THE CONFIGURATION OF THE WORLD'S ECONOMIC POWERS AND ITS INFLUENCE ON CURRENCY STABILITY IN GLOBAL DIMENSION IN 2000-2016

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Abstract

The aim of the paper is to assess the impact of changing configuration of the world's economic powers on monetary relations, and in particular on ensuring monetary stability. The intensive globalization and high economic growth in China have contributed to the transformation of the economic power system that determines the position of national currencies. Despite these changes, the dollar remains the main international currency and the euro has not reached the position of the global currency effectively competing against the dollar. Moreover, the growing economic potential of China is not reflected in the developing countries' currencies positions. The analysis makes it possible to conclude that the absence of hegemon power in the global economy weakens the international monetary system stability. If countries form a system of close monetary cooperation to ensure transnational payment liquidity and relative stability of exchange rates in the world, the system would be more efficient and stable.

Key words: *economic power, hegemonic stability, key currency, currency crisis, stability of international monetary system*

1. INTRODUCTION

Since the late 1990s, the problem of better alignment of the international financial and monetary system with structural changes in the world economy has been at the center of academic and business debate. Many research projects and scientific works have been devoted to that issue. In the literature many of disadvantages of the functioning international monetary system are indicated, including: the lack of effective rebalancing and protecting against global imbalances mechanisms, the destabilizing effects of speculative capital movements, exchange rate misalignments and the excessive role of the Federal Reserve System as a lender securing international liquidity.

B. Eichengreen (2011, p. 3) points out some inconsistency between the U.S. economic potential and the dollar position. He considers that after the World War II the economic potential of U.S. economy gave legitimacy to dominance for the dollar, there is no longer any justification for this. The United States is less dominant economically than 50 years ago, but the dollar is still the major currency. This fact creates an uneasy tension with the peculiar dominance of the dollar.

The above-mentioned conditions are an important prerequisite for conducting research to assess the impact of the world economic power configuration on the stability of the international monetary system in 2000-2016. The starting point of the empirical analysis are reflections on the theory of hegemonic stability and the role of hegemon in ensuring the smooth functioning of the international monetary system.

In the empirical part, the main centers of the world economy have been characterized in terms of their economic potential, competitive advantage in trade and the level of financial market development - as factors influencing the internationalization of their currencies. Then, the use of key currencies in the functions of international money was evaluated. The final part of the study is devoted to assessing the stability of the international monetary system and the factors that affect that stability.

The author is searching for the answers to the following research questions:

- Does the lack of a strong economic leader (hegemon) in the global economy limit the possibilities of ensuring currency stability?
- Could countries form a system of close monetary cooperation to ensure transnational payment liquidity, relative stability of exchange rates and lack of payment imbalances?

The research methods include both theoretical studies (analytical studies of scientific literature) and empirical ones (analyses of statistical data from BIS, COFER, ECB, IMF, OECD, Stoog, SWIFT, The Conference Board and UNCTAD).

2. THEORETICAL BACKGROUND

The hegemonic stability theory is the concept that helps to explain the impact of the economic power system on the world economy stability. The basic thesis of this theory says that the well-functioning of the world economy depends on the particular kind of political structure with the dominance of a single actor.

Charles P. Kindleberger (1973, p. 305), who is considered as the author of the hegemonic stability theory, was searching for the answer to the question about the causes of the world depression of 1929. He concluded that international economic system was rendered unstable by the British inability and the United States unwillingness to assume responsibility for stabilizing it, because the U.S. did not have the political will to take on the role of a hegemon. Kindleberger argued that the hegemon provides a public good of stability in the world economy, and the lack of hegemonic leader deepened the Great Depression. He claimed, however, that the hegemon does not stabilize the system spontaneously, but that leader is a stabilizer only when it efficiently conducts foreign policy. The requirement of the lack of leader egoism is also essential and it should serves the interests of the international system. The stability could be maintained if the hegemon pays the costs of providing the public good and is capable of gaining support from other participants of the international system (Gałganek 2006, pp. 16-17).

The hegemonic stability theory was also discussed by R. Keohane (1984) who argued that the order in the world politics is usually created by one dominant power. That order consists in the creation of regimes and the provision of public goods by the hegemon, thus the hegemon bears the costs of it. In addition, maintaining that order requires continuity of hegemony, which is possible only in the conditions of cooperation between the participating countries. According to Keohane, the essence of the theory does not come down to the idea that strong actors may impose certain regimes on the international system, but to formulate the rules of collective action. He argues that hegemony is beneficial for the whole international system, and he discusses how the benefits of hegemonic cooperation can be maintained after the hegemony collapse.

D. Snidal (1986, p. 579-614) in similar way defined the essence of the hegemonic stability theory and argued that the presence of a single, strongly dominant actor in international politics leads to collectively desirable results for all states in the international system. On the other hand, the lack of hegemon results in disorders in the global system and undesirable results for individual countries.

D.A. Lake (2003, p. 133-134) distinguished three ‘faces’ or strategies of hegemonic leadership. The first face of the hegemony is characterized by the use of positive (foreign aid, military support) and negative sanctions aimed directly at foreign governments in an attempt to influence their choice of policies. Through inducements or threats, the hegemon seeks to alter the international costs and benefits of particular state actions. In the second face, the hegemon uses its international market power, or the ability to influence the price of specific goods, to alter the incentives and political influence of societal actors in foreign countries. These actors exert pressure upon their governments for alternative policies to be more consistent with the interest of the dominant international power. This is an indirect use of the hegemonic power to shape other countries' policies to support its own interests. D.A. Lake calls this way of policy implementation a "Trojan Horse" strategy. The third face of the hegemony is even more indirect and involves the use of certain ideologies to shape public opinion and political programs in other countries, suggesting which behaviors are appropriate and which are not. Lake names this strategy so-called propaganda.

J. Gowa (1984, p. 661-662) saw the essence of the theory of hegemonic stability in linking the evolution of the world economy with the distribution of power between states. In his reflections he confirmed the hypothesis of the relationship between the stability of the world economy and volatility in the

distribution of power between states. He claimed that better order and stability is associated with hegemonic distribution.

Ch.P. Kindleberger (1973), R. Gilpin (1984, p. 295) and S.D. Krasner (1983) pointed to the role of the Great Britain in the nineteenth-century international economics and the United States in the twentieth century as an illustration of the argument that the hegemon creates an open world, while a leader's fall leads to the collapse of that order. As A.A. Stein (1984, p. 357) underlined, these authors paid particular attention to the importance of the hegemon's aim and possibilities to establish a liberal international trade system.

The above-mentioned concepts of hegemonic stability theory were presented in the context of the economic power influence on the international trade development and the trade liberalization. Whereas, B. Eichengreen (1987) dealt with the influence of hegemony on the international monetary system stability. He pointed out that the maintenance of the Bretton Woods monetary system for nearly three decades was attributed to the dominating power of the United States in the postwar world, and the classic gold standard owed its stability to Britain's dominance in the nineteenth-century world economy. The similar views had C.F. Bergsten (1975, p. 31): 'The monetary systems of the past were relatively stable when a single currency dominated: sterling through most of the nineteenth century, the dollar in the early postwar period'. Furthermore, the gold-exchange standard instability in the interwar period was due to the lack of hegemonic power, as the UK had already lost its economic potential and the United States was not prepared to assume the role of hegemon and stabilizer of international monetary relations.

