

**GRADUATE SCHOOL OF ECONOMICS  
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**The Impact of Monetary Policy On Economic Stabilization In Azerbaijan  
(MASTER'S THESIS)**

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**“The Impact of Monetary Policy on Economic Stabilization in Azerbaijan.”** The aforementioned Master’s thesis has been prepared following the Khazar University Graduate Thesis Proposal and Writing Directives.

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## **ABSTRACT**

*The results show that GDP and the exchange rate significantly affect economic stability. Specifically, GDP has a positive impact, whereas the exchange rate has a negative impact on economic stability. On the other hand, the findings suggest that interest rates have an insignificant and negative effect on economic stability, while money supply has a positive and statistically significant effect on economic stability.*

*The study concludes with policy recommendations aimed at bolstering the resilience of Azerbaijan's economy. These recommendations emphasize the importance of diversifying the economic structure and improving frameworks to manage external vulnerabilities and encourage sustainable growth.*

**Keywords:** Azerbaijan, Monetary Policy, Economic Stability, Inflation, DMOL, Co-integration.

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## CHAPTER ONE

# INTRODUCTION

## 1.1 Purpose of Research

Monetary policy is a tool used by central banks to control economic volatility and establish price stability, or low and steady inflation. In many developed economies, central banks have clear targets for inflation. Inflation targeting is also becoming popular in many emerging nations. Through the purchase or sale of assets on the open market, central banks often modify the amount of money in circulation to implement monetary policy. Short-term interest rates are impacted by open market operations, and this has an impact on longer-term rates as well as economic activity. The monetary policy is loosening when central banks reduce interest rates. Monetary policy is becoming more stringent as it increases interest rates (IMF, 2023).

Gaining a thorough grasp of how monetary policy instruments might affect economic factors and promote general economic stability is the aim of this study. Among the main goals of the research are:

- To analyse the efficiency of various monetary policies in bringing about stability in the economy.
- To increase output and maintain economic stability.
- To understand the mechanism by which the central bank can mitigate economic downturns and prevent business cycle fluctuation
- To control inflation
- To understand how the financial market responds to monetary policy.
- To understand how monetary policy contributes to long-term sustainable economic growth through lowering uncertainty and raising productivity.
- To analyse the central bank's influence on market expectations and guiding economic behaviour in response to monetary policy decisions.

## 1.2 Problem Statement

The Republic of Azerbaijan witnessed significant economic fluctuation in recent years, such as:

- Exchange rate volatility
- Inflation
- Fluctuations in economic growth

Therefore, monetary policy that the Central Bank of Azerbaijan implements will be crucial to stabilising the economy.

### **1.3 Research objective**

Finding out "the impact of monetary policy on economic stabilization in Azerbaijan" is the primary goal of this study.

Specific objectives include;

- To determine how the implementation of monetary policy measures influences the effectiveness of economic stabilisation in Azerbaijan.
- To determine other factors that influence economic stabilisation in Azerbaijan.

### **1.4 Research Hypothesis**

#### **Hypothesis 1:**

H<sub>0</sub>: Monetary policy does not influence economic stability in Azerbaijan.

H<sub>1</sub>: Monetary policy influences economic stability in Azerbaijan.

### **1.5 Research Question**

- How does the implementation of monetary policy measure influence the effectiveness of economic stabilisation in Azerbaijan?
- What other factors influence economic stabilisation in Azerbaijan?

### **1.6 Relevance of Research**

This research is very important and relevant in the field of economics due to the following:

#### **1.6.1 Monetary Policy**



A country's central bank uses a suite of instruments known as monetary policy to manage the total amount of money in circulation, foster economic expansion, and implement tactics like adjusting interest rates and bank reserve requirements (IMF, 2023).

- A country's entire money supply can be managed and economic growth can be attained through the implementation of monetary policy.
- Changing bank reserve requirements and interest rate adjustments are examples of monetary policy tactics.
- There are two general categories of monetary policy: contractionary and expansionary.
- The three main monetary policy tools that the central bank typically employs are reserve requirements, the discount rate, and open market operations.

