



Ministry of Education
Republic of Azerbaijan

**THE IMPACT OF MONETARY POLICY
ON COMMERCIAL BANKS AFTER
DEVALUATION IN AZERBAIJAN**

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INTRODUCTION

In the history, money has become an intervention instrument for Central Banks trying to reach their objectives, rather than doing its intermediary functions. Now, Central Banks use monetary policy tools to achieve their targets as well as eliminate instabilities in financial markets. The high level of integration among economies of different countries lead to alterations in monetary policy, financial system, effective supervision function and payment system. Models and monetary policy aimed in prices and financial stability are the most affected sectors and have become more complicated. Central Banks commenced to directly target price stability and financial stability has become the secondary main objective in this process. It has become necessary to ensure independence of the instrumental objective in terms of effectiveness of monetary policy and to ensure that central banks are responsible for monetary policy implementations.

Central banks, depending on historical process and economic developments, have become the bank of banks, and this has been the most important of the underlying conditions in relation to the functioning of the financial system. The organic link between the Central Banks and financial institutions has also begun to raise the responsibility of the Central Banks in terms of the functioning of the system. The intensive integration of the banks into the monetary system, their great role in the creation of money and their key role in the monetary system have also contributed to the central banks becoming more sensitive to the functioning of these institutions and hence the financial system. Main objective of Central Banks is to ensure price stability as well as creating policies that will also provide financial stability which is required. The reason why the intervention of the Central Bank is required is due to the financial system itself. The financial system always tends to be in instability and spreads its instability rapidly to other markets and countries due to its infectious nature.

The generally accepted rule is that the monetary policy have to be based on a rule that includes macroeconomic breakdowns, prices and periodic fluctuations in growth, that is, economic stability needs to be main target. According to Taylor's rule, the result is a reversal in the long run of long-run inflation, and monetary authorities must lift this bias by modifying the floating interest rates. But the Classic Taylor Rule is actually a narrow and oversimplifying rule to explain the change and movement in interest rates. There are two main approaches to the interest rate adjustment model. First, the Central Banks will adjust interest rates and create a way to facilitate the estimation of interest rates. Second, the Central Banks must adjust short term interest rates according to the target (desired) interest rate they set. While doing this, depending on the interest rate adjustment model, it is necessary to adjust interest rates, that is, to reflect only a certain rate of change in target interest in the relevant period and the remaining portion in other periods.

CHAPTER 1 - THEORETICAL STUDY OF MONETARY POLICY, MONETARY THEORY MODELS

MONETARY POLICY, ITS GOALS AND MONETARY TOOLS

Monetary policy comprises the activities of central banks either other regulatory committee which regulates the level of growth of money supply and in this way influences interest rates. This policy is sustained by actions such as changing interest rate as well as amount of bank reserves. Practically, monetary policy stands for arranging the level of the interest rates at which the central bank deals with the banking system.

To be broad, there are two types of monetary policy, which are expansionary and contractionary. Contractionary monetary policy decelerates the level of rise in the money supply either outright reduces the money supply for controlling inflation; however sometimes if necessary, contractionary monetary policy is able to slow economic growth, supplement unemployment and reduce borrowing and spending by public as well as businesses.

Expansionary monetary policy raises the money supply for lowering unemployment, improve private-sector borrowing and public spending, and support economic growth. Commonly mentioned as "easy monetary policy," that description applies to lots of central banks since financial crisis of 2008, because interest rates have been little.

Monetary policy is not simple. In today's economies, besides its traditional functions, money is used as a tool by Central Banks to intervene in the market and achieve some objectives. In this case, monetary policy is happens to be a concept including implemented policies and decisions taken by Central Banks. With the help

of monetary policy tools, Central Banks influence liquidity and interest rates in order to achieve their targets and especially to remove some imbalances in the financial markets as well as to change decisions of economic units to reach their targets with these changes.

Central Banks have a number of objectives, by and by they have to face multiple economic circumstances. Central bankers are aware of their power and their actions have enormous impacts on the economy, however, the timing and size of these effects are not completely understood. Extensive disagreements among economists made their job more and more difficult. While for some of the economists monetary policy is a possible treatment for economic fluctuations, the other ones ignore this view and claim that monetary policy is the main cause of these fluctuations.

About 70 years ago, economists considered that the main issue that nation faced was avoidance from widespread unemployment and compensatory government expenditure, in other words, fiscal policy, was the major available tool for the government. Monetary policy had at most just a little role. About forty years ago the view of politicians and academic economists was similar claiming that monetary policy was ineffective in handling with inflation and demand management, at the same time because of most countries experienced inflation, monetary policy was aimed in eliminating inflation. In today's world, governments refer to monetary policy in order to maintain price stability. Economies are highly integrated and with this regard, monetary policies in most governments experienced radical changes. Generally, with the liberalization in financial market monetary policies, financial system, audit and payment system policies have become more complicated. It has become more challenging for Central Banks to provide healthy functioning of monetary policy and financial system as well as creating an environment without inflation has become increasingly difficult.

GOALS OF MONETARY POLICY

Monetary policy is a controversial subject between Monetarist and Keynesian schools of economics. Their thoughts on goals are alike but dissimilar on strategies, priorities and targets. Monetary policy is a demand sided macroeconomic policy. It works by encouraging or discouraging expenditures on goods as well as services. Economic downturns and upturns do not reflect the productive capacity of the economy they express fluctuations in aggregate demand. Monetary policy tries to omit these fluctuations. Central Banks can not handle with real economic growth and productivity.

The Federal Reserve uses monetary policy to effectively increase employment, diminish long-term interest rates as well as stable prices. The Federal Reserve act lists three diverse objectives of monetary policy but the Fed's instruction is mostly known as dual mandate. It could be thought that people of an economy who eager to work or already have a job or wanted to have one pretty soon and in which sable price level generates the terms required for interest rates to set at average levels. In United States decisions on monetary policy are taken at assembly of the Federal Open Market Committee. Annually, the FOMC declares in a public statement the ways it interprets monetary policy objectives and the principles that show its strategy for obtaining them. The FOMC decides that stable and moderate inflation at the level of 2 percent yearly is most compatible with goals of both shares of the dual mandate, as calculated by yearly variation in the price index of consumption outcomes. The FOMC takes into consideration a lot of labour market index as well as the number of unemployed and discouraged people either the ones who do not look for job anymore in order to assess sustainable maximum-employment level. The Federal Reserve also pays attention to how easy or complicated it is for human beings to look for jobs and for work places to find qualified employees. The FOMC does not state a determined objective for employment because the highest rate of employment is mainly fixed by nonmonetary components that influence the dynamics and form of labour market and these components can alter over time and can not be directly computable.

Figure 1 maintains a picture of the transmission process of monetary policy. To be broad, monetary policy works through stimulating or preventing growth of total demand for products and services in the economy. While overall demand slows in relation to the economy's capacity in order to create goods and services, unemployment inclines to rise and inflation inclines to fall. The FOMC can assist stabilize the economy by spurring total demand through a facilitation of monetary policy which lowers interest rates. Contrariwise, when overall demand for products is too strong, unemployment will fall to unsustainably low degree and inflation can boost. In such situations, the Federal Reserve may lead economic activity back to sustainable degrees and maintain inflation in check by limiting monetary policy to increase interest rates. The procedure by which the FOMC facilitates and limits monetary policy to obtain its objectives is summarized as follows.

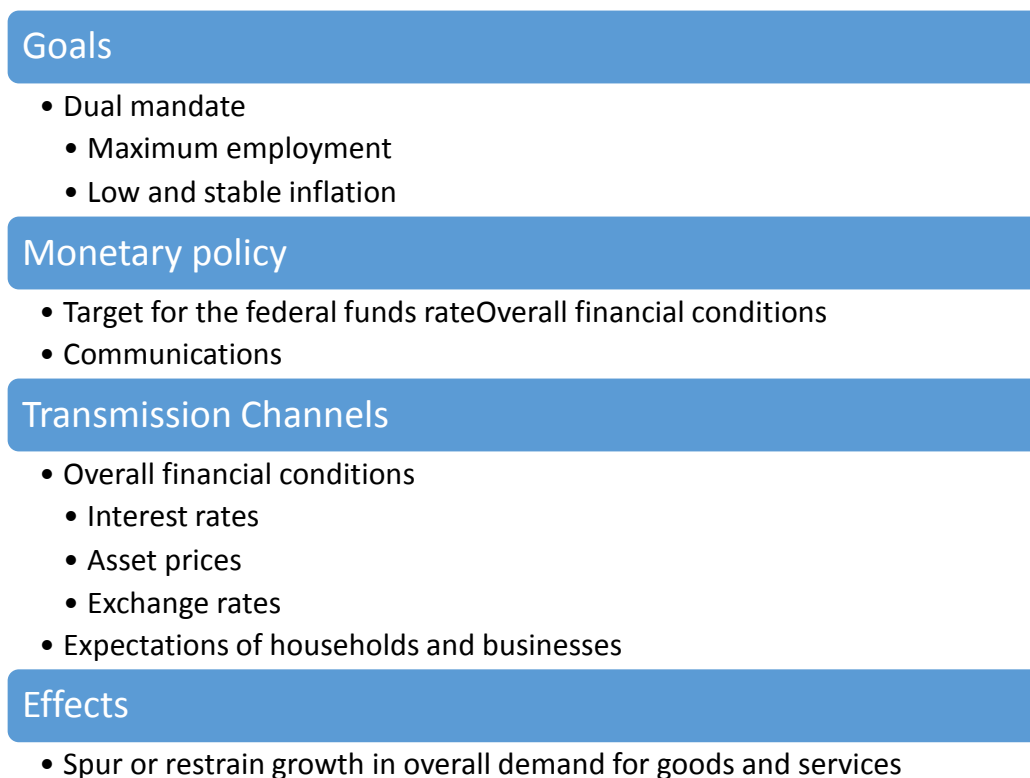


Figure 1

Goals of monetary policy frequently conflict. Should stable prices or full employment be precedence of policymakers? Monetary policies of USA and Europe differed sharply after the 1980s recession. The Federal Reserve “fine-tuned” a six-year improvement and recovered the employment and output lost in the early 80s downturns. Maintaining an attentive eye on employment and production, as well as on salaries and prices, the Federal Reserve took a step on the gas while the economic engine delayed and on the brakes threatening to overheat. Throughout this catch-up improvement, the economy expanded at a faster level than it could maintain thereafter. The Federal Reserve searched to decelerate its expansion to a sustainable speed as full employment was renovated.

