

The Recent Evolution of the Egyptian

Jeneh's Exchange Rate

Triggers and Impacts

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Introduction

The Egyptian Jeneh has gone through a rapid depreciation in the last two decades. Inflation rates have been relatively high, while the currency's exchange rate has been regulated by the Egyptian central bank against a certain amount of the U.S Dollar first in a fixed exchange rate regime until 2003. In 2004 a momentarily floating system was implemented, but the vulnerability of the Jeneh's forced the Egyptian government to adopt a managed floating exchange rate regime, where the currency can flow in the market, and the government intervenes in the market when necessary to protect the value of the currency against foreign currencies. This situation has put the currency under a strain of market forces from one side, and the policy of the Egyptian monetary authority on the other side to keep up with the fixed exchange rate by using the foreign reserves to defend the Jeneh.

Objective

This research paper aim is to empirically investigate why the Egyptian Jeneh depreciated dramatically in the rate of exchange and what the impacts of this depreciation on the real economy are. I will use monetary approach and quantity theory of money along with data of historical monetary conditions in Egypt and the U.S to find the link between inflation rates and changes in exchange rates. I will also use theory of uncovered interest parity to try to understand the relation between the depreciation and changes in interest rates. I will also try to understand the nature of the trilemma faced by the Egyptian government, and how it dealt with it. I will briefly state the welfare effects of the Egyptian currency depreciation. I use the exchange rate with the U.S dollars because

the U.S economy is the biggest in the world, the dollar is the world most traded currency in the world, and the U.S is the largest trading partner of Egypt, so any change in the exchange rate between the Egyptian Jeneh and the U.S dollar would successively affect the Egyptian Jeneh exchange rate against all other currencies assuming a no arbitrage condition.

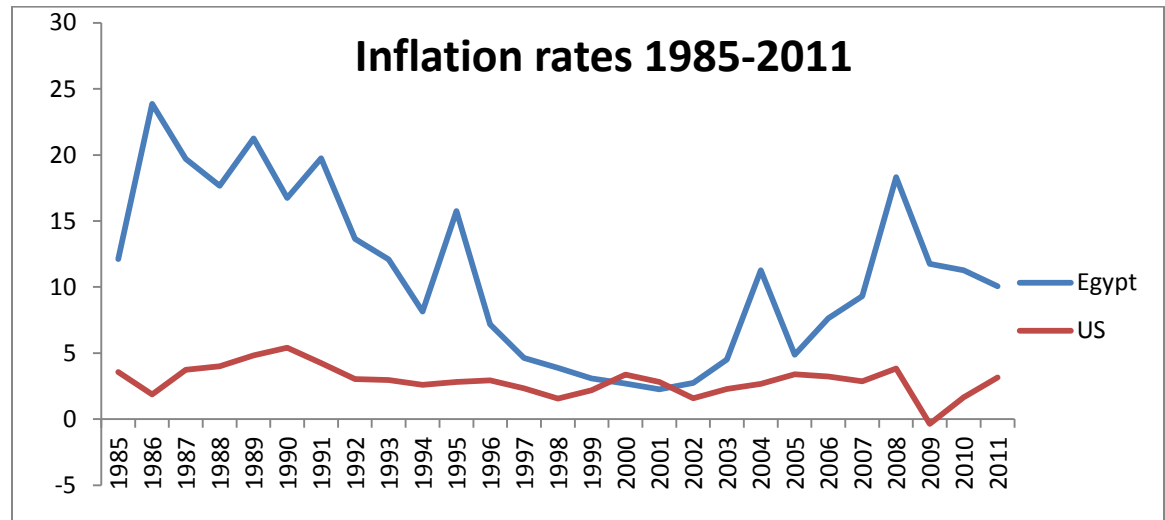
Monetary Approach with Empirical Evidence

In 1987, the Egyptian Jeneh bought about 1.74 U.S Dollars. In 2013, it buys about .15 U.S Dollars. This is a depreciation of 1080% against the U.S Dollars in 25 years. The average rate of inflation in Egypt in the years from 1987 to 2013 has been over 10%, which means that the Egyptian Jeneh has depreciated 10% per year on average against the market value of goods and services, so it has lost almost 91% of its purchasing power through the last 25 years, while in U.S for the same years, the average inflation rate has been around 3%, which signals the link between inflation differentials and the depreciation of the Egyptian Jeneh. From the monetary approach model in chapter three:

