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Center for Iranian Studies in Ankara

EXCHANGE RATES IN IRAN:
PAST, PRESENT AND FUTURE

Murat ASLAN
Naseraddin Alizadeh

Analysis

November 2018

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Analysis

Exchange Rates in Iran: Past, Present and Future

İran'da Döviz Kuru: Dünü, Bugünü ve Yarını

نرخ ارز در ایران: گذشته، حال و آینده

About the Authors:

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CONTENT

FIGURE

TABLE

SUMMARY POINTS

- Iran's economy has witnessed multi-tier and unstable exchange rate systems which echo different ideological priorities, necessities of profitability in semi-market conditions and rent-seeking contributions.
- Government interventions have been the main source of distortions in the supply side while on the demand side such factors as expectations and contagion among domestic and global financial markets affected exchange rate fluctuations.
- Severe instability in the currency market improved employment in the services sector at the expense of unemployment in the industrial and agricultural sectors.
- Exchange rate instability also adversely affected growth rate, the banking system and foreign direct investment in Iran and this led to higher unemployment.
- Recent developments in the exchange rate may deepen economic and social problems which in turn may lead to social problems in the country.

Keywords: Exchange rate, Rouhani government, Social unrest, Structural problems, Financial markets.

ÖZET

- Iran ekonomisi, farklı ideolojik öncelikler, yarı-piyasa koşullarının gerektirdiği karlılık ilkesi ve rantçılık girişimleri sonucu sürekli çoklu ve istikrarsız döviz kuru sistemlerine tanıklık etmiştir.
- Döviz piyasasının arz tarafındaki sapmalarının başlıca nedeni devlet müdahalesiyken talep tarafında belirsizlikler ve negatif risk algısı rol oynamaktadır.
- Döviz piyasasındaki sert dalgalanmalar hizmet sektöründeki istihdamı artırırken sanayi ve tarım alanlarında istihdamı olumsuz etkilemektedir.
- Döviz kurundaki istikrarsızlık büyümeyi, bankacılığı ve yabancı yatırımları olumsuz yönde etkilemektedir.
- Yakın dönemde döviz piyasalarındaki yükseliş trendi ve aşırı dalgalanmalar ülke ekonomisine zarar verdiği gibi sosyal sorunların derinleşmesine de neden olmaktadır.

Anahtar Kelimeler: Döviz kuru, Ruhani hükümeti, Toplumsal olaylar, Yapısal ekonomik sorunlar, Finans piyasaları.

چکیده

- اقتصاد ایران همواره شاهد تغییرات دائمی در سیستم ارزی و گذار به سیستمهای ارزی چند لایه و ناپایدار بوده است. این مساله حاصل وجود اولویتهای مختلف ایدئولوژیك، ضرورت های سودآوری در شرایط بازار نیمه آزاد و فعالیتهای رانتی بوده است.
- مداخلات دولت که منبع اصلی نابسامانی ها در بخش عرضه ارز بوده به همراه عوامل مرتبط با تقاضا از جمله تردیدها و وجود ریسك بالا در بازارهای مالی داخلی و جهانی بر نوسانات نرخ ارز اثر گذاشته است.
- بی ثباتی شدید در بازار ارز، اشتغال در بخش خدمات را به دلیل افزایش بیکاری در بخش های صنعتی و کشاورزی افزایش داده است.
- بی ثباتی در نرخ ارز، رشد اقتصادی، بانکی و سرمایه گذاری های خارجی را به صورت منفی تحت تاثیر قرار داده است.
- تحولات اخیر در نرخ ارز احتمال گسترش مشکلات اقتصادی و اجتماعی را افزایش می دهد که این امر به نوبه خود می تواند موجب بروز آشفتگی های اجتماعی در کشور شود

کلید واژه ها: نرخ ارز، دولت روحانی، ناآرامی های اجتماعی، مشکلات ساختاری، بازارهای مالی.

1. Introduction

The rise in unemployment, fall in the standard of living and many other chronic socio-economic problems led to the current situation of the increasing level of social and political tension that have manifested itself in several protests during the last seven months in Iran. The protests which took place in June 2018 among the bazaar merchants in Tehran stemmed from the corruption scheme that was partially connected to structural problems in the Iranian economy. Although since the beginning of 2018, the Hassan Rouhani government has taken serious measures to ease the stress in both the financial and currency markets, the rial, Iran's national currency, has displayed a downward and volatile pattern against other currencies. Moreover, during this period, the rial collapsed into a total free fall and lost more than 100 percent of its value against the USD. The rial's significant depreciation against other currencies during the last few months was not only caused by the deterioration in some of the fundamental economic indicators or domestic political problems but also had a lot to do with the uncertainties originating from the US's withdrawal from the nuclear deal or the Joint Comprehensive Plan of Action (JCPOA). Enormous negative sentiments about risk perception in both the financial and foreign exchange (FX) markets have emerged as a result of the reimplementation of the US secondary sanctions on Iran.

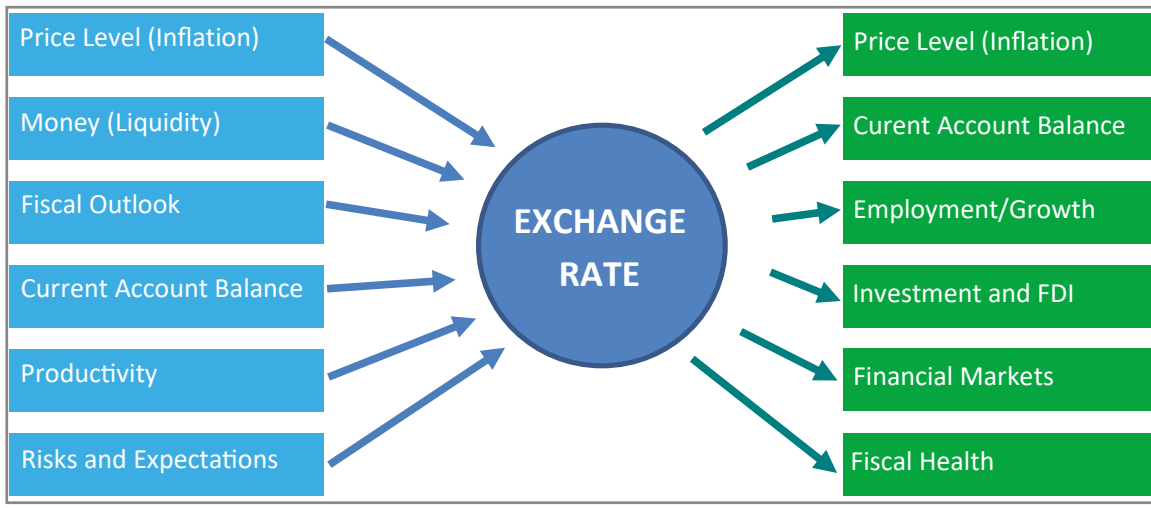
Despite the existence in Iran of such numerous structural and conjunctural problems as unemployment, inflation, fragility of the banking system and lack of investment, the current analysis, nevertheless, focuses on the course of the exchange rates only. More precisely, it aims at explaining the roots and consequences of fluctuations in the Iranian exchange rate. The historical review of exchange rate in Iran is paramount and provides valuable insight to understand the ongoing developments in the Iranian FX markets. The study is particularly limited to the recent developments in FX markets. For this purpose, it will first provide exchange rate related theories proposed by economists. Also, since the determination of exchange rate and causality are two central issues, a general review for both of them will be presented in the following second part. The third section is devoted to historical review. The multiple exchange rate mechanism employed since the 1979 Revolution will be explained in detail in the fourth section. The fifth section will review the overvalued currency policy which prevailed during the last decade. In the sixth section, the empirical studies on exchange rate will be analyzed. In this section, factors affecting the exchange rate as well as factors affected by movements in the exchange rate are reviewed. The seventh section concentrates on the behavior of exchange rate since the beginning of 2018 and assesses possible economic and social consequences of the recent developments in the Iranian FX markets. The final section provides a summary of the analysis.