### **1.6.2 Economic Stabilization**

The goal of stabilisation policy, which is implemented by governments or their central banks, is to keep prices stable and economic growth at a healthy pace. Maintaining a stabilisation policy necessitates keeping an eye on the business cycle and making necessary adjustments to monetary and fiscal policy to prevent sudden swings in supply or demand (Adam Hayes, 2021).

- The goal of stabilisation policy is to maintain a stable economy by adjusting interest rates as necessary.
- Interest rates are decreased to encourage borrowing for spending and raised to discourage it.
- Altering government taxes and spending can likewise be utilized as a means of influencing the overall demand.
- The goal is to create an economy that is resilient to abrupt fluctuations in demand.

### **1.6.3 Academic Contribution**

This research work will have an immense contribution to the academic understanding of Macroeconomics and finance, this will enhance learning as well as enrich knowledge in these fields.

Conclusively, this research is important to understand market dynamics, policy formulations, maintaining economic stability as well as understanding the effect of monetary policy on economic outcomes.

### **1.7 Scope of Study**

For the sake of clarity and simplicity in examining how monetary policy affects economic stabilisation, the study examines data from 2005 to 2024.

The paper also examines the effects of monetary policy, utilising Azerbaijan as a case study, taking into account previous measures and the potential benefits of monetary policy (MP) for economic stabilisation.

## LITERATURE REVIEW

### 2.1 Conceptual Framework

#### 2.1.1 The Concept of Money

Money is any object or medium of exchange that people accept as payment for products and services as well as debt repayment (The Investopedia Team, 2024). Money is essential to economies because it makes transactions easier and spurs financial expansion. Economists often define money, its origins, and its value. Money has value because, like gold and other precious metals, it represents something valuable to most people. These are some of the many facets of money:

- Money can be used as a medium of exchange to help people and businesses get what they need to enable them to survive and prosper.
- Prior to the creation of money, people traded goods for one another through bartering.
- Money has value because, like gold and other precious metals, it is perceived by most as representing something important.
- Fiat money is government-issued money backed by the stability of the issuing government rather than a tangible asset.
- Money also serves the function of being a standard of deferred payment (The Investopedia Team, 2024).

#### Functions of Money

As a key idea in economics and finance, money has several functions including being a store of value, a unit of account, a medium of exchange, and a standard for postponed payment. A more thorough description of these roles and the idea of money is provided below:

1. **Medium of Exchange:** one of the major functions that money plays is that it serves as a means through which people can easily exchange goods and services. This means that money serves as a generally recognised medium that makes transactions easier and promotes trade. Contrary to the barter system where people would have to exchange products and services directly, which gives room for the possibility of double coincidence

where both parties have what the other wants. This issue is resolved by money, which acts as a middleman in transactions. The exchange of money between buyers and sellers facilitates trade and increases efficiency (Mankiw, N. G. 2016).

2. **Unit of Account:** Money offers a standard way to quantify the worth of products and services. Money makes price comparison simple, eliminating the need to compare the exact values of different items and services (such as how many sheep are equal to a house). Since prices are expressed in monetary units, comparing the relative values of various things is easier to comprehend (Samuelson, W. F., & Nordhaus, W. D. 2010).
3. **Store of Value:** People can sturdily keep their savings and wealth with the help of money. It holds its value over time, enabling people to put money aside for investments or future needs. Money can lose purchasing power due to inflation over time, but overall, it is a rather stable store of value (Mishkin, F. S. 2015).
4. **Standard of Deferred Payment:** Money serves as a consistent unit for contracts and debts, ensuring that obligations are measured uniformly. For instance, loans are repaid in a predetermined amount of money at a later time, with money serving as a standard for these future payments. It can exist in various forms, including physical currency like coins and bills, as well as digital representations in bank accounts. In contemporary economies, the majority of money exists digitally, with physical cash constituting only a small portion (Hubbard, R. G., & O'Brien, A. P., 2016).
5. **Final Payment Method:** Money serves as the last payment method, paying off debts and fulfilling commitments. This role guarantees transaction completion and supports the stability of financial systems (Parkin, Powell, & Matthews, 2014).

