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Introduction

Globalization is underway. It connects countries and geographical regions in one common market, common country and common community. The more countries are interconnected, the more they are susceptible to world crises. If Japanese economy coughs, the Asian-Pacific states have flu and the other regions have strong headache. In globalizing world every country is partly responsible for each country's success. Therefore the knowledge of international economics and its rules become more and more important in context of globalization.

One of the main features of international economy is that it needs reserve currencies for international transaction. A reserve currency for international economy is like blood for a human being. Countries can not purchase oil from OPEC countries without having dollars for payment for the carbohydrates. Countries can not export their goods without receiving installments in liquid or reserve currencies, preferably in dollars. A reserve currency fuels international trades, financial transactions, hedge funds and official reserves. So a reserve currency is an indispensable and growing part of world economy.

Now it becomes clear why economists observe the main reserve currency, the US dollar, with anxieties. The steady falls of the dollar for the last five years make many global investors confused. Since January 2001 to January 2006 the US dollar have lost 29,3 percent of its value comparing to euro. The international traders need stable reserve currencies because it is too costly for merchandisers to operate with weakening currencies. But what if the main reserve currency will continue to depreciate steadily and considerably? Will international traders remain loyal to American currencies anymore?

Some economists worry about devaluing dollar. However American economic authorities such as the Federal Reserve neglects the problem concerning with troubling dollar. The Federal Reserve actually denies any important problem with US Dollars which could destabilize the US Economy. The officials claim that the US dollar depreciation is actually intended to improve the US economic performance through decreasing the huge US trade balance. The Federal believe that dollar depreciation creates relative price for American export cheaper and for the import

more expensive, thus the dollar depreciation is justified as a tool for eradicating the huge US trade deficit.

Not only the Federal Reserve defend the idea that exchange rates depreciation improve a trade balance but also mainstream and well-respected magazines, “The Economist”, support [1]. Such suggestion is so widespread that graduating economists absorb the questionable idea without any arguments. The economists are preached dogma.

The scope of the thesis is to undermine the dogma and to describe what consequences might be if US do not stabilize the exchange rates of the US dollar. The author argues that any dollar depreciation since 2002 was not simply enough to influence the widening US balance. There are some other factors which build the trade deficit. In other words, the dollar devaluation is too ineffective and risky to be implemented as an economic practice.

The primary objective of this paper is to examine the role of exchange rates in determining the trade balance behavior. The issue orients to raise discussion about controversial idea that devaluation of exchange rates must improve the trade balance. To evaluate the idea the author conducted empirical and analytical researches. The relevant data were collected and analyzed. To support the thesis the author used mainly statistical data from the US Census Bureau and Federal Reserve, tested the hypothesis through ordinary least square model and criticized the Marshall-Lerner approach as a theoretical cornerstone of supporters of “weak dollar policy”.

It is necessary to explain why the US example is the most relevant for such a research. The US economy is the biggest which makes it a dominant global economic force. The US economy is the leader and pioneer of information technology led by internet boom. This feature makes it possible to view the American economy as a future model for less developed nations. Moreover the American economy is driven by market forces so the economy can be studied using the classical economic assumptions and fundamental interaction of demand and supply functions. Probably the American case is the best among others for studying the economic phenomenon. However, we should not overestimate the case and generalize a specific American situation as the common world one.

Following the introduction, this paper has three sections. Section 1 presents, discusses and analyzes the theory of the three main views of the balance of payments: elasticity, absorption, and monetary. Section 2 provides with empirical researches, observes of the current situation of the exchange rates, trade balance; demonstrates US merchandise relationship with main trade partners and their exchange rates toward an US dollar; develops the econometric framework, which includes the presentation of a general econometric procedure, presents a regression model which includes the relevant variables for modeling the trade balance exchange rate. In addition the section reviews applications of elasticity approach and Marshall-Lerner conditions. Section 3 predicts consequences of worsening trade balance, discusses the reasons of "weak strength" of dollar depreciation influence on the trade balance, lists new none exchange rate determinants of the trade balance and offers some measures how to cut the US trade deficit without sacrificing of a dollar. The last section emphasizes potential risks of further dollar devaluation not only for the American economy but for the World economy.

1. Theoretical approaches to dollar devaluation and its impact on the trade balance.

To understand the relationship between exchange rates and the trade balance, we should examine the theories concerning our topic. The major approaches will be reviewed such as elasticity, absorption and monetary approaches. Marshall-Lerner conditions and J-curve will be studied as well.

Although all relevant major theories will be covered, the author will state and evaluate the studies succinctly without long mathematical deductions. All these mathematical deductions can be found in abundance in “Global macroeconomics” written by Thomas Dernburg.

1.1. Elasticity approach.

The elasticity approach often is associated with the Bickerdike-Robinson-Metzler (BRM) model and Marshall-Lerner (ML) condition. First we will overview the BRM model and then ML condition with J-curve. Especial attention will be paid to theoretical limitations of the elasticity approach.

The elasticity approach, along with ML condition, is used to support the idea of devaluation as useful way of improving a trade balance. Marshal-Lerner condition is usually used as sufficient conditions for justifying devaluation. However the idea is that the elasticity approach proves an inevitable improving of a trade balance of a certain country after the devaluation of its currency is false. The ML condition can be viewed as evidence of necessity of the dollar depreciation. ML condition is a clause which implies that the devaluation can lead not only to a better trade balance but also to aggravating the trade balance. Also ML condition has some important limitations, which will be described later, so the application of the ML condition

is not enough to evaluate the usefulness of the dollar depreciation in the complicated American economy. It is supposed that the ML condition “predicts” wheter the dollar devaluation make the trade balance better or does worse. And the result depends on the elasticities of the import and export of a certain economy. The author will explained later.

BRM model was first stated by Bickerdike in 1920 and then was developed by Robinson and Metzler in 1947 and 1948 respectively [3]. The model describes export-import value induced by relative price (domestic against foreign) changes caused by a devaluation. The export (import) augmentation after price changes is called price elasticity. In BRM model the price elasticity is considered as being influenced by devaluation.

The BRM model was derived from standard two countries, two goods model with initial equilibrium and free trade. The model starts from formalizing to separate export and import markets for both countries and with ends the elasticity equations through several steps of mathematical deductions. The elasticity approach is expressed as follows:

$$\frac{dB}{dE} = P_x X^s \left| \frac{(1+\varepsilon)\eta^*}{(\varepsilon+\eta^*)} \right| - P_m M^d \left[\frac{(1-\eta)\varepsilon^*}{(\varepsilon^*+\eta)} \right]$$

Where *dB* and *dE* are differentiating yields of respectively trade balance and nominal exchange rate; Px and Pm are prices for export and import respectively; X^s and M^d are domestic supply of exports and domestic demand for imports respectively. Also η and ε denote the price elasticities (in absolute values) of domestic demand for imports and supply of exports. Analogously, η^* and ε^*. where * denotes the respective foreign price elasticities.

So the final effect on the trade balance depends on the domestic price elasticity of supply and demand. A domestic country’s devaluation should improve the trade balance, in domestic currency, if $\varepsilon > |\eta|$. As we see the elasticity approach neither support nor undermine an idea that the devaluation improves trade balance. The outcome of dollar devaluation on the US trade balance depends on the coefficients of price elasticities of the US export and import. This

approach just states conditions when the depreciation can indeed affect either positively or negatively a trade balance. So supporters of “weak dollar policy” can not substantiate the necessity of dollar devaluation in fighting the US trade balance using elasticity approach.

The further development of elasticity approach was due to Marshall-Lerner condition, in honor of Alfred Marshall and Abba Lerner, who are credited with deriving it. They deduced the above mentioned equation of elasticity assuming that elasticity of supply of imports and export is both infinite. To present ML condition it was assumed as well that the trade is initially balanced.

$$dNX^*=X^*(Nx + Nv -1)(de/e)$$

where *dNX* and *de* are differentiating yields of net export and exchange rate respectively. *X, Nx, Nv* and *e* are export, export elasticity, import elasticity and exchange rate. The asterisks indicate the values which are denoted in foreign currency. The equation shows that the balance of trade improves in response to devaluation if the sum of the elasticity of demand for imports exceeds unity.

The devaluation is seen by foreign purchasers as an increase in supply. The foreign drops, and the quantity of export increases. But since the elasticity of supply of exports is infinite, there is no increase in the home price of exports despite the rise in demand. The foreign price of export must therefore drop in proportion equal to the devaluation. The elasticity of the supply of foreign exchange with respect to the exchange rate is therefore exactly the same as the elasticity of demand for exports.

By the same token the devaluation is seen by importers as a reduction in supply. The domestic price of imports rises, and the volume of imports declines. But since the elasticity of supply of imports is infinite, the added demand causes no change in the foreign price of imports. Therefore, the domestic price of imports rises by the same proportion as the proportionate rise in the exchange rate. The elasticity of demand for foreign exchange then equals the elasticity of demand for imports. [2]

The assumptions of ML condition are its limitations. The condition assumes that export and import can rise and fall infinitely. But it is often the case when export capacity cannot be expanded and essential imports cannot be reduced. The demand for imports and the supply of exports are both vertical. Thus no improvement in the trade balance is possible, and the trade balance is independent of the exchange rate. This situation was in destroyed European countries shortly after the Second World War when the countries could not increase the import or export because of the destroyed infrastructures and factories.

The question whether or not the dollar devaluation will lead to improvement of the trade balance depends on elasticity of the US export and import. If the supply of the import and export are elastic, so the devaluation might make better the trade balance. However, a great part of American import is inelastic (natural resources and raw materials). The drop in dollar value did not make crude oil even relatively cheaper because of a twofold increased price. Today's the world price for the last several years increased from 30s to 70s dollars per barrel. The value of the US oil import increased dramatically. Oil is an inelastic item which can be substituted in near decade, so the US has no choice than continue to import the same amount of oil for much higher price. When the price of oil was raised by the OPEC cartel in 1973-74, the demand elasticity for oil was extremely low, having been estimated as roughly – 0,2 percent. [2] The export of American high technological goods is also inelastic. Microsoft, one of the biggest American corporations, sells its software, the operating system "Windows", for 300 dollars worldwide. Owner of personal computers all around the world paid 300 dollars. Microsoft is monopolist selling its operating system without which computers can not functions. There are no substitutes for "Windows". Microsoft is powerful and profitable corporation which is an illustrative example of perspective American hi-tech industries. So the notion that the ML condition for America favors devaluation for decreasing the US trade balance is doubtful.

Each theory has its own limitations. The drawback of the ML is its assumption that export and import elasticity is infinite. And Yi Chung, an economist, demonstrated that this assumption can be easily violated in practice. Yi Chung asserts that "*the Marshall-Lerner Condition is only a necessary condition and NOT a sufficient condition for a fall in Exchange Rates to improve the Balance of trade. In a nutshell, the occurrence of the Marshall-Lerner Condition does not mean a devaluation of the currency will necessarily improve the Balance Of*

Trade. For it to be successful, domestic supply of output must be able to respond to meet the surge in demand caused by the fall of the Exchange Rate. Spare capacity is needed so that supply can be increased to meet the switching of overseas and domestic demand for locally produced substitutes" [13].

