

Oleg Boiko  
Master in International Economics  
International accounting and audit program  
Kyiv National Economic University named after Vadym Hetman

УДК 339.7

## FOREIGN EXCHANGE RATE AND INTERNATIONAL COMPETITIVENESS OF ENTITIES

**Abstract.** Connection between exchange rate and value of financial funds in Ukraine has been established, high price of which being a competitive restriction of environment where resident-entities operate. Foreign exchange policy, official foreign reserves and exchange rate regime analysis has been implemented.

**Keywords:** cash deficit, monetary base, liabilities of the National Bank of Ukraine, foreign exchange rate to a reserve currency, foreign reserves.

## ВАЛЮТНИЙ КУРС ТА МІЖНАРОДНА КОНКУРЕНТОСПРОМОЖНІСТЬ СУБ'ЄКТІВ ГОСПОДАРЮВАННЯ

**Анотація.** Встановлено зв'язок між валютним курсом та ціною фінансових ресурсів в Україні, висока вартість яких є конкурентним обмеженням середовища господарювання підприємств-резидентів. Зроблено огляд валютної політики, стану золотовалютних резервів та валютного режиму в Україні

**Ключові слова:** дефіцит грошових коштів, грошова база, зобов'язання НБУ, валютний курс до резервної валюти, золотовалютні резерви.

## ВАЛЮТНЫЙ КУРС И МЕЖДУНАРОДНАЯ КОНКУРЕНТОСПОСОБНОСТЬ СУБЪЕКТОВ ХОЗЯЙСТВОВАНИЯ

**Аннотация.** Установлена связь между валютным курсом и ценой финансовых ресурсов, высокая стоимость которых является конкурентным ограничением среды хозяйствования предприятий резидентов. Сделан обзор валютной политики, состояния золотовалютных резервов и обменного режима на Украине.

**Ключевые слова:** дефицит денежных средств, денежная база, обязательства Национального Банка Украины, обменный курс к резервной валюте, золотовалютные резервы.

**Introduction.** Many scientists including M.Ershov indicate that while central banks in advanced economies are in many ways trying to keep value of credit funds low, developing countries, Ukraine not being an exception, are experiencing far more expensive short term and long term financial resources [1]. They fairly assume that free access to affordable funds of money increases global competitiveness of entities. Basic economics concepts of demand and supply imply that if something costs a lot then this something – funds of money, in our case – must be either rare or very useful. This article does not analyze usefulness of money when invested in Ukraine or abroad, but mainly tries to establish the notion that funds in Ukraine are rare and therefore they are expensive. For this reason, it is necessary to take a specific approach, on the basis of which the problem of expensive funds of money, namely Ukrainian hryvnia, is going to be developed. Traces of the above mentioned approach are seen in articles of I.Averin [2]. Since using statistical data is inevitable, it is important (i) to establish which monetary statistical figure should be referred to as “UAH” as well as (ii) to measure the substance that ensures purchasing power and value of the national currency of Ukraine. To put it differently this substance is the official foreign reserves.

**Statement of the problem.** Answering a question why Ukraine cannot afford it to enjoy cheap money is the aim of the article. Relation between official foreign reserves, monetary base, foreign exchange rate and foreign exchange regulation of the NBU is what is primarily looked at. The accepted approach to the National Bank and the above mentioned economic phenomena can be described in the following way.

Let us just assume that the NBU is simply what we call a bank. The bank that, like any other bank, is issuing promissory notes promising to transfer something valuable to their holder when presented. These promissory notes are hryivnas. But this bank actually has one thing that distinguishes it from others, only UAH is a legal tender on the territory of Ukraine. Here we see UAH as obligation of the NBU payable to bearer once it is presented for redemption. And the NBU, like any other banks a few centuries ago, needs to redeem its obligation “from vaults” using its