Summarily, money is a crucial economic concept that simplifies trade, serves as a unit of measurement, stores value, and enables deferred payments, facilitating the functioning of modern economies.

### 2.1.2 Brief History of Monetary Policy

## **Coin and Paper Money Issuance**

With the growth of a money economy over the ages, monetary policy has also changed. Regarding the origins of money, historians, economists, anthropology, and numismatics cannot agree. While some people in the West believe that coins originated in ancient China, most believe they were first used in Lydia in the eighth century BCE. Monetary policy appears to have its roots in debasement policies, in which the state would melt coins and combine them with less expensive metals. Although common in the late Roman Empire, the practice peaked in the late Middle Ages in Western Europe (Wikipedia, 2024).

There were only two methods of monetary policy for many centuries: changing the coinage or creating paper money. During this period, interest rates were not usually coordinated with other types of monetary policy, even though they are now considered to be a component of monetary authority. The authority holding seigniorage (the power to coin) was often responsible for implementing monetary policy, regarded as an executive choice. Larger trading networks made it possible to specify the value of a currency in terms of gold or silver as well as the value of a local currency in terms of other currencies. Even if this official price differed from the market price, it may still be enforced by law (M. M. Postan, et al., 1966).

Promissory notes known as "jiaozi" were the source of paper money in 7th-century China. Jiaozi was used in addition to copper coins rather than as a substitute for metal money. The Yuan Dynasty that succeeded it was the first to adopt paper money as the main form of payment. As the dynasty grew older, they faced severe shortages of resources to wage war and uphold their authority. As a result, they started producing paper money without any limits, which led to hyperinflation.

## **Central Banks and the Gold Standard**

After the Bank of England was created in 1694 and given the power to manufacture gold-backed notes, the concept of monetary policy existing independently of governmental action started to take shape. Monetary policy was designed to keep coins in circulation, produce notes that would exchange for the same amount of species, and preserve the value of the coinage. The industrialised countries developed central banking systems between 1870 and 1920; the Federal Reserve became one of the latest to do so in 1913. At this point, the central bank's position as the "lender of last resort" had been established. Additionally, awareness of the marginal revolution in economics

which showed that people would alter their decisions based on changes in their opportunity costs led to a growing understanding of how interest rates affected the overall economy. The goal to keep the currency tied to the gold standard and engage in limited exchange with other gold-backed currencies was linked to the development of national banks by industrialising countries at the time. To achieve this goal, central banks started determining the interest rates they charged other banks that needed money for liquidity and their borrowers as part of the gold standard. To maintain the gold standard, interest rate changes had to be made virtually every month (Bordo, Michael D., and Finn E. Kydland., 1995).

The government's pledge to buy or sell gold at a fixed price in terms of the base currency maintains the gold standard, which sets the price of the national currency fixed concerning the value of gold. One could argue that the gold standard is a unique instance of a "fixed exchange rate" policy or a particular kind of commodity price level targeting. The policies necessary to uphold the gold standard, however, may be detrimental to employment and overall economic activity. They also likely made the Great Depression of the 1930s worse in many nations, which ultimately resulted in the collapse of the gold standard and efforts to establish a more suitable international monetary framework following World War II.

### **Fixed Exchange Rate Prevailing**

The International Monetary Fund and a fixed exchange rate system connecting the currencies of most developed countries to the US dollar—the only money in the system that was directly convertible to gold—were formed in 1944 with the establishment of the Bretton Woods system. The system maintained steady currency rates globally during the ensuing decades, but it collapsed in the 1970s as the dollar was perceived as being more and more overpriced. The dollar's ability to be exchanged for gold was stopped in 1971. After failed attempts to restore the fixed exchange rates, the major currencies started to fluctuate in value against one another in 1973 (IMF, 1944).