2. Some Basics about Exchange Rates

Exchange rate is the rate at which one country's currency is exchanged for the currency of another country. The determination of exchange rate displays significant differences among countries. The differences stem from the exchange rate regime that a particular country chooses. Exchange rate regime can be defined as the way by which the value of a national currency is determined in terms of foreign currencies. There are three distinct exchange rate systems: 1) fixed exchange regime, 2) flexible (or floating) exchange regime 3) and hybrid regime. It is important no tone, however, that each country chooses a mixture of these three ideal models and a switch from one system to another is always a possibility.

From a strictly analytical perspective, two important dimensions of exchange rate deserve further elaboration. An analytical depiction of them is presented in Figure-1. The first dimension (left area of Figure-1) illustrates the factors that influence the exchange rate. In countries utilizing either floating or hybrid exchange rate regimes, a variety of economic and political variables may influence the rate. The second di-

Figure-1: Exchange Rate: Determination and Causality ´



mension (right side of Figure-1) illustrates the factors that are affected by the behavior of the exchange rate. That is, both the "causes" and "causality" are important in comprehending the overall portrait of the exchange rate. The first dimension or "the causes", concentrates on identifying the factors that determine the exchange rate while the second investigates the variables that are influenced by the change in the exchange rate. Exchange Rate Systems

2.1. Exchange Rate Systems

Of the three exchange rate systems, in the fixed regime, the domestic currency is tied to another foreign currency by the monetary authority and the authority or the government is ready to sell and/or purchase the foreign currency at a pre-specified price level. In the floating regime, the exchange rate is determined solely by market forces without any external intervention. Finally, the hybrid system lies between these two extremes where the government or monetary authority can intervene in the FX market to stabilize financial and/or FX markets or occasionally to stabilize other macroeconomic variables.

2.2. Factors Affecting the Exchange Rate

Although Iran implements a fixed and hybrid regime, an informal foreign exchange market has also been operational. Moreover, private firms and households have utilized the informal market as an important means of converting foreign currencies for their activities including foreign currency-dominated business transactions, travelling abroad and hedging instruments for risks. Therefore, it is safe to suggest that a floating system exists as a parallel mechanism in the country.

Three sets of approaches have been proposed in analyzing the behavior of the exchange rate (or the factors affecting the movements in the exchange rate). The first approach, labeled as Purchasing Power Parity (PPP), asserts that the relative value of two currencies is determined by the ratio of the price differences or inflation differences between these countries. Therefore, the exchange rate movements may be calculated by the rate of change between the inflation rates of two countries. However, since the price movements or inflation level for a particular country is strongly correlated with liquidity growth (expansion in money) as well as other economic variables, the second approach in economic theory focuses on fundamental economic variables in analyzing the behavior of the exchange rate. According to the fundamental approach, the behavior of the exchange rate depends on: monetary aggregates, current account deficit, fiscal posture, expectations, financial openness, productivity and so on. Also, since risks, risk

Table-1: Determinants of the Exchange Rate

1. PPP		
	1.a	**Price Level/Inflation** The higher the domestic inflation relative to foreign inflation, the more the domestic currency depreciates (loses value) relative to foreign currency.
2. Fundamentals		
	2.a.	**Monetary Variables** Higher liquidity (expansionary monetary policy) in circulation and/or a lower interest rate may lead to depreciation of the domestic currency against foreign currencies.
	2.b.	**Balance of Payment Health** The higher the current account deficits and higher external debt may cause fluctuations in FX markets and may also lead to a currency crisis. Healthy currency account posture is very important in the stability of FX markets.
	2.c.	**Fiscal Variables** Both budget deficit and government debt level are important fiscal variables. Higher budget deficits and a higher debt level may cause depreciation of the domestic currency.
	2.d.	**Productivity differentials** The higher the productivity growth relative to other countries in the long run, the more domestic currency would appreciate. Productivity differentials are generally considered to be applicable for long term analysis.
3. Risks and Risk Related Factors		
	3.a.	**Risks Associated with Domestic Origins** Risks may be associated with risks regarding future inflation and political risks.
	3.b.	**Risks Associated with International Origins** Risks may be based on foreign sources; international crisis and geopolitical risks.

perception and expectations have become essential in determining the exchange rate due to the excessive financialization of exchange rate markets, the third approach or financialization approach incorporates risks and risk perception into the behavior of the exchange rate. The set of factors affecting exchange rate is summarized in Table-1.

Due to the unique features of the Iranian economy such as economic sanctions, existence of informal financial institutions, excessive government involvement in several economic areas and existence of large military owned conglomerates, conventional economic models, occasionally, have difficulty in explaining basic economic relations in the Iranian economy. Although both PPP and fundamentals (including inflation, money supply, trade deficit, central bank reserves, budget deficits, GDP growth, etc.) play a role in the determination of the exchange rate in free markets, it can be considered that the short dynamics in the Iranian exchange rate are strongly linked with risks and expectations (or risk perceptions), particularly stemming from political issues originating from both the domestic and international level. The recent surge in Iranian currency observed since the beginning of 2018 cannot be explained by movements in fundamentals, but the surge in the rial may be closely linked with risk perception in Iran.

2.3. Factors Affected by Exchange Rate Movements

Exchange rate movements have the potential to influence economic variables. The movements have strong impacts on the behavior of other economic variables, including, inter alias, inflation, income growth, investments, financial markets, employment and foreign portfolio and direct investment. In some cases, the causality may run in a bidirectional manner. For example, higher inflation may induce domestic currency to depreciate as well as currency depreciation may cause higher inflation.

3.Brief History of Exchange Rate in Iran

Detailed information of Iran's currency system prior to the early 20th century is lim-

ited. According to Pick's Currency Yearbook (1955:122), the Iranian government put aside a gold standard system in 1929. During 1933-1957 the Iranian rial devaluated from 11.5 to 76 rials per dollar. Furthermore, despite some harsh fluctuations from 1957-1967, after a decade the US dollar was 76 rial, however, since then petrol began to play an important role in the Iranian economy. Iran experienced a 125-million-dollar payment surplus in 1973-74 following an increase in oil income and Arab-Israel conflicts. After 1974, Iranian oil income surged again and was accompanied by mounted social and political turmoil, and on the eve of and following the Iranian Islamic Revolution the rial-dollar rate reached 84 and 165 respectively.

When the Iran-Iraq War erupted in 1980, it resulted in a severe decrease in oil income, increase in capital flight and devaluation of the rial in such a way that the rial-dollar rate increased to 400 in 1981 and 500 in 1982. Furthermore, due to the Iraqi army air attacks, Iranian oil export decreased, and the current account deficit reached to 415 million dollars in 1983. This trend continued during and after the war and the rial-dollar rate reached to 1200 on the black market during the last years of the 1980s.

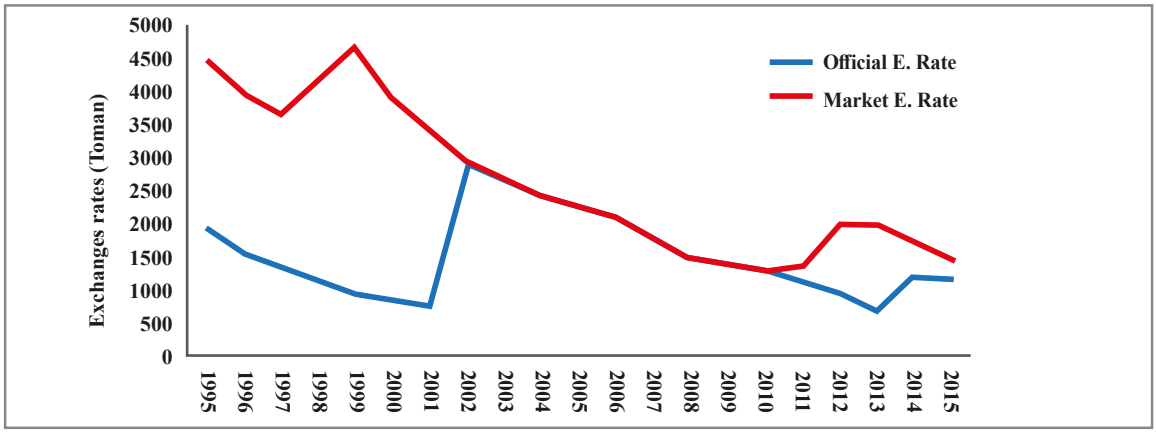
During the last four decades, Iranian governments mostly applied multi-tier exchange rate systems. The multiple exchange rate mechanisms have been employed for a variety of reasons, but past experiences have shown that alternative multiple exchange mechanisms implemented during the last 40 years fell short of envisioned objectives; that is, the multiple exchange mechanisms have promoted the black market and corruption. The dual or multiple exchange system operates by: certain transactions (enumerated and defined by official decrees) transpire at a fixed official exchange rate and the remaining transactions are carried out at an exchange rate determined by market forces (market rate).

