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ECONOMETRIC ESTIMATION OF THE PARAMETERS OF THE REGRESSION EQUATION BETWEEN THE INTEREST RATE AND INCOME IN THE COMMODITY SERVICES MARKET

Summary

The market is a system of socio-economic relations between economic subjects related to the purchase and sale of goods (services) and other objects. As an economic category of the commodity economy, it embodies the sphere of commodity-money circulation, includes a set of concrete connections and relationships between producers and consumers of goods and services. The modern market has a complex structure and operates on a multi-sectoral system. The structure and system of the market includes its objects, subjects, spatial features, supply of goods, level of competition, nature of sales, variety of goods, etc. characterized by characteristics. The system of purchase and sale relations, the development of price and investment policy, the regulation of market processes at different levels of management, requires a deep statistical study of the market mechanism, its laws and directions of development, and the forecasting of supply and demand ratios. The main goal of statistical market research is to objectively and completely reflect the market situation during a certain period, to characterize its structure and dynamics, to evaluate its fluctuations, to reveal the influence of market factors, to model and, finally, to predict its future development. In this study, a regression equation was established between interest rate and income in the goods and services market and analyzes were carried out.

Keywords: money market, regression analysis, economic theory

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Theoretical foundations of research

Classical quantity theory of demand for money: According to the classical economists who advocate the quantity theory, money is demanded only with the motives of employment and reserve, and there is a stable relationship between the demand for money and national income. According to the classics, the demand for money is a function of income. That is, L1=f(y). Here, L1 represents demand for money, y represents income, and transaction and reserve motive. Since there is a constant relationship between money demand and income, L1=ky. Here, L1-operation and reserve motive shows the demand for money, k-revenue, the amount of money 25 held under ratios, and y-revenue. Since there is no "cushioned" money demand in the quantity theory, the money supply is equal to the demand for money with the employment and reserve motive. That is, Ms=L1, Ms=ky. Here, Ms-money is the money held in relation to k national income, and y- is the national income. (2)

The amount of money desired to be held on hand to profit from changes in bond prices (speculative money demand) is a function of interest. L2=f(r). L2- shows the demand for money with the motive of speculation (there is money under the "pillow"), F-market shows the interest rate. For this reason, the total demand for money consists of the sum of the working and reserve motive (active money is available) and the speculative motive (there is money under the "cushion"). In other words, L=L1+L2=ky+f(r). L - indicates aggregate demand for money, L1 - demand for money with transaction and reserve motive, L2 - demand for money with speculative motive. (4)

Keynes' theory of demand for money: According to Keynes, money can be demanded not only with the motive of business and reserve, but also with the motive of speculation. Demand

for money is a function of income and interest. In short, L=ky+f(r). If it is assumed that the income level does not change, individuals' money demand (liquidity preference) increases as the interest rate falls and decreases as it rises. Keynes says that there is a close relationship between the desire of individuals and institutions to hold money (ie money demand) and the market rate of interest. As the interest rate increases, individuals will have more interest losses due to their holdings (remember that a person holding money misses the opportunity to earn interest by depositing it in a bank), the tendency to hold less money will begin and the demand for money will fall, in technical terms liquidity selection will decrease. On the contrary, the weakening of the interest rate in the market will reduce the interest loss that individuals who hold money in their hands will suffer due to this reason, so the tendency to keep money in hand, i.e. liquidity preference, will increase.

Milton Friedman's theory of demand for money: According to Milton, because money has a purchasing power, it also has a utility for those who hold it. That is, due to the purchasing power of money, individuals tend to keep a part of their wealth as money. Thus, it is necessary to consider the demand for money by taking into account the wealth of individuals. Wealth includes all consumable products, services and sources of income. According to M. Freedman, along with assets such as money, bonds, shares, property, knowledge and skills of individuals are included in wealth in the context of human capital. Because those who own human capital have the opportunity to earn an important source of income. According to Fredman, money demand is a function of variables expressed in the following formula: L=f(yp,W,P, Rb, Re, 1/P· dP/dt, Y). L-nominal money demand, y-nominal permanent income, W-ratio of human investment to non-human investment, p-price level, Rb-retained earnings from bonds, Re-stock yield, 1/p·dr/dt expected inflation rates, Y-expresses the tastes and preferences of individuals. (2, 145)