Central Banks in Europe, driven by the German Bundesbank, were more reactionary. They did little to assist their economies to catch up. These banks considered active monetary stimulus as risky inflationary, even while their economies were hardly developing from recession. They were insistent never to fund more than sustainable noninflationary increase, even temporarily. Europe renovated much more slowly than USA, and its unemployment level have rose from the 1970s.

There is a crucial problem: Expansionary monetary policy, everyone agrees, boosts aggregate expenditure on products and services—by the public, firms, governments, and foreigners. But will those new demands increase output and recruitment? Or will they only increase prices and boost inflation?

Keynesians assert the answers depend on conditions. Full employment means that people who are rather productive to be worth the current real salaries and demand a job at that salary are employed. In such circumstances, more outcome just brings inflation. Mostly, however, qualified willing employees are involuntarily fired; there is no requirement for the goods they would produce. More expenditure will make them to work. Rivalry from businesses with surplus capacity and from lazy workers will maintain extra expenditure from igniting inflation.

Monetarists reply that nature's cure for surplus supply in each market is price cut. If salaries do not fix to unemployment either government or union regulations are maintaining them artificially great or the jobless chooses for leisure or unemployment compensation in order to work at prevailing salaries. Either way, the issue is not curable by monetary policy. Injections of recent expenditure would be useless and inflationary.

A.W.Phillips's well known curve depicted salary inflation varying reciprocally with unemployment. Keynesians were persuaded to explain it like a policy trade-off: fewer unemployment at the cost of a limited boost in inflation. The economics profession was convinced by Milton Friedman that if monetary policy insistently attempts to bring unemployment beneath "the natural rate of unemployment", that will just speed up the inflation rate dramatically. Further conclusion of Friedman that monetary policy have never to care itself with unemployment, manufacture, or other real elements has been essentially influential. However, in circumstances of Keynesian slack, like recent American practice again approves, demand growth can develop real macroeconomic performance without increasing prices.

Central banks employ wide range of tools to form monetary policy. The money supply is directly affected by open market operations through purchasing short-term government bonds (in order to increase money supply) either selling them (in order to decrease money supply). Base interest rates, like the LIBOR and the Federal Reserve funds rate, influence the demand for money through raising or falling the cost to borrow—in theory, price of money. When borrowing is cheap, businesses will take on much more debt to put money into hiring and expansion; the public will make greater, long-term purchases with inexpensive credit; and savers will possess more incentive to put their money into stocks or other assets, preferably earn very little through savings accounts.

In the Republic of Azerbaijan, the Central Bank uses 3 major tools to implement monetary policy. These tools are standing facilities, open market operations and reserve requirements.

1. Standing facilities

This instrument includes short-term funds concentration and placement, which are used to be in charge of short-term liquidity of banks and started by banks at interest rates identified by the Central Bank of Azerbaijan. They are crucial in stopping dramatic fluctuations of banking system liquidity, relatively, interest rates of the interbank market.

2. Tools on open market operations

Open market operations are commenced by the Central Bank of Azerbaijan to reach operational goals of the monetary policy, control money supply in flow and affect interest rates in the interbank money market.

3. Reserve requirements

The reserve requirement is a monetary policy tool used to regulate money supply and banking system liquidity. Required reserves are a part of funds attracted by banks which they must hold with the CBA.

1.2 EFFECTS OF MONETARY POLICY ON FINANCIAL PERFORMANCE

One of the essential parts of a financial sector is banking system. Banking sector probably contributes the most important numbers of money supply in a nation. 'Bank' itself is a concept, which precisely means to keep or stock. The term has actually been known since centuries when trusted community or parties of an ethnic group either another form of nation were deposited to protect precious items or pieces of property of the public. These entrusted human beings used to carry out an alike action as that of the bank, that is; to stock or overlook the wealth of another when

charging an inadequate fee. The term now evolved to that we now call as "commercial banking". And the system has thrived in the sense that as an alternative of only performing the mission of preservation or storage, the institution additionally, may re-invest some pieces of the overall wealth obtained from clients elsewhere and to get some gain on it. Monetary policy imposed by the central bank has positive impact on bank performance¹. The globalization and technology are shifting up the fiscal system; recent products and innovation provide a great population of investors and also regulatory authorities to encounter the difficulties faced by the system. One of the major cause analyzed during the financial crises 2007-2009 was the bank risk taking was the impact of monetary policy on it². Low level of short term interest have often been as one of the indicator contributing to risk taking by the banks and ultimately the performance of the bank³. Surplus liquidity created by the free monetary policy could inspired banks to boost their real risk situations in two ways. Initially, in case of the interest rate is little it will affect income, price and cash flows that in turn inspect how banks calculate estimated risk. Secondly, little return on investment like government bonds, accomplished with lower cost for gaining new debt for investor and borrower in order to take more risk. That is through contractual behavior or institution causes.

Because of there is spacious room over growth of theoretical literature wide range of factors that differently affect through banks has not been taken into consideration.

1.3 MONETARY THEORY MODELS

¹Taylor & J.B, 2009

²Taylor & J.B, 2009

³Adrian, 2009; Borio, 2008

Many thoughts about the relationship between inflation and unemployment has been referred by economists and scientists during the last years. Firstly, this progress appeared in 1958, by William Phillips who wrote the article named as “The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861-1957”. This experimental survey was enforced by a curve. This curve is known as “Phillips Curve “. The Phillips curve defines the negative relationship between these two macroeconomic indicators, on the other hand we can say if there is lower rate of unemployment there is higher rate of inflation.

In the years of 1970, in some countries higher rates of inflation and unemployment preponderated, as Phillips curve came under a concerted attack by some economists which disputed the Phillips curve relationship, there was just short-run effect (Friedman, 1968). Friedman’s critique was that the long-run had no bargaining between inflation and unemployment. Taking into account Keynesian theory, governments should intelligently show its endured molestation to the high rate of unemployment and it would lead the lower level of unemployment and afterwards a trade-off between unemployment and inflation.

Inflation and unemployment have an essential role in the economic growth and developing of any country. These two indicators allow determine the rate of poverty in one country. Due to this, the countries are willingly to increase their production level in order to stabilize the effect of unemployment and inflation. Furthermore, the optimization of goods and services can positively affect to promote the standard of living and can improve the social consistency of country. The inflation level in the economy of Azerbaijan has in recent years been fluctuating particularly according to inconsistencies in the Real Gross Domestic Product (RGDP). As Azerbaijan is the crude oil driving country, the big amount of governmental revenue based on it. The rise and fall the increasing and decreasing of International Oil price negatively affect to the revenue. In addition to, the peoples’ minds about this situation and valuable choices have also been influenced by it significantly.

This study is conducted to define the interaction between the unemployment and inflation rate. The precise purpose of this research work will concentrate on the workability of Phillips curve in the related years. Then we will analyze it why the case is on Azerbaijan by using regression analysis, correlation analysis and other statistical tools. Statistical graphs were also regularly used in our research. In conclusion we reflected the key finding from the analysis.

In this article, we have analysed relationship between unemployment and inflation in Azerbaijan. Initially, we have given comprehensive information about the start of Phillips curve. We have also reported about the economists who denounced Phillips curve. In the third part of the paper, we have implemented the data collected from the official website of The State Statistical Committee of Republic of Azerbaijan. Furthermore, in our analysis, we have utilized VAR regression analysis, cointegration tests, granger causality tests. Then our analysis based on the research and showed it with the result.

There are a lot of discussions and thoughts about the Philips curve: the negative, the natural hypothesis and the positive hypothesis. The explanation of two economic factors which are unemployment rate and inflation rate was examined in some periods of time and it continued since the finishing of World War II. The first period talked about the acceptance of Phillips hypothesis (Friedman, 1976). Phillips expressed his minds that between the rate of unemployment and inflation was negative consequences and rate of changes in wages. The decrease in salaries related with the higher rate of unemployment while jump in wages based on lower rate of unemployment. Initially granted, it could be asserted that changing of prices of goods and services affected significantly change in wages and it caused an increase in the level of productivity (Phillips, 1958), (Friedman, 1976). A research work carried on inflation and unemployment in the EU for 1998-2007; it was found that between two macroeconomic factors the simple linear correlation is coefficient. Constantly, it determines that the consequences of relationship are not negative. Another experiment was managed using Azerbaijan's economic condition to determine the

trade-off between the rate of unemployment and inflation in less developed economies. VAR model was utilized and the result was with no trade-off between these economic factors.

The Unemployment theory

Unemployment is a process that happens when people try searching for employment, however could not find work. Additionally, it is sometimes used to measure the health of economy. It could be explained that to measure the level of unemployment is equal to dividing the unemployed people to the amount of people in the labor force. Unemployment consists of three essential parts, which are given below:

- Frictional Unemployment, happens when a person is in between jobs. It takes a lot of time to search and find new job, when he or she leaves the company and it causes such type of unemployment.
- Structural Unemployment, occurs with the impact of technologies which prevail the labor force and human skills and abilities loses their strength.
- Cyclical Unemployment, related with cycle in business activity. To be more precise, it comes through in the recessive phase and economic growth is decreased by the impact of it.

The Inflation theory

This process came to the fore after the replacement of metal coins with paper money. After the printing of paper money, the money began to lose value compared to the commodity market. In the future, this process, called inflation, is the decline in the purchasing power of money, becoming one of the biggest problems of the modern era.

Inflation has an essential effect particularly on determinate incomes in every economy, in addition to, it has forceful impact on their standard of living related with decrease in real revenue, savings and stock arrangements. On the other hand, inflation influences negatively to economy of country and prevents developing of country's economy, this causes creation of unrest among the populaces.