Yi Chung pointed out that a country can not have enough spare capacity to meet increased demand caused by the fall of the exchange rate. The spare capacity is not only unemployment and idle factories but also availability of natural resources. Yi Chung made an excellent example how the exploitation of natural resources can inflexible to be increased demand for them describing *"Bangladesh, that has comparative advantage (produce this good or service at a lower opportunity cost compared to another country) in the fishing industry. Should their Terms of Trade worsen, one could argue that the Marshall-Lerner Condition would work in their favor as fish is an elastic source of protein (could be substituted with chicken, beef, tofu, etc) while as a developing country, their of finished goods such as machinery, computers, hand phones, technology, etc are just as elastic in demand. However, will the nature of fish allow Bangladesh to increase their supply to meet demand? The answer is highly unlikely as there is only so much fish in Bangladeshi waters at a certain time. Price Elasticity of Supply, PES, (responsiveness of quantity supplied to a change in price) would be relatively inelastic in the short-run. Besides that, Bangladesh would not over-fish as it might jeopardize their main source of revenue. This will not only hinder the production of that will probably improve Balance of trade, but excessive demand for fish relative to a slow-growing supply will push prices of fish up. Terms of Trade will improve but it can be argued whether Balance of trade will change or not due to the uncertainty to traders caused by fluctuating prices of fish (prices fall due to a devaluation of currency followed by an demand-pull price increase)."*[13]

Another limitation and probably the most important one is that the Marshall-Lerner condition is not testable. It is impossible to calculate the elasiticities without a lot of assumptions.

To test ML conditions we have to calculate price elasticities of import and export of a certain country. It is somewhat obsolescent approach to use price indices and quantity indices which are published by a statistical committee for reasons we will discuss in the paragraph. Then

to examine elasticities, we need to know eight variable Pm0, Pm1, Qm0, Qm1, Px0, Px1, Qx0 and Qx1, where P, Q, M, X, 0, and 1 denotes respectively average price, average quantity, import, export, basic period and current period. For example, Qx0 is readable as the average quantity of export in a basic period. However it is impossible to know exactly the values of all variables.

The ML condition is not testable because there are no average prices or quantities in every economy. There is no average price for ton of steel or for a bottle of perfume. Thus statistical committee hardly can calculate growing complicated intangible assets making price indices. There is no average quantity of sold software and iron ores. So the absent of variables in real world makes impossible to examine the ML condition. The ML condition can not be proved by experience so it is unknown how the ML condition really works. Science operates with proven matters. ML conditions are not testable thus can neither support nor deny positive influence of dollar tumble on a trade balance.

Many economists explain that the absence of improvement of the US trade deficit after considerable devaluation by so-called J-curve effects. J-curve effect describes the situation when the trade balance first aggravates and then improves. These economists assert that the effects of the devaluation on the net exports is that it takes time for trade flows to adjust to relative price changes, which is another way of saying that elasticities are low in the short run and increase with the amount of time that elapses after relative price changes. [2] According to J-curve the trade deficit increase initially after the exchange rate falls as the amounts of export and import remains constants when their relative price nominated in dollars changed. Americans at least in short run continue to consume import and export by same amount as it was before the devaluation. The quantity of import and export remains unchanged even though their relative price changed. The import increases its value, but the export decreases its value. Therefore in short run the devaluation leads to worsening of the trade balance. However, it is supposed that the quantity effects tend to predominate over the price effects, so the trade balance deficits might get smaller in a long term.

To illustrate J-curve effect it is a good idea to present one of the elasticity approach’s equations.

$$TB = P_x X^s - P_m M^d,$$

where TB is a trade balance, X^s is quantity of domestic supply, P_x is the domestic currency price (level) of exports, M^d is the quantity of domestic imports and P_m *is a* price of imports measured in domestic currency.

According to the equation, shortly after devaluation the value of import increases as P_m grows, inducing worsening of the trade balance. However, many mainstream economists, who support dollar plummeting, expect that the increased relative import price and respectively decreased price of exports will inevitably improve terms of trade toward the local producers and exporters and then a trade balance must be improved naturally. It is obvious that relatively cheap local price due to exchange rate fluctuations will somewhat inhibit import and encourage export. Nevertheless it is not sufficient to conclude that devaluation is so much strong for the terms of trade that afterward gains due to the improved terms of trade the devaluation surely will compensate the initial decrease of a trade balance. It can be a situation when a country devalues its currency so much that soaring value of import won't be reimbursed by increased value of export.

J-curve effect explains the initial increase in the trade deficit. J-curve also "expects" upward curve, improving the trade balance. However, there are reasons to doubt that after inevitable worsening of the trade deficit, the terms trade will be considerably improved so the trade balance will always get better than before devaluation. It is impossible to evaluate how long the J-curve effect takes place so the effect becomes a speculative one. Nobody knows how long J-curve can "explain" the failure of the dollar devaluation as a tool destined to improve the trade balance. Estimates of the time required for relative price change to produce their full quantitative effects vary a great deal, but seem to average about two years [2]. The period of two years is proved to be wrong. Since 2002 America has experienced the substantial dollar devaluation but the trade deficit continues to grow even with a bigger pace. The details statistics will be in later chapters. Therefore J-curve clarifies the short term exacerbation of the trade balance but do not guarantee the later improvement of the trade deficit.

1.2. Absorption approach.

Elasticities analysis has been widely criticized because it ignored the income-expenditure effects of devaluation. Devaluation might tend to increase production in export industries and in import-competing industries. Devaluation therefore tends to raise nominal national income and price level. As a consequence of the income expansion, the demand for imports will rise. This means that the demand curve for foreign exchange will shift to the right, so excess demand for foreign exchange may persist after the devaluation.

A formal analysis of these effects, coming in the form of a severe attack on the elasticities approach, was launched by S.S. Alexander, then of the IMF staff, in 1952. Alexander began with the proposition that net exports could be expanded only if a total production could be raised or if domestic claims against production – what Alexander termed absorption – were reduced. To be successful, devaluation would somehow have to bring either or both of these changes about [2].

While the elasticity approach based its results on the effects of exchange rate changes on individual microeconomic behavior (Marshallian supply and demand analysis), absorption approach focuses its analysis mainly on economic aggregates, typical of Keynesian analysis. The core of this approach is the idea that any improvement in the trade balance requires an increase of income over total domestic expenditures.

The theory of the trade balance under the current approach can be defined in terms of a basic macroeconomic identity which expresses the different links between the trade balance and the macroeconomic aggregates.

$$Y - A = TBDC = XDC - MDC$$

where *Y* is the gross domestic product; A is the absorption, the sum of consumption (C), investment (I) and state procurements (G); *TBDC* is the trade balance in domestic currency; *XDC* and *MDC* are the value of exports and imports, respectively, in domestic currency. This identity simply says that the trade balance is just one side of the coin. The absorption approach focuses

on another side. The absorption approach analyzes the economy from the point of view of aggregate expenditures, and especially studies the direct effects of exchange rate changes on relative prices, income, and absorption, and ultimately on the trade balance.

Devaluation raises exports and reduces the demand for imports. If the economy has available unemployed labor and underutilized capacity, real national income will expand. The expansion of net exports can then be accomplished by mobilizing hitherto idle resources. It follows that

$$\Delta(XDC - MDC) = \Delta Y - \Delta A$$

However, the rise in income raises consumption spending and therefore absorption. The rise in consumption equals the marginal propensity to consume times the change in income. Therefore, if $\Delta A = \Delta C$,

$$\Delta A = b(1 - t)\,\Delta Y$$

Thus,

$$\Delta Y - \Delta A = [1 - b(1 - t)]\,\Delta Y = s\Delta Y$$

where b, t and s are propensity to consumption, income tax rate and propensity to saving. It therefore follows that

$$\Delta(XDM - MDM) = s\Delta Y$$

The last expression makes clear that the trade balance can improve only to the extent that devaluation rises domestic saving. It does no good to raise production if the resulting increase in income raises consumption by an equal amount. Resources will be released to expand net exports only if the rise in income carries with it a rise in saving. This necessitates a positive marginal propensity to save disposable income and is augmented by a positive income tax rate, provided the government does not increase absorption by spending the higher tax rate. These conditions are not met in American economy which is experiencing negative (-0,7) saving rate in December 2005 [24]. A negative savings rate means that Americans spent all their disposable income, the amount left over after paying taxes, and dipped into their past savings to finance their purchases.

So according to absorption approach the dollar devaluation is unlikely to brings relief to the huge US trade deficit.

The rise in real income that permitted net exports to expand was termed the idle-resource effect by Alexander. However, Alexander suggested that real income might raise a lesser amount because devaluation is likely to cause deterioration in terms of trade. Devaluation lowers the foreign price of imports and the foreign price of exports. If the foreign price of exports drops by more than the foreign price of imports, fewer units of imports can be purchased with a given quantity of exports, and the terms of trade are said to deteriorate with an adverse effect on the devaluing country's real income [2]. Alexander proved his point through mathematical deductions which at the results leads to a condition.

$$SxSm>DxDm$$

where S and D are supply and demand elasticities respectively; X and M denote export and import respectively.

Alexander concluded that the product of the supply elasticities must exceed the product of the demand elasticities. This condition is satisfied for the several high supply-elasticity cases. Low demand elasticities are unfavorable to the terms of trade. The lower is Dx the greater is the reduction in the foreign price of exports. Similarly, a reduction in the elasticity of demand for import, Dm, means a smaller fall in the foreign price of imports. A country that is too small to influence the world price of the imports it purchases is bound to suffer deterioration in the terms of trade when it devalues its currency.

Alexander believed the conditions for deterioration of the terms of trade were likely to be satisfied in most cases. He therefore suggested that devaluation would tend to reduce the real income, thereby implying a larger trade deficit for any given level of absorption.

The absorption approach argues that, in general, a country's devaluation causes deterioration in its terms of trade, and thus deterioration in its national income. The presumption is that devaluation will result in a decrease in the price of exports measured in foreign currency.

Thus, the final net effect of devaluation on the trade balance will depend on the combined substitution (domestic production for import) and income effects.