B. Eichengreen also noted the importance of international cooperation. He pointed out that, even during the persistence of the hegemony of one country, the currency system was based on the cooperation of the participating countries and recalled Keohane's concept of 'hegemonic cooperation'. He emphasized that such cooperation is needed both in normal circumstances as well as during the crisis.

Without undermining the usefulness of hegemonic stability theory, B. Eichengreen pointed out that it could be applied in relatively short periods when the hegemonic system actually existed. Therefore, he formulated the thesis that the stability of the international monetary system in the long run needs more than the dominant economic power, and that factor is an international cooperation (Eichengreen, 1987, p. 57).

In the context of changes in the configuration of the world's economic powers, it is interesting to note that J. Gowa (1984, p. 661-662) argued that neither a small group of relatively strong states nor an international organization can replace the hegemon's willingness and capacity to bear the costs of maintaining the system.

As indicated above, the impact of the economic power system on the stability of international relations, including the liberalization of international trade and the stability of international monetary relations is explained by the hegemonic stability theory, which has found numerous theoretical and empirical evidence supporting its hypotheses, but in literature there are also arguments and data, which generate doubts. Indeed, even the authors of the hegemonic stability theory point to the intuitive character of that theory (Grunberg 1990, p. 433).

3. THE ASSESSMENT OF ECONOMIC POWER OF THE MAIN CENTERS IN THE WORLD ECONOMY AS DETERMINANT OF USING THEIR CURRENCIES IN INTERNATIONAL TRANSACTIONS

The scope of currencies use in trade and financial transactions on international market is conditioned by many factors, both economic and political or social. A review of the theoretical and empirical studies concerning factors influencing the position of international currencies has been presented by M. Chinn and J.A. Frankel (2007, p. 283-322). These authors have identified four main groups of factors, which determine the achievement of key international currency status:

– the share of the country (currency issuer) in the world production and trade and other indicators of participation in the world economy,

- financial market - open, liquid and well developed,
- confidence in the currency and predictability of its value,
- network externalities, which means that the use of currency in international transactions produces a strengthening effect that increases the possibilities of its further use.

B. Eichengreen (1998) and J.A. Frankel (2000) in their analysis, also argue that the stronger the country position in the world economy, the more likely is the currency usage by other countries as a reference or anchor currency and in functions related to international trade.

Due to the fact that many factors are related to the economic property of the country that issues the currency, three groups of economic factors have been identified in the paper, which, according to the author, are crucial for the internationalization of the currency: an economic potential, competitive advantages in trade and the level of financial market development.

In addition to the above-mentioned economic factors, it is also important to remember the political and institutional forces that are strongly linked to the economic strength of states. Non-economic factors include: territory, population, military assets (including access to nuclear weapons), raw materials and energy resources, political stability, and the capacity of politicians (Dybczyński 2006, p. 72).

In the following part of research the major world economic centers are assessed using three groups of factors extracted by the author, particularly applying the following measures:

1) an economic potential: shares in the world GDP (based on purchasing power parity - PPP),
2) competitive advantages in trade: shares in world exports, current account balance as percent of GDP, labour productivity and total factor productivity - TFP,
3) the financial market development: equities, bonds and bank assets as percent of GDP, shares in international currency market turnover, shares in official foreign exchange reserves, shares in world foreign direct investment.

3.1. Economic potential

The main measure of the country's economic potential is the share in world production or GDP. The ranking of countries in terms of the share in world GDP (based on purchasing power parity) is presented in the table 1. In addition to data for individual countries, also the total share of the euro area is shown, due to the fact that member states use the same currency and form a single economic area and therefore can be considered as one of the centers of the world economy.

Lp.	2000		2016		2022	
10 countries with the biggest share in world GDP (PPP) in %						
1.	United States	20.64	China	17.76	China	20.40
2.	China	7.42	United States	15.49	United States	14.13
3.	Japan	6.83	India	7.23	India	9.17
4.	Germany	4.88	Japan	4.37	Japan	3.69
5.	India	4.17	Germany	3.32	Germany	2.92
6.	France	3.37	Russia	3.17	Indonesia	2.80
7.	Russia	3.28	Brazil	2.62	Russia	2.80
8.	Italy	3.27	Indonesia	2.53	Brazil	2.34
9.	Brazil	3.17	United Kingdom	2.32	United Kingdom	2.09
10.	United Kingdom	3.12	France	2.28	France	2.04

The euro area share in world GDP (PPP) in %					
EA-11	16.64	EA-19	11.76	EA-19	10.44

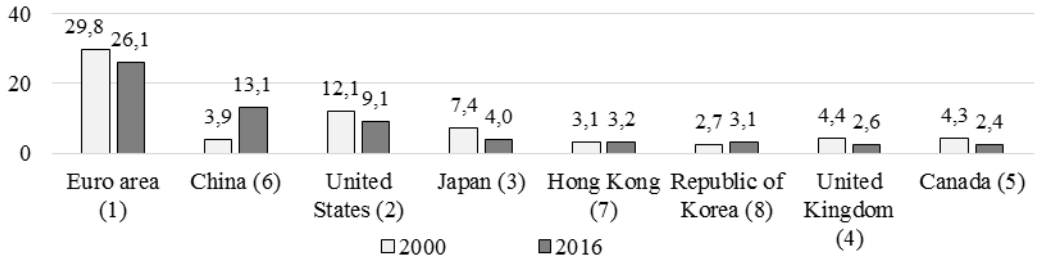
Table 1. Ranking of countries in terms of the share in world GDP (PPP) in 2000, 2016 and forecast (share of world total in %)

Source: own calculations based on: (IMF 2017)

The comparison of economic potential of the euro area, the United States, China and Japan shows that the world economy is characterized by a polycentric pattern of economic power. In 2000, the United States had a significant advantage measured by the share of the world GDP. The China's share, which was the second biggest, was lower comparing to the U.S. by 13.22 percentage points. Whereas, including the euro area (11 countries), it outperformed China, occupying the second position behind the U.S. with the share of 16.64%. The U.S. share has fallen over the years, and the reverse trend has characterized China's economy. As a result, the share of these two economic centers has nearly equalized in 2013 (the U.S. 15.958%, China 15.956%) (IMF 2017), and since 2014 China has been ranked first in terms of the shares in the world GDP (PPP).

3.2. Competitive advantages in trade

Shares in the global exports are the measure of competitive position, which is the result of factors that determine the competitive ability of countries.



Note: The countries are ranked by exports shares in 2016. The figures in brackets indicate the place in the ranking in 2000. Data for the euro area include 19 countries. Data for the individual euro area countries are not separated in the ranking.