Inflation consists of three major parts: Demand-Pull Inflation, Cost-Push Inflation, Monetary Inflation, Demand-Pull Inflation, occurs when the supply is exceeded by the demand and the amount of price is increased in the market by the sellers.

Cost-Push Inflation, it is inflation in which the cost of production is increased by the companies, according to this process producers increase the amount of prices.

Monetary Inflation, occurs in the economy when the money supply is increased and the result is that the price of everything rise up.

As we know from the theory of the Phillips Curve there is relationship between unemployment and inflation rate the. In the major factor plays the skills and benefits of Phillips curve who determined that in the period of low wage inflation, the unemployment rate was high and in the period of high wage inflation it was low. According to Phillips when unemployment rate is low, there appears a shortage in the labour market and because of this; companies try fascinate employees by high salaries. Nonetheless, when unemployment rate gets higher, the scarcity in the labour market will change into the excess, thus the same process will take place in an opposite way. Phillips shared his findings in one of his academic articles in the economics journal of “Economica”. Little later, new theory of relationship between wage inflation and unemployment got popular in New Zealand, USA and European countries. However, Phillips referred that talking about inflation he actually thought the wage inflation, not the price inflation. Later in 1960, new theories were suggested about the impact of inflation to unemployment rate and in the same time were discussed about the being of wage inflation higher than price inflation and one of them was the theory by Paul Samuelson and Robert Solow.

After, the economy of the USA was scrutinized, P. Samuelson and R. Solow talked about the article which name is “Analytical Aspects of Anti-Inflation Policy “It was published in the journal of “American Economic Review “which reflected the relationship between the rate of inflation and unemployment rate was negative, when in the economy the level of unemployment was high, according to this the level of

price inflation was low. Nonetheless, it was determined that, there was a big variety compare the real life with the theory of “Phillips Curve “by the stagflation of 1970. As there were a lot of economists who argued and commented the Phillips curve theories, among them have a lot of gaps was Milton Friedman and Edmund Phelps. Due to them, both employers and employees must notice directly to the real inflation-adjusted wages, also government should try to get and save perfectly the natural unemployment rate in the economy. Furthermore, M. Friedman and E. Phelps made their minds to comment, government cannot always imply the high inflation rate policy to maintain the level of unemployment low. According to our assumption let’s think that in the economy the rate of unemployment is on its natural level. Employee is confident that their wage has been increased in the level as the price inflation, however real salaries have not been changed due to not decreasing of the real acquiring strength of his salary. Right now let’s assume that, government tries to decrease the rate of unemployment below its natural level by imposing monetary policy. And the economy will face with the increase, which will cause the growth both in wages and price as a result of the policy. At this time, when we think in the real salaries have been observed the real rise, they will get inspired to work a lot of hours and to earn more salaries, therefore, in the labour market will occur the excess. Companies will attract a lot of employers due to increasing of real revenue. Hence, the level of unemployment will decrease significantly compare with the natural level. Nonetheless, later a little time, employees will require a lot of money and it will affect them to realize there is a rise in price and the rate of unemployment will turn back to its natural level. Experiments by Friedman and Phelps proved that there is a difference between short and long-term. In addition to, relationship between the rate of unemployment and inflation is not positive and it creates the result of average inflation rate is constant. Even so, if the rate of average inflation rate was changed according to policies which imposed by government, it implements also to decrease the unemployment rate, after this process the level of unemployment rate will turn

back to its natural level, therefore there will not be seen relationship between the unemployment rate and inflation.

Materials and Method

After regaining of independence in 1991, the Republic of Azerbaijan started to accomplish its dominator rights in economic sector, therewith it started to implement independence policy. The major factor of this policy are the arrangement of economic system, changing market economy and opening gates to the countries in order to integrate to global world.

According to its great amount of petroleum reserves, Azerbaijan is known as a region of oil. During last 3 decades of XX century oil generation dropped gently related with the depletion of surface layers of the country. In the beginning of 1990s, when Azerbaijan regained its independence, role of oil sector grewed considerably playing a major role in the country's economic development. In 1994 Azerbaijan came to an agreement with the other oil companies of developed countries, called as "Contract of century ". With the help of this important project could broaden its financial development in the next years. Due to great amount of foreign investment our domestic economy has experienced rapid progress in 2000s.

The Republic of Azerbaijan is an Asian country which is situated along the Caucasian mountains. In the country most populated nations are local nations with different Turkish, Russian and other few nations. The population of Azerbaijan Republic according to the Statistics Committee of Azerbaijan is nearly to 10 million. It consists of 66 regions, 11 cities and 1 autonomous republic. The capital of Azerbaijan is Baku. The big amount of Azerbaijan's economy based on oil drive which is got from the Caspian Sea and from the landscape.

Data

Using annual data from the database of State Statistics Committee of Azerbaijan, the paper examines the relationship between inflation and unemployment in Azerbaijan. The data used related to the period of 1990-2016. The following line graphs shows the inflation and unemployment in Azerbaijan in this period.

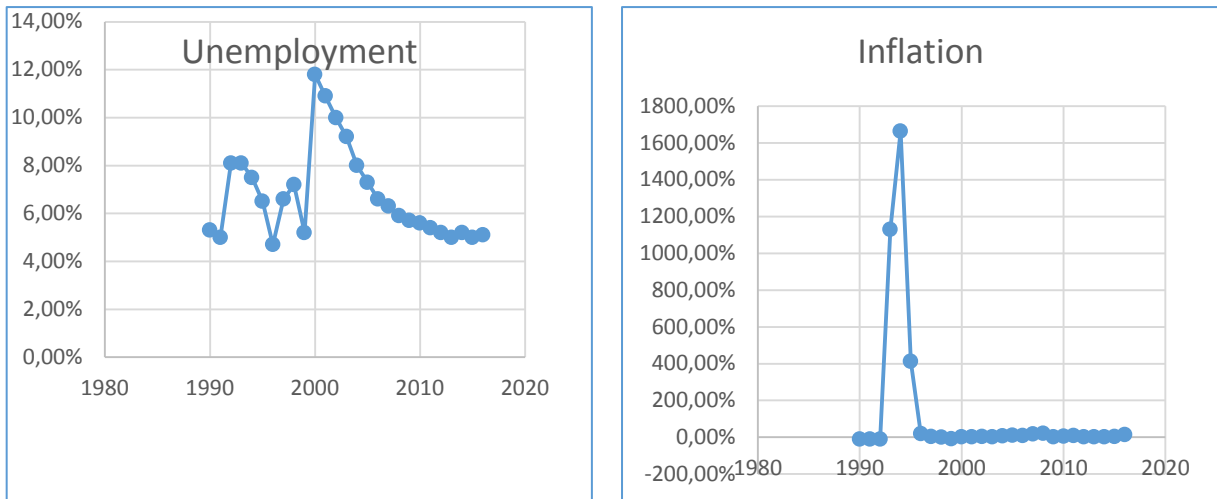


Figure 2

Model specification

The analysis in this paper carried in three phases. Firstly, I conducted unit roots using the test namely: Augmented Dickey – Fuller test (ADF test), to avoid spurious Regression. Secondly, I performed Engle-Granger Cointegration Test. Thirdly, I performed Granger Causality Test.

$$\text{Our model will be: } \ln UNEt = \alpha + \beta \ln INFt + \varepsilon i$$

Where $UNEt$ is unemployment rate, $INFt$ is inflation which is measured by consumer price index, while α and β are the coefficient to be estimated and the εi is error term. In addition, “ln” standing for the natural logarithm. The following table shows regression results using OLS. There is weak and positive correlation between inflation and unemployment in Azerbaijan. Here, r-squared is approximately equal to zero, means that no association between variables.

Dependent Variable: UNEMPLOYMENT				
Method: Least Squares				
Date: 07/08/17 Time: 12:22				
Sample: 1990 2016				
Included observations: 27				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFLATION	0.000682	0.000995	0.685149	0.4996
C	0.066723	0.003934	16.96008	0.0000
R-squared	0.018431	Mean dependent var	0.067556	
Adjusted R-squared	-0.020832	S.D. dependent var	0.019242	
S.E. of regression	0.019441	Akaike info criterion	-4.971633	
Sum squared resid	0.009449	Schwarz criterion	-4.875645	
Log likelihood	69.11705	Hannan-Quinn criter.	-4.943091	
F-statistic	0.469430	Durbin-Watson stat	0.743657	
Prob(F-statistic)	0.499554			

Figure 3

Unit root test

The first step in empirical work was to test stationary vs. non-stationary of the series and to determine the degree of integration of both variables. The ADF unit root test with “intercept” and with “intercept and trend” adopted to check whether the series are stationary or they contain a unit root, which means they are non-stationary. The results of ADF test reported in the Table for the level as well as for the first difference of each of variable. According to the ADF test, the series are stationary at first difference. Here, k is optimal lag length chosen by AIC (Akaike Information Criteria). Symbol Δ means first difference.

ADF	(Intercept)			(Intercept and Trend)		
	k	t-Statistic	P value	k	t-Statistic	P value
ln INF	4	-135.2382	0.0000*	4	-90.6488	0.0000*
Δ ln INF	2	-4.8157	0.0009*	2	-4.7166	0.0053*
ln UNE	0	-2.3465	0.1659	0	-2.6849	0.2501

Δ	\ln					
UNE	0	-6.1163	0.0000*	0	-6.1644	0.0002*

Figure 4

Cointegration Analysis

First, we model the relationship between inflation (INF) and unemployment (UNE). Since the variables follow an I (1) process, we can proceed to the Johansen cointegration analysis. Using VAR, taking six as a maximum lag length, and applying each of the lag selection criteria, we obtain the results shown in Table.