reserves at a certain exchange rate. Thus, we assume that official foreign reserves of the NBU serve as provision and guarantee for UAH and therefore worth detailed examination. In fact, we will refer to such indicator as monetary base, which consists of cash and deposits of other banks with the NBU in order to measure UAH [3]. We use terms UAH and monetary base interchangeably in this article. Furthermore, so as monetary base be fully (100%) guaranteed by official foreign reserves, the following equation must be true[2]:

$$Xrate = \frac{Monetary\ base}{Official\ foreign\ reserves} (1).$$

Or to put it in another way:

$$Monetary\ base = Xrate \times Official\ foreign\ reserves (2).$$

And since UAH equivalent of the official foreign reserves equals to

$$Official\ foreign\ reserves\ in\ UAH = Xrate \times Official\ foreign\ reserves (3).$$

Then it is true that

$$Official\ foreign\ reserves\ in\ UAH = Monetary\ base = Xrate \times Official\ foreign\ reserves (4).$$

A value calculated in equation (1) is by no means a sort of “true” or “right” exchange rate of UAH, but it is rather indicative x-rate, which, we believe, real-world exchange rate tends to.

We also need to determine exchange rate regime of Ukraine on the grounds of latest news, statistical data and the IMF statutory documents [4, articles I-V and Supplement C].

We are also stick to the view that the following three factors determine value of UAH:

- Degree by which monetary base is covered by the official foreign reserves, which are used for intervention to currency market. Calculation of this ratio is within a scope of this article;
- Demand on the part of foreign currency holders for resources, goods and services that are being sold for UAH. This factor falls out of our scope here;

- Demand on the part of UAH holders for foreign currency. We are particularly interested in regulations of the NBU and the Verkhovna Rada aimed at influencing this demand.

**Findings.** In order to provide Ukrainian entities with cheaper funds, “supply of UAH” (or monetary base extension, academically speaking) should increase as well as purchasing power of the hryvnia should not diminish. Purchasing power of a currency normally decreases when the currency devaluates. Broadening of monetary base without weakening / devaluation of UAH seems to result in funds’ going down in price. At present, demand for foreign currency exceeds demand for UAH on Ukrainian foreign exchange market, thus forcing the NBU to make foreign currency injection in order to support UAH from devaluation. In this connection, foreign exchange reserves are very important for X-rate maintenance as well as securing the value of the hryvnia (consider it as obligation of a bank – the NBU) like cover funds. Therefore, the degree by which monetary base is covered by the official foreign reserves is needed to be calculated.