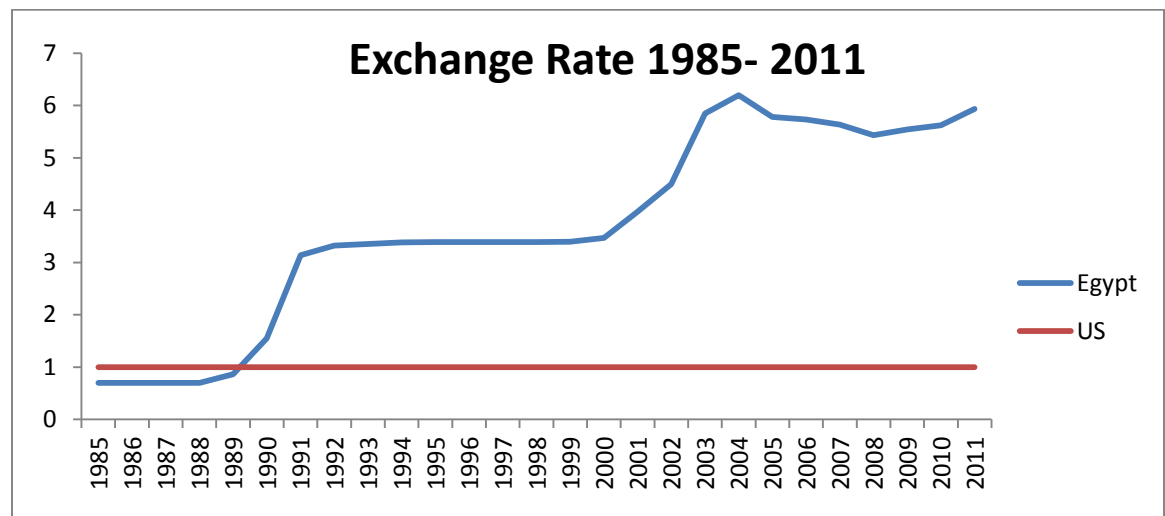
Rate of depreciation of nominal Exchange rate of the Egyptian Jeneh= Inflation rate in Egypt-Inflation rate in the U.S= $10\%-3\%= 7\%$ depreciation of the Egyptian Jeneh against the U.S Dollar per year.

In the figures A1 and A2, we can see the obvious difference in inflation over the time period from 1985-2011, and the corresponding depreciation in the Egyptian Jeneh against the U.S Dollar. The curve of the Egyptian exchange rate is not volatile due to the fixed exchange rate regime conducted by the Egyptian government.