Lag	LogL	LR	FPE	AIC	SC	HQ
0	78.79099	NA	2.29e-06	-7.313428	-7.213949	-7.291838
1	87.76163	15.37823	1.43e-06	-7.786822	-7.488387	-7.722053
2	90.06717	3.513206	1.70e-06	-7.625445	-7.128053	-7.517498
3	92.00534	2.584234	2.15e-06	-7.429080	-6.732732	-7.277955
4	97.48624	6.263877	1.99e-06	-7.570118	-6.674813	-7.375814
5	99.79277	2.196703	2.62e-06	-7.408836	-6.314574	-7.171353
6	160.8926	46.55222*	1.37e-08*	-12.84691*	-11.55369*	-12.56625*

* indicates lag order selected by the criterion
 LR: sequential modified LR test statistic (each test at 5% level)
 FPE: Final prediction error
 AIC: Akaike information criterion
 SC: Schwarz information criterion
 HQ: Hannan-Quinn information criterion

Figure 5

As can be seen from the table all the employed criteria prefer three as an optimal lag length. Moreover, the VAR specification with 6 lags has no serial correlation in the residuals. Two or more variables are said to be co-integrated if they share a common trend. In other words, the series are linked by some long-run equilibrium relationship from which they can deviate in the short-run but they must return to in long run, i.e. they exhibit the same stochastic trend. The results of the Trace and Maximum Eigenvalue cointegration Tests, demonstrate that between inflation (INF) and unemployment (UNE) are not cointegrated and that there is no long-term relationship between them. The Johansen-Juselius procedure of Co integration enables us to examine the existence of Co-integration between two non-

stationary series, which requires that the matrix Π does not have full rank (zero $<$ r (Π) = $r < n$) where (r) is the number of Co-integration vectors. This procedure depends on the Trace test (λ trace) and The Maximum Eigenvalues test (λ max) to determine the number of Co-integration vectors between variables based on a likelihood ratio test (LR). The trace test (λ trace) defined as:

$$Trace = -T \sum_{i=r+1} \log(\lambda_i)$$

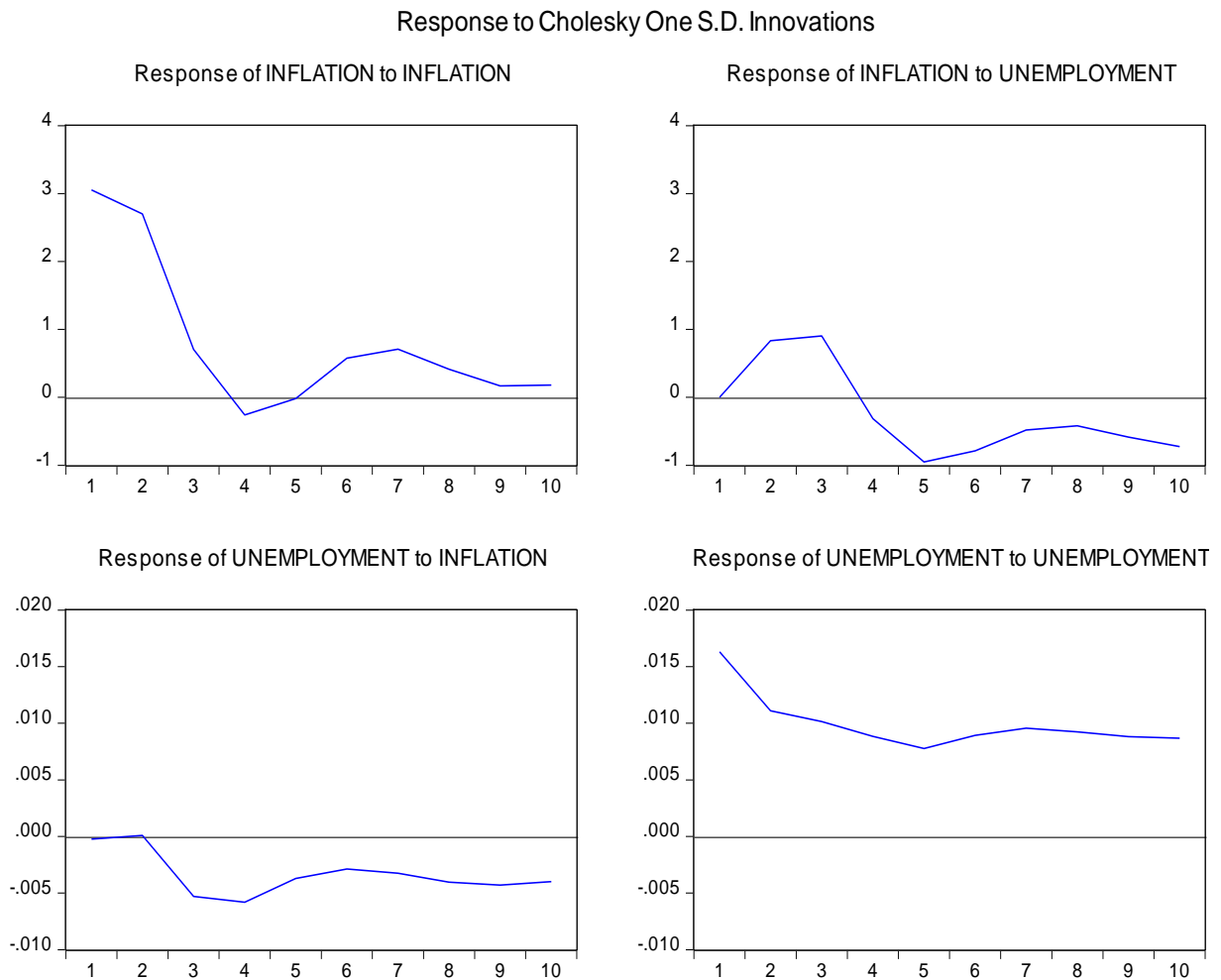
The null hypothesis is that the number of Co integration vectors is $\leq r$ against the alternative hypothesis that the number of Co integration vectors = $r + 1$. The maximum eigenvalues test (λ max) defined as:

$$Maximum\ Eigenvalue = -T \log(1 - \lambda)$$

Which tests the null hypothesis that the number of Co integration vectors = r against the alternative that they are $r + 1$.

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.177502	6.337980	15.49471	0.6556
At most 1	0.066368	1.648162	3.841466	0.1992
Trace test indicates no cointegration at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.177502	4.689818	14.26460	0.7804
At most 1	0.066368	1.648162	3.841466	0.1992
Max-eigenvalue test indicates no cointegration at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values				

Figure 6,7



Causality test

The above analysis suggests that there does not exist a long-run relationship between government revenue and expenditure in the country. However, in order to determine which variable causes the other, granger causality test was used. The Granger causality test results are presented in table below. (UNE) on (INF) is not statistically significant at the 5% level, implying that there is no causality running from (INF) to (UNE). The F statistics imply that the null hypothesis (INF) does not granger cause (UNE) can't be rejected at the 5% significance level. On the other hand, (INF) on (UNE) is not statistically significant at 5% level and the F statistics imply that the null hypothesis that (UNE) does not granger cause (INF) can't be rejected at the 5% significance level. This indicates that there is no causation relationship between unemployment and inflation in Azerbaijan. Thus, there is no

trade-off relationship between unemployment and inflation for the period of the study in Azerbaijan .

Null Hypothesis:	Obs	F-Statistic	Prob.
INFLATION does not Granger Cause UNEMPLOYMENT	25	0.79866	0.4638
UNEMPLOYMENT does not Granger Cause INFLATION		0.68104	0.5174

Figure 8

CHAPTER II - AZERBAIJAN BANKING SYSTEM BEFORE AND AFTER DEVALUATION, THE REACTION OF CENTRAL BANK AND ITS EFFECTS.

2.1 REVIEW OF AZERBAIJAN BANKING SYSTEM BEFORE DEVALUATION AND MONETARY POLICY STRATEGY OF CENTRAL BANK OF AZERBAIJAN

Banks are an integral part of our life and financial institutions that make our life feasible and maintain us services. As an essential piece of financial markets, it is important to learn the elements that affect the benefits of the banks.

The availability of the contemporary economy of countries is not possible without a sufficient banking system. Banks are financial institutions defined as

enterprises that engaging buying and selling financial assets, which deal with deposits, lend out these deposits as loans and related with other financial services¹.

Although, the majestic development in domestic economy and controlling reforms over decades, banking sector of Azerbaijan is still small related to the dimensions of the economy. Despite, oil sector is representing as the major measure for economic and social growth of Azerbaijan. Nowadays the Republic of Azerbaijan is pursued to thrive of the non- oil sector. In order to decrease the economy's oil dependence, banking sector needs to act an essential role.

Banking sector in Azerbaijan has been in many diverse changes after obtaining freedom. Throughout decades, there have been many regulations, reforms and consolidation in order to thrive the banking system. But Azerbaijan banking system should have more regulatory alterations. The banking sector included 45 banks, from which one of them was a government bank and the others were private in the first six months of the year 2015. Despite of wide range of banks, our banking sector is dominated through few big banks. Therefore, the largest 10 banks had 80 percent of overall market share of assets, credit portfolios and deposits. In fact, the number of banks of Azerbaijan is the most debated aspect. If we compare nations with alike size, there wide range of banks in our country. The CBAR worked in order to diminish the number of banks to the half. According to the territory and size of population, 45 banks are too many for the country, thus 20 banks may consider as an optimal number². Large number of banks in the domestic market should indicate a high level of competition.³ But, the reality was distinct. The absence of high quality services maintained by banks, great loan rates, complicated procedures to get these loans, unwanted degree of banking system, are factors that makes stronger the lack of rivalry idea. However, there is not any other role according to the region and dimension of residents of the nation that to calculate amount of banks in country.

¹ Tobin 1987

² Alim Guliyev, 2010

³ Ziya Aliyev, 2011

State-owned banks in Azerbaijan started to be established from 1988 onwards. The government banks such as Agrop RomBank, Promstroybank, Sberbank, Vneshe Kombombank and Zhilstroybank which were established in the USSR at that time, opened branches in Azerbaijan. The branch of the bank carrying the name of Zhilstroybank and undertaking to finance the construction of housing was liquidated in 1990 and the others continued to operate as state banks of the Republic of Azerbaijan after independence. Afroprombank in 2000. Promstroybank and Sberbank merged to form BUS Bank (United Universal Bank), which was renamed the "Kapital Bank" on January 29, 2005 and then privatized in 2008. Today, "Beynelhalk Bank" continues to operate as a single state bank.

