

Inflation in IRAN

Overview & Forecast

Q4-2015
No4

Research, Planning and Budgeting Division
Economic Research Unit
Feb. 2016

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Inflation Trend

Inflation was 13.7% by December 2015 which was considerably lower than the same period of last year. At the same time, producer inflation had been decreased from 16.6% to 7.0%. Tight monetary policy, stability in FX market and lower inflation expectation over last two years together led to big decline in inflation. Actually, Inflation in 2015 was lower than the International Institute’s forecast such as IMF, Business Monitor and World Bank. So, it is a great achievement.

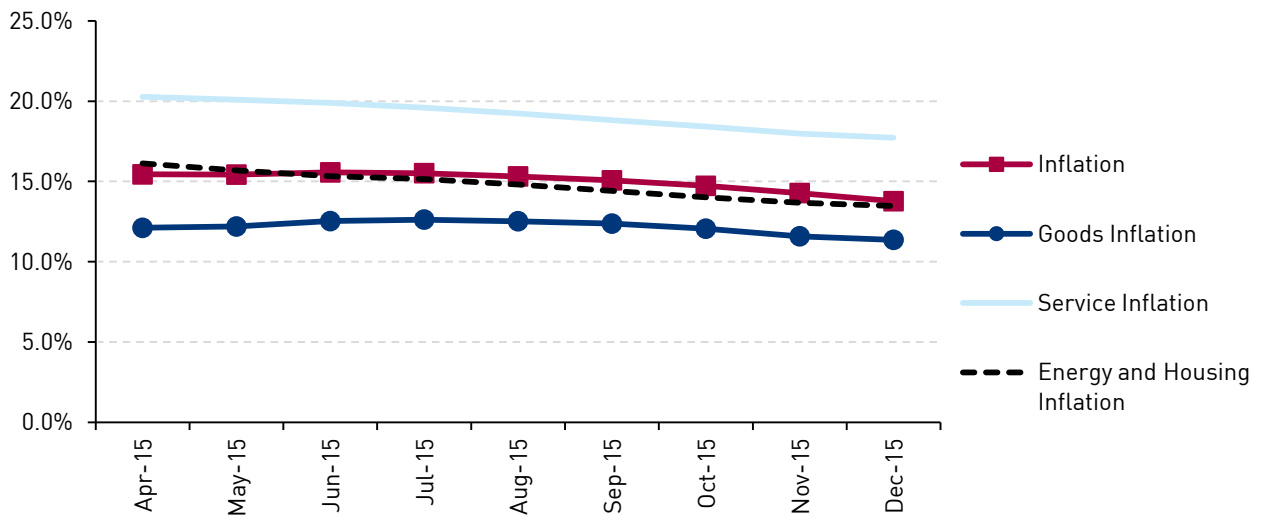
Table 1. Consumer and Producer inflation rates (%)

	12 month ended in Dec. 2014	12 month ended in Dec. 2015
Consumer Inflation	17.2	13.7
Producer inflation	16.6	7.0

Source: CBI

Monthly inflation rate at consumer side shows that inflation decreased from 15.4% in April 2015 to 13.7% in December 2015. Also inflation in services is higher than goods and commodities.

Figure1. Consumer Inflation Trend (%)



Source: CBI

Reviewing quarterly data also shows the inflation rate in the 4th quarter of 2015 has increased. The main reason for this increase is considerable accretion in commodities inflation.