Figure 1. Shares in the world exports in 2000 and 2016

Source: (UNCTAD, 2017)

Figure 1 shows that the euro area has the largest share in global exports, but over the years its share has decreased from 29.8% in 2000 to 26.1% in 2016. Such a strong position of the euro area is a result of high potential and export competitiveness of countries such as Germany, France and Italy. In 2000, the United States was ranked at second place, but in 2016 the U.S. was surpassed by China with 13.1% share in global exports. The Japan's position in international trade also deteriorated (a fall from 7.4% to 4.0%). In 2000, the trade leaders group included also the United Kingdom and Canada, but in 2016 their share was lower than shares of Hong Kong and South Korea. In addition to the analysis of global exports share, it is also important to assess the country's position in international trade using the current account balance (fig. 2).

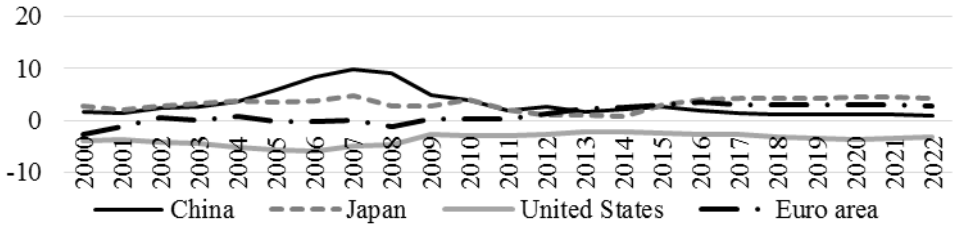


Figure 2. Current account balance in 2000-2016 and forecast 2017-2022 (% of GDP)

Source: (IMF 2017)

Among the analyzed countries/groups of countries, the current account deficit was characteristic for the United States in the whole research period, while China stood out with a permanent surplus. The imbalance on the current account (CA) reached its highest level just before the financial and economic crisis 2008-2009. The downturn caused a drop in the U.S. demand for imports and a decrease in demand at international markets for goods exported by China.

Japan has also belonged to countries with a surplus on the current account, while the average balance for the euro area countries has fluctuated near zero. IMF forecasts (tab. 2) indicate a continuation of the U.S. current account deficit, while the surplus of China is expected to decrease.

	average 2000-2016	average 2017-2022 (forecast)
China	3.87	1.15
Japan	2.80	4.30
United States	-3.75	-3.29
Euro area	0.52	2.92

Table 2. Average current account balance in 2000-2016 and forecast (% of GDP)

Source: own calculations based on: (IMF 2017)

Very important indicators that determine the countries' competitive position are labour productivity and total factor productivity (TFP). The authors of the theory of hegemonic stability pointed out two dimensions of the hegemonic power: economic efficiency and political and military power (Gałganek 2006, p.14). If the hegemon has the most efficient economy in the world, that leader country makes a profit on free trade, and with the political power it has the capacity to force or convince others to adopt liberal practices in foreign trade.

	2000	2003	2006	2009	2012	2015
Japan	70.1	69.4	67.8	63.7	65.3	65.5
Euro area (19)	77.9	76.7	76.0	76.3	76.0	77.3
China	6.9	8.4	10.9	14.5	17.9	21.4

Table 3. Level of labour productivity (GDP per person employed, the United States=100)

Source: (OECD 2017)

As the data in table 3 show, the United States remains the undisputed leader in terms of labour productivity. In the euro area, average labour productivity was 77.3% of the U.S. labour productivity level in 2015, and relative variations were slight. In Japan, productivity level in reference to the U.S. fell from 70.1% in 2000 to 65.6% in 2015. Reverse trend has occurred in China, where productivity is very low comparing to highly developed countries, but is rapidly improving (from 6.9% in 2000 to 21.4% in 2015). The average annual growth rate of labour productivity in China in 2000-2016 was 7.4% (fig. 3).

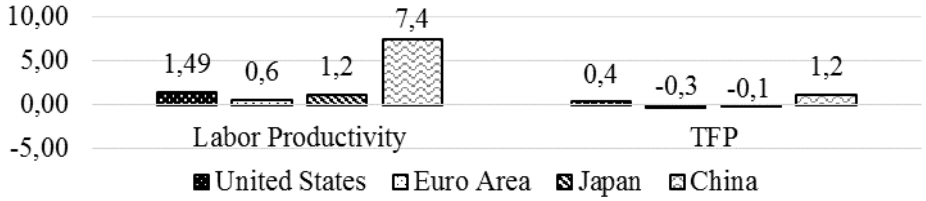


Figure 3. Average annual changes in labour productivity and TFP in the United States, the euro area, Japan and China in 2000-2016 (in %)

Source: own calculations based on: (The Conference Board 2017)

The productivity indicator which is more comprehensive is total factor productivity (TFP), which is the basis of technological progress assessment. TFP is considered as deciding factor in achieving a competitive advantage (Mucha-Leszko & Twarowska 2015, p. 195). Figure 3 shows the average changes of this indicator for the U.S., the euro area, Japan and China in 2000-2016. TFP growth only occurred in China (1.2%, average annual growth rate) and in the U.S. (0.4%), while the euro area and Japan experienced a decline.

3.3. Financial market development

Since the mid-1990s, characteristic feature of the economy was the dynamic development of the financial sector. During analyzed period the size of the financial market was growing, which could be measured by the market turnover and value of financial instruments. Figure 4 shows the size of the capital market (sum of equities, bonds and bank assets). The data indicate that the development of the capital market was inhibited during the crisis and the peak share of the capital market in GDP (in 2001) was not reached by 2013.

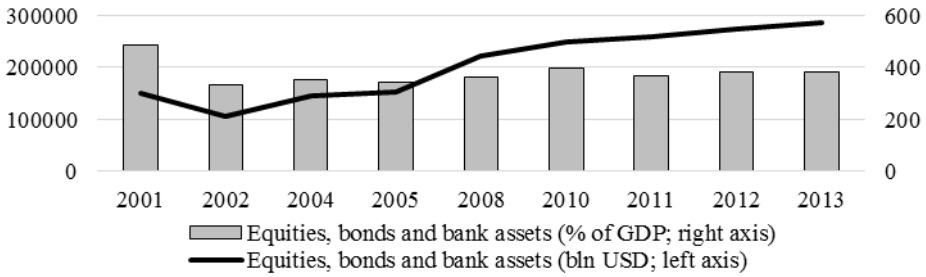


Figure 4. The world's capital market size in 2001 – 2013 (bln USD and % of GDP)

Source: own calculations based on: IMF 2003, p. 121; IMF 2004, p. 179; IMF 2005, p. 171; IMF 2006, p. 95; IMF 2010, p. 19; IMF 2011, p. 11; IMF 2013, p. 11; IMF 2014, p. 153; IMF 2015b, p. 11.

However, there is no doubt that the development level of the financial market, including the capital market, is an important factor of country's economic power and the determinant of currency internationalization. B. Eichengreen (1998) emphasizes that the larger and more liquid the financial

market is, the more likely other countries choose the currency issued by that country as intervention and reserve currency. In addition, the efficiency, security and competitiveness of the financial market and the independence of the central bank are very important.

