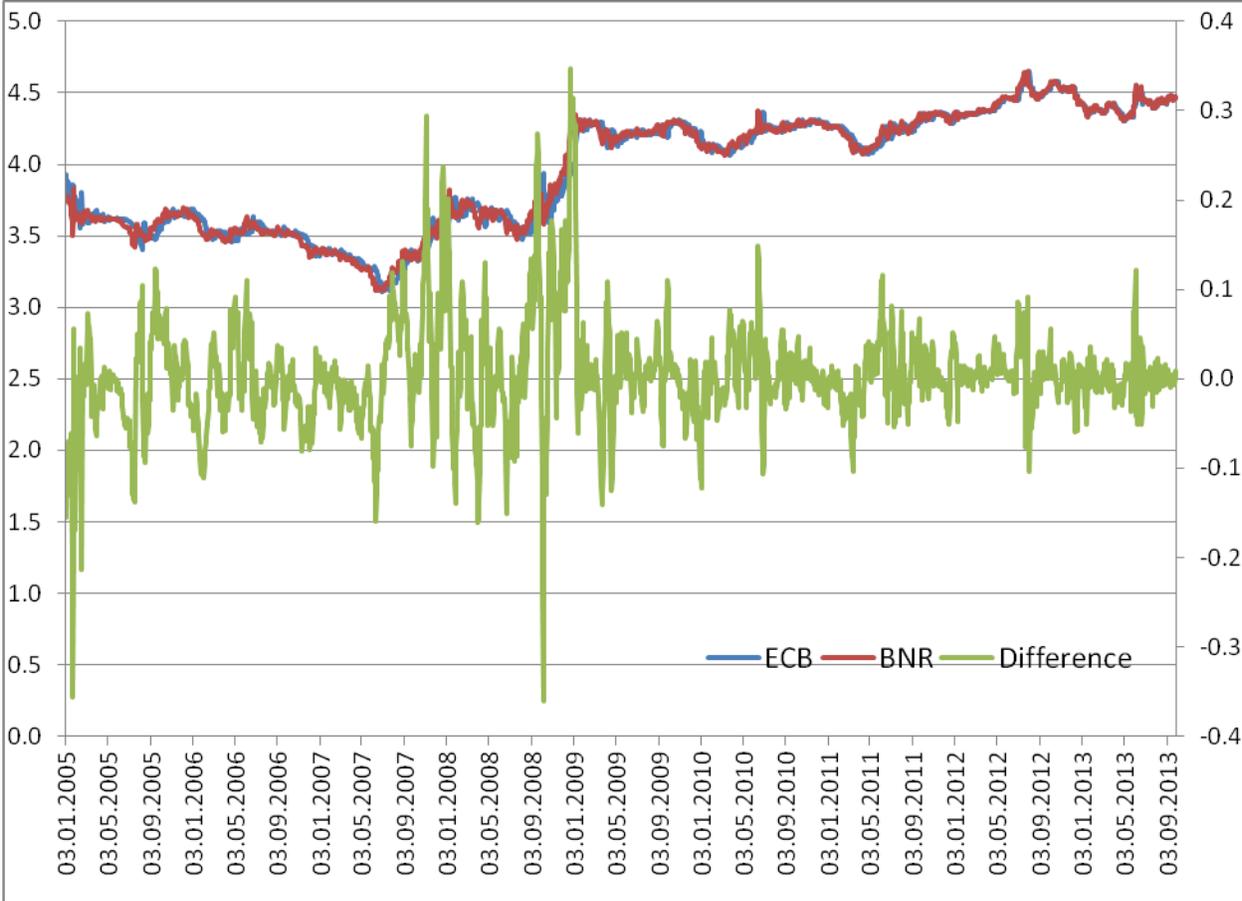
Source: NBR and author's calculations

Although most of the time it is very hard to identify the central bank's market intervention, for the period around October 2008 the task is made somewhat easier indirectly by the central bank. To hide the short term pressure on the domestic currency the central bank intervened aggressively to support the RON one hour before the fixing was announced. It did this most of the time and every day in October 2008. However, each day there are two values for the exchange rate fixing both determined in a similar way. One is published by the NBR at 1:00 pm and the other by the ECB almost 3 hours later.