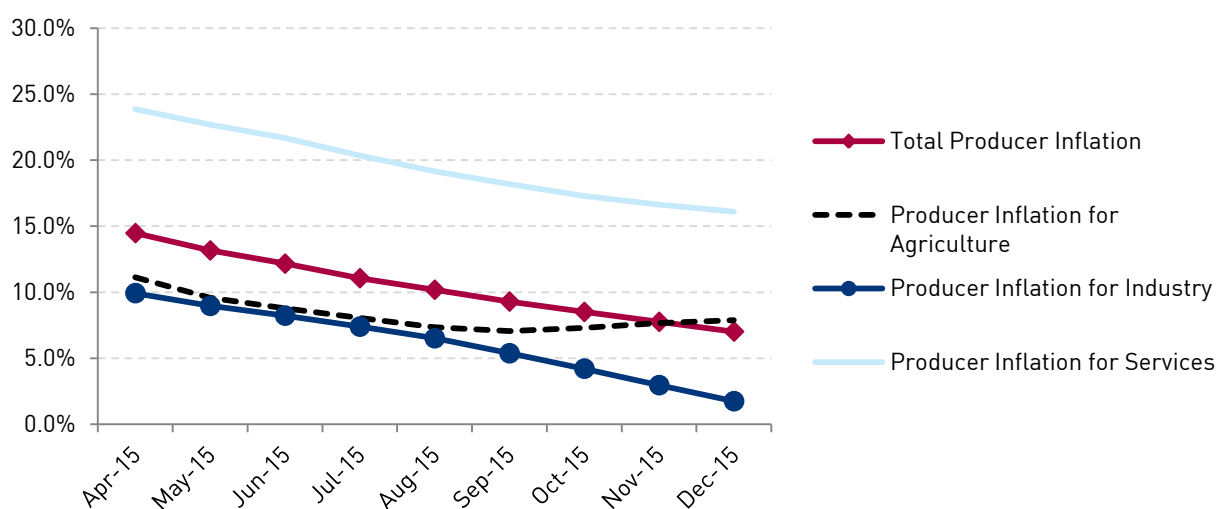
Table2. Quarterly changes of inflation rate (%)

	Consumer inflation	Commodities inflation	Services inflation	Energy and housing inflation
2015 Q1.	3.2	3.8	3.7	3.0
2015 Q2.	3.7	4.0	3.1	2.2
2015 Q3.	1.2	-0.9	4.2	2.9
2015 Q4.	1.9	0.5	3.7	3.4

Source: CBI

Producer inflation shows that the inflation decreased from 14.5% in April 2015 to 7% in December 2015. Although inflation in service sector is higher than other sectors, it witnessed a considerable reduction from 24% in April 2015 to 16.1% in December 2015. Also manufacturing has had the most reduction from 9.9% in April 2015 to 1.7% in December 2015 which was the highest drop in inflation.

Figure 2. Producer Price Index ($\Delta\%$)



Source: CBI

Quarterly review of producer inflation also shows that the inflation rate was 0.4% in the 4th quarter of 2015 which is lower than 3rd quarter of 2015. This reduction trend happened because of manufacturing sector inflation. Producer inflation in agriculture and manufacturing sectors are zero and negative respectively, which could be a sign of recession in demand side.

Table 3. Quarterly inflation in producer side (%)

	Producer inflation	Agriculture sector inflation	Manufacturing sector inflation	Service sector inflation
2015 Q1.	0.4	6.2	-2.8	2.4
2015 Q2.	1.5	0.7	0.9	3.0
2015 Q3.	1.7	-0.1	0.8	4.6
2015 Q4.	0.4	0.0	-1.9	4.2

Source: CBI

Anti-inflation policy in Q4 2015

Iran's main economic policy was to control inflation which has led to a reduction of inflation at 4th quarter 2015. Inflation in December 2015, which was 9.4 compared to similar month in previous year, has been the first record of one-digit inflation after 5 years. Following nuclear agreement, positive view enhanced which led to exchange market stability.

To reduce inflation, government tried to control monetary base. The last published data of Central Bank of Iran (CBI) shows that growth of liquidity was provided by money multiplier not by increasing of monetary base. Money multiplier was 5.4 in 2013 and 6.35 in September 2015. In addition, growth of monetary base was 10.8% in 2014 compared to 2013, while it has increased 5% in September 2015 compared to March 2015.

One of the most important components of the monetary base is the debt of banks to the central bank. So, CBI tried to prevent banks from borrowing money from CBI to control the monetary base growth. The data of 3rd quarter of 2015 shows that CBI claims on banks decreased 6% in September 2015 compared to March 2015.