Table 4 presents data illustrating the size of the capital market in selected centers of the world economy. The largest capital market is in the United States. In 2013, the sum of equities, bonds and bank assets in the U.S. was 72.7 trillion dollars, representing 25.4% of the global capital market. However, the U.S. advantage over the rest of the world's financial centers is declining, which is evidenced by the decline in global capital market share from 36.3% in 2001 to 25.4% in 2013. The second largest capital market is in the euro area (23.1% in 2013). Significant decline in the global capital market share occurred in Japan, and in 2013 the Japanese capital market exceeded that of China only slightly (the figures for the Chinese capital market are presented only in the last report published in 2015). In 2013 the share of other countries, including developing markets, increased (fig. 5).

Equities, bonds and bank assets	**World**		**Euro area**		**United States**		**Japan**		**China**
	2001	**2013**	**2001**	**2013**	**2001**	**2013**	**2001**	**2013**	**2013**
trillion of U.S. dollars	150.069	286.585	38.233	66.101	54.488	72.696	21.628	28.360	27.621
percent of world total	100%	100%	25.5%	23.1%	36.3%	25.4%	14.4%	9.9%	9.6%
percent of GDP	484.2	379.7	625.4	504.2	540.4	433.5	519.3	576.5	291.7

Table 4. Selected indicators of the capital market size in 2001 and 2013

Source: (IMF 2003, p. 121; IMF 2015b, p. 11)

Analyzing the size of the capital market in relation to GDP, it is worth to notice that the highest level was in the euro area in 2001 (625.4%), but in 2013 the first was Japan (576.5% of GDP), next the euro area (504.2%) and then the U.S. (433.5%). The value of this indicator is clearly lower for China (291.7%).

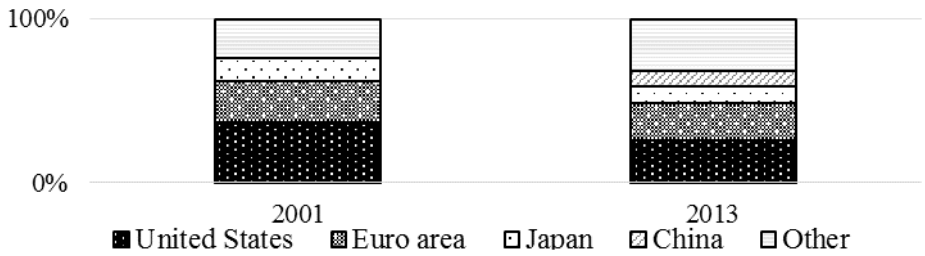


Figure 5. Shares in the world capital market (sum of bonds, equities, bank assets) in 2001 and 2013

Source: own calculations based on: (IMF 2003, p. 121; IMF, 2015, p. 11)

Furthermore, analyzing another sector of the financial market, which is the foreign exchange market (FX market), it can be stated that the size of this market in 2001-2016 increased significantly (fig 6). The maximum average daily turnover on this market was 5.355 trillion dollars in April 2013.

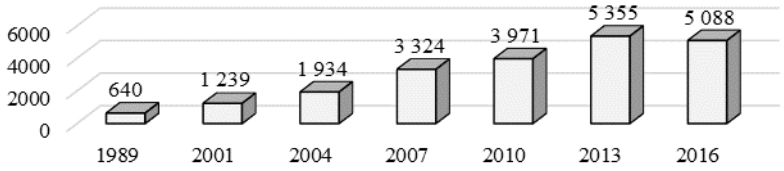


Figure 6. The average daily OTC foreign exchange turnover (in April, billion USD)

Source: (BIS 2016)

The largest share in foreign exchange market turnover is maintained by the United Kingdom (36.9% in 2016), because of the financial center in London. The second largest share in market turnover in 2016 has the U.S. (19.5%), followed by three Asian countries: Singapore (7.9%), Hong Kong (6.7%) and Japan (6.1%).

Country	2001	2004	2007	2010	2013	2016
United Kingdom	31.8	32.0	34.6	36.7	40.8	36.9
United States	16.0	19.1	17.4	17.9	18.9	19.5
Singapore	6.1	5.1	5.6	5.3	5.7	7.9
Hong Kong	4.0	4.1	4.2	4.7	4.1	6.7
Japan	9.0	8.0	5.8	6.2	5.6	6.1
France	2.9	2.6	3.0	3.0	2.8	2.8
Switzerland	4.5	3.3	5.9	4.9	3.2	2.4
Australia	3.2	4.1	4.1	3.8	2.7	1.9
Germany	5.4	4.6	2.4	2.2	1.7	1.8

Note: Countries ranked by shares in 2016

Table 5. Geographical distribution of OTC foreign exchange turnover in 2001-2016 (in %)

Source: (BIS 2016)

Another indicator of the country's economic power is the share in the world foreign exchange reserves. The value of accumulated foreign exchange reserves was dynamically growing since the late 1990s and as a consequence, the security of financing global trade has been increasingly guaranteed. In the 1990s, foreign exchange reserves could finance import turnover for 4 to 5 months, and at the end of the first decade of the 21st century foreign exchange reserves covered nearly the value of 15-month imports (Nakonieczna-Kisiel 2013, p. 96).

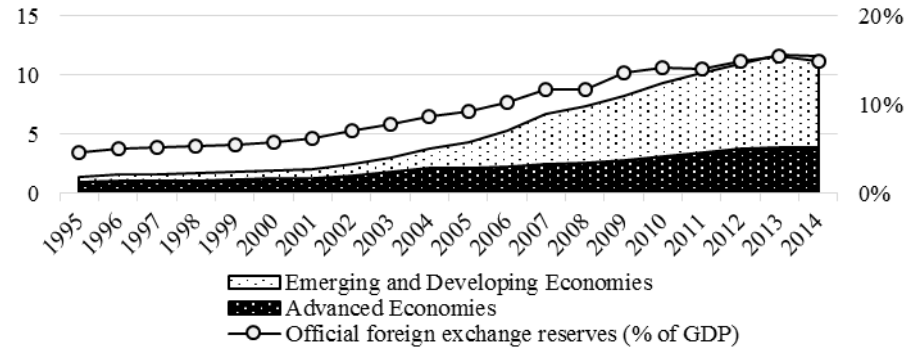


Figure 7. The world's foreign exchange reserves (in trillion USD and % of GDP)

Source: own calculations based on: (COFER, 2017; IMF, 2017)

At the beginning of the 1990s, Japan and the United States were topping the list of the largest holders of foreign exchange reserves, followed by the major high-income European countries (tab. 6). During 25 years the situation has changed significantly. In 2015 China was at the first place with almost one-third of the official reserve assets. In addition, the group of top ten countries in 2015 was dominated by the Asian emerging markets. That group of 10 included only two highly developed countries (Japan and Switzerland), and the United States ranked only at 14th place (COFER 2017).