Problem setting

In order to achieve balance in the currency market and to support price stability on this basis, the monetary program was agreed upon and formalized by a special act in April of this year with the participation of the heads of the main macroeconomic regulatory bodies. According to the monetary program, it is planned to limit the growth rates of the monetary base in manat. The report was based on the Central Bank's monetary program during the implementation of its liquidity operations. The main goal was to regulate money supply channels, not to put additional pressure on the exchange rate of the manat, and in this way to prevent the rise of prices-inflation. As a result, in fact, the monetary base has become an important operational anchor of monetary policy. During the year, the growth rate of the monetary base corresponded to the monetary program. The main growth channels of the monetary base (pre-agreed in the monetary program) were the support of financial stability, as well as the resources provided for ensuring the liquidity of the banking system and the continuity of payments, and the return of the population's deposits on closed banks. The Central Bank has actively sterilized excess money supply to maintain the monetary base at the agreed target level. In 2016, ¾ of the funds provided within the framework of financial stability support were sterilized by the Central Bank. The volume of these sterilization operations made up more than 50% of the money supply. As a result, the entry of surplus money into the currency and commodity markets was prevented. In 2016, a decrease in the level of dollarization of deposits was observed. Total savings and deposits in foreign currency and the specific weight of savings and deposits decreased by 11.8 percentage points compared to the beginning of the year. The level of dollarization of savings of natural persons decreased from 85% at the beginning of the year to 81.2% at the end of the period. (6)

Recently, monetary policy decisions have been made based on the assessment of inflation risks and to increase confidence in the manat. In particular, the Central Bank has increased its efforts towards the formation of a new monetary policy regime and its operational framework,

which allows stable price stability in the medium term. In 2016, the Central Bank made significant changes to the parameters of the "interest corridor" in order to reduce inflation and strengthen confidence in the national currency, including encouraging the growth of manat deposits. The discount rate was adjusted to inflation and gradually increased from 3% to 15%, the lower limit of the interest corridor increased from 0.1% to 12%, and the upper limit increased from 5% to 18%. When making a decision about the interest rate corridor, the macroeconomic situation, as well as the conjuncture in the money market, as well as the profitability of government documents are taken as a basis. With interest rates at the level of the lower and upper limits of the interest corridor, the duration of liquidity provision and attraction operations has been increased from 1 day to 7 days. With this, banks have gained the opportunity to benefit from the 1-7 day repo and counter-repo operations, which are the framework tool of the Central Bank for short-term liquidity management, on their own initiative. Deposit auctions for attracting free funds in national currency have been started, and the issue of short-term notes has been resumed. As of the last date, the balance of funds raised through deposit auctions and short-term notes is 150 mln. was more than manat. These operations are aimed at the progress of the money market and the improvement of the monetary policy operational framework. In order to support the reduction of dollarization, as well as to strengthen financial stability in the banking sector, the mandatory reserve ratio for liabilities in foreign currency has been increased from 0.5% to 1%. The norm for obligations involved in national currency, including precious metals, has been kept unchanged. Starting from June 2016, banks began to maintain mandatory reserves in accordance with the new norm. (2)

Official foreign reserves are the sum of all the means of international payments available to the Central Bank for intervention in the currency exchange. Obviously, central banks intervene in the market to keep exchange rates stable. Consequently, this is a characteristic of a stable or controllable wave system. However, in a completely free floating exchange rate system, it is not necessary for the central banks to intervene in the market, as the exchange rates are formed according to the working mechanism of the market economy.

In fact, central banks are needed when there are temporary deficits in fixed exchange rate systems. Because the reasons that created the temporary deficit will disappear after a while, this deficit will be erased by itself. For this purpose, there is no need to change the factor distribution as balancing measures. However, it is impossible to compensate long-term deficits caused by deep-rooted economic or financial reasons by benefiting from foreign reserves.

The sum of official reserves owned by countries is called liquid. The problem of lack of liquidity has been a controversial topic in the field of economics since the time of Bretton-Woods with a fixed exchange rate. From a theoretical point of view, it was noted that liquidity depends on the requirements of the world economy.