These changing and vague exchange rate policy systems can be grasped as a representation and consequence of different ideological priorities, necessities of profitability in a semi-market conditions and rent-seeking contributions. Between 1979 and 1987 Iran applied 12 exchange rates on average which reached to 17 exchange rates in some periods, including exchange rates for different economic issues including drug, essential commodities, capital and consumption goods. In 1987, the government applied a unified exchange rate, although it lasted only 7 months. In 1990, three new rates, official, competitive and floating rates, were introduced to control the black market. Following a sharp decrease in petrol income and lasting huge gaps between the black market and official exchange rates, the Khatami government (1997-2005) unified two rates in 2001; a policy that continued for eight years.

4. Reviewing the Trends in Official and Informal Markets

Figure-2 shows the difference between informal market and official real exchange rates. In order to exclude the effect of inflation rates, each year's nominal rate was divided by the same year's inflation rate. As illustrated in Figure-2, there had been significant differences between two exchange rates in 1995-1997 which coincides with the last three years of the Rafsanjani government (1989-1997). During these three years, there was a declining trend in both exchange rates, but by the beginning of the Khatami government (1997-2005), the real market exchange rate started to increase for two years and decreased over the following three years. Moreover, during this period, the real official exchange rate experienced a continuous decline. The Khatami government declared new exchange rate policies by unifying two rates in 2001 which persisted until 2010. During 2001-2010, which includes the second term of the Khatami government and the first five years of the Ahmadinejad government (2005-2013), the real exchange rate continued to decrease. As discussed below, the decline in the exchange rates indicates the effect of the two-digit inflation rates on the real exchange rates. Exchange rates go under pressure as a result of a notice-

Figure-2: Difference between Official Rate and Informal (Free) Market Rates

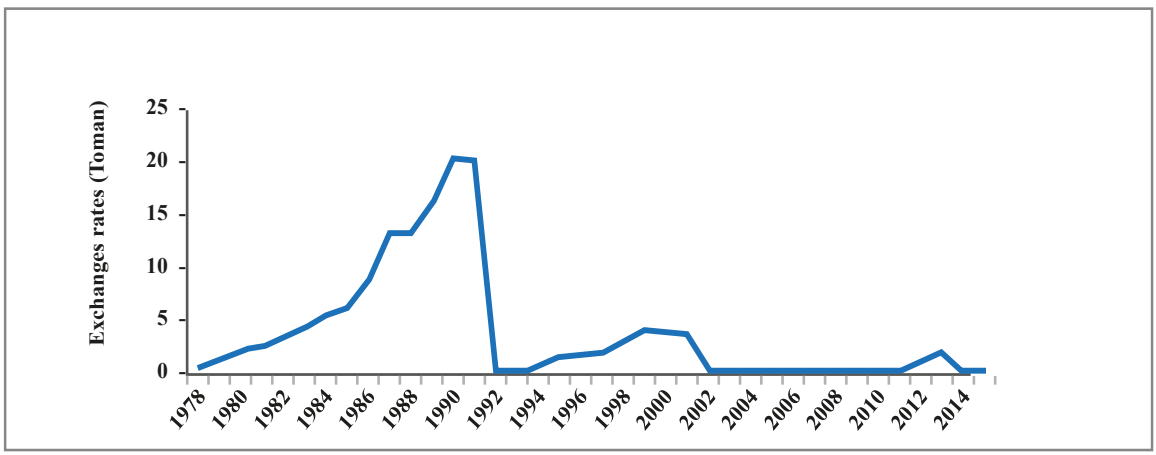


Source: Central Bank of Islamic Republic of Iran

able fall in oil income due to the decline in oil prices and the rise of nuclear-related economic sanctions. In order to control high inflation and adverse effects of high exchange rates on the capital and essential good's import, President Ahmadinejad continued to maintain a fixed nominal official exchange rate policy; the policy that brought about new incentives for the formation of a black market for foreign currencies. Up to the end of the Ahmadinejad government, the real official exchange rate continued its declining trend on the verge of high inflation records while the market rate increased sharply. The Presidency of Rouhani, which began in 2013, ushered in new hopes to solve the Iranian nuclear problem and inflation rates. Moreover, due to these policies and positive expectations, two real market and official exchange rates started to converge; a procedure that reversed in the last months of 2017 and the first months of 2018.

In order to illustrate the scales of differences between two exchange rates, the ratio of the market exchange rate to the official exchange rate is depicted in Figure 3. The ratio of the market exchange rate to the official exchange rate started an increasing trend on the eve of the Islamic Revolution of 1979 and the market exchange rate became about 20 times greater than the official one in 1990-1991. The unification of two exchange rate policies in 1992 lasted for one year and in 1993, the gap between the two rates rose again and reached a new peak in

Figure-3: Ratio between Official and Informal (Free) Market Rates



Source: Central Bank of Islamic Republic of Iran

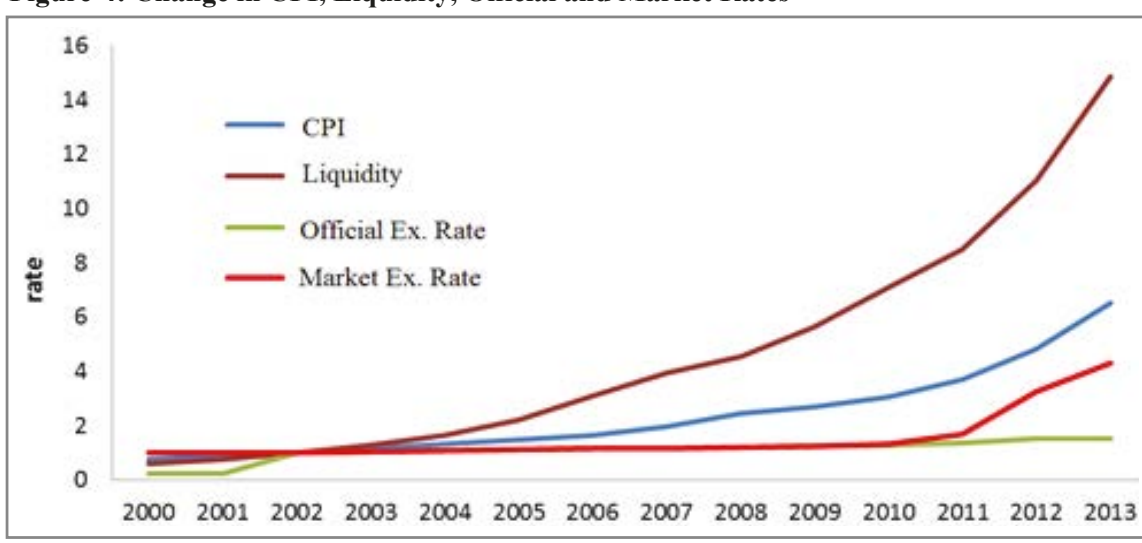
1999. As it is obvious, the magnitude of the last foreign currency crisis in 2010-2013 is relatively moderate compared to the one that took place in 1993-2001 and very low compared to the one that began on the eve of the Islamic Revolution which reached its peak in 1991.