1990		2000		2015	
Japan	9.3%	Japan	19.3%	China	32.1%
United States	8.6%	China	9.1%	Japan	11.6%
Germany	8.1%	Hong Kong	5.8%	Saudi Arabia.	5.9%
Italy	7.5%	Republic of Korea	5.2%	Switzerland	5.4%
Spain	6.1%	Singapore	4.3%	Republic of Korea	3.5%
France	4.4%	Germany	3.1%	Hong Kong	3.4%
United Kingdom	4.3%	United States	3.1%	Brazil	3.4%
China	3.5%	United Kingdom	2.1%	India	3.2%
Switzerland	3.5%	India	2.1%	Singapore	2.4%
Singapore	3.3%	France	2.0%	Mexico	1.7%
Total	**58.6%**	**Total**	**56.2%**	**Total**	**72.7%**

Table 6. Countries share in the official foreign reserves

Source: own calculations based on: (COFER, 2017)

The presented transformation in the structure of foreign exchange reserves accumulation was, on the one hand, the result of the changing position of the main economic centers and, on the other, the modified purpose of the foreign exchange reserves accumulation. Formerly, the aim of accumulation was to secure trade-related payments, so mainly deficit countries were interested in reserves accumulation. From the beginning of the 21st century, there is an increase in the reserves accumulation by surplus countries (Nakonieczna-Kisiel 2013, p. 102-103).

The cause of reserve accumulation was precautionary motive, because countries that had experienced the currency crisis in the late 1990s wanted to hedge the risk of sudden capital outflow and currency

depreciation. In addition, the reserves accumulation is a coherent part of countries' strategy to support the export-led economic development. Price-competitiveness of export is supported by the weak currency, so in order to prevent from currency appreciation, the monetary authority intervenes by buying foreign currencies, which flow into the country as payments for exports, and then locating them in the foreign assets (Park & Estrada 2009, p. 6).

The measure of the country's economic power is also a share in world capital flows. Chart 8 shows the shares in global outward stock of foreign direct investment (FDI) in 2015.

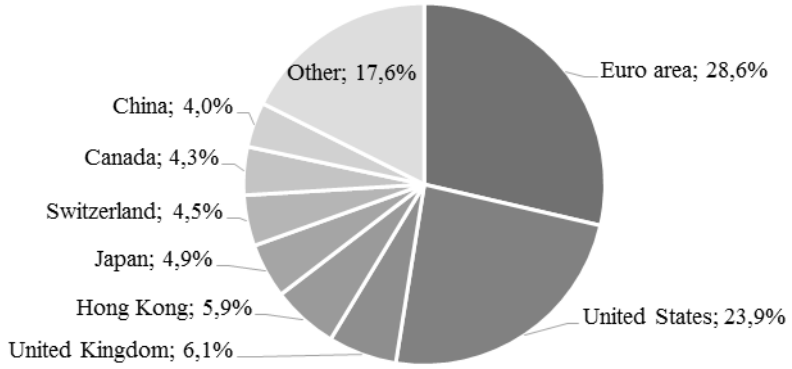


Figure 8. Shares in the stock of foreign direct investment (outward) in 2015

Source: own calculations based on: (UNCTAD 2017)

The largest part of the cumulative FDI, which was on the foreign markets in 2015, came from the euro area (28.6%), the U.S. (23.9%) and the UK (6.1%). China was at the 8th position with 4.0% share.

The carried out analysis of the countries' economic potential indicates that the contemporary world economy is dominated by several centers, with a clear prevalence of the U.S., but the U.S. economic power is deteriorating. Western Europe, represented in this analysis by the euro area, is also a major center of the world economy. In most of the analyzed areas, Japan's economic power is falling, and China's position is improving significantly.

4. ASSESSMENT OF THE KEY CURRENCIES IN THE FUNCTIONS OF INTERNATIONAL CURRENCY

The international role of the currency depends on its importance in the global system, which derives from two factors: 1) the economic potential and competitiveness of the state, which issues that currency and 2) the use of currency outside the home economy in trade transactions and in the denomination of operations at the financial market (Mucha-Leszko 2014, p. 151-160). Table 7 presents data showing the usage of major currencies in international money function in both: private and public sector.

Currency shares	**USD**	**EUR**	**JPY**	**GBP**
official foreign reserves (2016; in %)	63.3	20.3	4.5	4.5
exchange rate anchor (2015; in %)*	56.0	33.3	x	x
currency usage in international trade (2014; in %)	51.9	30.5	x	5.4
OTC foreign exchange turnover in April 2016 (in %)**	87.6	31.3	21.6	12.8
international loans (2016; in %)	59.1	21.3	3.6	x
international deposits (2016; in %)	56.6	23.4	3.4	x

international debt (excluding home currency issuance; 2016; in %)	63	22	2.6	x

* 42 countries use the U.S. dollar as reference currency (anchor), 25 euro, 3 South African rand, 2 Australian dollar, 2 Indian rupee, 1 Singapore dollar, 12 use composite of currencies and 104 countries do not use exchange rate anchor. The shares include only currencies as anchor.

** As two currencies are involved in each transaction, the sum of shares in individual currencies will total 200%.

Table 7. USD, EUR, JPY and GBP shares in main functions of an international currency

Source: (COFER, 2017; IMF 2015a, p. 13-14; SWIFT, 2015, p. 7; BIS, 2016; ECB, 2017, p. 55, 61, 63)

Taking into account the configuration of the world's economic powers and the prospects for further strengthening of China's position, it can be seen that the feature of the contemporary international monetary system is the asymmetry, which means that the role of the yen as a key currency is marginal and the euro has not reached the global currency position in any of its functions in private and public sector (Mucha-Leszko 2007, p. 288-339), while the dollar has been the main currency in the world since the 1940s (Mucha-Leszko & Kąkol 2012, p. 313-322). The euro is just a regional currency. Whereas, the improving economic, trade and financial potential of China gives the opportunity to strengthen the renminbi position as a key currency.

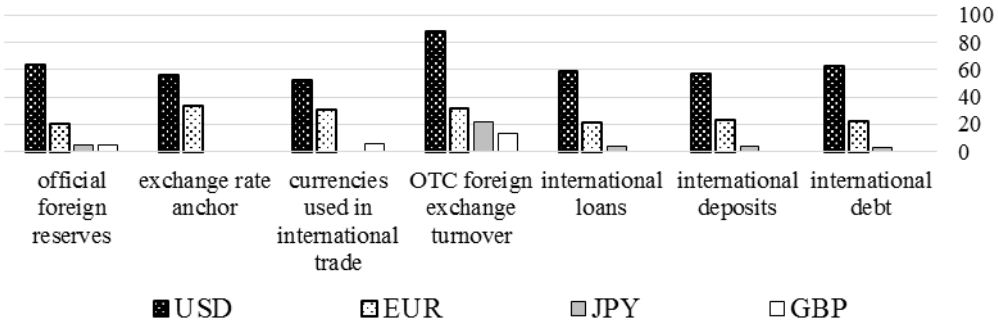


Figure 9. USD, EUR, JPY and GBP shares in main functions of an international currency

Source: data in table 7

However, it should be noted that the correlation between the home economy share in the world production and trade is not proportional to the currency share in the world exchange reserves as there is a delay effect, exemplified by the continued sterling leadership position long after the United Kingdom lost dominance in the world economy (at the beginning of the 20th century) or the status of the dollar as the main world currency after the collapse of the Bretton Woods system and the evolution of the Pax Americana towards the polycentric order with the three dominant centers. Moreover, the network externalities lead to the centralization of the international monetary system, as only a few or just one currency could benefit from international status (Gaspar, 2004). In addition, the tradition of using some currency in raw materials trade, such as oil, privileges the U.S. dollar.