A1

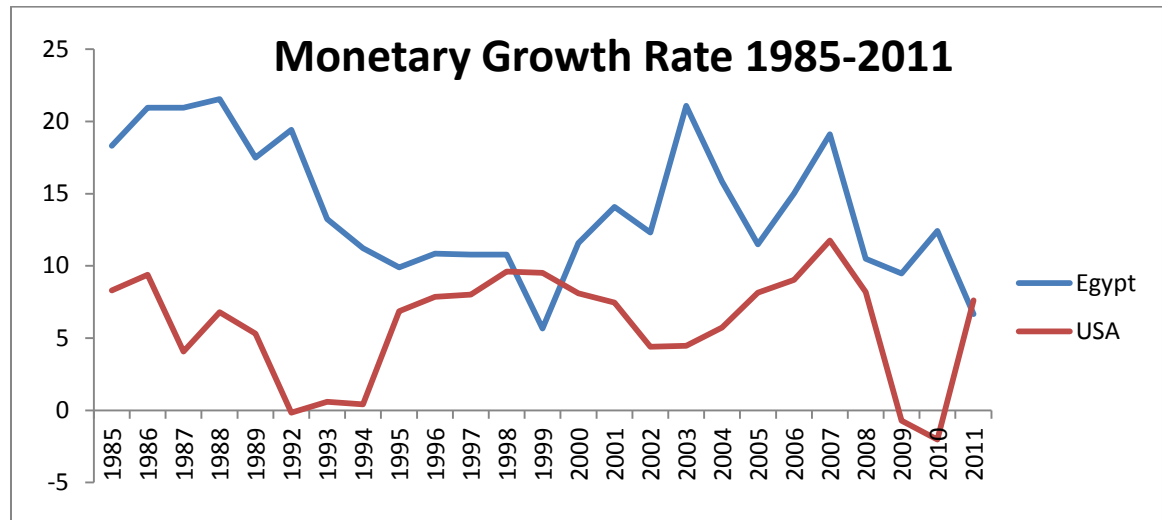


A2

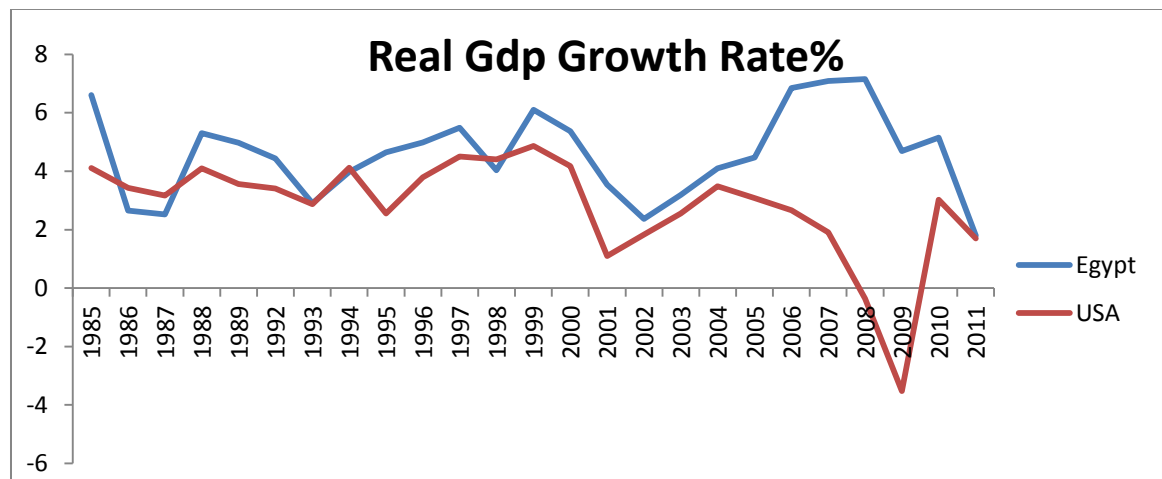


Next, from figures A3 and A4, if we look at the average monetary growth of Egypt, we find that the money supply grew almost 15% every year, while the U.S money supply grew at a rate around 5%. Annual real Gdp growth per year in Egypt has been 4.5% on average for the last 25 years, and for the U.S.A, annual Real Gdp growth has been on average 2.5% over the same time period.

A3



A4



The quantity theory of money explains the link between money supply growth rates, Gdp growth rates and inflation for both currencies. From the quantity theory of money:

$M=P*Y$, Where M is the money supply, P is the price level, and Y is the real output. If we take logs of both sides and take derivative we get:

Growth rate of money supply= Inflation Rate+ Real Gdp growth rate, so

Inflation Rate= Growth rate of money supply- Real Gdp growth rate, and If we apply this to Egypt and the U.S, we will find out that the theory fits well in describing the determinants of the inflation rates.

The simple model of the monetary approach, which incorporates the quantity theory of money with purchasing power parity to determine the exchange rate, helps us understand the forces behind the rapid depreciation of the Egyptian Jeneh against the U.S Dollar in the last 25 years.

Episodes of Exchange Rate Crises

Exchange rate crisis is a large and sudden depreciation of the value of a currency against foreign currencies. Egypt has gone through three exchange rate crises in the last 25 years: One in 1991/1992, another in 2003/2004, and finally after the Egyptian revolution in 2011/2012. In all of the three crises, the fixed exchange rate has proven to be vulnerable and can suddenly be taken over by market forces. The devaluation has usually followed a crisis in the balance of payment due to an increasing current account deficit. Increasing imports and decreasing exports because of unrealistically pegged nominal exchange rate lead to the current account deficit. The government finds it better for the economy to devalue the national currency, so its price becomes closer to the market price, so the Egyptian goods and services become more competitive.