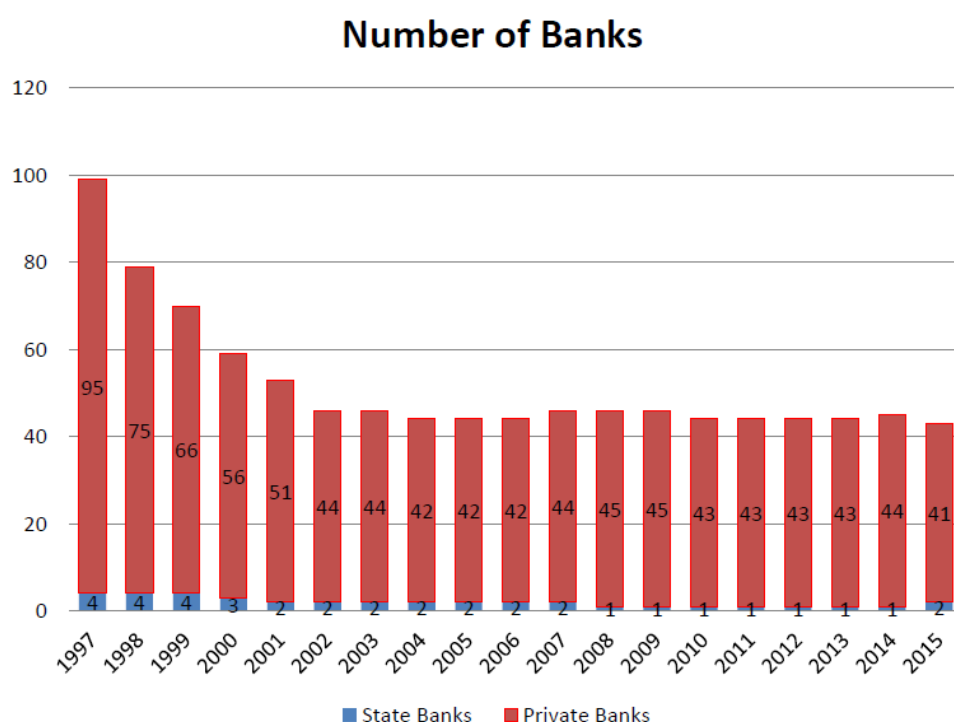


Figure 9: Number of Changes of the Banking Sector

After obtaining independence, the first national banknote Manat was put into flow. According to the basis of the economy of Azerbaijan to generate a legal framework for modern and competitive banking system, two crucial laws ran into force in 7th of August in 1992. They were "Law on the Central Bank" and "Law on Banks and Banking Activities" that was confirmed by the National Assembly of

Azerbaijan. In June 1996, the new "Law on the Central Bank" and "Law on Banks and Banking Activities" ran into force¹.

In accordance with law, the banking system of Azerbaijan is two stepped including the CBAR as well as credit institutions. The basic central bank of the country, which is on the top, is the bank of the nation and its operations are controlled by the Constitution of the Azerbaijan Republic, "Law on Azerbaijan Republic Central Bank" and by other legal acts. In accordance with the legislation, the Central Bank gives permit to the banking operations, carries out supervision and controls banking activity in the way prescribed by the law.

The first regulations in the economies that transition to a centralized econometric market economy are in the banking sector, and these economies are moving from a single bank system to a two-sector bank. Azerbaijan has followed a similar path and has put into effect the regulations on banking and central banking which constitute one of the most important steps towards transition to free market economy without delay.

Thus, the central bank in the first sector and the commercial banks in the second sector together form a two-sector bank system. The structure of the newly formed Azerbaijan bank system consists of the Central Bank of Azerbaijan (ACMB), Interbank Currency Market, state and private banks.

The CBAR is accredited to control the operations of all banks functioning in the nation and currency across the country. The bank serves to the other banks as well as government and it does job with them, however, not with customers. And other banks directly maintain services to customers.

In accordance with the statistical bulletin from 2015, the amount of operating banks are 41. Referring to the bulletin, compared to past years, 5 departments and 16 branches of banks were closed and 50% of the private banks, to be more precise 21 of them, are held of foreign capital. Otherwise, two of them have failed in the end of year.

¹ The Annual Report of Central Bank of Azerbaijan, 2007

The level of growth of the banking sector could be calculated by the proportion of the total asset to GDP. In the last decade, the amount of banking assets rose by approximately 7 times and in 2015 became about 26.4 billion AZN. Therefore, proportion of banking sector overall assets to GDP was 48.62 % in 2015. Increase rate of this sector's assets from 2006 to 2015 surpassed nation's GDP growth rate. So, less oil price in the market led to dramatic plummet in the development of assets.

Years	GDP (billion AZN)	Volumes of assets (mln AZN)	Assets to GDP (%) ²⁴
2006	18.0	3778.0	20.99
2007	26.8	6725.7	25.10
2008	40.1	10273.5	25.62
2009	34.5	11665.2	33.81
2010	41.6	13290.8	31.95
2011	50.1	14259.2	28.46
2012	54.0	18037.7	33.40
2013	57.7	20385.1	35.33
2014	59.0	25182.3	42.68
2015	54.4	26462.6	48.64
Average	43.6	15006.1	32.60

Source: *The World Bank group, Central Bank of Azerbaijan – 2015.*

Figure 10: The Interests of Banks Assets in GDP, 2006 - 2015

In the year of 2015, FX policy was the main mission of CBAR. FX policy was directed in response to rocket international rivalry and provide macroeconomic sustainability of the nation, in the middle included foreign exchange supply canals as well as dramatic increase in demand for external currency in 2015.¹

So, 2015 was the year of dive supply and dramatic increase in demand in the FX market. Nominal FX supply referred before in attributable to decrease foreign currency profit due to collapse in oil and gas prices and the declined economic case in partner nations. Conveyance from oil earnings were essentially less between reduced excess of the balance of payments. Sharp rise in foreign exchange demand is

¹ Monetary Policy Review – CBA 2015

explained by high dollarization. Slump in oil prices in global commodity markets, and the waves of devaluation in our main trade partners heightened expectations of the devaluation of the national currency in the country triggering high dollarization. Sharp rise in foreign exchange demand weighed on cash and cashless segments of the FX market alike.

	2011	2012	2013	2014	2015
Assets	7.3	26.5	23.3	23.5	5.12
Loans	8.1	24.3	26.0	20.2	-2.65
Deposits of legal entities	16.08	-0.18	0.54	40.77	-18.76
Deposits of population	36.0	24.1	25.1	12.4	-12.34
Aggregate capital	12.7	20.3	33.2	24.6	1.91

Source: Personal calculations based on the report of Central Bank of Azerbaijan – 2015.

Figure 11: Growth percentage of essential determinants of the Banking System of Azerbaijan, in percent

	2013	2014	2015	Change 2014-2015, %
Interest Income	1646.9	2255.7	835.2	-62.97
Interest expense	817.6	986.4	351.8	-64.33
Non-interest income	442.6	476.45	185.9	-60.98
Non-interest expense	759.8	909.14	352.7	-61.21
Total income ²⁷	2089.5	2732.2	1021.1	-62.63
Total expense ²⁸	1577.4	1895.5	704.5	-62.83
Net operation profit	512.1	836.61	316.6	-62.16

Source: Central Bank of Azerbaijan, *Financial Stability Review 2015*

Figure 12: Profits of Azerbaijan Banks, million manat

Four years ago, the CBAR accomplished its monetary policy in accordance with the “Statement of the Central Bank of the Republic of Azerbaijan on main

directions of the monetary and financial stability policy for 2014”¹. The CBAR followed its exchange level policy throughout targeting the bilateral USD/AZN exchange rate. Supply overcame over demand in the foreign exchange rate market between excess in the nation’s balance of payments. In order to suppress fortify of the exchange level the CBAR bought net USD 143.8 million currency. It is important to note that, in last month of the year under psychological work of important devaluation of exchange rates of national currencies in neighbour nations demand for dollar in Azerbaijani foreign exchange rate market rose, pursuing by CBAR’s sale interferences. Over the reporting term, the exchange level of AZN against dollar stayed almost unaltered and fortified as less as 0.02%. AZN fortified against foreign currencies of countries such as Euro zone, Great Britain, Turkey, Russia, Ukraine, Georgia, Kazakhstan, Japan, Israel, China and South Korea both in real and nominal turns, however it decreased in value in real terms against the currencies of the USA, Iran, Belarus and Switzerland.

2.2 DEVALUATION (2016 YEAR) AND ITS ECONOMIC CONSEQUENCES ON COMMERCIAL BANKS

In 21st of February, 2015 the official exchange rate of USD to AZN, set at 1.05 AZN, that is 33.86% more than the exchange rate set previously at the beginning of the weakening procedure of the rate. National currency of Azerbaijan has been decreased in value against USD for the first time since 2006. The CBAR faced a dilemma to decrease value of AZN since the dramatic dropping of raw oil and gas price in the world market second half of 2014. As a matter of fact, CBAR announced that dramatic depreciation would not be in the government’s agenda in the following years. Only after 2 days the governor’s official announcement on not going to

¹ Monetary Policy of Central Bank of Azerbaijan for 2014

dramatic depreciation, AZN lost its value in opposition to basic foreign currencies by 33.86 percent. The rate of AZN fell from 0.78 to 1.05 in opposition to USD. In fact, the dramatic devaluation of AZN on 21st of February in 2015 was generally in accordance with movements of other developing economies. The unexpected fall of the currency has undermined credibility to Central Bank and the banking system — counteracting the government's avowed aim of boosting growth by improving external competitiveness. The question here is that why sharp depreciation not gradual depreciation, as Central Bank has before promised, has happened. And again, why 34 % devaluation not 12-15 % which has before promised by Central Bank? Even though the Government of Azerbaijan promised gradual devaluation, but in effect slow depreciation would be a supportive tool to reach goals the government has listed out. Gradual depreciation would increase Central Bank's intervention cost in addition to would increase budget revenues in manat term so much. Devaluation percentage less than 30.0 % would not be enough to cover the state budget's current anpotential deficits as long as the price of crude oil in the world market is low. Therefore, Central Bank has took drastic step to have sharp and deep devaluation of the national currency.