5. Overvalued Currency Paradox

As outlined above, PPP and fundamental approaches proposed several variables (such as inflation rates, liquidity growth, fiscal outlook, health of current account and investments) in analyzing the behavior of the exchange rate. There are several studies which explore the effect of different factors on exchange rate fluctuations and instability in Iran. Delangizan et al. (2015:182) examines the impact of inflation on exchange rate in Iran. Results of the study show that due to the inflation rate and government intervention during 1965-2009 the rial overvalued about 65 percent compared to the dollar. In other words, considering foreign currencies like any good and service in the market, the governments' intervention prevented the dollar from keeping pace with the inflation rates. Figure-4 shows this phenomenon more clearly.

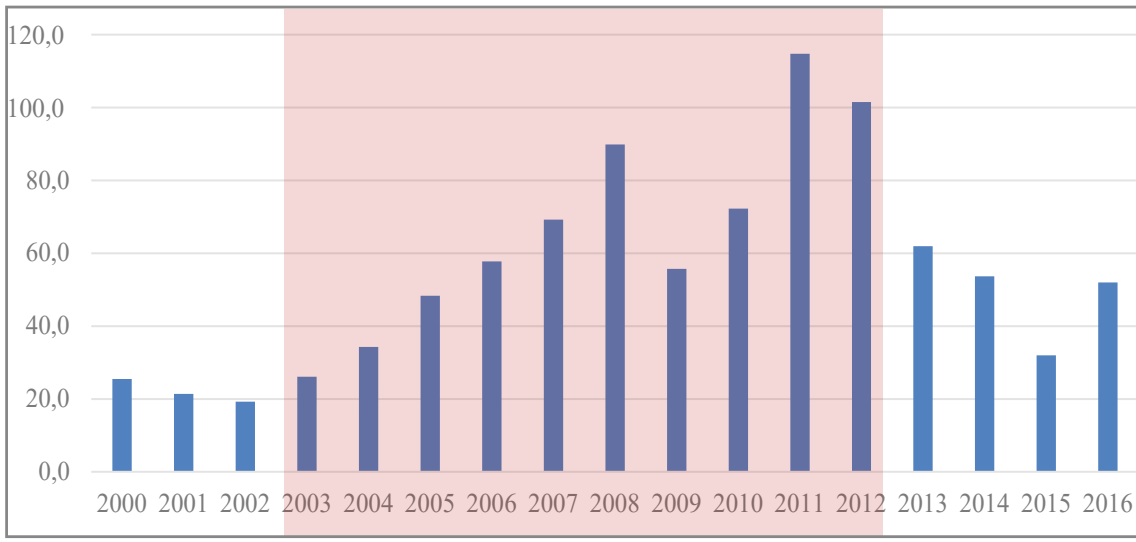
Prior to 2001 there was a gap between the official and market exchange rates, but in 2002, the Khatami government applied a unified exchange rate policy. From this point, 2002 is taken as the reference year and the value of consumer price index (CPI), liquidity, official and market exchange rates are set to one. As observed from Figure-4, during 2002-2010 both exchange rates increased around 30% while CPI and liquidity growth in the same period registered 300% and 700%, respectively. In other words, CPI and liquidity increased about 10 and 23 times respectively more than exchange rates. As mentioned above, considering the fact that foreign currency can also be considered as a kind of good, low artificial exchange rates have some implications. Moreover, during this period, market and official exchange rates merged and until 2010, the gap between the two was almost nonexistent. So, the market rate did not diverge from the official rate, governments supplied cheap dollars to the market. Therefore, excessive government engagement was the main cause of this anomaly. In other words, excessive government interventions were the main reason behind the significant gap between the exchange rate and CPI and liquidity. Moreover, supplying cheap foreign currency to markets caused high liquidity growth, which in turn fueled inflation. Therefore, the overvalued domestic currency during the first decade of 2000 created substantial inflationary pressure.

Figure-4: Change in CPI, Liquidity, Official and Market Rates



Source: World Bank of Islamic Republic of Iran

Figure-5: Iran Oil Revenue (Billion US$)



Source: World Bank

Maintaining overvalued exchange rates during the early 2000s was accomplished mainly because of massive oil revenues when oil prices in global markets were around the range of 70-120$/b. As shown in Figure-5, due to high crude oil prices in global markets, Iran's oil revenue increased tremendously after 2003 but the trend reversed at the beginning of 2012 after nuclear sanctions came into full effect. Increasing oil income from 2003 to 2012 provided governments with windfall resources to run subsidized foreign currencies in the market.

However, economic history shows that the overvalued currency policy is not sustainable in the long run. After mid-2009, the fragility of financial and FX markets deepened due to various types of uncertainties, including the 2009 election protests and the intensification of nuclear sanctions after 2012. In the absence of the oil income booms, the Khatami and Ahmadinejad governments would have no choice than adjusting these gaps in different phases and as a result the crisis would be broken down to somewhat milder shocks. When oil resources shrank rapidly in the aftermath of the economic sanctions set by the UNSC and Western countries, the crisis broke out. In order to show the ineffectiveness of the economic sanctions and to mitigate negative social and political effects of the soaring inflation rate, the Ahmadinejad government continued the low official exchange rate policy. Furthermore, the lack of sufficient foreign currency supply combined with increased demand paved the way for the emergence of a gap between two currencies. This gap widened with the presence of high inflations and brought about the 2010-2014 Iranian currency crisis.

Shortcomings in the supply of foreign currencies are one side of the story because foreign currency crises in Iran have also been related to the demand side. Foreign currency demand can be affected from real necessities of the economy like commodity imports or from expectations. In Iran, expectations play a significant role in the determination of the exchange rate. According to a study carried out by Morovvat and Faridzad (2015), any surge in the exchange rate can trigger more uncertainties which in turn can usher in a crisis in the currency market. Moreover, they showed that some actors on the demand side of the exchange market in Iran tend to employ speculative tactics to maximize their profit which can further destabilize the currency market. Political turmoil, geopolitical risks and risks associated with economic fundamentals (i.e., inflation, growth, etc.) are all interconnect-

ed and are on the minds of the actors on the demand side of the exchange rate market and these actors are extremely sensitive about assessing the risks that surround the economy.

6. The Impacts of the Exchange Rate Fluctuations on the Iranian Economy

In many cases, the interaction between the exchange rate and other economic indicators is mutual and bidirectional. The effect of inflation on the exchange rate was discussed above, but different studies show that these impacts are not one sided. Appreciation/depreciation as well as volatility in the exchange rate can influence macroeconomic performance, price stability, balance of payment indicators and also financial markets.

6.1. Economic Performance: Price Level, Growth and Employment

Although some controversies remain about the impact of exchange rates over price level, most of the empirical research carried out on Iran and other countries, have shown a strong bidirectional and inverse relation. In other words, higher price levels or higher inflation induce domestic currency to lose value against other currencies and in the second-round, higher domestic prices may push the domestic currency to depreciate further. Once adverse future expectation about both exchange rate and inflation settles into the minds of actors in the economy, it will be very difficult to reverse these snowball-like movements in both variables; therefore, it will become extremely difficult to repair this self-feeding process.

Table-2: The Effects of Exchange Rate on Other Economic Variables

i	**Effects on the Agricultural Sector.**	The agricultural sector in Iran has been the sector hit the hardest when volatility in the exchange rate is high. A rise (appreciation) in the Iranian rial causes lower employment in the agriculture, industry and mining sectors and higher employment in the service and oil sectors. In Iran, fluctuations (volatility) in exchange rates result in replacement of some workers employed in the agricultural and industrial sectors to the service sector.
ii	**Asymmetric Characteristics**	Upward and downward tendency in the exchange rate cause asymmetric results on the same variable. Employment rate, in general, and share of each sector of employment, in particular, bear mutual relations with GNP, demand and supply sides of economy, importation, exportation and investment; variables that the exchange rate can affect in asymmetric ways.
iii	**Effects on FDI**	Volatility in the exchange rate tends to impact FDI, which in turn reduces the employment potential of FDI. Despite exchange rate instability has an inverse effect on FDI, a gradual increase in exchange rate can facilitate foreign direct investments.
iv	**Official and Market Rate Differentials**	When unemployment is high in Iran, the gap between official and market exchange rate generally adversely affect employment creation performance whereas when unemployment is modest, the gap has no significant effect over employment creation. Furthermore, when the difference between the two rates widens, rent-seeking increases and as a result growth declines while distribution becomes less fair. According to researchers, distortion of liquidities from productive activities and the banking system to activities related to extracting rents from rate gap causes stagnation and higher unemployment.