Thus, as argued above, the great potential of China's economy is not enough to make the Chinese currency could stay an international money. There must be network externalities, created by the development of the banking system and the facilitation of financial transactions. Additionally, in order to stay the key currency, the renminbi must be fully convertible and liquid, and must earn the confidence of market participants.

5. ASSESSMENT OF THE INTERNATIONAL MONETARY SYSTEM STABILITY

The stability of the international monetary system can be assessed in terms of various factors. J. Bogołębska (2013) applies the criterion of persistence of global imbalances. There is also a lot of literature devoted to currency crises, which are linked to the rules of functioning of the international monetary system and the world economy. In this study, the assessment of the international monetary system stability is carried out using the following criteria:

- the occurrence of currency crises,
- exchange rate volatility,
- inflation,
- payment imbalances.

5.1. Currency crises

A stable international monetary system is one that operates in a harmonious way and in which there are no sudden and unforeseen events and therefore a system is free from currency crises. There are many reasons for the currency crisis, but usually they are associated with sudden loss of the financial markets confidence in a currency (Sławiński 2001, p. 11).

Currency crises appeared with particularly high intensity in the 1990s. Most crises have occurred in emerging countries, which at the beginning of the decade have taken reforms to liberalize their economies and open them for international trade. The success of reforms and relatively high economic growth attracted foreign capital, which, however, was characterized by high sensitivity to the market turmoil. As the situation in the economies and in their balance of payments worsened, the capital outflow happened, which resulted in a sudden currency depreciation and currency crisis.

The increase in the risk of currency crises since the 1990s was a consequence of the financial market globalization and broadening mobility of international capital flows, which was not accompanied by proper systemic changes that could effectively prevent crises.

Applying the causes as a criterion of currency crises classification, in the literature they are often divided into three generations of crises. The first generation crisis, according to the concept of P. Krugman (1979, p. 311-325), concerns a country in which economic policies are led in irresponsible way, which can lead to the emergence of the dangerous situation in balance of payments. The crisis can happen when excessive public expenditure generates a large budget deficit, and also contributes to an increase in demand both for domestic products and for imports. If the deficit is financed by increasing money issuance, high inflation appears on the domestic market, so imported goods become cheaper than domestic ones.

In addition, the export competitiveness decreases, and it leads to the growth of trade deficit. Under such conditions there is pressure on currency depreciation. In the fixed exchange rate system, the central bank intervenes at the foreign exchange market in order to maintain the value of the currency. As a result, the foreign exchange reserves are reduced. If the level of reserves falls significantly, there is a risk of speculative attacks. The outcome of that speculative attack is practically predetermined and leads directly to the currency crisis. Currency crises of this kind broke out in 1982 in several Latin American countries (Sławiński 2001, p. 16).

However, the history suggests, that the currency crisis may also affect a country that pursue a prudent macroeconomic policy and has a large amount of foreign exchange reserves. The cause of the crisis may be a speculative attack if, despite the ability to defend the exchange rate value, the monetary authorities will give up because of high economic costs (raising interest rates). Such currency crises are called second generation crises, and Maurice Obstfeld (1986, p. 72-81) is the creator of that conception.

The course of the second generation crisis and Obstfeld's assumption occurred in 1992 after increasing liberalization of capital flows. The currency crises hit the countries participating in the European Monetary System, which were obliged to keep their currencies within the narrow fluctuation band of ±2.25% (e.g. pound sterling crisis). In this type of crisis, big investors are crucial, because they are able

to carry out speculative operations on such a large scale that it causes panic on the market and massive capital outflow.

Furthermore, the currency crises that erupted in 1997 in Southeast Asian countries, the so-called 'Asian Tigers', had other reasons than the two models described previously. The macroeconomic policies of these countries seemed prudent, and the economies did not show signs of weakness. These countries had surpluses in public budgets, inflation was not a problem, and trade deficits were not large (Sławiński 2001, p. 20). Actually, there were hidden weaknesses of economies, as pointed out by P. Krugman (1994).

Growing investments in these countries were not accompanied by sufficient productivity growth, and as indicated by subsequent empirical studies, investments yielded a lower return than the cost of capital. The reason for the low efficiency of the investment was the lack of institutional collateral, giving the opportunity to take too much risk. Asian companies had used to much overseas short-term loans. The sluggish pace of production and export growth has raised investors' concerns about the possibility of repayment of rising debt. Data on short-term foreign debt of Asian companies, published in 1997, confirmed investors' concerns about the solvency of these companies, resulting in massive capital outflow and triggered a wave of currency crises. Thus, the causes of the crises were not external factors, as in the model of second-generation crises. There were internal factors, which correspond to first-generation models, though with difference that there were not errors in macroeconomic policy, but the problem was improper management at the microeconomic level and structural weakness inherent in the economy. The described Asian experiences have contributed to the emergence of third generation crises - the so-called eclectic models of currency crises (Obstfeld 1997, p.61-77).

The currency crises of the 1990s have influenced the development of the world economy and have become the causative factor for the international monetary system reform. The aim of that reform was to create a secure environment for the developing global financial market and the reduction of reasons for sudden capital outflow. In order to prevent and mitigate currency crises, countries that are affected by the crisis have been provided with the possibility of using IMF credit lines. In addition, in February 1999, the Financial Stability Forum was set up, under the auspices of the Bank for International Settlements, to provide a forum for cooperation and coordination of the activities of pre-existing international financial organizations as well as representatives of countries (Sławiński 2001, p. 188-194).

The possibility of obtaining financial assistance from the IMF depends on the certain conditions, which country has to fulfil. Moreover, the conditionality of the aid has been systematically increasing: from 2 to 3 conditions in the 1980s, to over twenty at the beginning of the 21st century, which not only hinders the use of this form of assistance, but also limits the economic sovereignty of states (Stiglitz 2007, p. 232).

However, since the beginning of the 21st century, due to systemic changes, deep currency crises have been less frequent. Currency instability could be observed in case of the euro following the implementation of that currency in 1999 and, but central banks' actions were not allowed a currency crisis to appear.

Furthermore, the financial crisis of 2008-2009 was not a typical example of the currency crisis, although the literature sometimes treats currency crisis as a part of financial crisis. That last crisis cannot be attributed to any of the three indicated currency crisis models, in which the currency crisis could have been the cause of successive crises: banking, debt, finance. In this case was the opposite: strong depreciation of emerging market currencies was the effect of the financial and economic crisis. Excessively liberal credit policy conducted by banks had the strong impact on the financial system crash, but a key factor was the securitization of subprime credits. Thus, a new source of crisis has emerged, which was not reflected in the previous models of currency crisis.

In the further part of the study, selected indicators alerting about the threat of currency crisis are analyzed.