The next figure shows the EURRON exchange rate published by the NBR and the by the ECB. The rates are published in the same day few hours apart with the ECB rate published later in the day, around 2:30 pm. Also, the graph includes the daily difference between the two exchange rates.

As the NBR intervenes to control fixing rate, lowering it in our case, we should see two developments. First, in an environment where the exchange rates depreciate the fixing published by the NBR at 1:00 pm is lower than the fixing published by the ECB couple of hours later. Although this difference should be normal we do observe a sudden and abrupt increase in

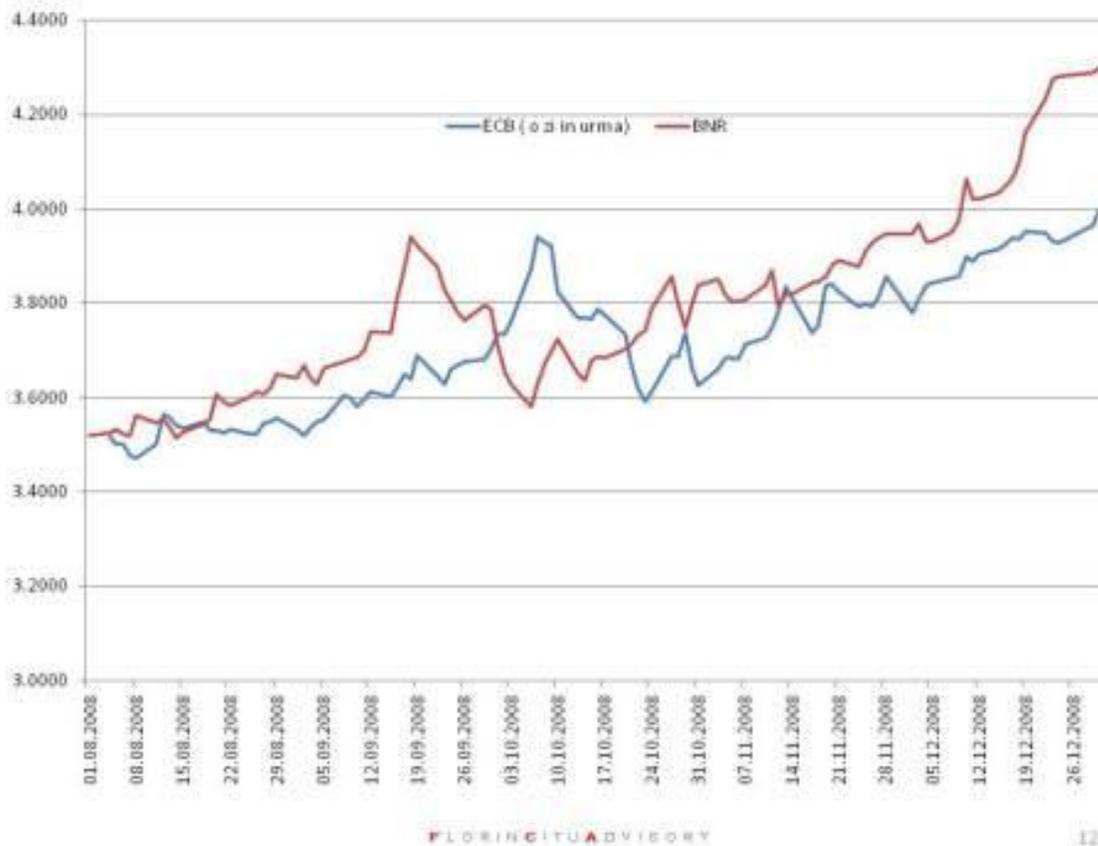
this difference exactly in the period that we are investigating. Thus the first development is a necessary but not sufficient condition to support our claim of daily manipulation of the fixing value by the NBR for October 2008.