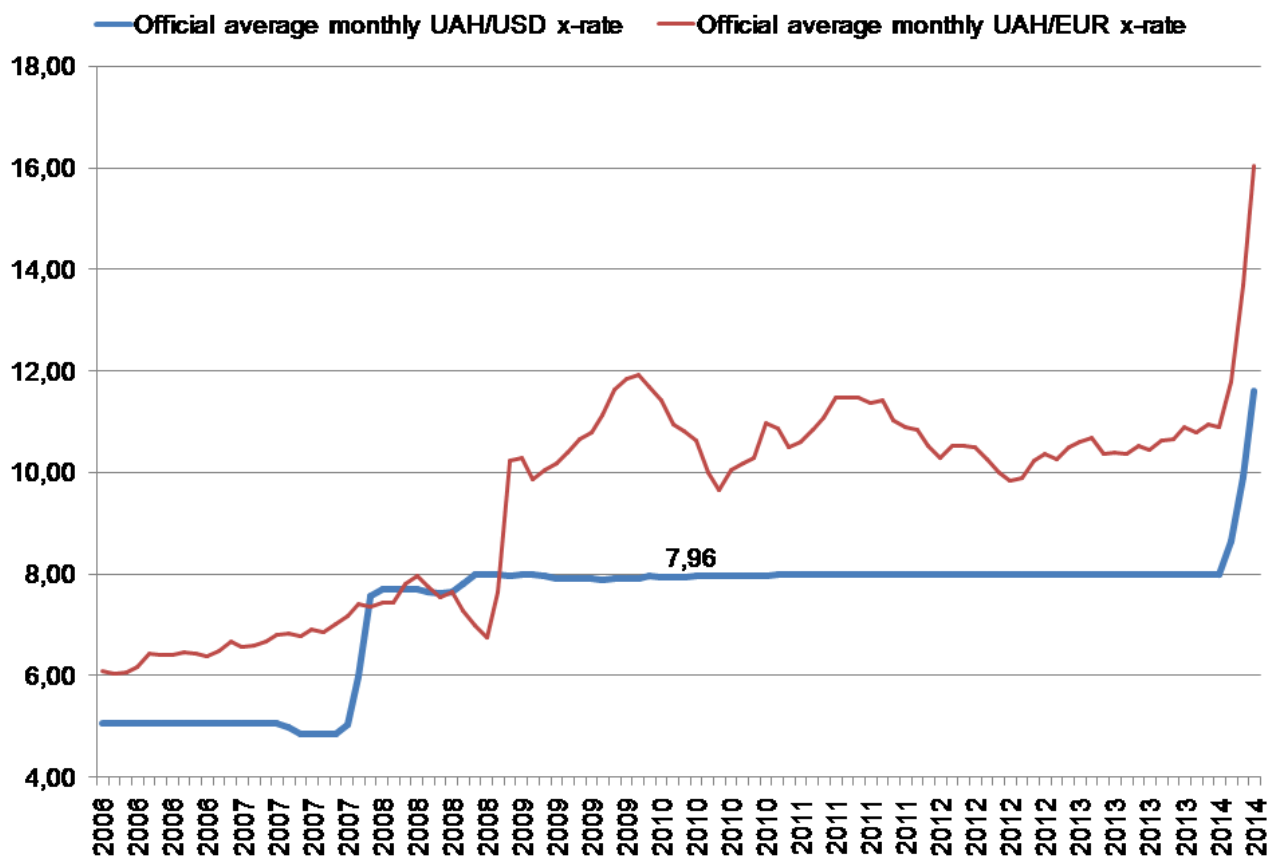
Equation (2) mentioned above infers that coverage of the monetary base is achieved either through

- (i) exchange rate adjustment i.e. devaluating or revaluating X-rate, or
- (ii) official reserves adjustment i.e. filling up or spending the reserves.

Let us now address the term of an exchange rate in general and exchange regime of a country in particular. In accordance with statutory documents of the International Monetary Fund (the IMF)[4, article 4], each member of the IMF should inform the Fund of his (the member) exchange regime. It can be fixed or market as determinable, that is flexible. Since the IMF categorizes exchange rate regimes of all its members on continuing basis, we can look at its assertion on the x-rate regime of Ukraine and compare it to statistical data. The IMF asserted that x-rate regime of Ukraine was fixed (pegged) that is when the monetary authority buys or sells foreign exchange to maintain the exchange rate at its predetermined level or within a range. In addition, it indicates that parity of UAH to USD was the main target of monetary policymakers [5, 5].

Data from the NBU on x-rates to USD on Figure 1 confirms the statement of the IMF that UAH to USD x-rate is pegged.