Note: The table is constructed based on the results of the following studies: Lashkari et al. (2015), Rostami and Kazeruni (2007), Zamanian and Emin (2014), Renani et al. (2015), Jalai et al. (2016) Zobeyri and Nademi (2015), and Basharabadi and Javdan (2012).

Empirical researches on investigating the link between exchange rate and inflation in general reveal that there is a strong pass-through in Iran. After the exchange rate depreciates, overall consumer price index and prices of imported commodities have an upward tendency in both the short and long term (See for example, Rovshan, 2015; Mohseni, 2006; Shajari et al. 2005; Shurekchi, 2013 and Asgharpour et al. 2014). In addition to drought, use of inefficient irrigation techniques, inefficient land use, etc., the agriculture sector has been very sensitive to the exchange rate trends and volatility; thereby making it the most fragile sector in Iran. The use of overvalued currency during the 2000s deepened the fragility. For example, Nematollahi et al. (2015) examine the effect of the increase in the exchange rate on the demand and supply of wheat, flour and bread in domestic markets. The study discovered that increase in the exchange rate gives momentum to the supply side which in turn leads to low prices and consequently high market demands.

Empirical researches on investigating the link between exchange rate uncertainty and inflation also reveal interesting results. Shurekchi (2013) shows that macroeconomic instabilities can heighten the effect of exchange rate fluctuations on exported and imported goods. Moreover, high macroeconomic instability affects the impact of exchange rate shocks on inflation through two mechanisms: Firstly, it increases the expectation uncertainties and secondly, it causes foreign firms to adjust their prices in order to maintain their share in domestic markets. Rasekhi and Montazeri (2015), examining this phenomenon in the Iranian case, show that uncertainties about the exchange rate lead to higher inflation rates.

Various studies attest that high exchange rate fluctuations led to lower growth rates, lower private investments and stagflation in Iran (Noferesti, 2005; Tavakkoli and Sayyah, 2010; Abbasian et al. 2011). Fouladi (2012) examines the effect of change in the exchange rate on different components of GDP. Findings indicate that public and consumption expenditures increase in the same direction as the exchange rates. He relates this result to lower dependency of these GDP constituents to the structure of imported commodities. The effects of the trend and also volatility of the exchange rate over other economic variables have been investigated by numerous studies and the remarkable findings from these studies are summarized in the following table.

6.2. Trade Balance and Export

Movements and uncertainty in exchange rates can impact current account balance. About depreciation, economic theory suggests two mechanisms: (i) because depreciation causes

Table-3: Studies on Trade and Exchange Rate

i	**On Balance of Payments**	Depreciation of currency tends to improve the balance of payment in Iran. Overvalued currency causes in Iran reduce the competitiveness of the agriculture sector and therefore the sector's ability to engage export activities.
ii	**Agricultural Export**	There is an adverse relation between exchange rate shocks and agricultural goods' export. The decreases in real exchange rate are one of the most important obstacles of exportation for the agricultural sector. Exchange rate instability may stimulate agricultural export in the short run, but the trend will be reversed in the long run.
iii	**Terms of Trade-Real Prices**	If the exchange rate depreciates, it will cause higher export commodities' prices. This impact intensifies when income per capita is low and overall inflation is high. However, increase in exchange rate reflects on the export prices by one-year lag and the policy's effect fades away in the long-run. In the long-run, the exchange rate variable is the most significant determinant of exported agricultural crops' price indexes.

Note: The table is constructed based on the following empirical studies: Heydari and Ahmadzadeh (2015); Nonejad and P.Keshkuli (2015) and Ehsani et al. (2009); Kazeruni et al. (2016); Ghazali and Zibai (2015); Jamalipour et al. (2016); Lashkari et al. (2015); Haqiqat and Hounsainpour (2009) and Torkemani and Tarazkar (2005)

the relative price of exported commodities to be higher, it will stimulate domestic firms to expand their exports and (ii) because depreciation causes the prices of imported commodities to be more expansive, it will squeeze imports. Each sector, however, displays a different response to both trend and volatility of exchange rates. Since Iran's foreign currency supply heavily depends on oil revenue, and since the overvalued exchange rate policy was firmly utilized during the last decade, relative prices or real exchange rate for non-oil sectors distorted. Overvalued currency policy has strong adverse effects on non-oil sectors' export performances.

There exists a large number of empirical studies regarding this issue. The results of these studies can be summarized in the following Table:

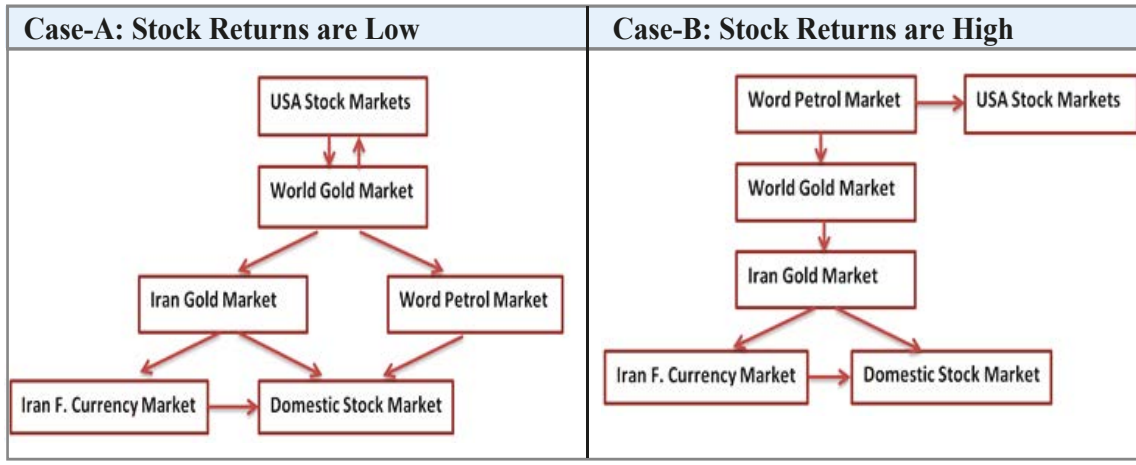
Overall, when the rial depreciates (falls), the balance of payments in Iran will improve but the desirable effects are quite mild and operate with some lags. Moreover, when uncertainties in the FX market are substantial, the desirable effects of depreciation may completely fade away. Due to inadequate institutional and organizational structure and lack of policies promoting export, low exchange rates in general do not generate desirable incentives for non-oil sectors in expanding their export performance.

6.3. Financial Markets

Financial markets and banks are important organizations within the economic system. Exchange rate movements and exchange rate volatility have substantial effects on both daily operations and functioning of the financial markets, particularly banks. For example, Khoshnudi and Sadeghi (2015) underline the adverse impact of uncertainty on the instability of the banking system in 2001-2013 during which the Iranian economy and banking system witnessed different periods of relatively free economic connections with the world in the first half of the period, high petrol incomes in the mid and severe sanctions in the second half of the studied era.

Exchange rate can be in close relation with stock and gold markets. Export oriented companies constitute almost half of the total value of the Tehran Stock Exchange Market, and therefore, it may be logically expected that higher export prices (via depreciation of the rial) increase the profitability of these firms which in turn have positive effects on the stock market. Rahimi and Horri (2015) and Heydari et al. (2013) showed that in both the short and long run, there is a negative relationship between exchange rate uncertainty and the Tehran Stock Exchange performance.

Figure-6: Financial Contagion: Iran's Domestic Markets and International Markets



Source: Jahangiri and Hekmati Farid (2015)

Fallahi and Jahangiri (2015) examine contagion among foreign currency, gold and currency markets. The study's findings reveal some solid evidence showing that there is a considerable interaction between gold and foreign currency markets. Although, this is an opposing interaction and indicates that foreign currency and gold cannot be appropriate alternatives for building a portfolio. According to research, during 2010-2013 which coincided with the last years of the Ahmadinejad government (2005-2013) and severe economic sanctions, returns in foreign currency, gold and stock markets were 175%, 148% and 115% respectively. These results explain the attractiveness of the foreign currency market for speculative transactions.