1.3. Monetary approach.

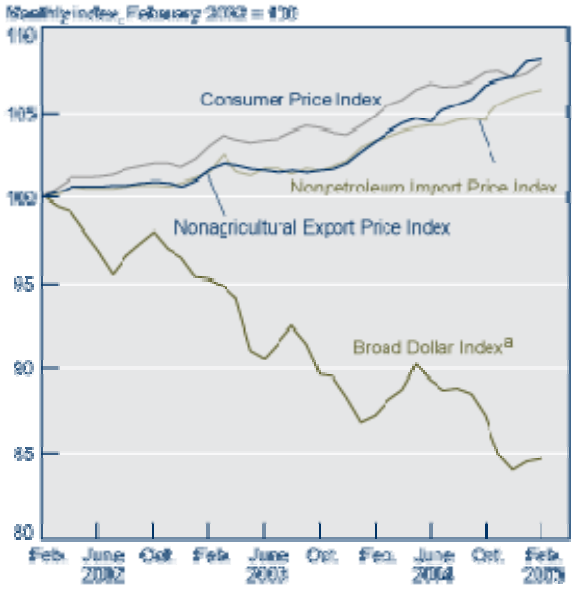
The main idea of this approach is the claim that “the balance of payments is essentially a monetary phenomenon”. So the balance of payments behavior should be analyzed from the point of view of the supply and demand of money. The monetary approach can be expressed through following fundamental monetarist equation:

$$\frac{M_s}{P} = L(Y, e)$$

where **Ms** is the nominal money supply, *P* is the domestic price level, *L* represents the demand for money, ***e*** is the value of foreign currency nominated in domestic currency, and *Y* is domestic real income.

The expression postulates that the money market is in equilibrium and this ensures that real money supply is determined by the demand for money and exchange rate, in terms of the domestic economy. Using the above mentioned equation we can deduce that an increasing ***e,*** foreign exchange rate, brings to a lowering of purchase power as import goods become more expensive. Then in order to maintain import demand for money, ***L***, increases, causing nominal money supply, **Ms,** rises as well. As a result of increased money supply the price, ***P***, rises. Thus monetary approach point out adverse side of exchange rates depreciation, inflation. In the long run devaluation makes inflation, not an improved trade balance.

Figure 1



Source: http://www.clevelandfed.org [25]

Monetarists argue that devaluation increase money demand and then money supply which causes inflation. [2] Figure 1 supports the monetarist conclusion that the devaluation leads to inflation. The chart describes the growing US consumer price index and the sinking broad dollar index, a dollar exchange rate to a basket of currencies, so the chart shows that inflation and devaluation are two sides of the same coin.

Another interesting finding of monetary approach is that the approach puts together the other approaches, elasticity and absorption, assuming that capital account is equal to zero and current account and trade balance are equal. This finding can be expressed through the following equation.

$$XDC - MDC = Y - A = TBDC = \Delta FDC = \Delta M - \Delta D$$

where XDC and MDC are export and import respectively in domestic currency; Y is income; A – absorption, sum of consumption, investment and government procurement; TBDC is a trade balance in domestic currency; *ΔFDC*, *ΔM* and *ΔD* are changes in foreign reserves, in money supply and money demand respectively. Therefore, if we consider all variables, the three approaches are equivalent making more sound the conclusion that devaluation is an effective instrument against the improvement a trade balance.

Until now we reviewed main theories of the link between exchange rate and trade balance. The chapter reviewed the main theoretical approaches: elasticity, absorption and monetary approach. The author shows that elasticity approach neither supports nor denies the necessity of the devaluation in fighting the trade balance. Also the author presents the absorption and monetary approach which buttress the author's major idea that devaluation is needless way of reducing the negative American trade gap. The next chapter will fund theories with practices, statistics.

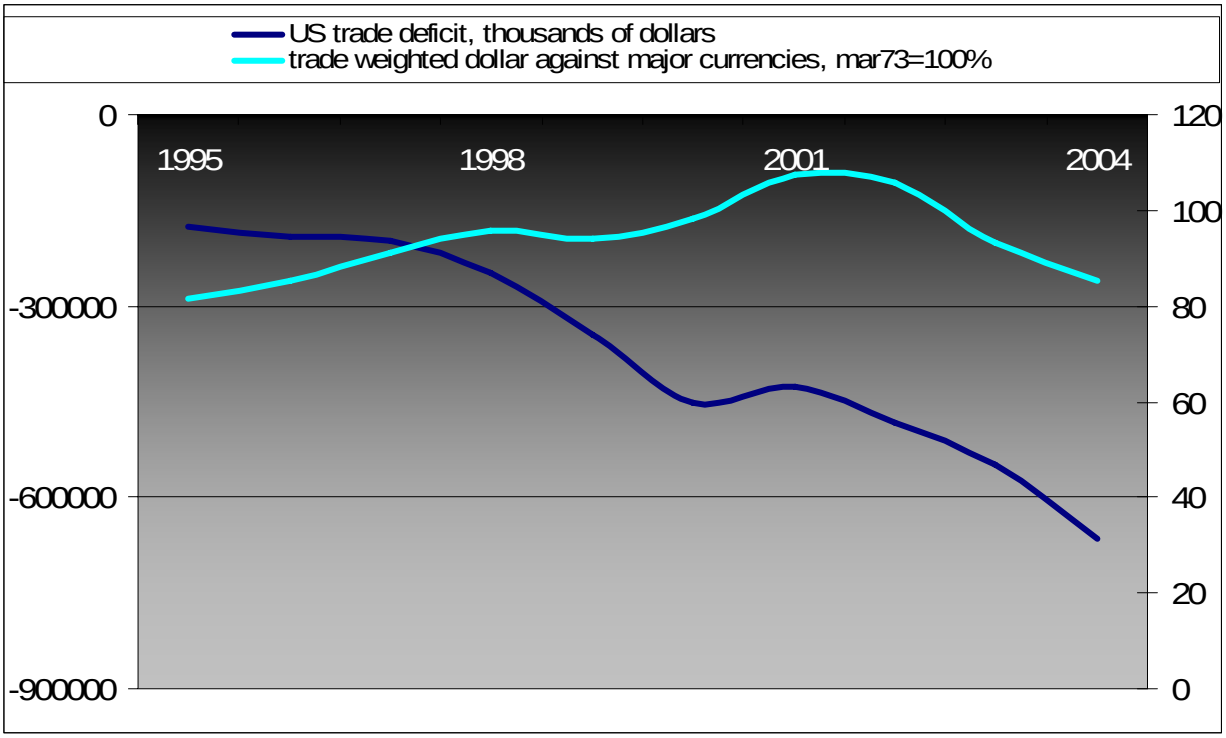
2. Empirical evidences on the US trade deficit and dollar depreciation.

The chapter investigates into statistics of the dollar exchange rate fluctuations and American trade balances. The chapter attempts to prove that the dollar devaluation has not improved the US trade balance since the twenty-first century. The author analyzed the US trade balance through dollar exchange rate fluctuation. Statistics was collected and analyzed. To test the link between the US trade with some European countries and dollar/euro exchange rates ordinary least square model was built.

2.1. The absence of the link between the US trade deficit and dollar tumbling.

In this part of the chapter, the author will provide evidences that the dollar devaluation does not help the trade balance to stop the dollar fall. The author does not assert that the devaluation has never been beneficial to the US trade balance. However the author argues that the devaluation is no longer effective tool in fighting against the tremendous American trade balance. So it is useful to observe the history of the US trade balance and the trade weighted dollar, a representation of the foreign currency price of the U.S. dollar or the export value of the U.S. dollar.

Figure 2



Source: www.census.gov, www.federalreserve.gov

The figure 2 describes two “lines” from 1995 to 2004. One line shows the constant worsening of the US trade balance. Another one describes the trade weighted dollar exchange rates to major currency index. The major currency index is a basket of currencies which includes the Canadian dollar, Japanese yen, Swiss franc, Australian dollar, British pound and the euro. The US trade with European countries comprises about 55% of the total US trade (54% of imports and 58% of exports). This index has gained considerable value against the dollar over the past three years. Importantly, the monetary authorities of the countries in this index do not generally enforce a hard peg of their currency against the U.S. dollar; only the Japanese Central Bank engages in some degree of currency managing, and they do not enforce a hard peg.

Analyzing the figure 2 we note two distinctive stages. The first lasted from 1995 to 2001 including. This period is characterized by relative dollar appreciation along with the stable trade balance comparing with the next stage. The phenomenon can be explained by mainstream belief

that the appreciation keeps the trade balance from the improvement. One could say that appreciating dollar affects the worsening of the trade balance.

However, if we look at the second stage from 2002 to 2004 including, we will see that even though dollar had considerably devalued, the trade balance deteriorated. Until now the mainstream study is useless to clarify why the trade balance falls constantly despite substantial dollar depreciation.

In later chapter we will find answers why the mainstream belief has not been working since 2002. We will enlist the main factors which outweigh those of relative exchange rate fluctuations.

To further examine the author hypothesis that the dollar devaluation does not improve the trade balance. We should examine as much relevant statistics as possible. The more relevant the statistics for a study, the more the statistics is reliable in the research.

Macroeconomic phenomena are hard to evaluate statistically, economics is connected with countless factors. However, it is possible to evaluate specified factors of a certain phenomenon which has the same number of factors except the specified ones. For example, if Y is a function of elements a1,b1,c1,e1 and Z is a function of elements a2,b2,c2,e2, where a1=a2, b1=b2, c1=c2, but e1 is not equal to e2, so e1 and e2 can be evaluated. They make different Y and Z respectively. Thus, we could evaluate the strengths of e1 and e2 by merging Y and Z.

To find relevant statistics to evaluate **e** factor we should find comparable Y and Z which have the same constant factors except "**e's"**. For the thesis we can imagine **e** as an exchange rate.

But which statistics is needed to find in which we can distinguish the intended factor for the evaluation? Let us choose functions of the trade balance of the US and the 5 biggest American trade partners (Germany, France, Italy, the Netherlands and Ireland), which are members of the EuroZone. EuroZone is an organization inside European Union members of which circulate euros in their economies. For simplicity we will call these five European counties as "top5". The American function of is TBa=f(Y1, M1, IR1, E1) and the European is

TBe=f(Y2, M2, IR2, E2), where *TB* is trade balance, *Y* is real income, *M* is money supply, *IR* represents interest rate, *E* is an exchange rate with major currencies. Then, we can assume that the real income, money supply and interest are equal in Europe and America. Of course, these three factors indeed are not the same. However they are comparable: American real incomes (GDP), interest rate, money supply are almost the same with European's as both sides represent developed countries. The only difference is exchange rates: a dollar depreciates but euro remains stable comparing with basket of exchange rates of foreign currencies. So the comparison between US trade balance with the 5 biggest American trade partners (Germany, France, Italy, the Netherlands and Ireland), later these countries will be as "Top5", through the exchange rate fluctuations are appropriate.

Table 1 "GDPs of leading regions."