**Figure 1. Dynamics of UAH monthly exchange rate to USD and EUR, 01/2006 – 04/2014**

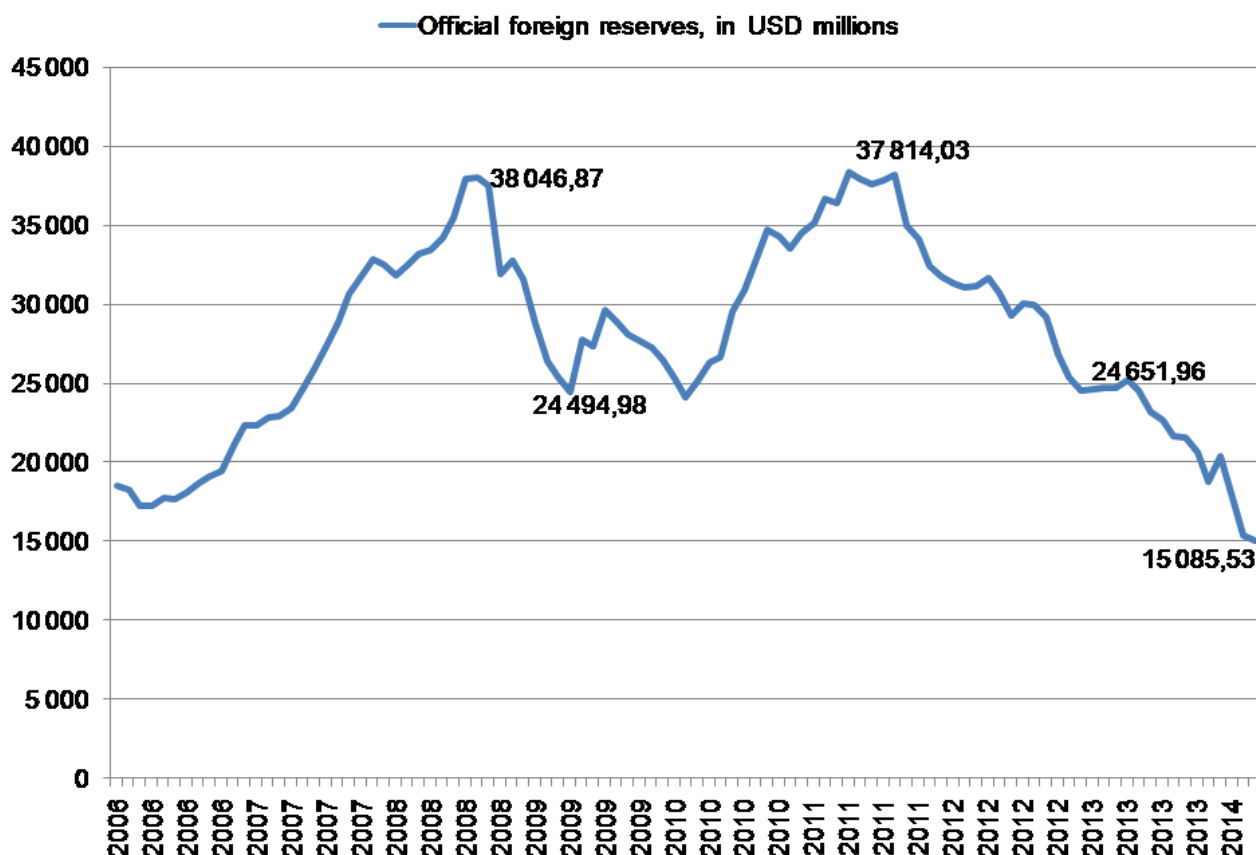


We can see from Figure 1 that a parity of UAH to USD had been established at least since 2006 at nearly 5.05 UAH per USD and then was hold at nearly 8 UAH during 2009-2013. As dynamics of UAH/USD in Q1 2014 shows, parity of UAH to USD was changing starting from January 2014. The possibility of switch to another FOREX regime is important but falls out of our scope.

At the same time there was no UAH x-rate pegging to another reserve currency – the euro.

Let us think about the other part of the equation (2), namely foreign exchange reserves. Please, refer to Figure 2 to see dynamics of the official reserves of the NBU.