Source: ECB, NBR and author’s calculations

We need a second development to confirm the NBR’s daily interventions. This development is found by looking at the one day difference between the NBR and ECB fixings. Interventions in the foreign exchange market to appreciate the domestic currency will reveal a negative difference between the second day fixing of the NBR and the previous’ day fixing from the ECB. In other words the domestic currency will suddenly appreciate at the time of the fixing of the NBR and afterwards would continue its depreciating trend. The next graph captures this evolution and offers support to our view that the central bank intervened daily to influence the

fixing rate. This is evidence that the NBR cannot use this indicator to identify the October 2008 as a date for the speculative attack.



Source: ECB, NBR and author's calculations

In practice this is how those interventions worked. Every day the NBR intervened as an aggressor in the foreign exchange market around 12:00 pm. In trading lingo the “aggressor” is the counterparty that initiates the trade. When the aggressor is another bank the option for a trader is to accept the price and make the transaction or decline the trade. The rules say that even if it declines the transaction the asked bank needs to provide a price for information for the deal. This way the traders know where the market prices such transactions. However, when the aggressor is the central bank the only option is to follow what they do because the central bank has the power to move the market. In fact, in a small market like the Romanian one just the act of asking a price coming from the central bank is moving the market on the short term. The reason

is simple, the central bank's interventions are done with a purpose and they carry way more ammunition behind than any commercial bank. That is why it is said never to fight the central bank. As a result every day the exchange rate moved lower in the period right before the fixing but right after the NBR left the market the exchange rate moved back to the level before the intervention and continued the move higher. This is why we are able to capture the odd difference between the NBR fixing and the ECB fixing of the EURRON rate.

In October 2008, the central bank intervened just to show a stronger fixing as this was the value that got the most press coverage but it did not attempt to stop the depreciation of the RON in the long run. It just wanted to slow down the pace. As this was an environment with strong pressures on the currency to depreciate it meant that every day the task of the NBR was tougher and more expensive for the rest of the economy as interventions, sterilized or unsterilized, in the FX market or the economy in general are never free.