From near parity with the U.S Dollar in 1989, the Egyptian Jeneh was dramatically devalued in 1991, to reach 3 Jenehs per one U.S Dollar. Egypt was a highly indebted country in late 1980's and early 1990's. In 1991/1992, the Egyptian external debt as a percentage of Gdp exceeded 100% of Gdp. Besides seeking assistance from the IMF,

the government was forced to increase the money supply to help in paying the debt. The rate of monetary growth in Egypt was at unprecedented record of 28.7% annually in 1990, which has caused inflation and consequently, depreciated the Egyptian Jeneh exchange rate. To satisfy the IMF conditions of the arrangements, and under market forces, the Jeneh was dramatically devalued to 3 Jenehs for one U.S Dollar by the end of 1991.

The Egyptian Jeneh depreciated gradually through the 1990's decade, and the beginning of the 2000's decade, until it was hit by a second crisis in 2003. This crisis was due to an unofficial devaluation after the introduction in a semi floating exchange rate system in January 2003. The exchange rate went from 4.5 to 6.2 Jeneh's for one U.S Dollar, a depreciation of about 37%. This devaluation had little impact on the Egyptian export volume, so it was translated into inflation since the Egyptian consumer relies heavily on import goods. The central government decided to give up the floating system and go back to a managed floating system, which stabilized the exchange rate for the Egyptian Jeneh at 5.5 Jeneh for one U.S Dollar. However, the inflation rate stayed at high rate ever since, and the Jeneh was under a strong market forces for further devaluation. The central bank of Egypt uses its foreign reserves to manage the exchange rate of the Egyptian Jeneh's in the foreign exchange market. At critical times, the government intervenes in the market and sells U.S Dollars and buys Egyptian Jenehs, thus increasing the supply of the dollar and the demand on the Egyptian Jeneh, which helps in preserving its value. But these reserves are not always available in the desired amount at the Egyptian central bank disposal to protect the value of the Egyptian currency. After the Egyptian revolution in January 2011, there have been economic stagnation and capital outflows, which have led

to the depletion of the foreign reserves from 36 Billion Dollars In late 2010 to around 15 Billion in the beginning of 2013. The Egyptian central bank's tool in defending the Egyptian currency was weakened, and the Egyptian Jeneh started to depreciate dramatically by the end of 2011. In only one month, in December 2012, it fell from 5.90 to 6.60 Jeneh for one U.S Dollar. In March 2013, the official exchange rate was 6.80 Jeneh for one U.S Dollar, and in the black market, which has grown because of increasing capital control imposed by the Egyptian government, the Dollars buys about 7.5 Egyptian Jenehs. Given that the Egyptian depends heavily on imports (Egypt is the world largest importer of wheat), that has led to inflation.

In all the exchange rate crises, a strong correlation between indebtedness, money supply growth, inflation rate and the fluctuations in the exchange rate is obvious. These episodes are a classic example twin crisis, when a default crisis and exchange rate crisis occur simultaneously.

Uncovered Interest Parity

I try to incorporate the data into the theory of uncovered interest parity to try to understand the fluctuations in the Egyptian exchange rate with the U.S Dollar.

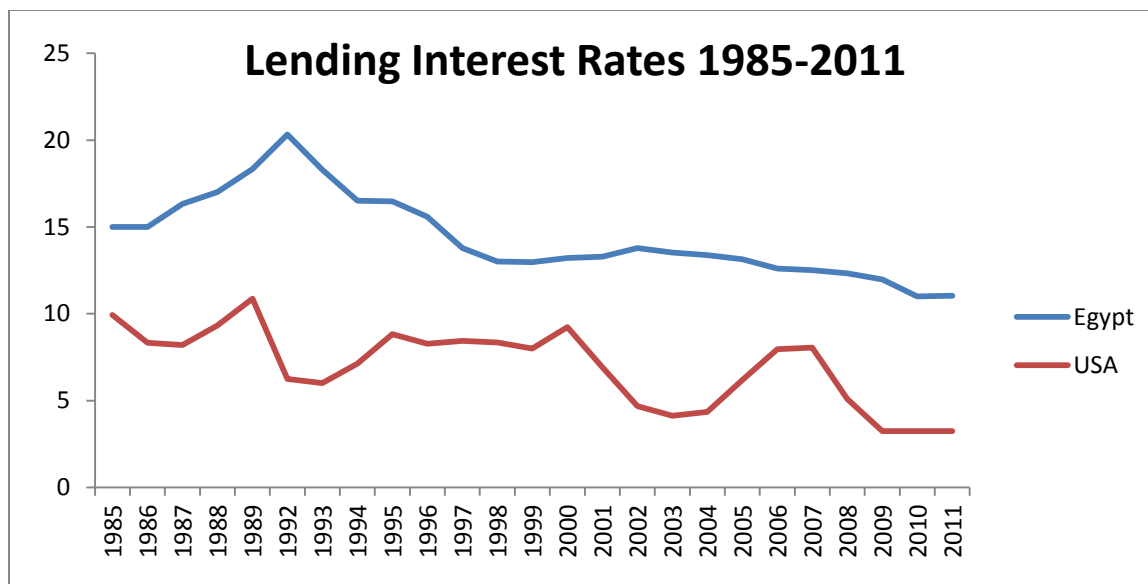
According the Uncovered Interest Parity:

Expected rate of nominal depreciation= Nominal interest rate in Egypt- Nominal interest rate in the U.S.

If we look at the interest rates figure A5, we will see that in the last 25 years, the Egyptian lending interest rate has been 14% on average, while in the U.S, it was around 7%. This is a spread of about 7%, which is close to the actual rate of depreciation of the

Jeneh's exchange rate against the U.S dollar during the same period, and If we look at the years when Egypt had experienced an exchange rate crises; in 1991, 2003 and in 2011, we notice from the graph that the U.S interest rate has decreased dramatically just the years before the crises, while the Egyptian interest rates remained high, and that was due to a decrease in the U.S monetary growth, while the Egyptian monetary growth remained high as can be seen in the monetary growth graph, which might have led to expectations of high inflation that signaled an imminent sudden depreciation in the Egyptian currency's exchange rate. The uncovered interest parity successfully expected the actual amount of depreciation of the Egyptian Jeneh.

A5



The Trilemma

The devaluation of 1991, and the floating declaration of January 2003, and the sudden devaluation in 2011 were all an attempts to resolve policy inconsistency, that combines exchange rate stability, capital mobility, and monetary autonomy which

attempted to reduce the interest rates to stimulate the economy. This consistency is known as the economic trilemma”, which is faced by policy makers that try to choose three desirable, yet contradictory objectives at the same time. In theory, policy makers can choose only two of these three objectives simultaneously, as the third will be sacrificed.

Before the policy of “openness” or the liberalization of the economy implanted by policy makers of Egypt during the Sadat presidency in 1974, Egyptian policy makers maintained a rigged fixed exchange rate along with monetary autonomy, while keeping a grip on capital flows. After the liberalization and the opening of the Egyptian markets, Egyptian policy makers found themselves facing the monetary trilemma, and they were under a pressure to devalue the Egyptian currency’s to be able to manage a reasonable exchange rate that keeps the competitiveness of the Egyptian exports, which happened the first time in 1991. Since then, the Egyptian Jeneh had been under forces for further devaluation due to high domestic inflation rate. The government defended the value of the currency using the foreign reserves, but that was found to be costly and not unlimited, and the government finds that the devaluation might have fewer costs than defending the currency. To resolve the policy inconsistency, the floating decision was made in 2003, but it was found that the purchasing power of the Jeneh was threatened, so policy makers repealed the floating decision, and went back to a managed floating regime, but that means they will lose some of their monetary autonomy or they will have to impose capital controls.

The reason the government has lost its control over the peg is the inconsistency between monetary policy and fiscal policy in a situation known in economics literature as

fiscal dominance. The government commitment to a monetary policy of a fixed exchange rate contradicts the government decisions to finance budget deficits through seigniorage. It was found that an independent monetary authority is healthier for a stable exchange rate.

The welfare effect of depreciation

According to the monetary approach, changes in nominal exchange rates are due to inflation differentials, and nominal exchange rate changes might lead to changes in inflation rates.

It was proven that the devaluation that took place in Egypt in the early 2000's, had led to a higher inflation rate and negatively affected the Egyptian consumer. Between 2000-2005, price level in Egypt increased by 28%, with food prices increased the most by 38%.