**Figure 2. Official foreign reserves of the NBU,  
01/2006 – 03/2014**

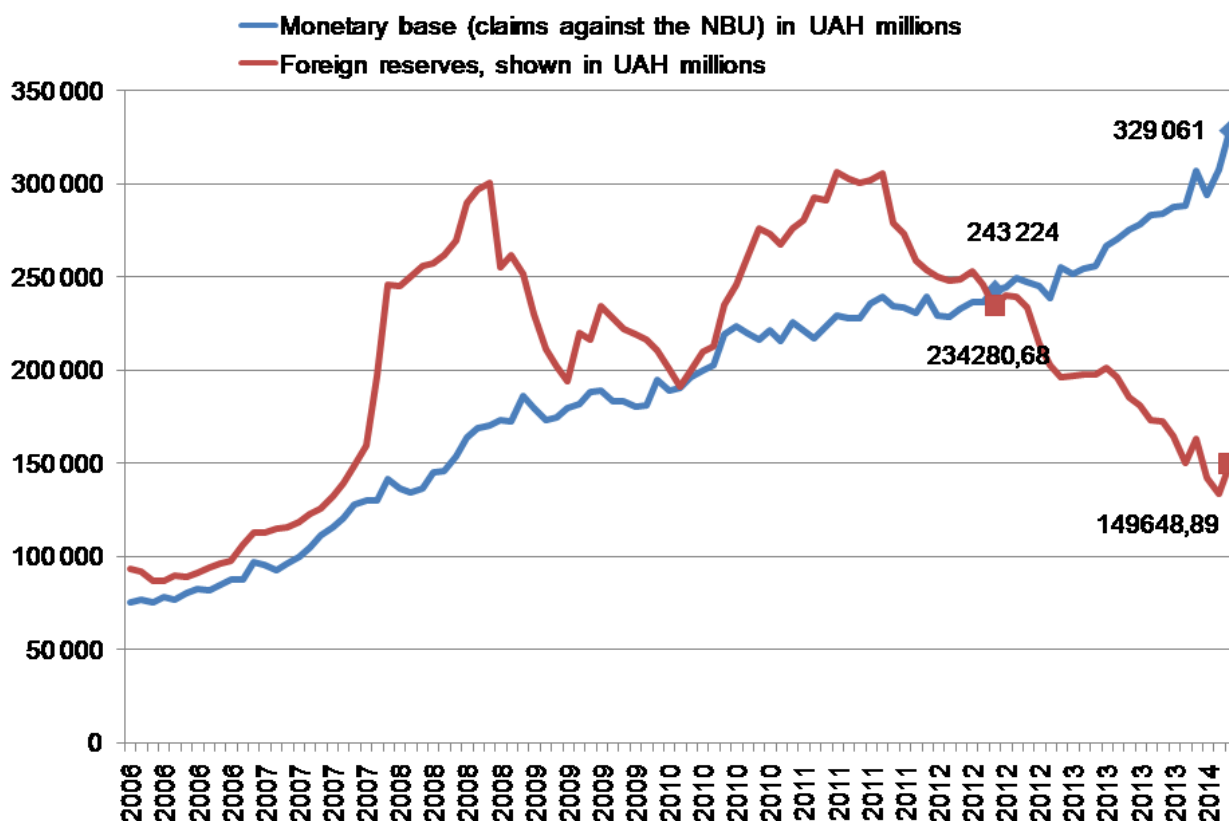


It may be seen that the NBU has been suffering from a continuous decline in its foreign reserves since May 2011 till March 2014 having nearly USD 38 billion and USD 15 billion of reserves respectively [6]. Although tranches from the IMF and the overall indebtedness of Ukraine, though important, fall out of scope of this article, as at 7 May 2014 the official reserves increased to USD 17.3 billion due to a USD 3-billion-tranche.

And now please refer to Figure 3 for data on monetary base dynamics of the hryvnia and UAH equivalent of the official foreign reserves of the NBU [7].

From Figure 3 we can see that monetary base has been increasing since 2006 and as at 31 March, 2014 it amounted to UAH 329 billion. 90 per cent of this amount was cash and 10 per cent was deposits of banks placed with the NBU (these are the two component parts of monetary base).

**Figure 3. Adequacy of foreign reserves to support monetary base, 01/2006 – 03/2014**



Foreign reserves, shown in UAH millions are calculated on the basis of Equation (3). What is worth mentioning here is that till June 2012 monetary base of UAH had been in excess guaranteed by the official foreign reserves at given X-rates. However, since June 2012 and till now the gap between quantities of monetary base and UAH equivalent of the reserves is widening. As at 31 March, 2014 official foreign reserves converted to UAH using official X-rates amounted to UAH 149.6 billion. Thus, the gap was about UAH 179.4 billion. In other words, UAH 179.4 billion of the hryvnia as at 31 March was not secured by the official foreign reserves.