5.2. Exchange rates volatility

A measure that can be used to assess the stability of the international monetary system is a volatility of exchange rates. If the system is stable, there should be no large fluctuation in exchange rates. Excessive volatility of exchange rates may limit the development of international transactions, including trade, because higher exchange rates volatility leads to higher transaction costs. This is confirmed by numerous theoretical and empirical studies.[1] High volatility of the exchange rate make an investment difficult to valuate, which is a risk factor for investors, and thus may limit capital inflows as a factor of home bias, making investors more inclined to hold domestic assets than foreign ones (Brzozowski, Śliwiński & Tchorek 2014, p. 40).

In order to assess currency stability, the exchange rates that have the largest shares in the foreign exchange market turnover are selected: the U.S. dollar (87.6%[2] in 2016), the euro (31.4%), Japanese yen (21.6%) and British pound (12.8%). For these selected currencies, the volatility of the foreign exchange index are analyzed, which is the average exchange rate relative to the basket of foreign currencies. Moreover, bilateral exchange rates of currency pairs with the largest share in forex market turnover are also analyzed: EUR/USD (23.1% in 2016), JPY/USD (17.8%) and GBP/USD (9.3%). The period of analysis covers the years 1980-2017 and the coefficient of variation are used to evaluate the stability of exchange rates.[3]

	1980-1989	**1990-1999**	**2000-lipiec 2017**
USD	16.2	4.6	10.4
EUR*	9.7	5.4	10.0
JPY	22.7	15.2	14.3
GBP	17.9	9.0	11.8
EUR/USD*	18.5	6.8	14.4
JPY/USD	26.7	13.9	14.7
GBP/USD	18.7	7.4	11.7

* Before 1999: ECU

** It is an index (or measure) of the value of currency exchange rate relative to a basket of foreign currencies, referred to as a basket of trade partners' currencies.

Table 8. Coefficient of variation of main currencies exchange rates (currencies indexes** and bilateral exchange rates; daily data, in %)

Source: own calculations based on: (Stooq 2017)

The data (tab. 8) show that the volatility of exchange rates varied in analyzed periods. Particularly high fluctuations occurred in the 1980s, which was caused by the lack of stability after the collapse of the Bretton Woods currency system, the high inflation and the effects of the second oil shock, the growing budget deficit and deficit at current account in the U.S. as well as the current account deficits of the major oil importers. The currency crises in Latin American countries and debt crises in developing countries were not without significance for the stability of exchange rates. In the 1980s, deregulation of

[1] A review of the studies on the impact of exchange rate volatility on foreign trade was presented in the paper: (Twarowska 2015, p. 41-57).

[2] Because two currencies are involved in each transaction, the sum of the percentage shares of individual currencies totals 200% instead of 100%.

[3] $V = \frac{s}{x} \times 100\%$, s – standard deviation, x – arithmetic average

domestic financial markets and intensification of business internationalization began, which increased capital flows (Mucha-Leszko & Twarowska 2016, p. 57). Factors destabilizing international monetary relations were the U.S. and the world's most important economies' monetary and currency policies, including manipulation of exchange rates in order to improve export competitiveness, as well as problems of reaching agreement on international monetary policy coordination among the largest economies in the world, including the United States, the United Kingdom, France, Germany and Japan (Twarowska 2016, p. 657-661).

In the 1990s, the volatility of the exchange rates of the analyzed currencies was lower (see tab. 8), although this period in international monetary relations was also unstable because of the numerous currency crises. This period was characterized by progressive liberalization of economies, including capital flows, and speculative movements of capital became an important destabilizing factor. The increase in international transactions has made currency stability an important precondition for global economic flows, and therefore there has been an increasing interest in the monetary integration in order to minimize exchange rate risk.

Since the beginning of the 21st century, the volatility of key currency exchange rates has again increased, especially during the financial crises (2001-2003 and 2008-2009). The main factors for currency destabilization are: high mobility and speculative capital flows, speculative consequences of the development of the foreign exchange market, the United States monetary policy, interest rates and exchange rates manipulations and the lack of the U.S. involvement as the main economic center for maintaining monetary stability, as well as the lack of effective cooperation in exchange rate management, high financial market sensitivity and its effects (Mucha-Leszko & Twarowska 2016, p. 59).

5.3. Inflation

Another factor that has been used to assess the stability of the international monetary system is inflation, since price instability increases exchange rate volatility and may contribute to the currency crises. The relatively high inflation resulting from excessively expansive monetary policy leads to a rapid real exchange rate appreciation, a decrease in trade competitiveness and the emergence of a trade deficit, which may result in a currency crisis.

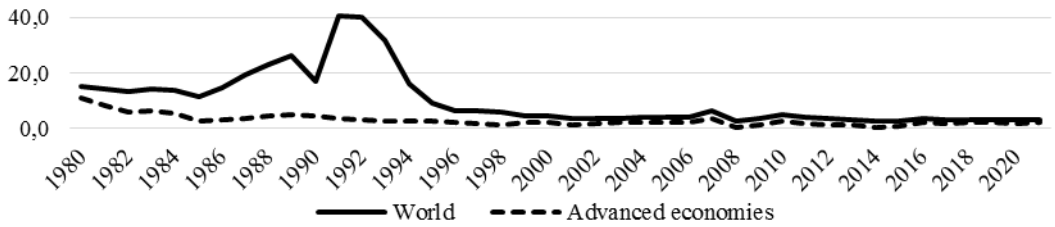


Figure 10. Global and advanced economies' inflation rate in 1980-2016 and forecast (annual, in %)

Source: (IMF 2017)

Data (fig. 10 and tab. 9) show that high inflation was a particular problem in the 1980s and the first half of the 1990s, but in advanced economies inflation was lowered in the first half of the 1980s, whereas a rapid growth in prices occurred in the second half of the 1980s and in the 1990s in developing countries, in particular the Commonwealth of Independent States as well as Latin America and the Caribbean (IMF 2017).

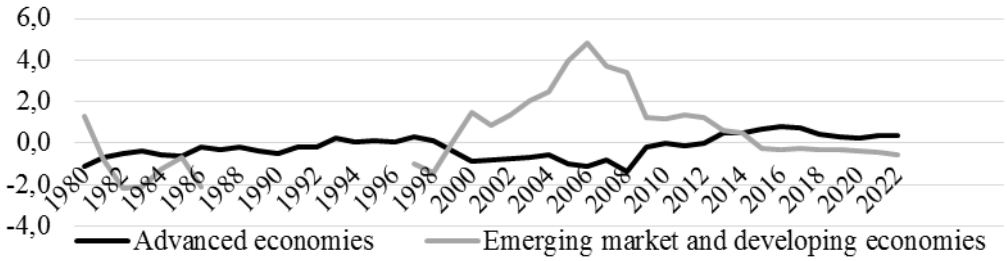
	1980-1989	1990-1999	2000-2016
World	15.6	20.0	3.9
Advanced economies	6.5	2.9	1.8
United States	5.6	3.0	2.2
Japan	2.5	1.2	0.0
Euro area	-	-	1.8
Emerging market and developing economies	36.4	55.1	6.2
China	7.7	7.8	2.2

Table 9. Average inflation rate in selected countries and countries groups in 1980-2016 (in %)

Source: own calculations based on: (IMF 2017)

5.4. Payment imbalances

A steady balance of payments and an absence of excessive current account deficits is another condition for the international monetary system stability, because current account deficits may lead to the outbreak of a currency crisis, especially if they are financed by short-term capital (Sławiński 2001, p.22).