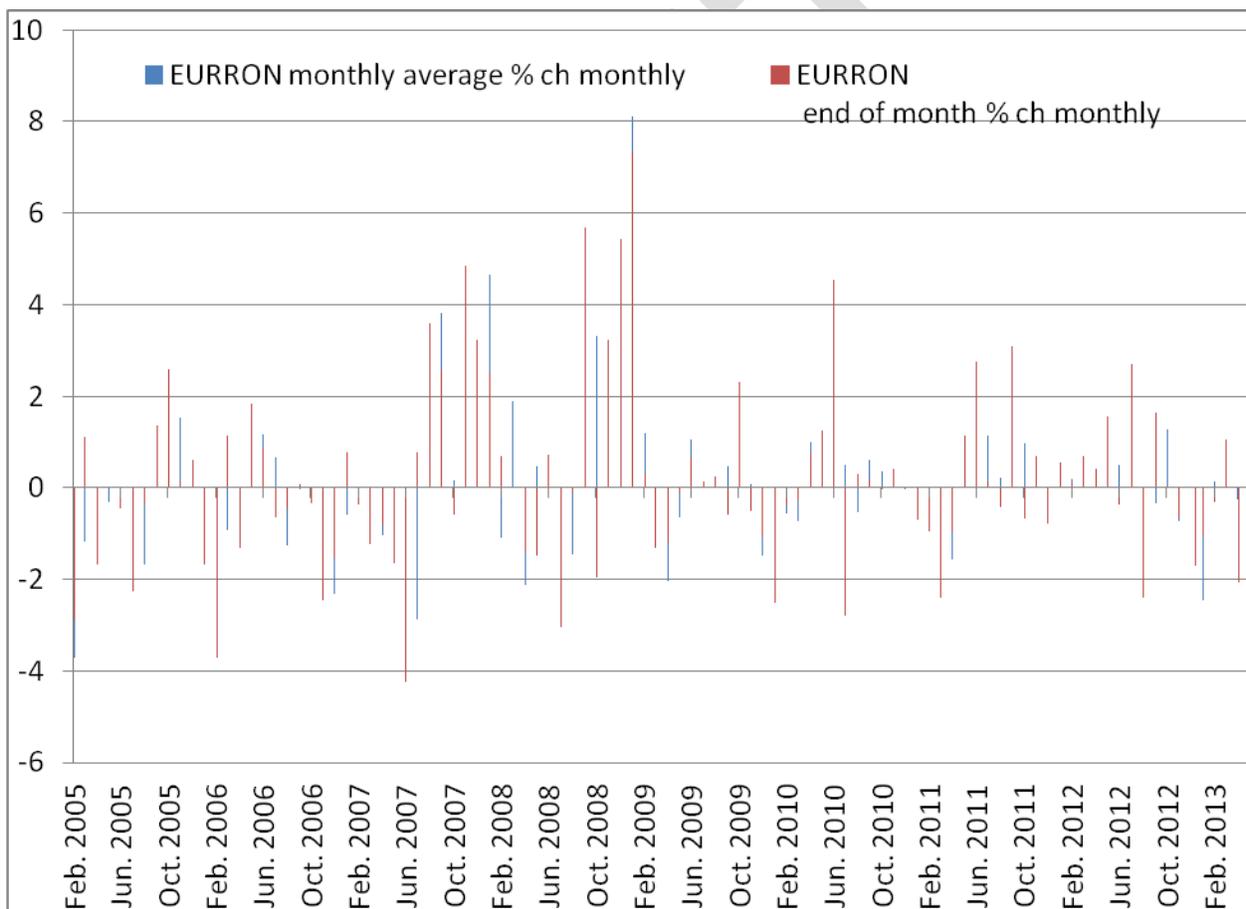
Direct and indirect interventions in the price determination mechanism of the foreign exchange market can influence the behavior of the market participants. The influence is both direct, immediate, and indirect, long term. The behavior was influenced directly by changing the prices of funding and of one currency in terms of the other and indirectly by implying a certain behavior in the face of similar market movements.

Considering the daily interventions by the NBR it would be impossible for anyone to use of the exchange rate as an unbiased indicator at daily frequencies. To be able to use it we need to eliminate the influence of those interventions on the dynamic of the current and future exchange rate, a task impossible to perform in our view.

However, even if we assume that the exchange rate is an unbiased indicator using the daily exchange rate to identify a speculative attack is wrong as it is impossible to differentiate between real commercial flows and speculative ones. Using a lower frequency data, weekly, monthly or yearly, does not support the claim of a speculative attack in October 2008.

The literature on the exchange rate crisis looks at monthly data for clues about speculative attacks. We use the same method of Croitoru 2011 but applied to two measures of monthly

exchange rate data: end of period exchange rate and average exchange rate. The end of period exchange rate shows a stronger currency in October 2008 while the monthly average exchange rate shows depreciation. However, both series show stronger depreciations in the month before October 2008 and most importantly the month following – a successful defense from a speculative attack should have shown appreciation on the months following the central bank intervention. The NBR has always said that it has a managed float regime thus we assume that it intervenes all the time. From this data we can identify the January 2009 as a possible candidate for a speculative attack on the Romanian leu as did Croitoru.