This gap increases dependence of the value of the hryvnia (i.e. soundness of exchange rate and purchasing power of UAH) from demand for UAH and foreign currency on foreign exchange (FOREX) market in Ukraine.

In this connection, it may be concluded that Ukrainian supervising authorities like the Verkhovna Rada or the NBU had to impose restrictions on FOREX operation aimed at decreasing demand for foreign currency. Therefore, due attention is focused

on search for news on exchange restrictions and familiarization with the IMF 2013 annual report on Exchange arrangements and exchange restrictions information [8]. Since Figure 3 provides us with useful information on foreign reserves adequacy to guarantee monetary base, it is evident that the NBU must have tightened its FOREX regulation after June 2012, when a portion of UAH became unguaranteed by the official foreign reserves. Table 1 contains tightening measures of the NBU aimed at diminishing demand for FOREX.

**Table 1. The NBU measures to diminish demand for / and increase supply of FOREX on Ukrainian FOREX market**

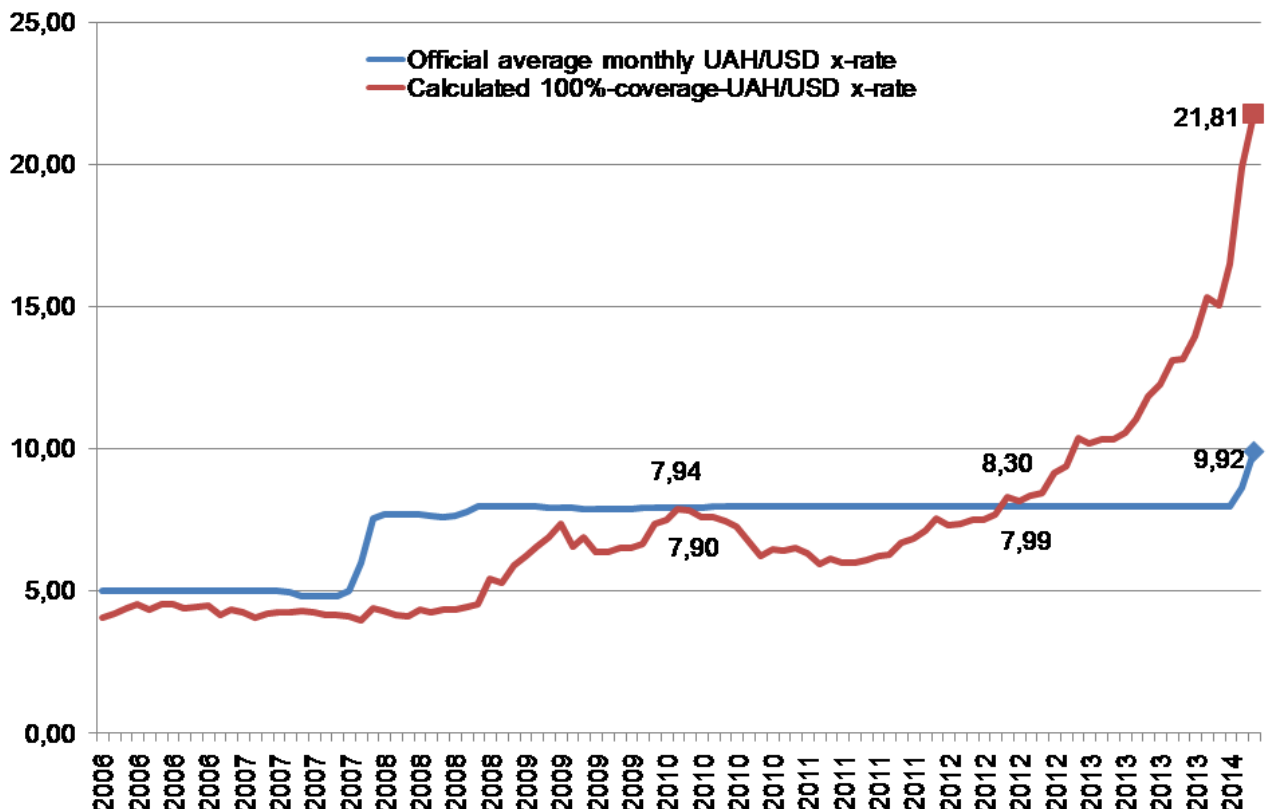
as at 16 June 2012	X-rate for certain government transactions differs from the market rate [8]
November 2012	obligatory sale of 50% of exporters' revenue received in foreign exchange
November 2012	obligatory converting foreign exchange transfers to resident individuals over UAH 150 000 per month to UAH
November 2012	reduction of the term for which residents may extend commercial credit to nonresidents from 6 to 3 months. Penalty – 0.3%-contract-value-fine per each day of delay.
November 2012	a proposal to introduce a 15% tax on foreign exchange operations (not introduced)
as at 1 January 2013	foreign exchange transactions up to 50 000UAH require documentation verifying identity of a person; larger amounts require physical identification of the individual
2013	prohibition of deposits of foreign exchange cash in investment accounts of foreign investors [8]
2013	requirement to surrender gains on FOREX purchased but not used [8]
September 2013	obligatory sale of all (100%) proceeds in foreign exchange by resident entities (with the exception of banks) and individual entrepreneurs (not only exporters)
September 2013	individuals' FOREX transaction within Ukraine are converted to UAH
February 2014	Limitation of individual FOREX transfers from Ukraine abroad to the amount of UAH 50 thousand per individual per month, yet, with certain exceptions [9]
February 2014	Temporal prohibition of purchasing of FOREX on Interbank exchange for (i) investing abroad, (ii) early redemption of FOREX loans and (iii) forming insurance reserves for