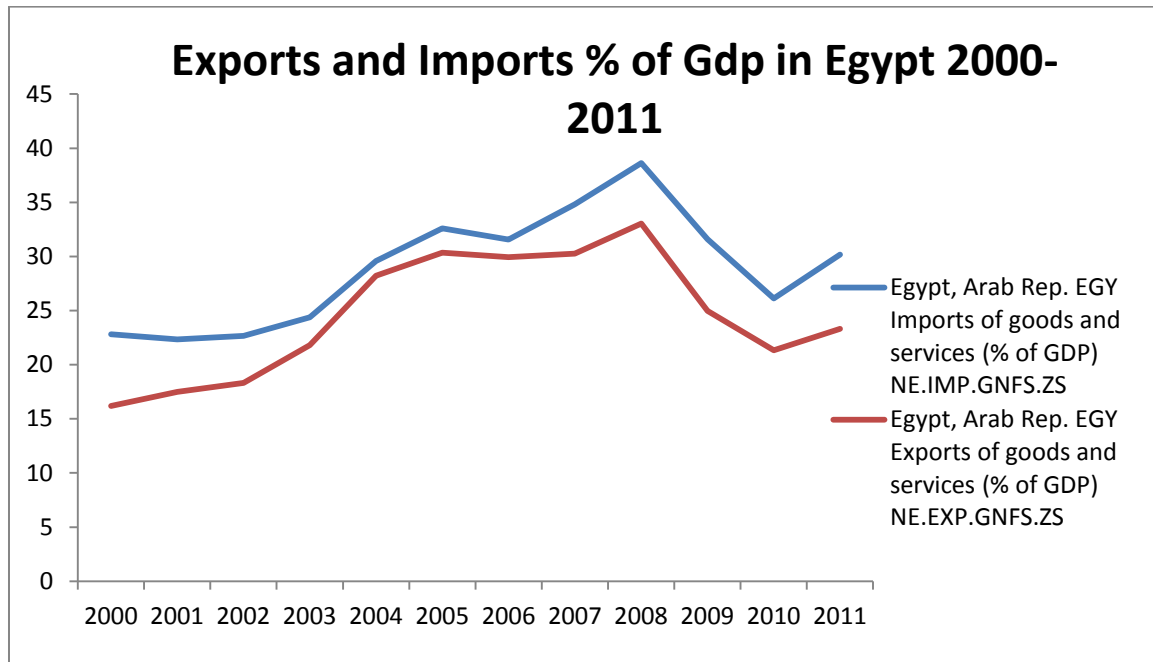
That happened simultaneously by a cumulative depreciation of the Egyptian Jeneh against the U.S Dollar of about 52%. It was estimated that the depreciation of the exchange rate accounts for almost one quarter of the increase in the price level for that period, and that there has been a welfare cost of these price changes induced by depreciation was 7.4% of households' initial expenditure. The Egyptian poor households were disproportionately affected by these changes since they spend a relatively larger share of their income on food pieces that increased the most because of the depreciation.

It was found that the devaluation of 2000-2005 had little impact on increasing exports.

That was due to low elasticity of the volume of exports to exchange rate.

It can be observed in the figure A6 that between 2000 and 2005 both imports and exports have increased, which means that the increase in the exports is not strongly correlated with the devaluation.