Source: NBR and author’s calculations

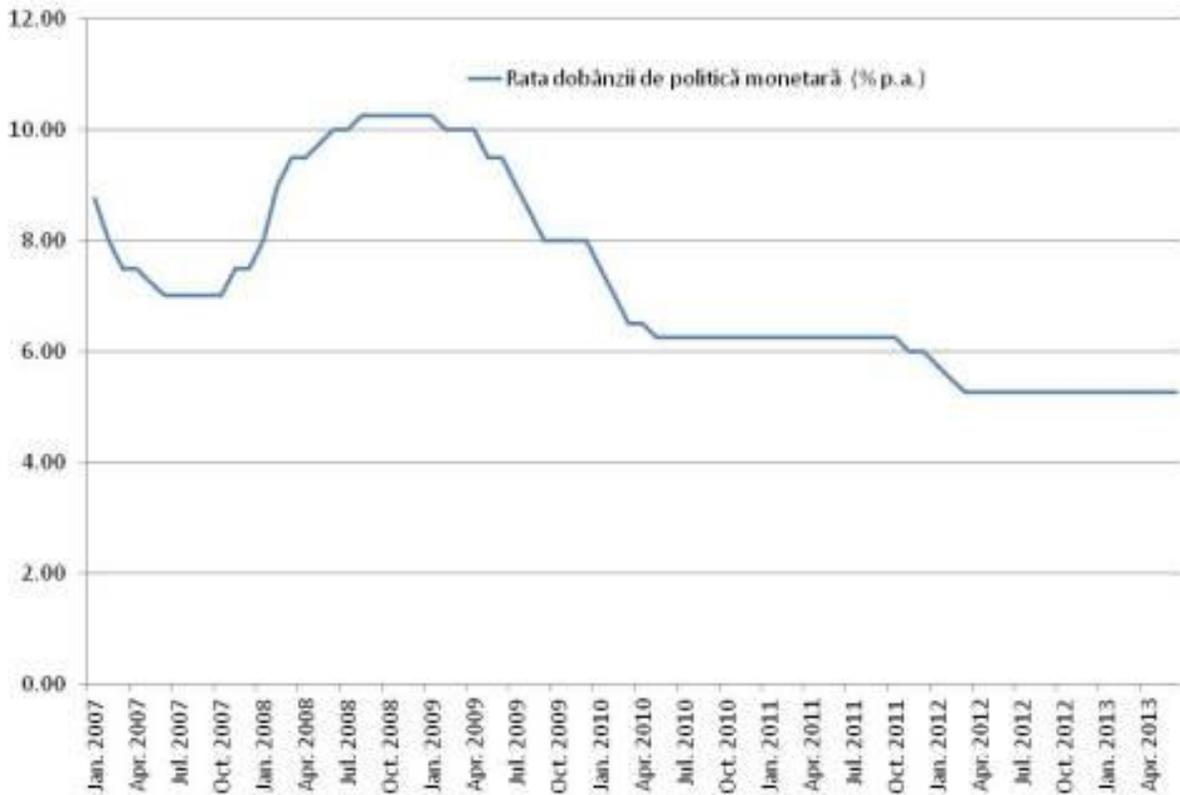
Finally, even if we look at daily exchange rate we see that in October the maximum exchange rate achieved was on the 6th but the interest rates maximum is 20 days later. This is evidence that

the central bank put a short term cap on the exchange rates before introducing a law to cap interbank market rates 23 days later. The next section looks at the interest rates.

The interest rate as indicator of a speculative attack

A second indicator used in Croitoru (2011) to identify a speculative attack on the Romanian leu is based on a specific interest rate calculated by the NBR. In the study the author uses an interest rate which represents an average across maturities, volumes and direction (borrowing or lending) for the Romanian interbank market. In other words, it does not make a difference between maturities or if it is an interest rate at which banks borrow or lend money to each other. Also, this interest rate does not include transactions with collateral and therefore represents only a small part of the market. Most importantly the interest rate used in the study cannot convey with certainty the information that the author was seeking and namely if the Romanian leu was the victim of a speculative attack.