	insurers[9].
March 2014	individuals' FOREX purchasing limitation to the equivalent of UAH 15 thousand per day
April 2014	The NBU disconnected 14 banks from interbank FOREX exchange for raising bids for USD.

Finally, let us touch on the two ways in which the NBU can increase coverage/provision of its monetary base with the official foreign reserves. As may be inferred from Equation (2), the NBU can either enlarge its reserves or devalue the hryvnia. This article omits the issue of official foreign reserves management. Instead, please refer to Figure 4 to see dynamics of a calculated X-rate of UAH/USD, so that 100 per cent coverage of monetary base by the official foreign reserves be achieved. The calculated 100%-coverage X-rate is calculated according to Equation (1).

**Figure 4. A calculated 100%-coverage-UAH/USD x-rate vs official x-rate, 01/2006 – 03/2014**



As can be seen from the Figure 4, as at 31 March, 2014 the X-rate at which monetary base is completely covered by the foreign reserves equaled to 21.81 UAH per USD.

## **Conclusions.**

Conclusions consist of two sections: section 1 contains a summary of findings made in this article on the basis of the presented figures and analyzed data, while section 2 is composed of the author's opinion on the X-rate impact on international competitiveness of entities, which are Ukrainian residents.

I. On the grounds of Figures 1-4, Table 1 and current developments the following can be asserted:

- UAH exchange rate had been pegged to USD from at least 2006 and by January 2014. It is hard to say whether FOREX regime of UAH is remaining pegged to USD or changed in 2014.
- Base money (i.e. monetary base) has been steadily growing during 2006 – March 2014, while official reserves were declining. As at 31 March 2014 only 45.5% of base money was guaranteed by the official foreign reserves.
- On FOREX market of Ukraine demand for foreign currency (i.e. USD, EUR) is higher than demand for UAH. That makes official foreign reserves the main source that ensures purchasing power of the hryvnia.
- After June 2012, when the base money (monetary base) ceased to be fully guaranteed by the official reserves at a given X-rate, the NBU introduced a number of FOREX regulating measures aimed at decreasing demand for foreign currency on Ukrainian FOREX market. The following were among these measures: obligatory sale of 100% proceeds in foreign currency, monthly limitation of individual FOREX transfers abroad, setting daily limit on individual foreign currency purchase and disconnecting some FOREX aggressive banks from interbank exchange trading.
- As at the end of quarter 1, theoretical X-rate at which base money are fully covered by foreign exchange reserves was 21.81 UAH per USD.