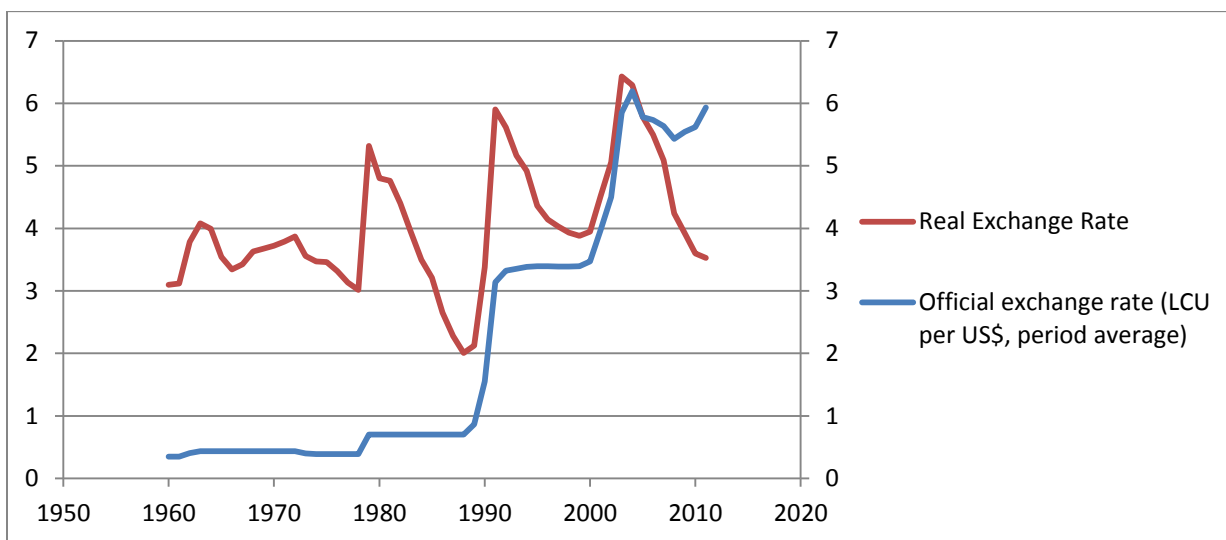
A6



Prospects for the Jeneh

The Egyptian government finds itself under a strong pressure for further devaluation. Inflation rate is still high, and the Egyptian economy is going through shocks that affects its income of foreign currency like the sudden decrease in the flow of tourists due to the political instability of the country, and also shocks of expenditure as the price of wheat has dramatically increased in the last years, given that Egypt is the world largest importer of wheat. It appears that the Egyptian central bank will have no other choice but to further devalue the Egyptian Jeneh. The current situation resembles the situation in 1990, of high indebtedness and a rapid depreciation of the real exchange rate. In 1990, the Egyptian Jeneh was devalued against the U.S Dollar to 30% of its value. It seems that a similar event will take place, and the Egyptian Jeneh will experience a rapid devaluation in the coming years. The Egyptian government should aim at stabilizing the real

exchange rate by altering the nominal exchange rate in order to keep the competitiveness of the Egyptian produced goods and services. It can be observed from figure A7 that every time the real exchange rate appreciates, the Egyptian central bank devalues the Jeneh in order to devalue the real exchange rate. The Egyptian central bank should smooth the nominal devaluation in response to the changes in the real exchange rate aiming at keeping the real exchange rate stable instead of waiting for long time, then dramatically devalue the Jeneh.



Conclusion

This paper has empirically studied the evolution of the Egyptian Jeneh exchange rate since the early 1990's. The monetary approach the simple and the general model along with data were successfully employed to understand the causes and forces that led to the devaluation of the Egyptian Jeneh. A focus was projected on the episode of sudden devaluation in 1991, 2003 and 2011. Policy making was investigated in the context of the monetary trilemma faced in the process of liberalization started in 1974. The welfare effect of the devaluation of the currency was briefly presented taking the episode in the early 2000's as an example. It was found that the devaluation had negative effects on the Egyptian consumer, but it disproportionately affects the poor households. It had little effect on Egyptian exports and no effects were proven on employment.

References

Adly, Amr. Why the Pound Devaluation Now? 2013. *Egypt Independent*. Web. Retrieved Feb 02 2013. www.egyptindependent.com.

ALEXBANK. Risks of the Egyptian Public Debt. *ALEXBANK Economic Research*. Web. Retrieved April 03 2013. www.alexbank.com.

Elkhafif, A.T. Economic and Trade Policies in the Arab World; Employment, poverty reduction and integration. 2012. New York. *Routledge*. Web. Retrieved April 02 2013. www.books.google.com.

Kray, Aart, The Welfare Effect of a Large Depreciation. The Case of Egypt. *The world Bank*. Web Retrieved Feb 02 2013. www.wds.worldbank.org.

Feenstra C. Robert. International Macroeconomic. 2008. New York. *Worth Publishers*. Print.

OECD. *Working Papers*. Web. Retrieved April 03. 2013. www.oecd.org

The World Bank. *World Development Indicator*. Web. . Retrieved April 03 2013 www.data.worldbank.org.