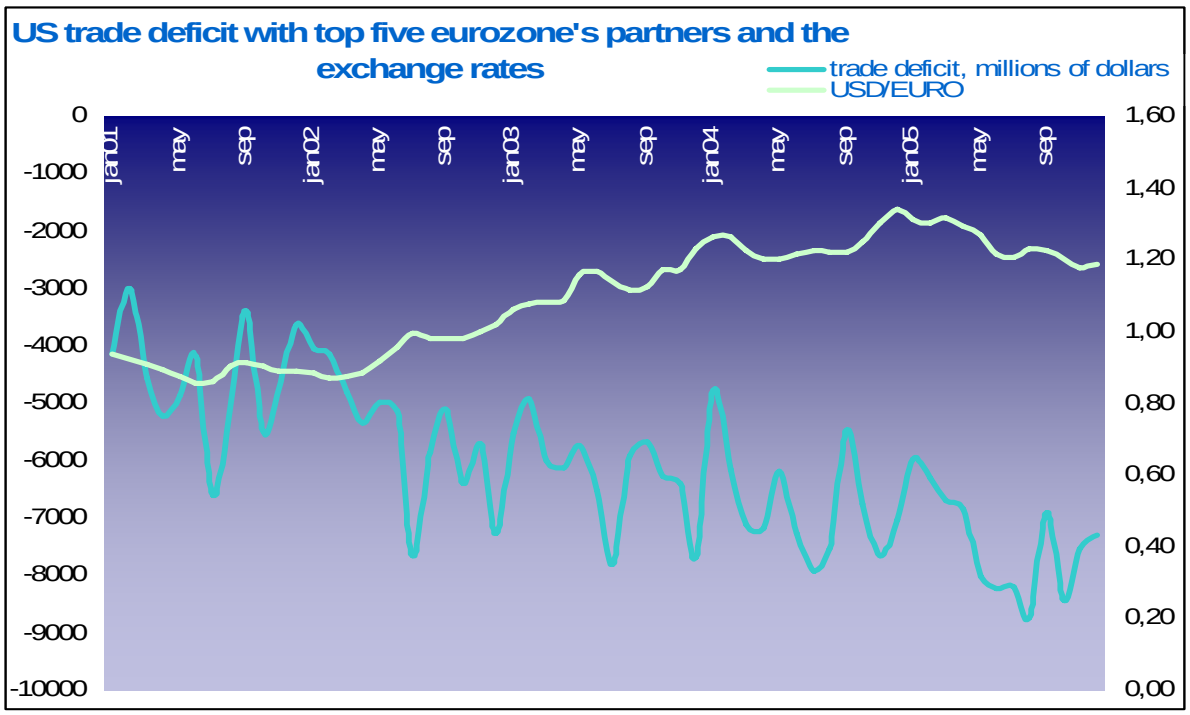
	2003	2004
US	11.0 trillion	11.5 trillion
Euro-zone (12 countries)	8.8 tr.	9.0 tr.
EU pre-5/1/04 (15 countries)	11.3 tr.	11.5 tr.
EU post-5/1/4 (25 countries)	11.8 tr.	12.1 tr.

Source: national bureau of economic researches [23].

Table №1 compares the US GDP with that of European Union. The US and EU are comparative to each other in terms of their economic powers. Both regions are highly developed postindustrial areas. So we can assume that the leading European country such as Germany, France, Ireland, Italy and the Netherlands together is also comparative to the American economy. It is assumed as well that the main difference between the American and the European regions is their exchange rate. "Top 5" EU countries face appreciating euro when the US faces depreciating dollar. So the comparison between "Top5" and the US in terms of their exchange rates must demonstrate reliable results concerning the links between the US trade deficit and its dollar depreciation.

For the research, the author collects statistics of the trade balance between the US and its five biggest Eurozone trade partners and the USD/EURO exchange rates. The gathered statistics dated from the January 2001, when euro became cash officially, to December 2005. The period since 2002 has been characterized by noticeably appreciation of euro comparing to dollar. For example in January 2002 a euro valued 88 cents but in January 2006 a euro valued 1,21 cents. This fact should help to evaluate the effect of the exchange rate fluctuations on the trade balance as the more a factor volatile, the more it traceable assuming that the other economic factors are constant.

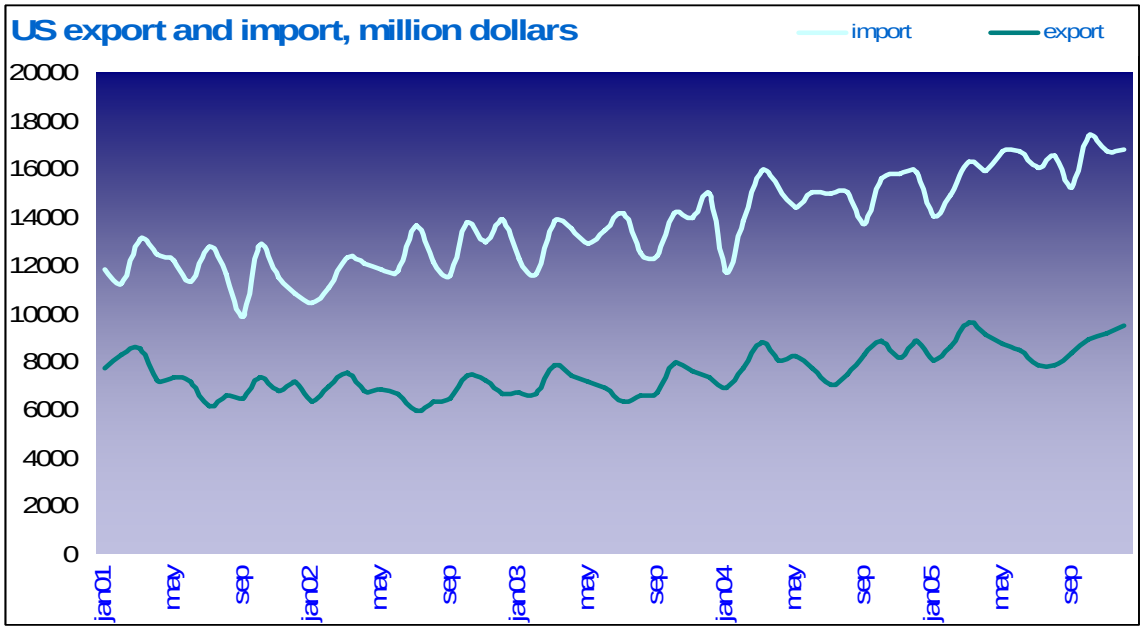
Figure 3



Source: www.census.gov, www.federalreserve.gov

As we see at figure 3 from 2002 euro has considerably been appreciated, but it hasn't help the deficit to start diminish. The discrepancy continues indicating no correcting power of the dollar tumbling. The tendency seems to be at the short term irreversible. So the euro appreciation did not help America at least to slow down even the pace of the widening US-"Top5" trade deficit.

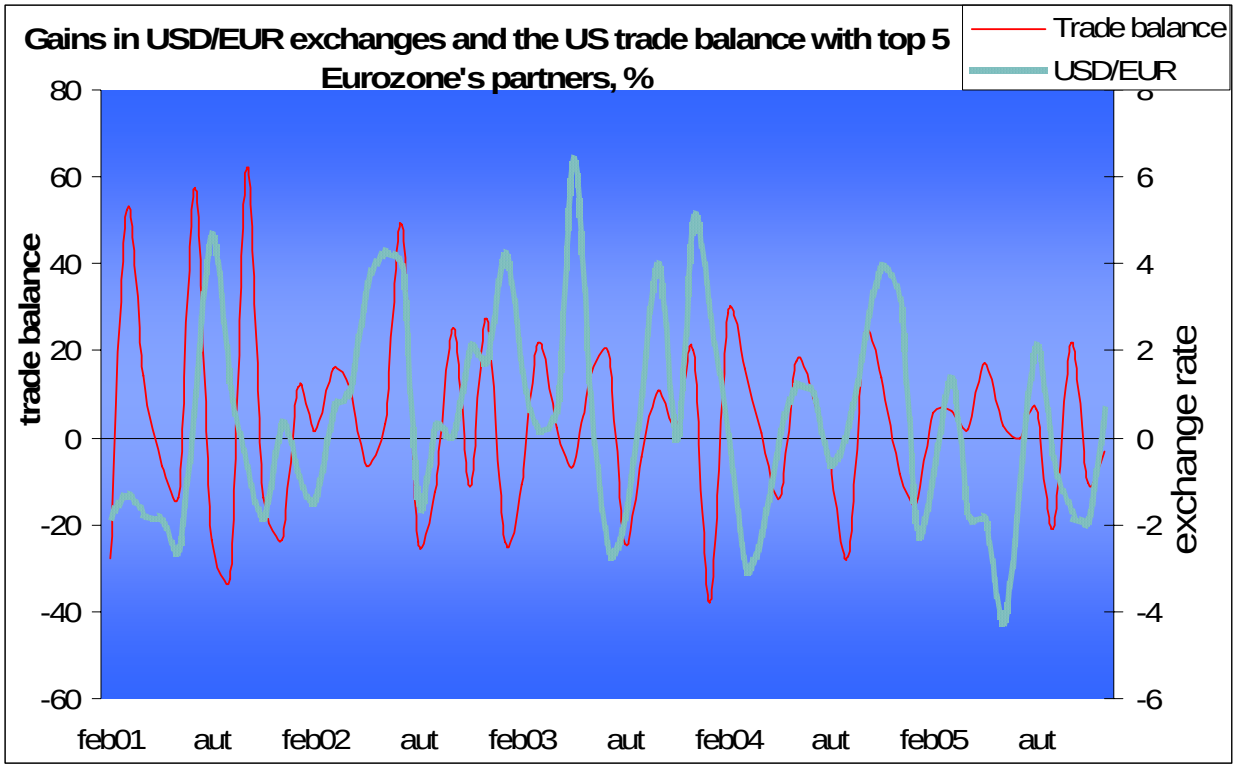
Figure 4



Source: www.census.gov

Figure 4 marks out the noticeable link between export and import. It could be other factors which manage these two indicators as two lines flow almost simultaneously. Thus, the devaluation didn't help these lines to disperse as they tend to behave in the same way: both rise and fall. Influence of dollar slide was too weak to change the trend. Something else causes the import and export lines in the figure to dance together moving upwards and downwards in tandem. The mainstream economic belief would predict that the devaluation leads to separation the export and import lines. However once again the statistics illustrates that dollar devaluation is so weak to improve the trade balance that one could consider the devaluation as an exogenous factor to the trade balance.

Figure 5



Source: www.census.gov, www.federalreserve.gov

If we look at the figure 5 attentively, we can notice that the line “trade balance” usually is followed by “exchange rates”. From this finding can be inferred not only that the exchange do not improve the trade balance but also that the trade deficit causes exchange rate, not vice versa. The fact that after the fall of the trade balance the exchange rate shrinks as well could induce one to conclude that exchange rate does not lead trade balance but the trade balance has an impact on the exchange rates. Who influences whom? What is the cause and what is the consequence? The figure 5 implies that the trade balance forms the exchange rates not vice versa. Therefore it is a questionable issue whether devaluation could be the true cause of formation of the trade balance.