Some previous studies (Braggio, Christian, Roldos , 2005) on speculative attacks have used the key policy rate as an indicator in order to identify a speculative attack. Nevertheless, the evolution of the NBR's key policy rate does not support this assumption. The key policy rate reached its maximum in August 2008 after increasing for a year. The next move from the central bank came in January 2009 and it was a cut from 10.25% to 10%. Therefore, the key policy rate evolution does not support the view of a speculative attack in October 2008. Thus, the central bank did not use the key policy rate to counter a possible speculative attack. In our view it shows also that the central bank did not view the key policy rate as the main monetary policy instrument.



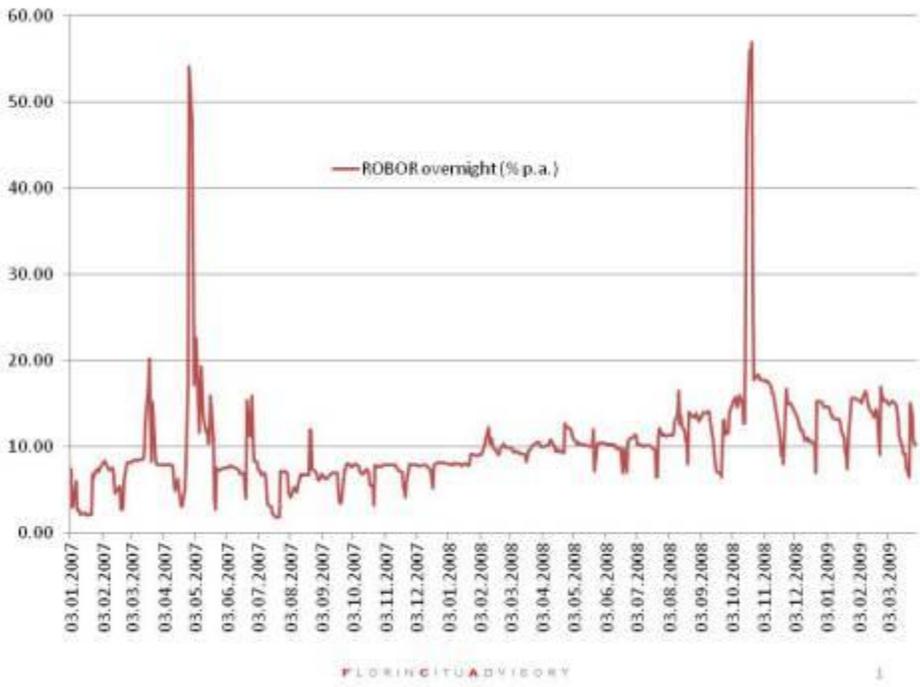
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Source: NBR

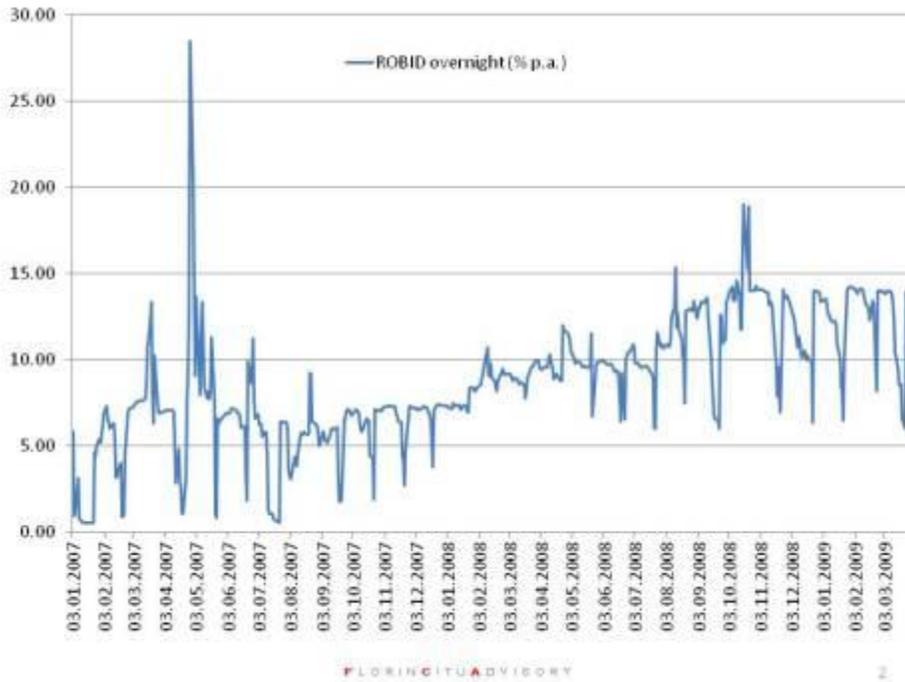
One other candidate to identify a possible speculative attack is the interest rate fixing for the interbank market rates. The ROBID –ROBOR interest rates show the banks’ interest in borrowing and placing money in the interbank market at maturities from 1 day to 12 months. A sudden increase in ROBID – ROBOR rates would imply a disruption in the funding market. We can identify two episodes, April 2007 and October 2008, where the ROBOR rates increased. But when we look at the ROBID rates we do not find any evidence that the central bank has intervened to support the local currency. This outcome is a huge surprise and creates a puzzle and needs further investigation as most all the other data is showing central bank intervening.