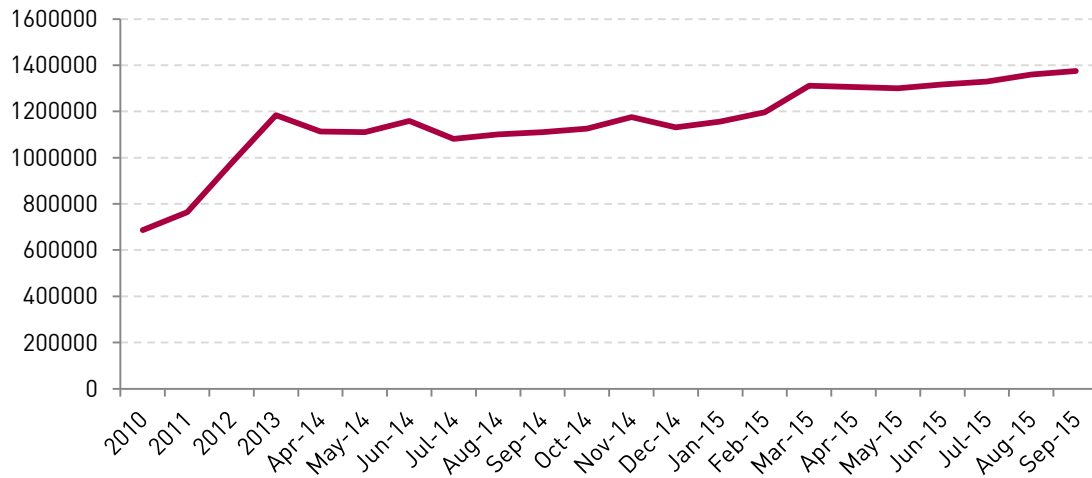
Next year inflation

For the next year, major factors affecting inflation are monetary base, supply shock and inflation expectation which will be discussed below.

Monetary base

As it is said before, monetary base is the main factor of increasing inflation. Trend of monetary base shows 10.8% increase in 2014 compared to 2013. Also, it has increased 5% in September 2015 compared to March 2015.

Figure 3. Monetary Base¹ (billion rials)



Source: CBI

To find a better way to analyze and forecast future trend of monetary base, it would be helpful to go through changes of its components, which are CBI's net foreign asset, net public sector indebtedness to CBI and CBI claims on banks.

- As mentioned before, net foreign assets of central bank is one of the important components of the monetary base. Statistics show that although net foreign assets of central bank decreased 5.6% in 2014 compared to 2013, it has increased 12% in September 2015 compared to March 2015 which has happened because of Iran's foreign assets releasing. This variable seems to continue upward trend after lifting the sanctions against Iran, because Iran's oil export revenue will increase and Iran's foreign asset will be released. So, it is expected that net foreign assets of CBI to increase.
- The other effective variable which has a great impact on monetary base is net public sector indebtedness to central bank which was always negative during 2008 to 2011. This means that a public sector deposit with CBI was always more than its indebtedness. But in 2012, net public sector indebtedness to CBI increased because of the budget deficit on which sanctions and reduction of oil income had a major impact. Also, this trend has continued until Sep 2015 and the main reason for this rise was a sharp drop in oil price. In one hand, lifting sanctions could considerably increase income which leads to lower budget deficit. On the other hand, continuing of oil price reduction resulted in higher budget deficit.

¹ . In Iran, the fiscal year starts on March 21 (1st of Farvardin) and concludes on next year's March 20.