In this section we have seen that the trade balance continues to aggravate despite the substantial dollar falling. We noticed that from 2002 the lines of trade balance are not diverging contrary to the predictions of proponents of weak dollar policy. Furthermore this part of the

chapter proves that considerable dollar devaluation did not change trend of worsening US deficit with “top5”. Finally the chapter implies that a trade deficit forms the exchange rate but not vice versa.

2.2. An **ordinary least square model.**

In previous section the author described that the economic statistics reveal that considerable dollar devaluation do not prevent from further deterioration of the trade balance, at least in terms of US-“Top5” trade and dollar/euro exchange rates. Just to remind by “Top5” the author means five biggest European trade partners to the US which convert euros in their economy as well. “Top5” includes Germany, France, Italy, Ireland and the Netherlands.

In this chapter we will consider the ordinary least square model (OLS). We will test the significance the link between the US-“Top5” trade balance and dollar/euro exchange rates. The statistics will be used the same as was used in the previous chapter. All statistics can be downloaded from www.federalreserve.org and www.census.org.

Empirical model of the US-Top5 trade relationship through a USD/EUR fluctuations can be expressed as a linear model:

$$Y= aX+b+\varepsilon_{t,}$$

where Y is a trade balance, X is an exchange rate, a and b are coefficients, and ε_t is the error term which satisfies all the classical assumptions of OLS. The regression will be built using only one variable, the dollar/euro exchange rates.

After the author’s calculation of a regression using MS Excel the below results were obtained.

Table 2

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0,69650833
R Square	0,485123854
Adjusted R Square	0,476246679
Standard Error	985,1125148
Observations	60

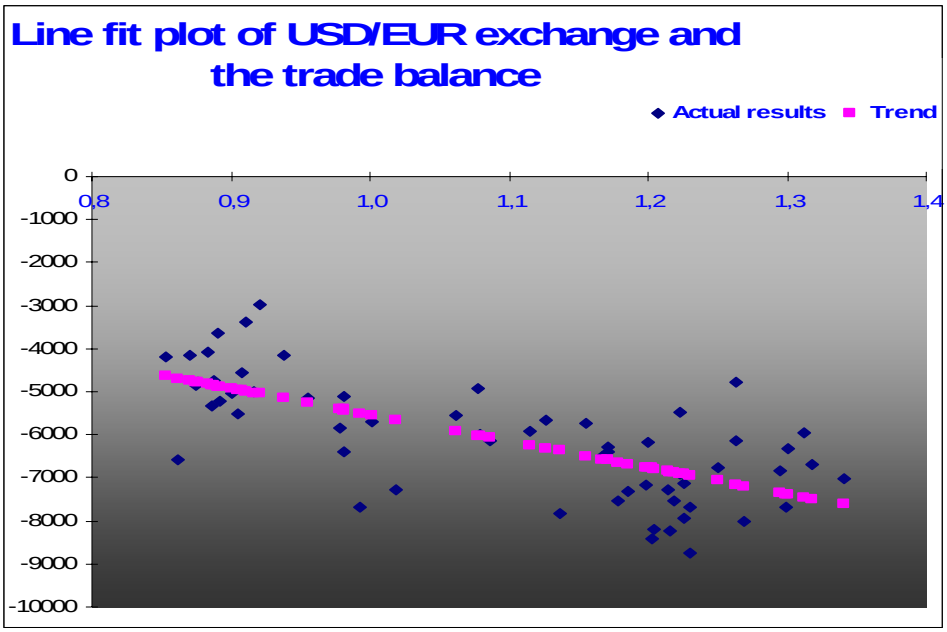
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	53033406,47	53033406	54,64845	6,42E-10
Residual	58	56285906,67	970446,7		
Total	59	109319313,1			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	586,98499	914,1130357	0,642136	0,523315	-1242,81	2416,781	-1242,81104	2416,78102
variable "USD/EUR"	-6126,9773	828,8145083	-7,39246	6,42E-10	-7786,03	-4467,925	-7786,02976	-4467,92481

Table №2 demonstrates the econometric analysis of the above mentioned link. We can take into a account the regression statistics, coefficients, standard errors etc.

Figure 6



The figure 6 demonstrates the vague link. Obviously the OLS model presents the regression which can be used in predictions. The econometrics regression does not represent the economic model with enough significance or reliability.

So the econometrical model is

$Y=-6127x + 587 + \varepsilon_t$, where the R square is 0,485.

It is necessary to point out that the R square is low which makes the empirical model insignificant. The correlation coefficient which equals to 0,48 is generally considered insufficient by statisticians. It means that the regression usually can not be used in predictions because the model can not express the link between the trade deficit and exchange rates properly. So there are no solid connections between the devaluation and the trade balance.

Therefore the regression model of the USD/EUR exchange rates' impact on US trade with European partners "top5" is insignificant.

3. Analysis of questionable impact of dollar depreciation on the trade deficit.

In previous chapter we explored insignificant effects of the exchange rate oscillations on the trade balance. The aim of this chapter is to examine not only why it happens but also what outcomes can be due to it and what the US government could do to prevent the US trade deficit.

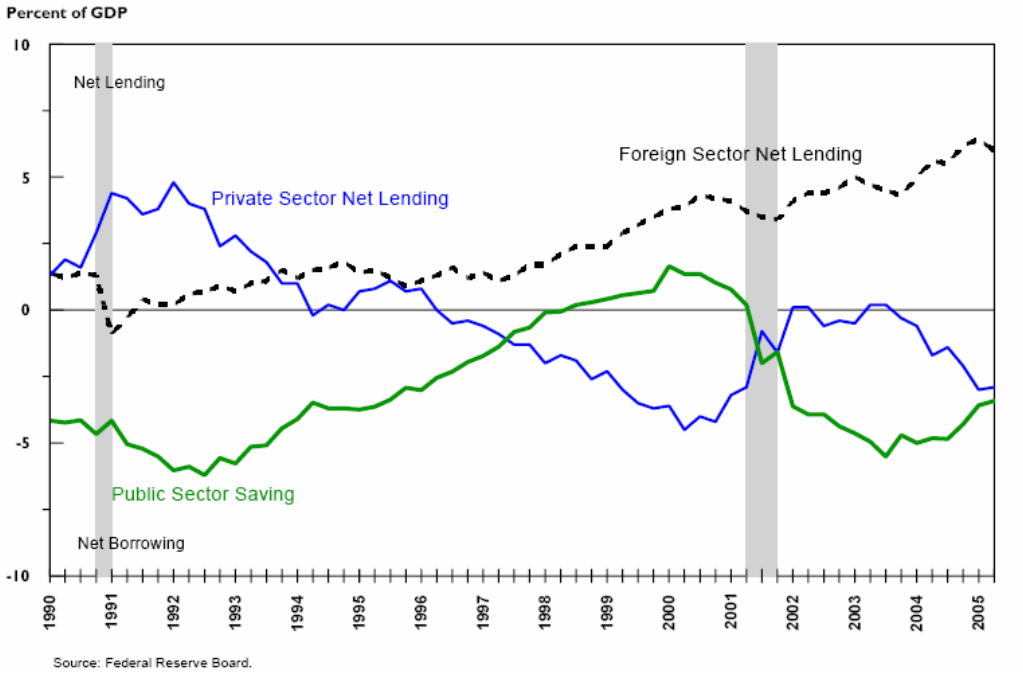
3.1. Reasons of a negligible impact of the dollar depreciation on the US trade balance.

In previous chapter the author illustrated that the dollar devaluation failed to correct the US trade balance. There are several main reasons of this low impact. Among them are generous foreign funding, negative American saving rate, financial adaptations of TNC to currency risks and general structure of the US export-import goods. We will review all these reasons regarding the insignificant impact of the dollar devaluation on the US trade balance. All this factors explain the trade deficit making the role of the devaluation smaller.

Heavy foreign investments into the American capital market. Foreigners pays for the US bills coming from profligacy of Americans. Alan Greenspan, former chairman of the Federal Reserve, in his speech at Advancing Enterprise 2005 Conference, London, England on February 4, 2005 blamed **"**an environment of greater international capital mobility" for "funding the [trade] deficit". [15] In other words, Alan Greenspan accused of the generous international financial market's investment in the trade deficit.

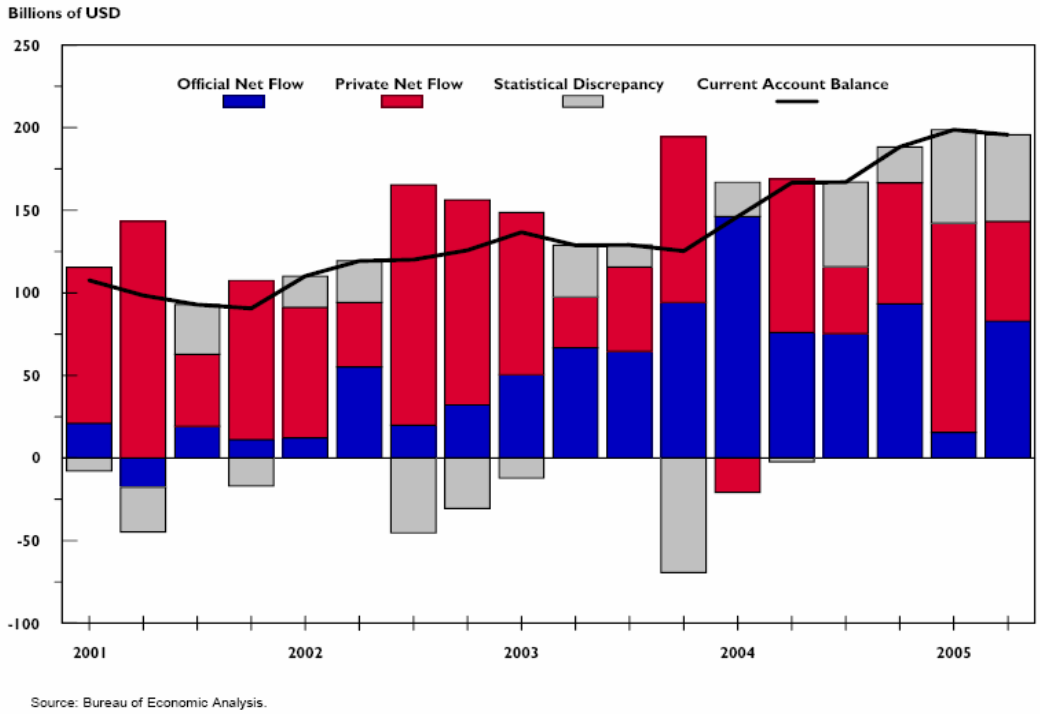
Alan Greenspan attributes the heavy American trade deficit on Asian central banks which increased substantially the purchasing of the US Treasury bonds *"…numerous issues that have arisen with respect to the adjustment of the U.S. current account remain unresolved. One is the effect of Asian official purchases of dollars in support of their currencies. Such intervention may be supporting the dollar and U.S. Treasury bond prices somewhat…*[15]*"* So American economic authorities used to blame foreigners (for simplicity the author attributes foreigners to none American residents) for their problem with the external trade.