According to the CESD assessment, main reason of the sharp and deep depreciation of the manat are as followings; 1. Fiscal reason. Due to sharp decline of oil price, current revenue flow to the state budget has been started declining. 53.4 % or 10.3 billion manat of the state budget will be generated by the State Oil Fund of Azerbaijan Republic (SOFAZ). According to the 2015 state budget law, non-oil sector's contribution to the state budget will be 35.0 % of total revenues. Remaining 11.6 % of the budget's revenue will be directly generate through oil and oil products' export. It means 65.0 % of the state budget's revenues in 2015 will be generated through oil money.

In other words, it shows that inflation and unemployment have a stable and inverse relationship. The theory states that with economic growth comes inflation, which in

turn should lead to more jobs and employment. However, the original concept has been somewhat disproven empirically due to the occurrence of stagflation in 1970s, where there were high levels of both inflation and unemployment.

The concept or idea behind Phillips curve states that change in unemployment within an economy has a predictable effect on price inflation. The theory originated out of analysis comparing money wage growth with unemployment. The findings of A.W Phillips in the relationship between unemployment and the rate of change of money wage in the United Kingdom between 1861-1957 suggested there was an inverse correlation between the rate of change in money wages and unemployment. For example, a rise in unemployment was associated with declining wage rate and vice versa.

This analysis was later extended to look at relationship between inflation and unemployment. Again the 1950s and 1960s showed there was evidence of this inverse trade-off between unemployment and inflation.

The purpose of this research work will focus on the workability of the Phillips curve theory on Azerbaijan economy within period under review.

The Azerbaijan economy, just like every other developing economy is subject to economic problems of which the key macro-economic policies of inflation and unemployment should be the utmost priority for the government. The Azerbaijan economy is predominantly oil driven economy, this means that 70% of government revenue is derived from proceeds from sale of crude oil. This signifies that the major source of revenue for the state is basically generated from sales of crude oil. The rise and fall or change of international oil price affects the revenue generated. The behavior of people regarding choices is also influenced by it, more importantly; the decision of government and the direction of national budget is always benchmark against oil prices which has direct relationship on their economic policies and decisions.

The Phillips curve shows the relationship between unemployment and inflation in an economy, since its discovery and postulation by British Economist A. W Phillips in 1958, it has become an essential tool to analyze macro-economic policy. In other words, it shows that inflation and unemployment have a stable and inverse relationship. The theory states that with economic growth comes inflation, which in turn should lead to more jobs and employment. However, the original concept has been somewhat disproven empirically due to the occurrence of stagflation in 1970s, where there were high levels of both inflation and unemployment.

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against oil prices which has direct relationship on their economic policies and decisions.

Unemployment is a circumstance that exists when people are actively seeking for employment but they are unable to find work. As we know, unemployment measures the health of economy. Unemployment rate is calculated as a percentage by dividing the number of unemployed people by people who are in labor force. There are three major types of unemployment in economics;

- Structural Unemployment- Changes occur in market economies such that demand increases for some jobs skills and decreases for others.
- Frictional Unemployment- This occurs when workers are voluntarily between jobs. This has to do with time lags between jobs.
- Cyclical Unemployment- This occurs due to downturns in overall business activity. This has to do with Business cycle.

The natural rate of unemployment is that amount of unemployment that occurs naturally due to imperfect information and job shopping. It is the rate of unemployment that is expected when an economy is operating at full capacity.

Inflation is a continuous and rapid increase in general price levels for goods and services over a certain period of time. According to Friedman” inflation is always and everywhere a monetary phenomenon and can be produced only by a more rapid increase in the quantity of money than output”.

In Azerbaijan, inflation rate is derived from the consumer price index (CPI), also the responsible agency is National Bureau of Statistics (NBS) for calculating of inflation rate.

According to Hamilton (2001) inflation is popular in economy with this situation that when the money supply is growing faster and exceeds the amount of new goods and services.

There are three key forms of inflation in economics.

1. Demand-pull inflation: When the amount of demand for goods and services increases, knowingly the sellers of goods increase prices of goods and it leads to this type of inflation.
2. Cost-push inflation: When the increase of cost production the producers also increase the prices of goods and services.
3. Monetary inflation: When the increase in money supply in an economy causes price of goods and services to rise.

The mentioned problems reduce the effectiveness of some of the political instruments that can be carried out by the Central Bank, and some of the tools are completely useless. What can the Central Bank do in the face of these restrictions? To find the answer, it would be expedient to study and classify challenges and challenges ahead. They can be concentrated in the following four major groups:

1. Complications of the global financial crisis.

The world economy has entered a period of severe recovery after a very serious crisis. Some economists worry that this recovery process is fragile and can be replaced anytime soon. Some European countries still face serious foreign debt problems, which puts the question of the future of the euro, a single currency.

2. "The Curse of Natural Wealth".

Empirically proven that long-term economic growth in countries rich in natural resources is lower than in other countries. The main reasons for this are a reduction in the competitiveness of other sectors of the economy due to the pressure of a dominant sector (oil and gas) in other commercial sectors, the existence of a double economy, the flow of production factors from other sectors to wealth-producing sectors, and the rise in the value of the national currency. It should be noted that this phenomenon, called the Dutch syndrome or natural curse, is potentially available to Azerbaijan in economic literature.

3. Limitations and uncertainty of hydrocarbon income.

As you know, rapid economic growth in Azerbaijan over the past decade was mainly due to oil and gas extraction. Naturally, this increase stems from exhausted natural resources and can not be sustainable. There has been a decline in economic growth since 2011. From this point of view, the country's oil dependence reduction, or, more precisely, is the issue of forming non-oil export-oriented production.

4. Fiscal domination and independence of the Central Bank. The central government's central bank's incentive to make money and earning additional income in this way is widely observed in the world practice. In economic literature, this fiscal dominance is dominated by monetarous power or simply fictitious domination. In Azerbaijan, this process is somewhat gentle and distinctive. The giant oil revenues are spent by the Ministry of Finance and Central Bank reacts with increasing the money supply to maintain balance in the domestic currency market, which also increases inflationary pressures.

Although these challenges are classified under different categories, their roots are the same. Therefore, solutions to problems can either intersect or counteract them in parallel.

The ultimate goal is to ensure sustainable development of Azerbaijan in the background of the global economy and the limited natural resources that collide with the consequences of the global financial crisis. One of the key issues on the agenda is the preservation of the economic growth rate achieved by the country in recent years. As you know, the observed decline in the last decade was largely due to the development of hydrocarbon deposits in the country. Taking into account that oil and gas production is not permanent and has already reached its maximum potential, further economic growth is of particular importance.

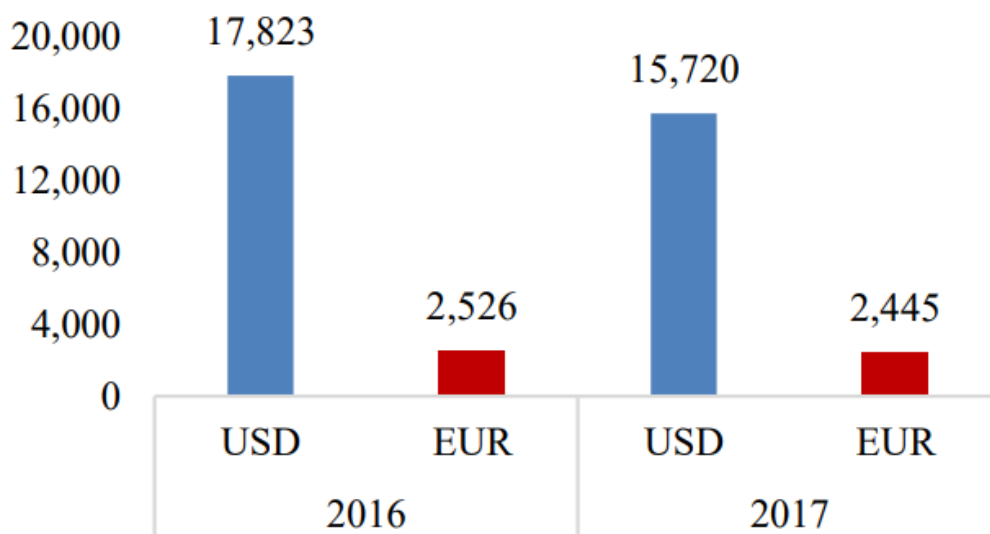
Since this article is about monetary policy, we look at the ways of solving existing problems only through the pricing of the Central Bank. Business literacy in economic literature is perceived as an integral part of the economy, and the final conclusion is that fiscal and monetary policies can reduce fluctuations in macroeconomic indicators (GDP, unemployment, inflation, etc.) and their long-term natural disadvantages by implementing a stabilization policy in the short term. From this point of view, the Central Bank has the power to stabilize the economy in short-term. However, long-term economic growth depends on more institutional and other factors.

Today, the Central Bank is one of the main guarantees of macroeconomic stability in the short term but also needs to think about the country's long-term development and take steps in this direction. In addition to macroeconomic stability, long-term strategic development should also be identified as a key target.

2.3 THE NEW MONETARY POLICY CONCEPT OF AZERBAIJAN CENTRAL BANK AFTER DEVALUATION AND ITS IMPACTS ON PERFORMANCE OF COMMERCIAL BANKS

The exchange rate of manat against foreign currencies was adequate to the behavior of BoP. High currency proceeds resulting from the improved BoP, the export promotion and import substitution policy stabilized the FX market. As a result of macroeconomic policy actions taken in such an environment manat strengthened against the US dollar by 4%. The exchange rate of manat has been under additional appreciation pressures since Half II, 2017.