It is possible to mention some objective indicators to determine at what speed the liquid should be increased. For example, the rate of growth in world trade and financial movements, the fluctuation in these movements, the cost of holding foreign reserves, the ease of access to foreign reserves, and finally, the practice of a fixed or floating system, etc. as But in reality, how much reserves will be taken from which money depends on the alternatives of the Central Bank employees and the policy of managing reserves. A fall in the value of reserve currencies is likely to reduce the value of official reserves, creating speculative gains in a rise. That is, there is a risk as well as a profit of holding the reserves through the means of certain international payments. Listed income may arise from expected increases in interest and currency values. From this point of view, the managers of the Central Bank also faced the problem of managing reserves. In this regard, the Central Bank can act speculatively by dividing the reserves into different types, in addition to sharing the risk, investing in certain money whose value is expected to increase. But it is more realistic to claim that an official institution like the Central Bank acts for the purpose of risk

sharing rather than working for speculative profit.

The recent periods in which the global economic crisis was more observed, the maintenance of macroeconomic and financial stability in the economy of our country, and the regular occurrence of economic growth are explained. Based on the stabilization of inflation and the reduction of foreign liquidity sources, the Central Bank eased monetary policy instruments in order to maintain financial stability. Mandatory reserve norms for the discount rate and internal obligations were reduced, and the average duration of banks' foreign, including mandatory reserve norms, was increased. Also, in order to flexibly manage financial risks in the banking system, the Central Bank has implemented measures that ensure the progress of the sector due to more stable and stable sources. In the end, despite the large amount of foreign liabilities, the banks continued to lend regularly. As a result, despite the deep financial crisis and economic recession in the world economy in recent times, the economy of Azerbaijan has shown high resistance to the global crisis, stability and growth dynamics of the banking system have been preserved.

The global financial crisis affected the Azerbaijani financial system more psychologically and prompted financial institutions to reconsider their development strategies. Despite the unfavorable external environment, the banking system of Azerbaijan has shown resilience against the risks. (4.85)

The year 2015, when the global economic crisis was observed more often, is declared as the maintenance of macroeconomic and financial stability and the continuation of economic growth in the economy of our country. Starting from December 2015, the Central Bank tried to minimize the impact of the global crisis on the banking system with its preventive monetary policy and prudential measures. Taking into account the stabilization of inflation and the reduction of external sources of liquidity, the Central Bank has eased monetary policy instruments to maintain financial stability. The exchange rate and the mandatory reserve norms for internal liabilities were lowered, and the average duration of the banks' external and at the same time mandatory reserve norms was increased. In order to flexibly manage financial risks in the banking system, the Central Bank has implemented measures that ensure the progress of the sector due to more stable and stable sources. As a result, despite the large amount of foreign liabilities, banks have regularly carried out lending. The global financial crisis affected the Azerbaijani financial system more psychologically and prompted financial institutions to reconsider their development strategies. Although there is an unfavorable external environment, the banking system of Azerbaijan has shown resilience to the risks that have arisen.

Analysis

Regression analysis is performed in order to determine the relationship between two or more variables that have a cause-and-effect relationship between them and to make predictions (estimation) or predictions about that issue using this relationship. It is possible to find a cause-and-effect relationship in many events in nature.

The reason	The result
It comes	Cost
Age	Height
Fertilizer	Effectiveness

Correlation-regression analysis consists of determining the degree of density of the relationship (correlation analysis) and its form, in short, its analytical expression (regression analysis) [1]. By changing the value of the factor sign (Xi), the variation of the result sign (y) is determined. The correlation coefficient (R) is found to determine the degree of density of the relationship between them. A correlation dependence between two variables is a

functional dependence between the value of one of them and the conditional mathematical expectation of the other variable.

The result

The money multiplier is the ratio of the money supply to the monetary base. Monetary base (stronger money, reserve money) - cash money outside the banking system and reserves of commercial banks kept in the Central Bank. Cash is part of the money supply, but bank reserves affect banks' ability to create new deposits and increase the money supply.

The money multiplier tells how much the money supply (amount of money in a country) will increase when the monetary base increases by one unit.

In addition to the daily multiplier, it is also possible to benefit from the deposit and credit multiplier.