Figure 7



The figure 7 shows that foreigners have willingly financed a growing fiscal deficit plus modest net borrowing by the private sector. Since mid 2001 the foreign sector net lending has an upward trend whenever saving rates of the public sector have rushed down. Foreigners started to cover debts created by the public and private sectors of American economy.

Figure 8



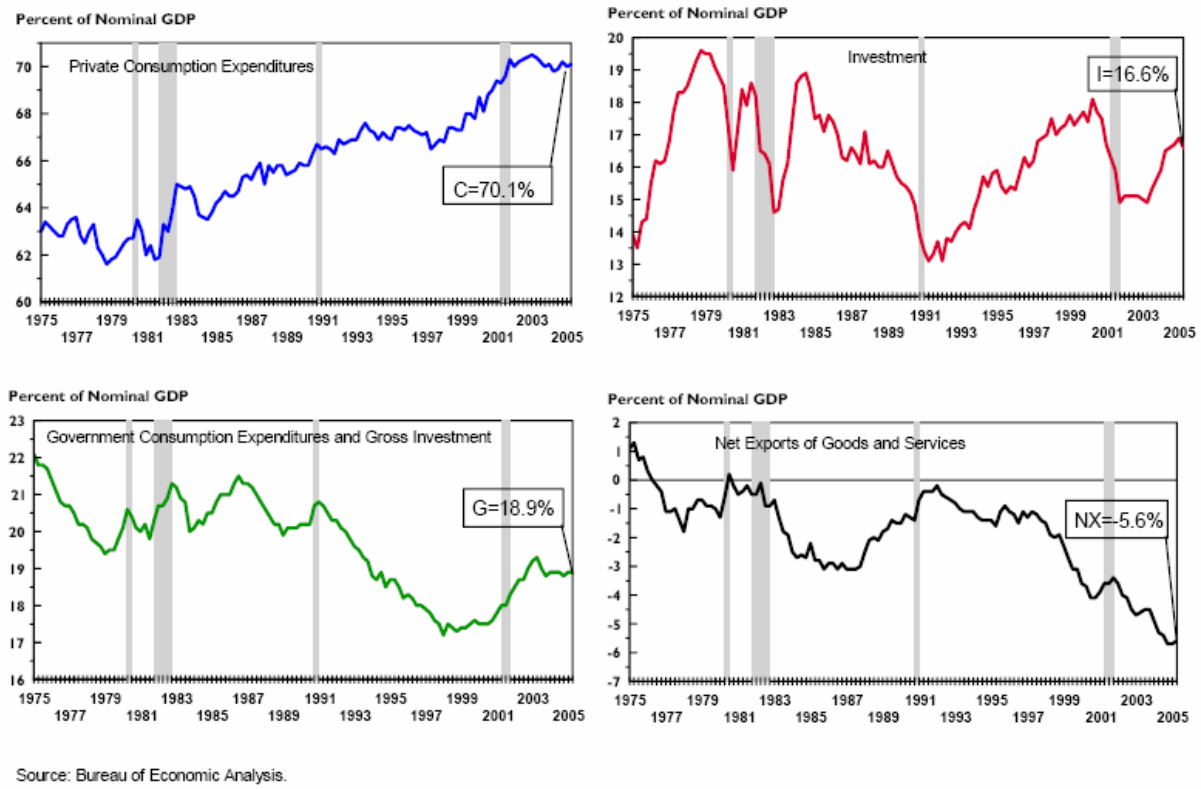
We can conclude from the above chart that in recent quarters official investors have played a larger role than before. Since 2002 when the dollar started to depreciated the official net flow has risen considerably “balancing” the US current account.

Figure 9

The figure 9 shows that Asians increased the purchasing of the US Treasury bonds manifold. China is one of the greatest investors into American economy. Despite this fact the US officials often criticize the Chinese yuan peg to the dollar. Jane Sneddon, an economist of the Federal Reserve, scapegoats China for the US trade deficit “still, as the other countries let their currencies rise notably against the dollar, China’s dollar peg came to be seen as major impediment to correcting the US trade deficit [19].”

Saving rate. Americans fail to save enough - whereas the rest of the world saves too much. American consumers have borrowed against the future by squandering their savings. The personal savings rate was -0,7 zero percent of disposable personal income at the end of 2005 - down from 7.7 percent as recently as 1992. Moreover, large federal budget deficits mean the government's savings rate is negative.

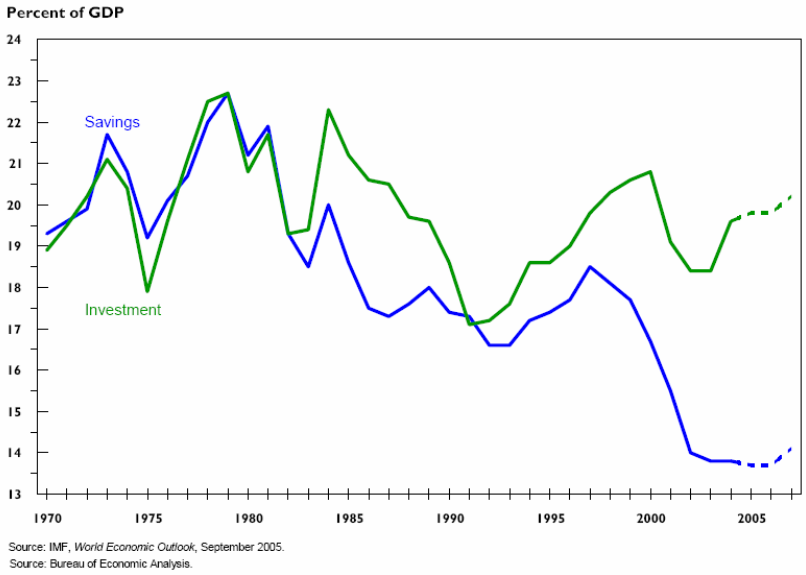
Figure 10



Source: Bureau of Economic Analysis.

From the chart 10 one could conclude that the US consumption and investment have grown faster than US output, and foreigners lent Americans funds for imports to fill the gap. The year 2002 became a hallmark emphasizing the growing investment, private consumption and public consumption. On other hand the net exports sank.

Figure 11

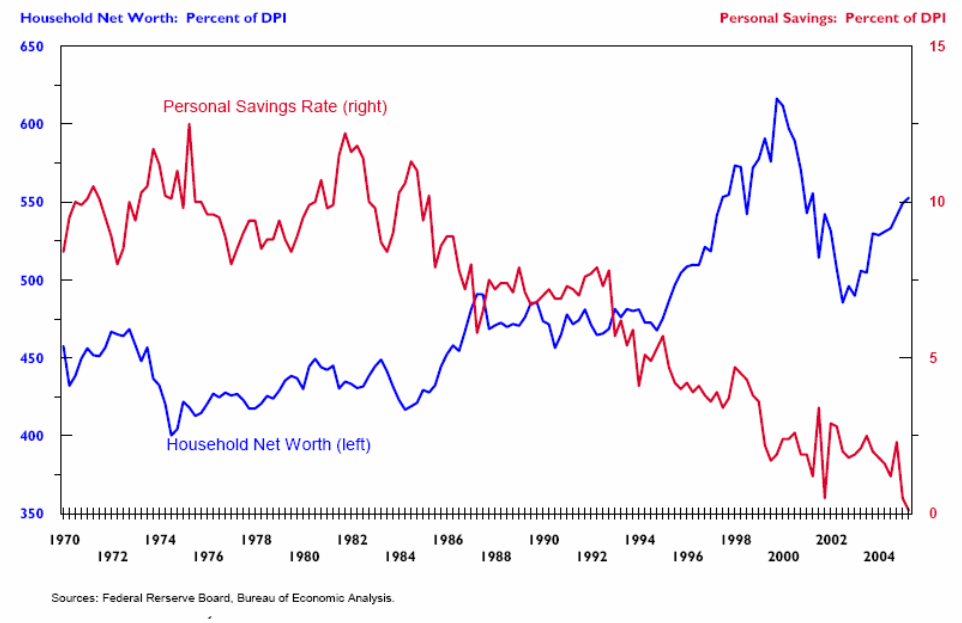


We can see from the figure 11 that the US investment increasingly exceeds US saving especially and this trend became clear after 2003. It seems that coincidence of increasing the investment and the widening trade balance is somewhat interconnected. Interestingly, the period from 1970 to 1985 the saving and investment rates flow “hand by hand”. Then during the period from 1986 to 2001 the rates moved in the same ways, upward and downward, but more loosely than before. Finally the situation has changed since 2002 when these two indices started to disperse in different way. Again, the year 2002 started to demonstrate an unusual economic phenomenon.

Partly such a low American saving rate can be explained by a real estate property price bubble. The growth of the home mortgage debts instigates the increasing in consumption. Alan Greenspan pointed out this factor by saying that *“The growth of home mortgage debt has been the major contributor, at least in an accounting sense, to the decline in the personal saving rate in the United Statest… The amount of debt paid off by the seller of an existing home averages about*

three-fifths of the mortgage debt taken on by the buyer, effectively converting to cash an amount of home equity close to the realized gain. This cash payout is financed by the net increase in debt on the purchased home, and hence on total mortgage debt outstanding… home mortgage debt, driven largely by equity extraction, has grown much more rapidly in the past five years than during the previous five years. Surveys suggest that approximately half of equity extraction shows up in additional household expenditures, reducing savings commensurately and thereby presumably contributing to the current account deficit [15]".

Figure 12



The figure demonstrates a mirror effect when the personal saving rates can be seen through the household net worth. The ever lowering saving rates can be explained by increased American real estate market due to the housing wealth and financial innovation in mortgage credits. Thus the more expensive the real estate is, the lower the saving rates which bring to widening trade balance.

Financial innovations. American importers and exporters nowadays are well-insured against currency exchange risks. Some American TNCs secured their American market by changing in profit margins and currency hedging [1].

The mainstream economists assume that devaluation always increase average price of import and decrease that of import. However, nowadays it is not necessary true. Many exporters take an advantage of a devaluation of domestic currency by increasing price margin. On contrary, importers react to the depreciation by squeezing price margin. As a result, these operations diminish effects of the exchange rate manipulations.

Alan Greenspan explained the ineffective dollar's devaluation by the fact that US foreign importers reduced their trade margin diminishing net effects of the dollar fall. However, the former chairman of the Federal Reserve admitted that the "operating profit margin" levels are not totally clear: "Data on profits and profit margins for export sales to the United States are generally not available for our major trading partners. However, indirect evidence of levels and trends can be gleaned from U.S. import prices converted to exporters' currencies and foreign unit labor costs." Thus Alan Greenspan just assumed the foreign "operating profit margin".