Looking at the ROBID historical evolution one cannot identify a speculative attack. In the same time the evolution of the ROBOR shows higher volatility. However, we cannot say if the October 2008 point was the maximum point and thus evidence to support a speculative attack

theory as the central bank introduced a cap on ROBID-ROBOR rates on October 23rd. At this point it is important to note that neither the key policy rate nor the ROBID rate support the conclusion expressed in the Croitoru 2011 of a speculative attack on the Romanian currency.



DR



It is true that except for the ROBD rates all other interest rates show an increase above average in October 2008. This is obviously the effect of the central bank intervention to support the leu by draining local currency from the market and imposing capital controls. However, alone this indicator cannot prove that in October 2008 the leu was the victim of a speculative attack. Especially since the analysis of the interest rates around those dates is biased by the central banks law from October 23rd 2008 which caps the increase in the published ROBOR rates. Therefore, ROBD –ROBOR rates have no real information about the market after October 2008¹⁰. In fact as the ROBOR rates were showing levels of 18% after October 23rd 2008 the transactions in the markets were done at rates closer to 50% for maturities up to 3 months. These high rates continued until January 2009 but transactions remained concentrated at very low maturities, 90% of them at maturities smaller than a month,. The situation remained the same until recently.

¹⁰ The monetary policy decision to intervene directly in the FX market together with its implications are the subject of another research by the author forthcoming in 2014.

Conclusions

In this paper we showed that a proper analysis of data for October 2008 and consistent with the currency crisis literature does not support the speculative attack on the Romanian leu hypothesis.

Central bank research uses daily exchange rate and interest rates to build ad-hoc indicators in support of the speculative attack hypothesis. However, in this paper we show that daily exchange rates cannot be used for this task as they are controlled by the central bank. Furthermore, using daily data it is impossible to separate commercial transactions from speculative flows. When we use monthly or annual data indicators based on the exchange rate reject the hypothesis of a speculative attack on the Romanian leu in October 2008.

Finally we look at indicators based on different interests rates for evidence of a speculative attack. We start with the key policy rate and afterwards we look at the interbank rates for different maturities and interests of the banks, borrowing or lending. Again, we do not find any support for the speculative attack hypothesis. Unfortunately, as the NBR introduced a law that capped interest rates it is impossible to rely too much on the interest rates to deliver unbiased information. Also, given this handicap the conclusions of Croitoru 2011 based on the interest rate are biased and cannot be use to support the speculative attack theory.

Nevertheless, the NBR intervened consistently since July 2007 to support the Romanian leu. Those interventions became more aggressive after the fall of Lehman Brothers as liquidity conditions have tightened globally and solvency issues have become more obvious. In following research we look at the impact of NBR decisions in that period on the Romanian GDP.

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