Jahangiri and Hekmati Farid (2015) study the mechanical and psychological contagion between foreign and global markets (including the US and European stock markets, gold market and petrol market), on one hand, and domestic markets (including gold market, stock market and foreign currency market), on the other. Their study indicates that there is a one-way contagion from the domestic gold market to the foreign currency market while other domestic and international markets can only affect the foreign currency market through the gold market.

While Figure -6, case A (left hand side), shows the contagion when returns are low, Figure 6, case B (right hand side), shows when the returns are high. In both high and low returns, exchange rate only can affect the domestic stock market and only be affected by the domestic gold market. As a result, findings reveal that the Iranian gold market functions as a tool to transfer the international market's fluctuations to the domestic currency market.

The effect of exchange rate instability on the domestic money demand is also an important issue. Empirical studies (among others, Adibpour and Elhami, (2015); Samimi et al. (2006); Fallahi and Negahdari, (2005)) in general have brought to light some interesting facts:

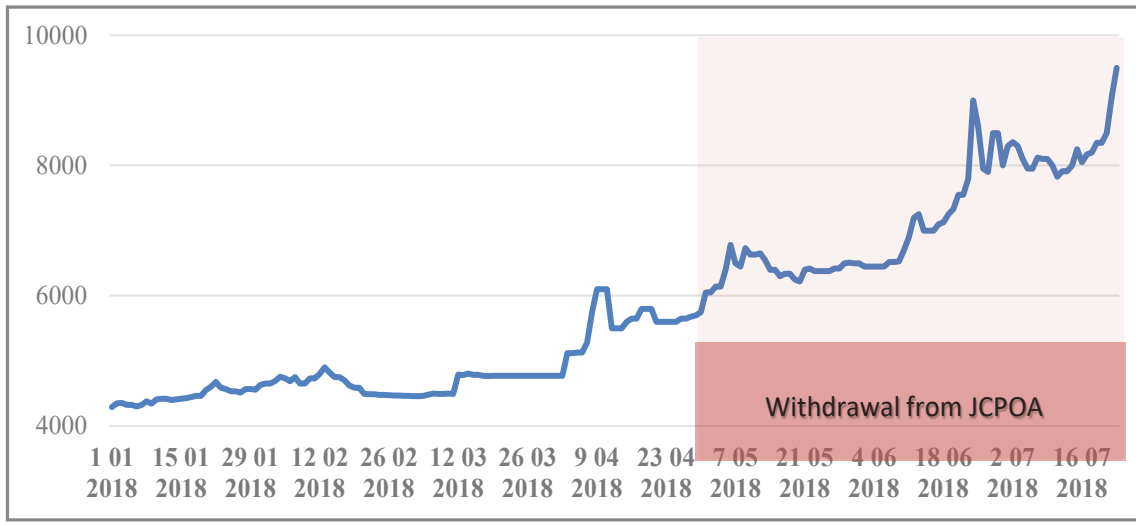
1. exchange rate instability and domestic money demand display negative correlation,
2. there is a strong substitutability between the rial and foreign currency in Iran and,
3. when exchange rates are unstable, domestic actors' money demand behavior switches from domestic currency to foreign currency.

7. Recent Developments in FX Markets: Possible Effects of Sanctions

During the first 8 months of 2018, the informal market exchange rate reached more than 120.000 rials against dollar, which shows more than a 180% increase in 8 months (See Figure-7).[1] In order to control the surging trend of exchange rate and its spill overs to other real and monetary parts of the economy, the Iranian government declared a new system called the New Transaction Currency System (NIMA) and urged all economic agents to face a new two-tier exchange rate mechanism. According to this two-tier mechanism, which was initiated around April 2018, the informal market (or free market rate) rate and fixed rate of 420.000 rials per dollar were simultaneously operating. The subsidized or fixed rate was allocated for importation of essential commodities (including food, agriculture, intermediate commodities, medicine, etc.). People with a demand of hard foreign currency for other types of transactions had to use the free market rate. However, around June 2018, when the exchange rate in the informal market valued the dollar to about 90.000 rials (110% higher than the official rate), the system became a breeding ground for speculation and corruption. Tehran's Grand Bazaar went on strike to react to the news about corruption carried out by individuals who had close links with government elites in Iran. During the protest, traders in the Grand Bazaar closed their shops and the Grand Bazaar became a stage where economic policies of the government were protested. Jahangiri, First Vice President of Iran, also threatened those who violate the new rate,

1 At the time of writing this article, the rate reached to 150.000 rials in early September.

Figure-7: Development in Exchange Rate: 2018-1 to 2018-7 (Toman/$)



Source: https://www.bonbast.com/

comparing their actions with drug smugglers. Despite harsh declarations of statesmen, exchange rate crises and the gap between the black market and official exchange rates have a long history in Iran.

In order to alleviate some of the problems arisen from the two-tier system, the Iranian government implemented a plan that would set three (instead of two) different exchange rates for the dollar. In this system, imported commodities were set in two major categories, essentials and semi-essential commodities. Firms importing essential commodities have been allocated foreign currency with a 420.000 rials per dollar rate while firms importing commodities on the list of the second category have been allocated foreign currency at around 80.000 rials per dollar and for all other transactions, firms and households will use the free market rate.

In addition to this pure economic approach, corruption led to some political maneuvers. Due to the tension in FX markets, on July 25, Valiollah Seif, Governor of the Central Bank of Iran, was dismissed from duty. In August, two ministers (economy and finance and labor) from the Rouhani government were sacked by the parliament due to economic turmoil in the country.

The uncertainties and the tension in FX markets also have had an impact on inflationary pressure in the country. The pass-through effect of exchange rate over inflation will be materialized with a lag. Furthermore, the inflationary pressure stemming from the higher exchange rate has already manifested itself in an acceleration in the consumer price index. In Tehran and other cities across the country, the recent developments in FX markets and other structural problems have already led to higher prices in supermarkets. Even worse, it is expected that during the autumn and winter of 2018 the adverse effects will be exacerbated.

In addition to adverse effects on prices, business investment in productive areas as well as investment in housing have already been declining markedly. Due to excessive volatility in exchange rates, significant decline in the value of domestic currency against other currencies and significant increase in prices in consumer, intermediate and capital goods have caused Iranians pursue a simple rule: “stay in liquid and safe assets.” Therefore, as long as these negative expectations (negative sentiments) prevail, this self-feeding adverse course will completely dominate the FX markets, financial markets and also the Iranian economy.

8. Conclusion

During the last four decades, the Iranian governments mostly applied multi-tier exchange rate systems. These changing and vague exchange rate policy systems can be grasped as a representation and consequence of different ideological priorities, necessities of profitability in semi-market conditions and rent-seeking contributions. The ratio of market exchange rate to official exchange rate started an increasing trend on the eve of the Islamic Revolution of 1979 and the market exchange rate became about 20 times greater than the official one in 1990-1991. The one-tier exchange rate policy which was implemented in 2001 lasted until 2010 when oil income witnessed a dramatic drop and sanctions began to surge.

Exchange rate crises have had their roots in the shortcomings of both the supply and demand side of the Iranian foreign currency market. Government interventions have been the main source of distortions in the supply side, because subsidized official exchange rates in the presence of two-digit inflation rates put accumulating pressure on the exchange rate to a degree that makes the widening gap unbearable and crises unavoidable. Factors related to the demand side like expectations and contagion among domestic and global financial markets also affected exchange rate fluctuation.

Interaction between the exchange rate and other economic indicators is bidirectional in many cases. Furthermore, there is a direct and two-sided relation between inflation and the exchange rate. Change in the exchange rate can be seen as a policy tool to improve balance of payments through increasing exportation and decreasing importation, but most of the studies show that in Iran's case this policy's effect neutralized, at least partially, by an increase in the exported commodity's prices. Macroeconomic instabilities can intensify the effect of the exchange rate fluctuations on the exported and imported goods price and value.