Note: data for emerging market and developing economies from 1987 to 1996 are not available.

Figure 11. Current account balance in advanced economies and emerging markets and developing economies in 1980-2016 and forecast (% of GDP)

Source: (IMF 2017)

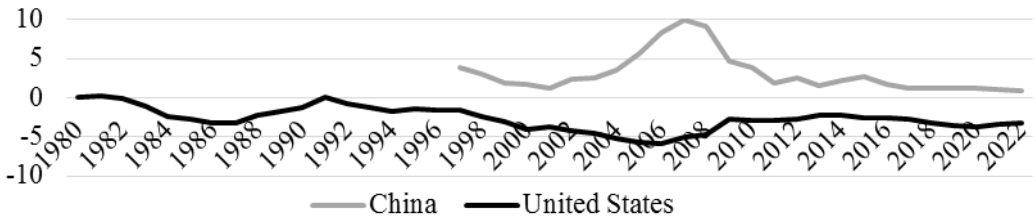
Although the current account deficit is considered as a factor leading to currency crises, economic practice shows that there are states able to afford long-term trade deficits by finding external financing (Gruszczyński 2013, p. 33), example of which is the U.S. In particular, this is possible if the country has an international currency with high investor's confidence.

Moreover, it can be seen that the trade deficit is on the one hand a factor that causes a crisis and, on the other hand, the effect of persistent misalignment in the monetary system, for example, when nominal exchange rates do not reflect their real value derived from fundamental factors. The over-valuated exchange rate reduces the export competitiveness, which results in an increase of the deficit.

The global payment imbalances derive from the dysfunctionality of the international monetary system, because the compensatory mechanism (correcting an imbalance in balance of payments) should be the component of that system (Bilski 2006, 7-8). If that mechanism works effectively, there should be no chronic deficits nor surpluses in current account balances. Actually, during the whole period of functioning the contemporary multi-currency international monetary system, the payment imbalances were a significant problem, but their nature, characteristics, size and sustainability were changing.

The global payment imbalances in the 1970s were a result of the oil crisis and the subsequent recirculation of dollars (Brender & Pisani 2010, p. 31-35). In the 1980s, the global imbalances had taken on another face. Countries that had adopted restrictive fiscal policy by limiting budgetary spending, in particular the United Kingdom, Germany and Japan, had obtained the surpluses in current accounts, as demand for imports fell. On the other hand, the expansive fiscal policy in the U.S. led not only to an increase in the budget deficit but also to the current account deficit, which was financed by surplus countries, mainly by buying the U.S. treasury bonds (Brender & Pisani 2010, p. 35-38).

In the 1990s global payment imbalances were linked to the progress in liberalization of capital flows, which covered developing countries. This process of market opening for capital inflows in the form of FDI, portfolio investments and bank loans, especially in East Asia, has attracted investors from highly developed economies. While European countries had a current account surplus and Asian countries experienced trade deficits, the inflow of foreign investment from highly developed countries has become an attractive way to finance the deficits. However, the excessive risk expansion of Asian banks and companies had led to capital outflows (Haggard 2000, p. 25-29), weakening the Asian currencies. Because of insufficient foreign exchange reserves, Asian countries had to introduce floating exchange rates and then the depreciation of their currencies improved the export competitiveness and contributed to replacing trade deficits with surpluses. Thus, the correction of the global payment imbalance of the 1990s was made by the crisis.



Note: data for China are available from 1997.

Figure 12. Current account balance in in the U.S. and China in 1980-2016 and forecast (% of GDP)

Source: (IMF 2017)

The contemporary global imbalances refer to the period after 2001, when the accumulation of China's current account surplus and the U.S. deficit accelerated (Skopiec 2013, p. 152). As these countries are in the center of the current global imbalances, their growing external imbalances has been accompanied by growing global imbalances. The distinguishing feature of contemporary global imbalances from previous imbalances is the direction of capital flow: from developing countries to highly developed countries.

As the numerous of theoretical considerations show (Dunaway 2009, p. 11), the dysfunctionality of the contemporary international monetary system follows from the absence of an effective mechanism, which could prevent from global imbalances accumulation. It is the result of the absence of common rules relating to the exchange rates management and effective transnational supervision. That situation enables countries to use the exchange rate as an instrument of supporting price-competitiveness of their exports. Permanent external imbalances of countries participating in the system generate a risk of disorderly rebalancing (Eichengreen & Yung Chul Park 2006).

Furthermore, the feature of the contemporary international monetary system is the asymmetry of compensatory processes. Deficit countries may lose the possibility of external deficit financing if the countries providing the capital find their foreign debt exceeds a safe level. Thus, the burden of the rebalancing process lies on the deficit countries and there is no responsibility of surplus countries (Obstfeld & Rogoff 2009, p. 35). The exception here is the U.S. The particular position of that country

is the result of having the dollar which is the dominant international currency and thus the U.S. can keep the deficit as long as there is demand for their currency.

6. CONCLUSIONS

The curried out analysis allows to formulate several conclusions. Firstly, the position of key currencies does not fully reflect the power of domestic economy. The dollar's position has been overvalued, the euro has gained a strong position only regionally, and the renminbi has not gained international currency status despite the fact that China has a large economic potential.

Secondly, the configuration of world's economic powers is polycentric, but with a large dominance of the U.S. economy, mainly in the financial sector. When there is no the economic hegemon, no country is willing to bear the costs of stability, but countries use a strategy of maximizing their own benefits. The United States, despite its dominance in the world economy, does not ensure the stability of the system and is pursuing a policy of benefiting from having the dollar, which position as international currency is still unharmed.

Thirdly, the contemporary international monetary system is characterized by a lack of stability. The currency crises, high exchange rate fluctuations and the rise of global imbalances are the evidences of that instability. The cause of that situation derives from the system's structure and its rules and the lack of effective compensatory mechanisms, as well as external factors, including the progressive globalization and the liberalization of the world economy.

Fourthly, if no country can undertake the role of a hegemon, the stability of the international monetary system could be ensured by the cooperation of the major centers of the world economy and the elaboration of rules for the international monetary system functioning, which would equitably share the costs of maintaining the stability of the system. Moreover, such rules should make it impossible for countries to apply currency policy, which maximizes their own benefits at the expense of other market participants.

Responding to the questions asked in the introduction, it can be stated that theoretical considerations as well as an empirical data analysis indicate that the lack of economic hegemon does not conduce to ensuring the stability of the international monetary system. The stability of the system would be better assured if countries are able to create a system of close monetary cooperation to ensure payment liquidity, exchange rate stability and the lack of global payment imbalances. However, taking into account the configuration of the world's economic powers as well as the fact that developing countries, particularly China, are advancing to the position of main world's economic powers, this cooperation would be difficult. Even if it would be possible to accommodate the goals of highly developed countries, the cooperation between two opposite polar countries like the U.S. and China would be rather difficult.

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