II. The author's opinion is as follows.

- ✓ Such factors as dependence on imports, relatively big number of foreign investors who repatriates profits earned in Ukraine, flight of the rich men abroad caused by

political situation and change of state governors, usage of reserve currencies by ordinary Ukrainians as means of value saving – all that caused demand for USD and EUR exceed demand for UAH on Ukrainian FOREX market. As a result, dependence of purchasing power of the hryvnia on the official foreign reserves of the NBU is extremely high. Thus, the equation  $Monetary\ base = Xrate \times Official\ foreign\ reserves$  seems to be applicable. Consequently, monetary base extension depends on size of the reserves – the bigger the reserves, the “more UAH may be printed” without the hryvnia’s losing purchasing power and without increase in risks of devaluation. In fact, Ukrainian economy needs more UAH so that to make funds cheaper for entities and enable them to undertake less profitable projects in real sectors of economy.

- ✓ In connection with the importance that base money be covered by the reserves, UAH X-rates to reserve currencies are overvalued (for example, official UAH 9.92 price vs calculated UAH 21.81 per USD). This overestimation, on the one hand, increases value of the UAH and therefore makes money funds cost more. But on the other hand, “it is not too bad” because resident-entities need purchasing power of the hryvnia to buy import assets and use it for modernization, if properly managed.

In conclusion, what appears to be right directions of consequent research of the problem of expensive funds in Ukraine is listed below.

1. Connection between foreign exchange rate, monetary base and processes in real economy similar to those indicated by I.Averin;
2. The issue of indebtedness of Ukraine, its relations with /tranches from the IMF;
3. Analysis of the NBU restricting FOREX policy;
4. Developments in Ukrainian economy concerning increase of demand for UAH;
5. Analysis the emergence of electronic money such as bitcoin.

## References.

1. Ершов, М. Условия финансово-кредитной конкурентоспособности России после вступления в ВТО. Экономист №5, 2013. 18-26.
2. Аверин, И. Currency Board на Украине. Наглядно. Сборник статей по экономике Игоря Аверина, 2010.  
<http://www.economics.kiev.ua/index.php?id=885&view=article>.
3. НБУ. Глосарій банківської термінології. Офіційне інтернет представництво, n.d. [http://www.bank.gov.ua/control/uk/publish/article?art\\_id=123245](http://www.bank.gov.ua/control/uk/publish/article?art_id=123245).
4. МВФ. Статьи Соглашения Международного Валютного Фонда. 22.07.1944.  
[http://zakon2.rada.gov.ua/laws/show/995\\_921/page](http://zakon2.rada.gov.ua/laws/show/995_921/page).
5. IMF. De facto classification of exchange rate arrangements and monetary policy frameworks. 2014. <https://www.imf.org/external/pubs/nft/2013/areaers/ar2013.pdf>.
6. NBU. Foreign reserves and international liquidity. Official website, 2014.  
[http://bank.gov.ua/control/uk/publish/article?showHidden=1&art\\_id=72631&cat\\_id=45692](http://bank.gov.ua/control/uk/publish/article?showHidden=1&art_id=72631&cat_id=45692).
7. NBU. Surveys of deposit-taking corporations. Official website, 2014.  
[http://www.bank.gov.ua/control/en/publish/category?cat\\_id=47418](http://www.bank.gov.ua/control/en/publish/category?cat_id=47418).
8. Fund, International Monetary. Annual report on exchange arrangements and exchange restrictions 2013. International Monetary Fund, 2014.  
<https://www.imf.org/external/pubs/nft/2013/areaers/ar2013.pdf>.
9. Правління Національного банку України. Постанова №49. 1-2, 2014.  
<http://www.bank.gov.ua/doccatalog/document?id=5454032>.

08.05.2014