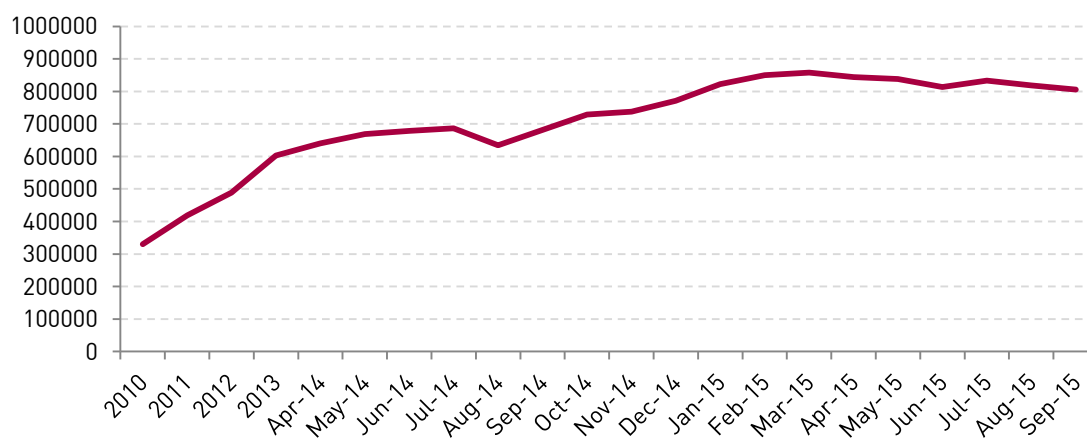
Table 4. Net Public Sector indebtedness to Central Bank (billion rials)

	2008	2009	2010	2011	2012	2013	2014	Sep 2015
Net Public Sector indebtedness to Central Bank	-109,951	-48,401	-13,874	-73,119	45,998	38,721	33,226	107,200

Source: CBI

- Central bank claims on banks, which increased 42.4% in 2014 compared to 2013, was the most important reason for monetary base increase in 2014. But after 2014, central bank claims on banks decreased. The main reason of banks indebtedness to CBI was financing the government development plans. Banking system claims on public sector has a rise of 10% in September 2015 compared to March 2015. Therefore, if government is faced with higher budget deficit, its indebtedness to banks and finally inflation will increase.

Figure 4. Central Bank claims on banks (billion rials)



Source: CBI

Supply shock

Supply shock has a great impact on inflation. Rising energy price, exchange rate and imported good inflations are the important variables of supply shock.

- Rising energy price is one of the most important components of supply shock. Energy price has increased since 2010 when targeted subsidies program was started. According to this program, after 5 years of starting program, the price of petroleum products has to be 90% of its price in Persian Gulf FOB, the price of natural gas has to

be 75% of the price of export and the price of the electricity has to equal its production cost. But after five years, these goals had not been reached because of the sanctions and exchange rate shoot ups. In addition, the income side of this program is lower than its costs which causes budget deficit. Therefore, government should increase energy price or eliminate the subsidy granted to higher income group to compensate budget deficit. Government has been doing both and subsidy of some higher income groups have been eliminated and energy price has been increasing little by little. Government seems to continue this policy and try to compensate his budget deficit by those two ways which was mentioned before.

- Exchange rate is one of the determinative elements of inflation in short term. Exchange rate changes will change inflation by changing the price of imported goods especially intermediate and capital goods. Moreover, exchange rate is one of the most key factors in shaping inflation expectation. After lifting the sanction, foreign currency resources will increase because of the rising of oil income and releasing of Iran foreign assets. Also, the major policy of government in FX market will be FX unification in coming year which seems to increase inflation in short term.
- One of the causes of domestic inflation is imported inflation. Imported inflation means the transmission of global inflation to the domestic economic. Imported inflation reduction was one of the factors which caused inflation reduction in April to September 2015. According to statistics, the average price of imported goods per kilogram reduced 6% from 1.245 dollar in 2014 to 1.174 dollar in April to September 2015. This variable seems to reduce in rest of 2015.

Inflation expectation

Inflation expectation is a factor which has a rapid effect on inflation in short term. Inflation expectation has decreased recent years. Because simultaneously with the beginning of the new government, expectations for an end to the nuclear issue have been reinforced and after reaching the agreement, inflation expectations has decreased. It seems that inflation expectation will decreased in coming year by lifting the sanctions against Iran.

Inflation Outlook

To forecast inflation rate for coming years, a macro econometric system was used. According to our forecast, the average inflation rate of 2016 could be near to 14.8% and this rate would be 15% in 2022.

Figure 3. Inflation Outlook