Severe instability and uncertainty in the currency market improved employment in the service sector at the expense of unemployment in the industrial and agricultural sectors. Exchange rate instability also adversely affected growth rate, the banking system and FDI in Iran; the phenomenon that led to higher unemployment.

In addition to instability in the exchange rate, the gap between official and black-market exchange rates also inversely affected the Iranian economy. An increase in the gap between the two rates intensified rent-seeking contributions which in turn resulted in a decline in growth rate and increased unfair wealth distribution. Distortion of liquidities from productive activities and the banking system to activities related to extracting rents from rate gaps caused stagnation and higher unemployment.

Increasing concerns about economic problems and uncertainty, including substantial volatility (and upward tendency) in the exchange rates, inflation, liquidity growth and fragility of the banking sector can easily trigger social tension in Iran. Due to excessive upward trends and large volatility in Iranian exchange rate markets since the beginning of 2018, the current incumbent Rouhani government has implemented some strict measures. The objective of adopting these measures was to curb these two undesirable patterns in FX markets. However, so far, these measures fail to stabilize the FX market.

Since the beginning of 2018, excessive volatility and solid upward tendency in exchange rate have created a significant amount of negative sentiments. In addition to adverse developments in FX markets, the Iranian economy has many structural and interconnected problems. Fragility of financial sectors (particularly the banking sector), high unemployment (particularly youth unemployment), inflation, corruption, excessive bureaucracy, lack of transparency, lack of investment, etc. may deepen social fragilities. According to reports, analysis and news in the US media, by using economic sanctions on Iran, the current US administration may aim at deepening these fragile points to escalate the tension between state and society. Therefore, the US secondary sanctions, fully operational after November 5, 2018, may have the possibility to weaken the Iranian domestic currency, weaken the Iranian economy and may also trigger social unrest in the country.

References

- Abbasian, E., & Ovladi, M., & Mehrgan, N., (2012) "The effect of real exchange rate uncertainty on the economic growth (Tasire adame etminane nerkhe arz vaghei bar roshde eghtesadi)", Majalleye Tahghighate Eghtesadi, 98, pp: 153-169.
- Adippour, M., & Elhami, M. (2015) "The effect of exchange uncertainty on the money demand in Iran (Tasire naetminani nerkhe arz bar taghazaye pul dar Iran)", Eghtesade Puli, Mali, 22(10), pp: 104-122.
- Asgharpour, H. & Sojoudi, S. & Mahinaslani, N. (2011) "Experimental examining of the level of exchange rate pass-through to non-petrol export of Iran (Tahlile tajrobiye mizane enteghale nerkhe arz bar ghimate saderate gheyre naftiye Iran)", Faslnameye Pajhouheshhaye Eghtesadi, 11(3), pp: 111-134.
- Asgharpour, H., & Mohammadpour, S., & Rezazadeh, A., & Jahangiri, KH. (2012) "The effect of exchange rate instability on the agricultural sector's export (Barrasiye asare bisebatiye nerkhe arz bar saderate bakhshe keshavarzi Iran)", Tahghighate Eghtesade Keshavarzi, No: 1, pp: 121-137.
- Bahmani-Oskooee, M., (2005) "History of the Rial and Foreign Exchange Policy in Iran", Iranian Economic Review, 10 (14), pp: 1-20.
- Basharabadi, M. H., & Jalai, S.H., & Kushesh, M.S., (2011) "The effect of exchange rate pass-through on the price of imported and exported commodities (Barrasiye obure nerkhe arz bar ghimate kalahaye varedati va saderati dar Iran)", Pajouheshnameye Olume Ensani, 6(12), pp: 201-2016.
- Basharabadi, M.H., & Javdan, E., (2012) "The effect of real exchange rate uncertainty on the agricultural sector's employment in Iran (Tasire naetminaniye nerkhe vagheiye arz dar eshteghale bakhshe keshavarziye Iran)", Pajhouheshnameye Olume Ensani, No: 77, pp: 57-80.
- Behnamian, M., (2012) "The effect of real exchange rate on the unemployment rate in Iran (Asare nerkhe haghighiye arz bar nerkhe bikari dar Iran)", Majalleye Barrasiye Masael ve Siyasethaye Eghtesadi, no: 11-12, pp: 23-40.
- Daneshjafari, D., & ardarshahraki, A., & Esnaashari, H. & Hatami, Y., (2013) "The effect of exchange rate momentums on the shortcommings and future of employment in industrial sector (Barrasiye tasire tekanehaye nerkhe arz bar chaleshha va chashmandazhaye eshteghale bakhshe sanat)", Faslnameye Siyasete Rahbordi va Kalan, 1(1), pp: 93-104.
- Delavari, M., & Rahmati, Z., (2010), "The analysis of volatility of gold coin price fluctuations in Iran using ARCH models", Knowledge & Development, 17(30), pp: 51-68.
- Delangizan, S., & Soheyli, K., & Tirandazeh, M., (2015) "Estimation of nominal exchange rate from long-run equilibrium path (Baravorde enherafe nerkhe arze esmi az masire taadoliye boland moddat)", Eghtesade Puli, Mali, 22(9), pp: 182-208.
- Ehsani, M.A., & Khanalipour, M., & Abbasi, J. (2009) "The effect of exchange rate instability on non-petrol export of Iran (Asare bisebatiye nerkhe arz bar saderate gheyre nafti Iran)", Pajhouheshnameye Olume Eghtesadi, No: 1, pp: 13-34.
- Fallahi, M. & Negahdari, E. (2005), "Money demand determinants in the economy of Iran with emphasis on exchange rate: The application of ARDL approach". Monetary and Financial Economics, No: 17, pp: 147-166
- Fallahi, F., & Jahangiri, Kh., (2015) "A survey on the existence of financial contagion among Asset, currency and gold markets in Iran (Azmoone vojude serayate mali mian bazare saham, arz ve sekke dar Iran)", Eghtesade Puli, Mali, 22(10), pp:61-83.
- Fouladi, M., (2011) "Examining the effect of exchange rate changes on the price level, production, import and export of different sectors of economy using general equilibrium", Barnamehrizi va Budjeh, No: 2, pp: 127-148.
- Ghazali, S. & Zibai, M., (2015) "The insability of real exchange rate and mutual trade of agricultural products: Pool data analysis (Bisebatiye nerkhe arz haghighi va tecarate dojanebeye mahsulate keshavarzi: tahlile dadehaye talfighi)", Eghtesade Keshavarzi va Tovsee, 23(92), pp: 39-60.
- Haghighat, J & Housainpour, R. (2009), "The pass-through effect of exchange rate to the exported raisins' price in Iran (Asare enteghaliye nerkhe arz bar ghimate saderate keşmeş dar Iran)", Faslnameye Pajhouheshnameye Olume Eghtesadi, 9(1), pp: 33-54.