The FX market diminished in size y/y: USD denominated transactions decreased by 5.8%, while EUR transactions decreased by 5.4%.



Source: CBA

Figure 13: Turnover in FX market, m. currency units

Transactions in USD account for 83%, and other currencies for 17 % of FX market transactions. The Interbank FX market accounts for 24%, while the Intrabank FX market 76% of currency transactions. 56.7% of USD denominated transactions in the Interbank market aimed to regulate banks' currency position. 95.8% of transactions in the Intrabank market comprise currency sales to legal entities. The FX cash market also shrank. Net cash sold by banks in USD was \$26.5 million (\$445.4 million in 2016), attributable to the stability of manat.

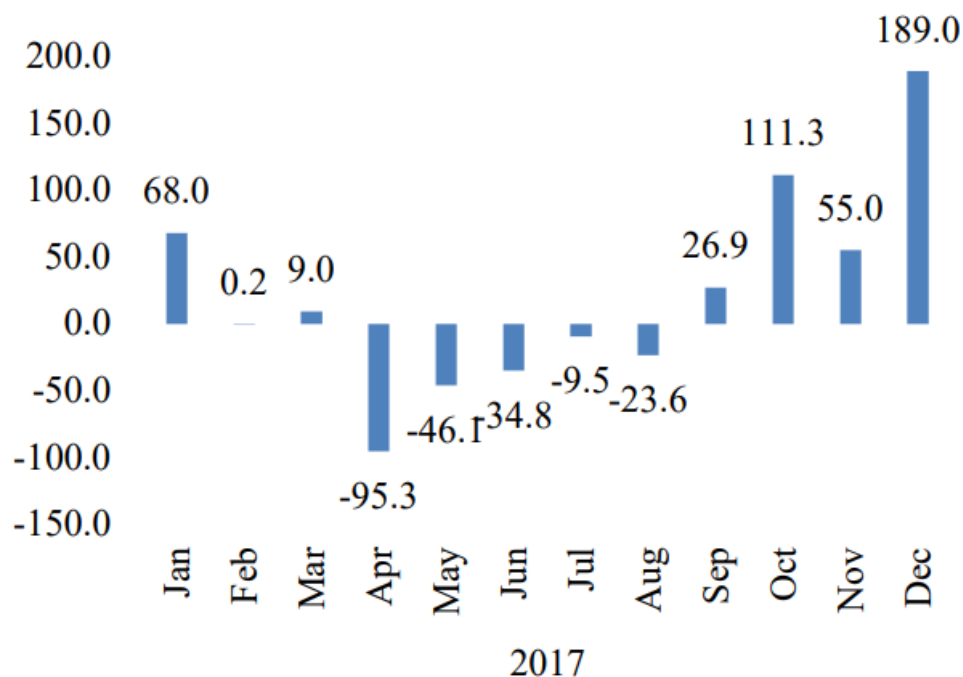
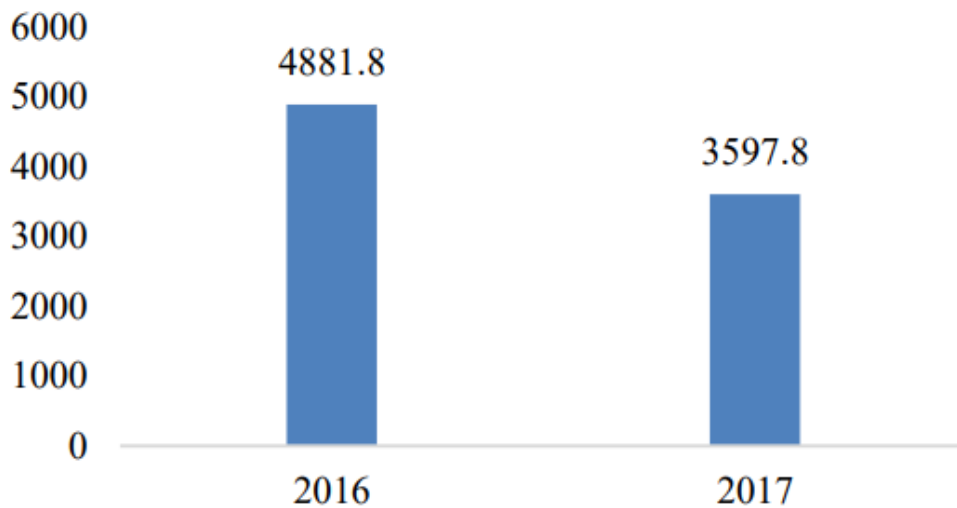


Figure 14: Net sale of cash foreign currency, mln. USD

Packaged efforts to safeguard macroeconomic and financial stability, and macroeconomic resilience related policy decisions contributed to a more flexible exchange rate. To make the exchange rate further flexible the CBA changed the currency auction facility from 12 January 2017 onward, under which auctioned currency is sold at prices quoted by market participants. In other words, the auction completes with the sale of currency from the bank offering the highest to the one offering the lowest price. The CBA holds currency auctions twice a week upfront informing market participants on parameters via Bloomberg terminal.

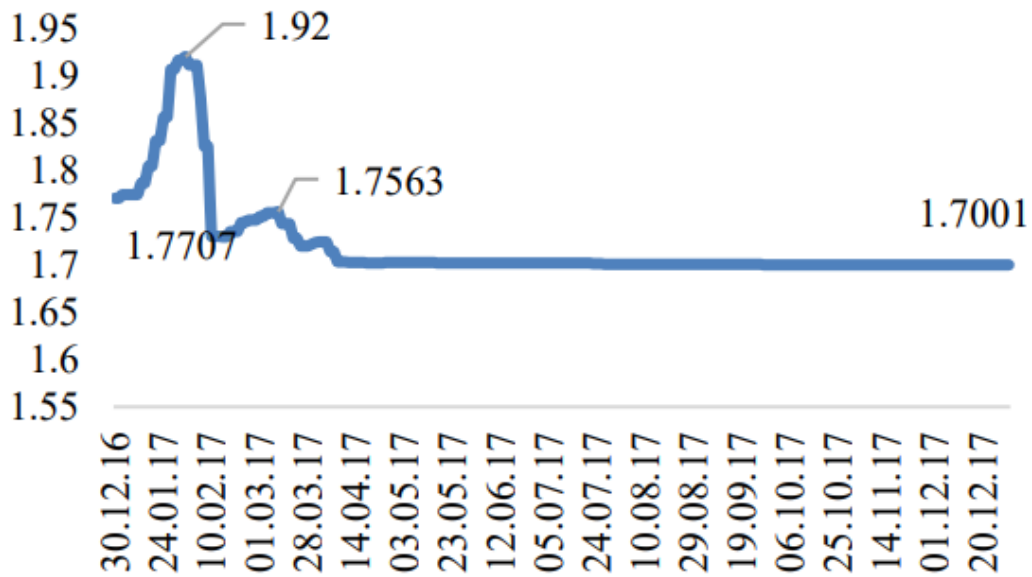
The CBA scrapped the requirement for banks to buy or sell cash and cashless foreign currency at +4% from the officially set exchange rate on 12 January 2017. The Bank held \$3597.8 million worth of 99 currency auctions to organize currency sales of the State Oil Fund of the Republic of Azerbaijan (SOFAZ) (y/y down by 26.3%).



Source: CBA

Figure 15: SOFAZ currency sales, mln. USD

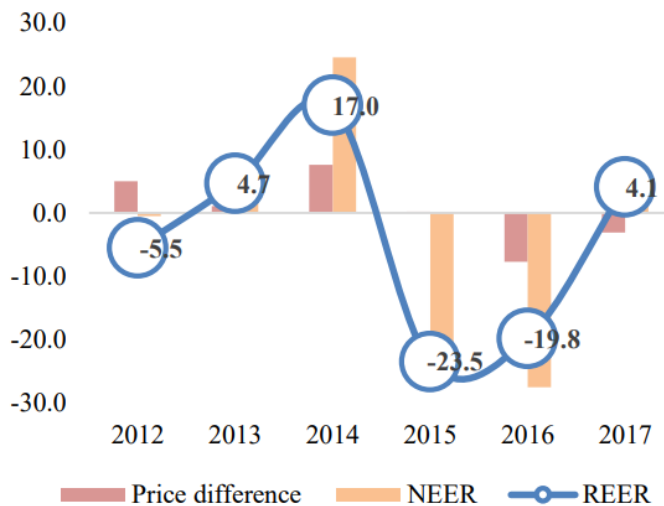
On non-auction days the interbank FX market operated on the Bloomberg platform. Out-of-auction interbank FX market transactions amounted to \$1065 million. An official exchange rate of manat was set on the basis of the exchange rate on interbank transactions (auction and off- auction). Manat reacted to supply and demand in the FX market with several appreciation and depreciation waves. Having appreciated in January and the first half of February, the USD started to lose value from the second half of February. Whereas the USD/AZN exchange rate stood at AZN 1.7707, it peaked to AZN 1.9200 on 01.02.17, and slumped to AZN 1.7000 on 06.12.17. As of the end-period the USD depreciated against AZN by 4%. An average daily official USD/AZN exchange rate was AZN 1.7206 over the year.



Source: CBA

Figure 16: USD/AZN exchange rate

Dynamics of bilateral exchange rates affected that of multilateral exchange rates. Total trade weighted non-oil REER appreciated 4.1%.