Alan Greenspan believed that "*the consequence of the relatively small rise in the dollar price was a significant compression of gross operating profit margins on European exports to the United States. In recent years, exporters, not only in Europe but in many other trading partners of the United States as well, have tended to increasingly absorb declines in prices denominated in their own currencies when their currencies rose and to fatten profit margins when their currencies fell* [15]*."*

The currency exchange hedging is a way to avoid any financial losses due to currency exchange fluctuation. Many TNCs enjoyed this kind of secured business. Porche, a German car maker, bought the currency hedging for several years in advance because Germans were scared to lose a share in American market due to depreciating dollar [1].

However Alan Greenspan is very skeptical about the hedging *"gains from increased currency hedging against the dollar since early 2002 may have enabled European exporters to tolerate a fall in operating profit margins beyond what they otherwise would have been able to tolerate. Hedging, however, can only partially and temporarily alter the impact of exchange rates on export prices. To be sure, very long-dated contracts can transcend short-run fluctuations in currencies. But, long-term hedging is expensive, and therefore, most currency futures contracts are short-term. Once hedges expire, export revenues are no longer protected from past and future changes in exchange rates, and any new hedges must reflect the new exchange rates. Thus,*

successful currency hedges can at best delay but cannot prevent the ultimate effects of changes in exchange rates on trade.

Typical kinds of the American export-import commodities. One of the factors of the trade balance is a structure of the foreign trade. Any trade is primary dependable on sort of goods which brings to a market. Saudi Arabia is dependable on oil, Russia – on natural gas, Japan – on cars and electronics. The Marshall-Lerner condition stated that the final result of the devaluation on the trade balance depends on the export and import elasticities. Elasticities on their turn are formed by the nature of the trading products. Crude oil is an inelastic commodity so it is independent from any dollar devaluation. By the term inelastic commodity the author means inelastic price demand. Any dollar devaluation can not make gas for Americans drivers cheaper. Thus the nature of the tradable goods affects the trade balance.

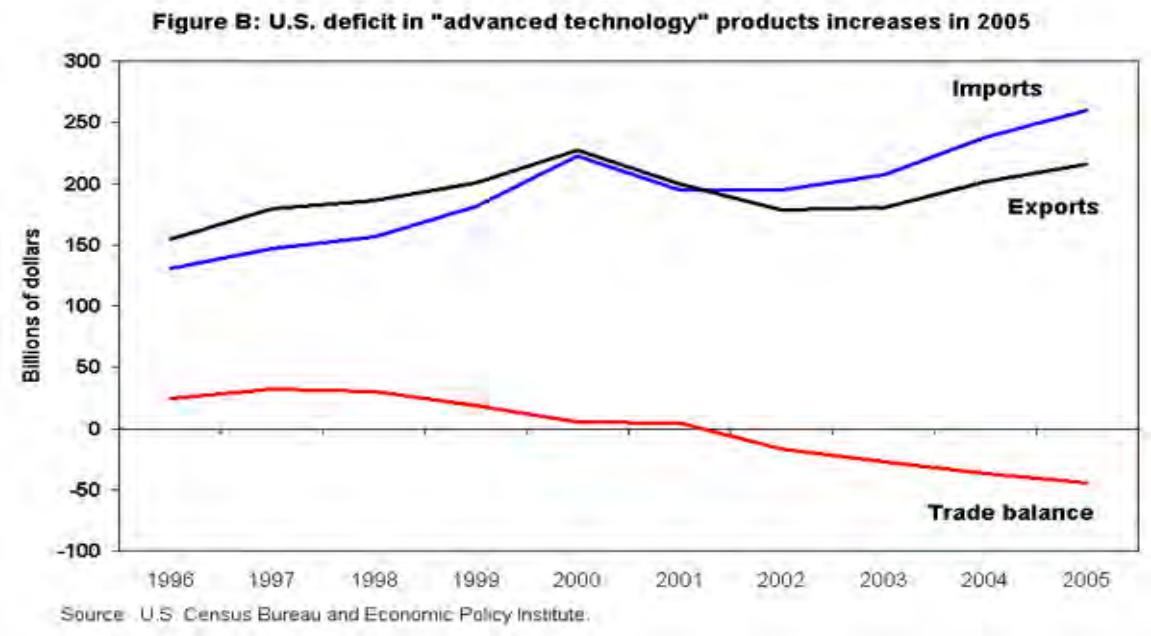
America as a highly developed country mostly imports raw materials and natural resources which are inelastic. Nowadays the elastic products such as cars from Japanese and German carmakers are mostly produced in the US. Mercedes, BMW, Honda, Mitsubishi and Toyota have their own car factory in the United States thus diminishing the currency exchange risks [1]. Another elastic item, an airplane, barely takes any competitive edge due to the dollar devaluation. Boeing, the biggest American exporter, is truly international company which imports engines from Britain, wings from Japan, tails from Sweden … Thus Boeing's production costs are not solely based on the dollar and as a result the company is more or less independent from dollar fluctuations.

American exports become more and more inelastic due to its fast-growing health care and IT sectors. In general there is a trend toward hi-tech goods with high price elasticity. According to OECD, the developed countries from 1990 to 2000 experienced the most gains in such sectors as telecommunication (+54%), health care (+33%). The decrease showed only clothes (-8%) and foods (-10%). Unlike sales of traditional goods (garments, foods and steels), Hi-tech's sales are bourgeoning. As we know advanced technology is much less sensitive to price volatile than ordinary ones, so it is unlikely that any relative price fluctuation due to exchange rates' volatilities brings competitive edges to Microsoft, Intel, Pfizer or General Electric. There are no goods which can substitute "Windows XP", "Pentium", "Viagra" or GE's

jet engines. Windows XP has common price and consumers all over the world buy this operating system not because it is cheap but because it is the only “user-friendly” platform for every personal computer. Also Americans export Boeings not because it is cheap but because it is trusted by passengers as a secure airplane and it is recommended by airlines as a reliable and fuel-efficient asset. Hi-tech companies are competitive because of their advance technology and not because of cheap price for their goods.

Technology makes a difference. Technology make products inelastic ones to price thus it makes them indifferent to devaluation. Nowadays the share of the technological market grows steadily.

Figure 13



According to the figure, since 2001, when a dollar has considerably depreciated, the imports of “advanced technologies” have started to grow even better than exports. This graph somewhat shows how hi-tech products are independent from exchange rates fluctuations. The U.S. also had a $44 billion trade deficit in “advanced technology products” (ATP) in 2005, an increase of 20% since 2004. The ATP exports declined between 2000 and 2002, and then recovered slowly, as shown in Figure 13. While ATP imports also declined during the recession, they recovered sooner and have grown more rapidly. The United States has had a deficit in ATP

products since 2002, and the balance in this sector has fallen steadily since 1997, when the United States had a surplus of $33 billion in these sectors. Imports of high-tech goods from China were responsible for the entire U.S. deficit in ATPs. The growth of the ATP deficit was responsible for 16% of the increase in the non-petroleum goods trade deficit. ATP goods generated 17% of the growth in exports in 2005, which demonstrates that this sector has significant potential for growth in the future. [12]

The world is changing and the international trade is changing as well. In eighteenth century the usual trade commodity were silk and wool, in nineteenth – industrial raw materials and in twentieth – consumer goods. The twenty-first century will be an informational era determined by Internet, software and hardware. IT sectors is booming whereas traditional sectors is stagnant. Software is under constant updates which prevent it from so-called "commodisation", a process of equalizing goods in quality making price elasticities. Of course rational consumers prefer between two equal in quality products the cheaper one. However, it is almost impossible to find two equal software products designed by different company. Therefore, consumers of software products choose them not by price but rather by items' usability.

The same logic we could apply to Boeing, the biggest US exporters. Boeing posses so advanced technology that only one European aircraft company can compete with Boeing in it. The airplane producer is unique and somewhat monopolist due to its technology.

In the twenty-first century international trade will be determined by technological advances rather than by exchange rates fluctuations. The demand function is striving toward hi-tech. Then rising demand function induces prices to rises as well if supply function will remain constant. Also the demand function of exports and imports is nowadays more determined by technological factor than by exchange rates fluctuations as the share of hi-tech goods increases and traditional commodities diminishes. Therefore the impact of exchange rates on trade balance becomes negligible.

To summarize the factors responsible for lower than expected impact of dollar depreciation on trade balance, it is necessary to list four main groups of factors:

- Continuous foreign hoarding of US financial securities, notably US state bonds.
- American near zero saving rates. Soaring price for the US real estate.
- Financial advancements. American importers' adjustment through financial manipulations. Currency hedging. Lowering price margin. Pegged to the US dollars currencies.
- Technological advancements. Exports (imports) of Hi-tech products are less susceptible to exchange rate fluctuation than traditional commodities.

3.2. Possible consequences of further dollar devaluations

The US officials avoid discussing possible consequences of the weak dollar policy preferring to describe intentions of the improving of the trade balance [15]. Economists from Federal Reserve prefer to find scapegoats for the failure of the dollar depreciation. As we know the merchandise balance was not improved even after the substantial devaluation. Americans are now accustomed to live with ever increasing giant trade deficit. In this section we will consider possible consequences of the further devaluation and worsening trade balance.

The devaluation has not corrected the huge American trade balance. On contrary the considerably dollar depreciation put the US economy at great risks. The devaluation induces inflation and most of all undermine the dollar position as a reserve currency. We will survey these consequences and risks.

Inflation. The author in the first chapter describes the monetary approach which proved that devaluation leads to inflation. Depreciation creates excess demand for money. Then the increased demand meets with appropriate money supply. As we know the money supply on its

turn generates inflation. The monetary theory proved by statistics showing that the devaluation was followed by the inflation. This economic link was illustrated in Figure 1.

Inflation is a problem which interconnected with the devaluation. When dollar falls, inflation escalates because price increases not only for import but also domestic products which is dependent on foreign supply. The assembly parts of Boeing, Ford and IBM were delivered from all over the world. The devaluation of the dollar do not make airplane “Boeing” much cheaper because the majority of his parts are imported from EU and Japan. These imported parts such as fuselage and wings are so unique and highly technological that these parts can not be substituted by American producers at least in near decade. Globalization reduces steadily and substantially a number of companies which purchase all raw materials within own country. Thus, dollar depreciation increases inflation.

The Reserve currency status. For a long time the dollar have enjoyed the status of world’s reserve currency, a status which allows America to borrow cheaply, and thus to spend much more than it earns, on far better terms than are available to others. Dollars circulating throughout the world are essentially loans that never will be pay back. Americans use dollars to buy goods, services from oversea. But many of those bills never return to the US to be redeemed for anything America make or produce. Instead, dollars stashed in bank account and in cash around the world.