- Heydari, H., & Ahmadzadeh, A., (2015) "The effect of exchange rate fluctuations on the price indexes in Iran (Taghyirate nerkhe arz ve asare an bar zanjireye ghimatha dar Iran)", Faslnameyeh Pajhouheshhaye Bazargani, No: 74, pp: 1-28.
- Heydari, H., Faaljoo, H., & Karami, F. (2013), Survey of real exchange rate uncertainty on stock price total index in Tehran stock exchange at framework of boundaries test approach. Seasonally Journal of Islamic-Iranian Approach Economic Research, 49, pp: 151-176.
- Imandoust, B.S., & Rastin, M., (2015) "The effect of real exchange rate on the wood and paper industry during 1976-2009 (Barrasiye asare nerkhe arze vaghei bar saderate sanayeye choob va kaghaz teyye salhaye 1355-1388)", Faslnameyeh Eghtesade Puli,Mali, 22(9), pp: 100-131.
- Jalai, S.A., & Nejati, M., & Bagheri, F. (2016) "Examining the effect of exchange rate momentum on the investment and employment in Iran: General equilibrium approach (Barrasiye tasire takanehaye nerkhe arz bar sarmayegozari ve eshteghal dar Iran ba rahyafte modelhaye taadole omumi ghabele mohasebe)", Faslnameyeh Pajhuheshhaye Eghtesadi, 16(2), pp: 201-220.
- Jahangiri, Kh., & Hekmati F.S., (2015) "The study of contagion among asset, gold, petrol and currency markets (Motaleye asare sarrize talatome bazarhaye saham, tala, naft ve arz)", Faslnameyeh Pajhouheshhayeh Eghtesadi, 15(55), pp: 161-194.
- Jamalipour, m., & Farsi, M., & Ghorbani, M. (2016) "Examining the effect of exchange rate fluctuations on the agricultural product's export (Barrasiye tasire navasanate nerkhe arz bar arzeshe saderate mahsulate keshavarzi)", Nashriyeyeh Eghtesad va Tovseye Keshavarzi, 30(1), pp: 10-18.
- Kazerouni , A., Salmani, B., Feshari, M., (2012) "Examining the effect of the exchange rate regimes and inflation environments on the level of exchange rate pass-through in Iran (Barrasiye tasire nezame arzi va mohite tavarromi bar darajeye obure nerkhe arz dar Iran)", Faslnameye Elmi-Pajouheshi Motaleate Eghtesadiye Karbordiye Iran, 1(2), pp: 95-116.
- Kazerouni, A. & Asgharpour, H., & Mozaffari, Z., (2016) "The effect of exchange rate deviation and instability on the agricultural good's export in Iran (Tasire enheraf ve bisebatiye nerkh arz bar saderate mahsulate keshavarziye Iran)", Tahghighate Eghtesade Keshavarzi, 8(2), pp: 173-197.
- Khoshnudi, A., & Sadeghi, H., (2015) "Exploring the effect of increase in exchange rate on the instability of banking sector in Iran (Barrasiye asare afzayeshe nerkhe arz ruye napaydariye mali bakhshe banki ba estefade az negareshe taraznamei)", Barrasihaye Bazargani, No: 70, pp: 1-13.
- Lashkari, M., & Behnameh, M., & Hasani, M. (2016) "The effect of instability in the real exchange rate on the employment in the service sector in Iran (Asare naetminanye nerkhe arz vaghei bar eshteghal dar bakhshe khadamat Iran)", Pajhouheshhaye Roshd va Tovseye Eghtesadi, 6(23), pp: 115-129.
- Lashkari, M. & Asgharpour, H. & Tamizi, A. (2015) "The effect of exchange rate, inflation and income on the price index of Iran's exported commodities: A GMM approach", Faslnamehye Pajouheshha ve Siyasathaye Eghtesadi, 23(73), pp: 111-128
- Mohseni, R., Sobhanipour, M., (2008) "The examination of exchange rate pass-through in the economy of Iran", Pajouheshnameye eghtesadi, No: 4, pp: 129-149
- Morovvat, H., & Faridzad, A., (2015) "The effect of expectations on the formation of exchange rate fluctuations (Naghshe Entezarat dar sheklgiriye navasanate nerkhe arz)", Faslnameyeh Pajhuheshhaye Eghtesadiye Iran, 20(64), pp: 89-115.
- Nematollahi, Z., & Frushani, N., & Hosainzadeh, M., & Abolhasani, L., (2015) "The consequences of targeted subsides, increase in exchange rate and foreign currency restrictions on the wheat and bread industry" (Barrasiye peyamadhaye hadafmandsaziye yaraneha, afzayeshe nerkh va mahdudiyathaye arzi nashi az emale tahrimha bar hovzeye gandom, ard ve nan), Eghtesade Keshavarzi, 10(1), pp: 97-114.
- Nikukar, A., (2013) "examining the effect of exchange rate fluctuations on the FDI and its mutual effect on the employment in different economic sectors in Iran (Barrasiye asare navasanate nerkhe arz bar sermayegozariye mostegheime khareji va asarate motaghabele an bar eshteghale bakhshhaye mokhtalefe eghtesadi)", The First Sustainable Development Congress, pp: 254-270.
- Nonejhad, M., & Kashkuli, F., (2015) "The effect of exchange rate fluctuations on the non-petrol export of Iran (Asar talatome nerkhe arz bar saderat gheyre nafti Iran be keshvarhaye omdeye taraf tecari)", Faslnameyeh Siyasethayeh

Rahbordi ve Kalan, 3(12), pp: 99-122.

- Noferesti, M., (2005) "Exploring the effect of monetary and foreign currency policies on the economy of Iran", Majalleye Tahghighate Eghtesadi, No: 70, pp: 1-29.
- Ovladi, M.M., & Ebrahimi, M., & Abbasiyun, V., (2008), "The effect of real exchange uncertainty on the private sector's investment (Barrasiye asare adame etminane nerkhe arze vaghei bar sarmayegozariye bakhshe khosusi)", Faslnameyeh Pajhuheshhaye Eghtesadi Iran, No: 35, pp: 159-176.
- Rahimi, E., & Horri, H.R., (2015) "The effect of exchange rate and inflation uncertainty on the investment choices of the firms of Tehran stock market (Asarate naetminaniye nerkhe arz va tavarrom bar forsathaye sarmayegozariye sherkathaye pazirofte shode dar burse ovraghe bahadare Tehran)", Majalleye Daneshe Hesabdari, 6(23), pp: 125-146.
- Rasekhi, S., & Montazeri, M., (2015) "The effect of macroeconomic instability on the exchange rate pass-through: a STR approach (Asare bisebatiye eghtesade kalan bar obure nerkhe arz: shavahedi az STR)", Faslnameyeh Tahghigat Modelsaziye Eghtesadi, No: 22, pp: 7-31.
- Renani, H., & Mirfattah, M., & Karimzadeh, S.D., & Rezai, H., (2015) "The effect of exchange rate fluctuations on the FDI in Iran" (Tasire navasanate nerkhe arz bar jaryane sarmayegozari mosteghime khareji dar Iran), Eghtesade Puli, Mali, 22(10), pp: 152-178.
- Rostami, N., & Kazeruni, S.R., (2007) "The asymmetric effect of exchange rate fluctuations on real production and price index in Iran (Asarat namotagharene navasanate nerkhe arz bar tovlide vaghei ve ghimat dar Iran", Pajouheshhaye Eghtesadi, 7(2) pp: 177-196
- Rovshan, I. Y., (2015) "Exchange rate pass-through: The case of Iran Economy (Obure nerkhe arz: morede motaleye eghtesade Iran)", Faslnameyeh Siyasethaye Rahbordi va Kalan, 3(10), pp: 89-106.
- Samadi, S., & Ebrahimi, N., & Aghili, F. (2015) "The effect of exchange rate and asset market indexes on the gold price (Asare navasanate nerkhe arz va shakhese bazare saham bar ghimate sekkeye tala)", Eghtesade Puli, Mali, 22(9), pp: 57-73.
- Shajari, h., & Tayyebi, S.K. & Jalayi S.A. (2005) "The anlysis of exchange rate pass-through in Iran (Tahlile obure nerkhe arz dar Iran)", Danesh ve Tovsee, No: 16, pp: 51-76.
- Shurakchali, M., (2013) "The effect of macroeconomic instability on the exchange rate pass-through: evidence from STR model", MA. thesis, Mazandaran University, Economics department.
- Turkmani, J & Tarazkar, M.H, (2005) "The effect of exchange rate change on the exported postages' price: an ARDL approach (Asare taghyirate nerkhe arz bar ghimate saderate peste: karborde raveshe ARDL)", Faslnameyeh Eghtesade Keshavarzi ve Tovsee, 13(49), pp: 83-96.
- Zamanian, GH., & Behrad, M., (2014) "The effect of exchange rate instability on the import demand of Iran (Asare naetminaniye nerkhe arz bar taghazaye varedate Iran)", Faslnameyeh Motaleate Eghtesadi Karbordiye Iran, No: 12, pp:129-148.
- Zobeyri, H., & Nademi, Y., (2015) "The study of the effect of exchange rate gap on the unemployment in the economy of Iran (Barrasiye asare shekafe nerkhe arz bar bikari dar eghtesade Iran)", Barnamehrizi va Budje, 20(1), pp: 109-135.

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