The deposit multiplier indicates the maximum increase in deposits in commercial banks when the monetary base increases by one unit.

The credit multiplier shows the maximum amount of bank loans to the population that can increase when the monetary base increases by one unit.

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ƏMTƏƏ XİDMƏTLƏR BAZARINDA FAİZ DƏRƏCƏSİ VƏ GƏLİR ARASINDA REQRESSİYA TƏNLİYİNİN PARAMETRLƏRİNİN EKONOMETRİK QİYMƏTLƏNDİRİLMƏSİ

Xülasə

Bazar əmtəələrin (xidmətlərin) və digər obyektlərin alqı-satqısı ilə əlaqədar təsərrüfat subyektləri arasında olan sosial-iqtisadi münasibətlər sistemidir. O əmtəə təsərrüfatının iqtisadi kateqoriyası

kimi, özündə əmtəə-pul tədavülü sferasını təcəssüm etdirir, əmtəə və xidmətlərin istehsalçıları ilə istehlakçıları arasında konkret əlaqə və münasibətlərin məcmusunu əhatə edir. Müasir bazar mürəkkəb struktura malikdir və çoxsahəli sistem üzrə fəaliyyət göstərir. Bazarın quruluşu və sistemi onun obyektləri, subyektləri, məkan əlamətləri, əmtəə təminatı, rəqabət səviyyəsi, satış xarakteri, əmtəənin çeşidi və s. xüsusiyyətlərə görə xarakterizə edilir. Alqı-satqı münasibətləri sistemi, qiymət və investisiya siyasətinin işlənib hazırlanması, idarəetmənin müxtəlif səviyyələrində bazar proseslərinin tənzimlənməsi, bazar mexanizminin, onun qanunauyğunluqlarının və inkişaf istiqamətlərinin, tələb və təklifin nisbətlərinin proqnozlaşdırılmasının dərin statistik tədqiqini tələb edir. Bazarın statistik tədqiqinin əsas məqsədi müəyyən dövr ərzində bazarın vəziyyətini obyektiv və tam əks etdirmək, onun struktur və dinamikasını xarakterizə etmək, tərəddüdlərini qiymətləndirmək, bazar faktorlarının təsirini aşkar etmək, modelləşdirmək və ən nəhayət, onun gələcək inkişafını proqnozlaşdırmaqdır. Bu tədqiqatda əmtəə xidmətlər bazarında faiz dərəcəsi və gəlir arasında reqressiya tənliyi qurularaq analizlər aparılmışdır.

Açar sözlər: pul bazarı, reqressiya analizləri, iqtisadi nəzəriyyə

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ЭКОНОМЕТРИЧЕСКАЯ ОЦЕНКА ПАРАМЕТРОВ УРАВНЕНИЯ РЕГРЕССИИ МЕЖДУ ПРОЦЕНТНОЙ СТАВКОЙ И ДОХОДОМ НА РЫНКЕ ТОВАРНЫХ УСЛУГ

Резюме

Рынок – это система социально-экономических отношений между экономическими субъектами, связанная с покупкой и продажей товаров (услуг) и других объектов. Как экономическая категория товарного хозяйства она воплощает сферу товарно-денежного обращения, включает совокупность конкретных связей и отношений между производителями и потребителями товаров и услуг. Современный рынок имеет сложную структуру и функционирует по многоотраслевой системе. В структуру и систему рынка входят его объекты, субъекты, пространственные особенности, предложение товаров, уровень конкуренции, характер продаж, разнообразие товаров и т. д. характеризуются характеристиками. Система отношений купли-продажи, разработка ценовой и инвестиционной политики, регулирование рыночных процессов на разных уровнях управления требуют глубокого статистического изучения рыночного механизма, его законов и направлений развития, прогнозирования поставок и соотношение спроса. Основная цель статистического исследования рынка – объективно и полно отразить ситуацию на рынке в определенный период, охарактеризовать ее структуру и динамику, оценить ее колебания, выявить влияние рыночных факторов, смоделировать и, наконец, спрогнозировать ее. будущее развитие. В этом исследовании было установлено уравнение регрессии между процентной ставкой и доходом на рынке товаров и услуг и проведен анализ.

Ключевые слова: денежный рынок, регрессионный анализ, экономическая теория.