However, the dominant position of the dollar is now under the threat. For the last four years the dollar has considerably devalued against the euro and yen. In addition America suffers from chronicle trade and budget deficits which undermine the status of the dollar as a reserve currency. All these problems might bring to catastrophe as investors may loose confidence in dollar as a stable currency diminishing the share of the dollar as a reserve currency. Russia, Indonesia, Bahrain and South Korea, a forth-largest holder of dollar reserve, have reduced the share of dollars in their foreign currency reserve. In addition the dollar problem heated up when Sweden’s central bank announced in April 2006 that it would decrease its dollar holdings from 37 percent to 20 percent [10]. These diversifications show that the dollar’s reserve status is already at risk.

For the past three years have seen reduced willingness by private investors to accumulate the US government bonds as the securities represents combined rising risks and low constant yields. Nevertheless, two biggest dollar's holders, Japan and China, continue heavily invest into the dollar. A popular explanation for Japan and China's willingness to accumulate dollars is that both countries are so deeply into dollars that they can not afford to dump them. But the dollars is declining regardless all these countries efforts. Central banks are strongly unwilling to experience notable reduction in their currency reserves. Nevertheless, central banks are pragmatic and they will not tolerate dollars tumbling all the time. As a result the banks might switch currency forming their foreign reserves from depreciating dollars to at least stable euro, yen or yuan.

Table 3

Developing Country Losses Due to a Declining Dollar

Country	***Small***	***Middle***	***Large***	***Small***	***Middle***	***Large***
	Billions of dollars			***Share of GDP***		
Argentina	*$1.7*	*$2.9*	*$5.3*	*1.2%*	*1.9%*	*3.5%*
Chile	*$1.5*	*$2.5*	*$4.6*	*1.7%*	*2.8%*	*5.2%*
Colombia	*$1.1*	*$1.9*	*$3.4*	*1.3%*	*2.1%*	*3.8%*
El Salvador	*$0.2*	*$0.3*	*$0.5*	*1.2%*	*2.0%*	*3.6%*
China,P.R.and Hong Kong	*$56.4*	*$93.1*	*$171.6*	*3.2%*	*5.3%*	*9.8%*
Kazakhstan	*$0.6*	*$1.0*	*$1.9*	*1.9%*	*3.1%*	*5.6%*
Kyrgyz Republic	*$0.0*	*$0.1*	*$0.1*	*2.0%*	*3.3%*	*6.1%*
Malaysia	*$5.1*	*$8.5*	*$15.6*	*4.6%*	*7.7%*	*14.1%*
Mexico	*$5.8*	*$9.5*	*$17.5*	*0.9%*	*1.5%*	*2.7%*
Peru	*$1.0*	*$1.7*	*$3.1*	*1.6%*	*2.6%*	*4.7%*
Philippines	*$1.5*	*$2.5*	*$4.6*	*1.8%*	*3.0%*	*5.6%*
South Africa	*$2.7*	*$4.4*	*$8.1*	*1.5%*	*2.5%*	*4.6%*
Thailand	*$4.1*	*$6.8*	*$12.6*	*2.6%*	*4.2%*	*7.8%*
Tunisia	*$0.3*	*$0.6*	*$1.0*	*1.2%*	*1.9%*	*3.5%*
Turkey	*$3.2*	*$5.3*	*$9.8*	*1.0%*	*1.7%*	*3.2%*

Source: International Monetary Fund, Time Series Data on International Reserves. Reserves data for China and Mexico were taken from The Economist, August 7, 2004, p82.

The table 3 demonstrates how much the country which holds dollars incurs losses. The developing countries lost billions of dollars because of the deterioration of the dollar reserves. The dollar depreciation deteriorates reserves making the dollar less attractive as a reserve currency. It is hard to believe that China losses 171,6 billion annually only because of the declining dollar. Where is guarantee that China will continue to tolerate to this unbelievable costs?

The US economic authorities should remember that deep fall of the exchange rates once turned economies into deep recession. History warns about careless handling of exchange rates. Periods of sustained dollar decline have never really been happy occasions for the world economy. In the early 1970s, when the dollar came unstuck following the collapse of Bretton Woods, inflation, exchange rate volatility and commodity price shocks became the major economic challenges, creating a nirvana for speculators but a nightmare for everyone else. In the late 1980s, the dollar's decline contributed to the stock market crash, Japan's economic excesses and the depth of the European recession in the early 1990s. A falling dollar might seem like a solution for the US but the longer-term consequences might prove to be quite a lot more painful for all concerned. [12]

Another deep fall of the dollar could instigate panic of the dollar holders. If the dollar continues its falls, the dollar holders might loose confidence in world’s largest reserve currency. Eventually, investors may sell off their dollar portfolio or (and) OPEC may decide to bill oil in euro. Either action could start a run on the dollar that would be catastrophic for US incomes and power. Vacant trillions of dollars in short period will bury the dollar as a reserve currency.

Therefore the devaluation is an undesirable monetary tool for correcting the trade deficit. The devaluation produces inflation and challenges the dollar’s reserve.

3.3. Steps toward the healthy trade balance.

America has habits that are inappropriate, to say the least, for the guardian of the world's main reserve currency: rampant government borrowing, furious consumer spending and a current-account deficit big enough to have bankrupted any other country some time ago. This makes a dollar devaluation inevitable

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It becomes clear that US should get more seriously to treat its imbalances. But what the American government could do in sake of the sustainable trade deficit and stable dollar? What could be proposed for the American economic authorities both to reduce the trade imbalance and keep dollar from crash?

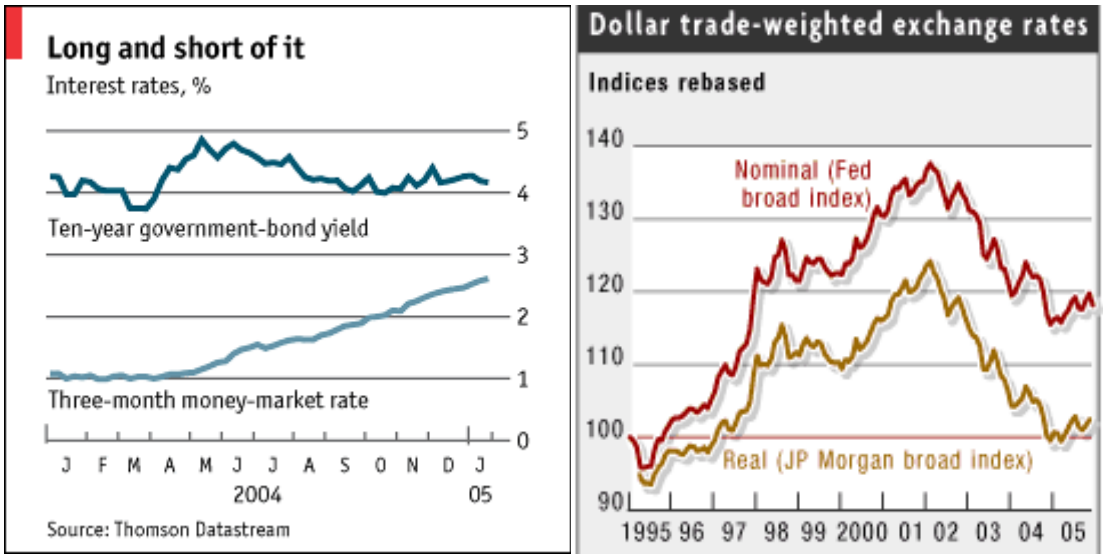
To answer shortly the author offers for Americans to spend less and produce more until the income from the export will meet expenses from the import. First of all, the US must raise incredibly low saving rates. This measure will enable US deficit to improve as Americans become to borrow less from abroad decreasing import.

Of course, lowering of the saving rate can bring into an economic recession. Nevertheless, recession is much better than depression. To increase saving rates is better than to lose the dollar as a reserve currency.

Therefore to improve the trade balance the US government might undertake such actions:

- To raise interest rate. This policy is underway since 2005 which probably caused slow down of dollar slide.

Figure 14



If we look at the figure 14, we will notice that since 2004 when the Federal Reserve started to raise the interest rates the dollar exchange rates has been stabilized. It seems that the increasing interest rates stopped the dollar exchange rate fall.

- To increase value added tax (VAT).

The rising of VAT might inhibit the American hoarding reducing the import. VAT will raise the saving rate and reduce the budget deficit. Also American exporters might claim for a bigger VAT refunds, thus improving the American profitability. The more income the export-oriented companies will get, the more competitive they must became, thus the more export must be sold correcting the trade deficit.

- To lower income tax. The decreasing of income tax may stimulate US export-oriented companies and also attract foreign direct investments. Foreign investors would have the incentive to build factories in the US instead of, for example, in China. This operation is intended to improve the trade balance. In addition, the measure will increase saving rates.

- To raise tax on consumer and especially mortgage loans. It might relieve unhealthy real estate rush and American profligacy which increases saving rates. The lion share of American private debts comes from the real estate burdens.

- To cut the Federal budget deficit. The US state bonds are usual tool to cover deficit. This practice can not last forever. The reduction of the budget deficit will inhibit American profligacy and increase saving rates.

Therefore there are five recommendations for improving of the trade balance: 1) to raise interest rates, 2) value added tax, 3) tax on consumer credit and cut 4) income tax, 5) the Federal budget deficit.

Conclusion

The thesis reviews theoretical approaches concerning the influence exchange rates on trade balance, notably elasticity, absorption and monetary approach. In addition, the paper is provided with relevant empirical evidences. Finally, the project analyzes the current situation of the link between the dollar depreciation and the trade balance.

This paper has examined empirically the role of dollar exchange rates determining the behavior of the US trade balance under a specific approach. The approach observes relationship between economically comparable regions, top EU members and the USA, studying the bilateral trade and EUR/DOL exchange rates. Moreover, the paper discusses limitedness of elasticity approach which was seriously undermined by modern complicated international trade. Furthermore the thesis states some possible serious consequences at least for US economy if Americans do not stop their profligate behavior borrowing more and more from abroad and their careless attitude toward dollar exchange rates. At the end of the paper the thesis explains weak impact of a dollar on the trade balance and recommends some ways for improving the trade balance and stabilizing the dollar trade weighted exchange rates.

The major findings are as follow. The US exchange rates do play a negligible role in determining the US trade deficit. The paper proves the previous statement by empirical researches, OLS modeling, undermining elasticity approach and recognizing new factors of determining trade balance. Profound advances in informational technologies and in financial tools influence indirectly the US trade balance making the old factors like exchange rates fluctuations insignificant. Finally, the thesis reveals the reasons why dollar exchange rates do not correct the merchandise balance and infers the paper recommendations.

The major limitations of the paper are that it needs include more real life applications of the theories, statistical analyses and formal explanations of the thesis.

Clearly, more research is needed to confirm or to deny the main idea of the project. The right understanding between exchange rates and trade balance can prevent not only American economical crash but also World one.

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