Source: CBA

1% depreciation of the NEER and inflation differences in partner countries has an upward effect on the REER. The non-oil REER has depreciated 36% since the end

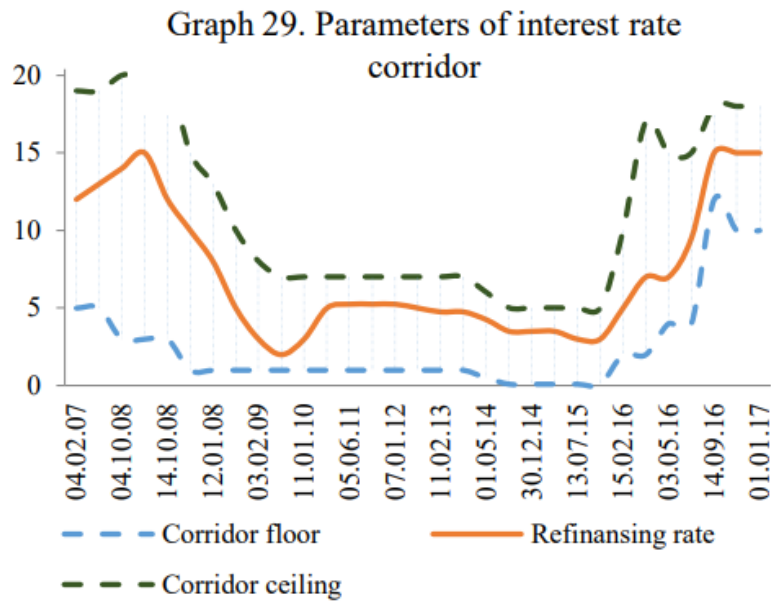
of 2014, which is critical in terms of import substitution and non-oil export promotion.

The new exchange rate regime allows the CBA to maintain reserves at a required level. As of 29 December 2017 CBA's foreign exchange reserves constituted \$5.3 billion, exceeding internationally set sufficiency standards.

Monetary policy tools were employed in light of inflation and money supply targets and monetary policy's pass through capacity.

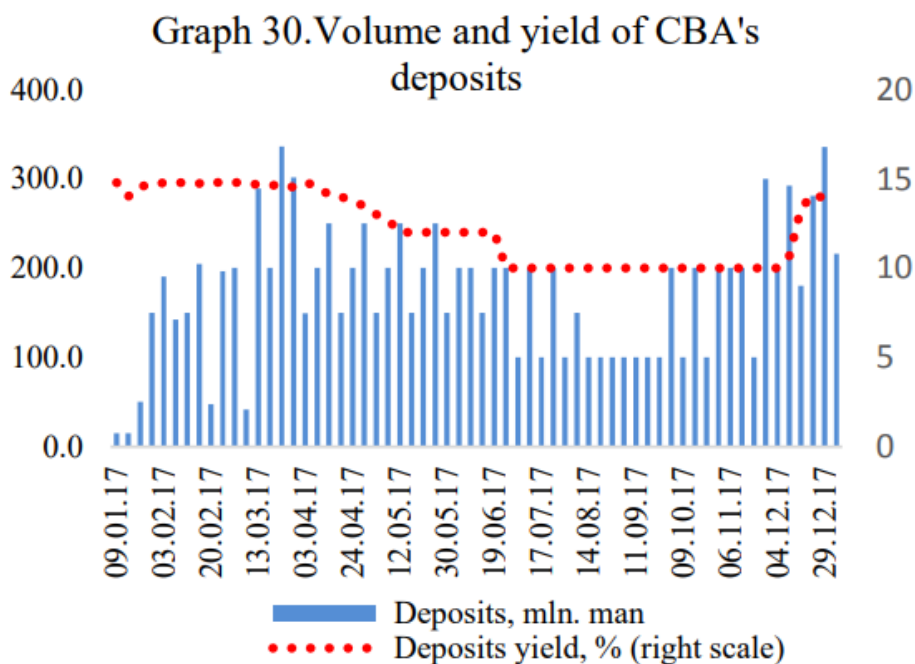
Having discussed interest rate parameters for several times over the year the CBA decided to leave the refinancing rate unchanged. The Bank did not tighten the monetary policy in response to cost-push high inflation. Given the macroeconomic stance and the situation in the money market the CBA Management Board took a decision to move the floor of the interest rate corridor 2 p.p. down at its 21 June 2017 meeting. As of the end of the period the ceiling of the interest rate corridor stood at 18%, the refinancing rate at 15%, and the floor at 10%.

The Bank kept various term standing facilities and open market operations active to meet economy's demand for money and effectively manage liquidity. The Bank also approved the list of securities accepted as collateral in monetary policy operations, and enriched the list of standing facilities and open market operations.



Source: CBA

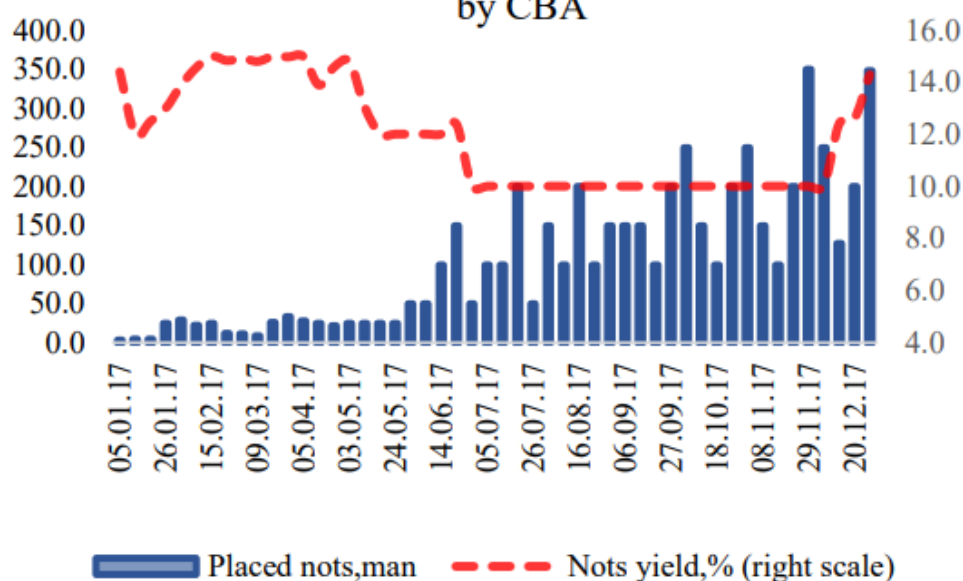
CBA’s sterilization tools are in higher demand on the backdrop of accumulated excess liquidity. The Bank held 61 deposit auctions on attraction of available funds in the national currency and 49 auctions on placement of notes as of the endperiod. Maturity of deposits was 14 days, while notes were placed for 28 days. Total outstanding amount of funds attracted at deposit auctions and placement of notes made up AZN1.9 billion as of end-2017, y/y up by 10.2 times.



Source: CBA

AZN1013 million worth of funds were attracted at deposit auctions, while AZN926 million worth of funds were attracted via placement of notes. Deposit and short-term notes placement operations both sterilize excess money supply and promote development of the money market meanwhile contributing to the improvement of the monetary policy’s operational framework and extension of the interbank market.

Graph 31. Volume and yield of notes placed by CBA



To note, deposits are attracted and notes are placed at interest rates fluctuating between the floor of the interest rate corridor and the refinancing rate (currently 10%-15%) – over the year deposits were attracted at 10%-14.87%, while notes were placed at 10.01%-14.99%. The reserve requirements were left unchanged over the period.

	<i>Foreign currency denominated liabilities</i>	<i>Liabilities in manat and precious metals</i>	<i>Funds attracted from n/resident financial sector</i>
01.05.2011	2	2	2
01.07.2011	3	3	3
01.08.2014	2	2	2
01.03.2015	0.5	0.5	0.5
30.12.2015	0.5	0.5	0.5
03.03.2016	1	0.5	0

Source: CBA

The reserve requirement on liabilities in the national currency and precious metals stood at 0.5%, on foreign currency liabilities at 1%, and on liabilities to the non-resident financial sector and settlements with international financial institutions 0%. Reserve requirements were still applied on an averaging basis, to allow more flexible management of liquidity by banks. To effectively regulate money, supply thereby supporting price stability, changes made to the ‘Regulations on the rate, calculation and maintenance of required reserves’ on holding required reserves on liabilities in manat and precious metals in correspondent accounts in manat and on foreign currency liabilities in correspondent accounts in foreign currency took effect on 1 August 2017; banks started to maintain their reserves under new requirements from 15 August 2017 onward. Monitoring findings display that banks’ cumulative balances on correspondent accounts with the CBA considerably exceeded amounts to be maintained as required reserves over the reported period.

CONCLUSION

The central bank's commitment to financial stability requires that the financial system has a tendency to create instability in itself and spread this instability around. Crisis coming from financial markets and dragging the entire economy into recession is the last stage of these instabilities. In order to combat instability and crises and to avoid these situations, Central Banks must play a key role in the system in terms of monetary policy. In many developed and developing countries, the main objective of the Central Banks is to maintain price stability. While Central Banks have achieved

this objective, they take account of the stability of the financial system as a secondary objective. Parallel to the developments, today, the main objective of our Central Bank is to ensure price stability while monitoring the financial system and monitoring financial stability while achieving this objective. For this reason, the CBAR monetary policy process includes the implementation of the financial system and the stability of this financial system.

Banking system of Azerbaijan has altered for many years. Now, in comparison with the past years the amount and dimensions of financial institutions rocketed in the country. The proportion of profit gained from banks and credit rose too. However, sharp crisis of the year 2015 lowered oil prices and oil profit dependency of the nation.

The banking system is an important element of the Azerbaijani financial system. Today, banks overwhelmingly increase their assets and capital and other financial intermediaries for their regional coverage.

At present, the country has developed two-stage banking system based on market principles. At the initial stage of reforms, restructuring and restructuring of state banks were implemented, institutional formation of the private banking system was ensured. At this stage, low capital requirements, extremely liberal conditions for access to the system were identified, and soft adjusting tools were used to regulate banking activity. As a result of these processes, the banking system was institutionalized and the number of private banks began to increase rapidly.

When talking about the achievements of monetary policy, it is important to point out the potential barriers ahead and show ways to combat them. At the same time, it would be wrong to apply direct monetary policy models for countries that have successfully embarked on a successful development. Certainly, local characteristics should be considered.

It must be admitted that, as a young country, certain negative circumstances remain in the conditions of free market economy in Azerbaijan. In recent years, the government's official announcement of corruption has shown that the situation is not overlooked. However, there is a need for more radical and rigorous reforms in this direction.

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