### **Money Supply Targets**

The expansion of the money supply, according to monetarist economists, has the potential to impact the macroeconomy. Among them was Milton Friedman, who promoted early in his career the idea of creating money to assist in financing government budget deficits during recessions and so increase aggregate demand for manufacturing. Later on, he argued that the ideal strategy for

preserving low inflation and steady production growth was to simply increase the money supply at a slow, constant rate. Due to the 1970s oil crisis, inflation increased in many nations at that time. To lower inflation, some central banks adopted a money supply target. The unstable link between monetary aggregates and other macroeconomic variables, however, made this strategy unworkable when it was tried by U.S. Federal Reserve Chairman Paul Volcker beginning in October 1979, and comparable outcomes were observed in other nations. Subsequently, even Milton Friedman conceded that his initial success with direct money supply had been surpassed (Friedman M., 1968).

The monetary targeting strategy used by the Bank of England in the 1970s and 1980s is one prominent example. Setting targets for the money supply growth rate, or "monetary base control," is one of the ways the Bank of England fights inflation and stabilises the economy (Macmillan, 1985).

The Federal Reserve of the United States experimented with monetary targeting in the 1970s and early 1980s but eventually abandoned this strategy because it was difficult to regulate the money supply and because alternative policy tools, such as interest rate targeting, had become available (Poole, W., 1988). Monetary targeting, while appealing in theory, was met with several obstacles and critiques. These included the challenge of precisely gauging the money supply, the effect of financial innovations on money demand, and the possibility of inconsistencies between monetary targets and other policy goals like employment and economic growth (Brunner, Karl, and Allan H. M., 1976).

### **Inflation Targeting**

As the first nation to do so, New Zealand established an official inflation goal in 1990 as the cornerstone of its monetary policy. The idea is that rather than pursuing more oblique goals like exchange rate stability or money supply growth, both of which ultimately aim to achieve low and stable inflation, the central bank attempts to manipulate interest rates to steer the nation's inflation rate towards the official target. The approach was widely seen as effective, and over time, the central banks of the majority of industrialised nations have followed a similar approach. The use and flexibility of inflation targeting became controversial during the 2008 Global Financial Crisis. Numerous economists contended that numerous monetary regimes had set excessively low actual inflation targets. Several inflation-anchoring countries experienced deflation or nearly zero

inflation during the crisis as a result of reaching the lower bound of zero rates. By 2023, all seven G7 central banks—the European Central Bank and the Federal Reserve included will have accepted the core components of inflation targeting, even though they haven't formally dubbed themselves inflation targeters. Fixed exchange rate regimes continue to be the most prevalent currency in developing nations (Wikipedia, 2024).

Economists like Milton Friedman and James Tobin developed the idea of inflation targeting in the late 1970s and early 1980s. But central banks did not start explicitly implementing inflation targeting as a framework for monetary policy until the 1990s. Explicit inflation targeting was first implemented by the Reserve Bank of New Zealand in 1989. Other nations that adopted it later included Canada, the United Kingdom, Sweden, and Australia (Bernanke, Ben S., & Frederic S. M., 1997). To stabilise inflation expectations and lessen macroeconomic volatility, inflation targeting has been extended to emerging market nations. Inflation targeting frameworks were implemented by nations including Brazil, Chile, South Africa, and Mexico, frequently with the help of global financial organisations like the World Bank and the International Monetary Fund (Frederic M.S., & Klaus S., 2007).

The technique of inflation targeting changed over time as central banks improved how they established and disseminated their inflation targets. Flexible inflation targeting, which permits brief departures from the target to meet other policy goals like financial stability or production stabilisation, was implemented by certain central banks. The effectiveness of inflation targeting in mitigating risks to financial stability, its dependence on inflation forecasts, and its tendency to cause an undue emphasis on short-term inflation outcomes at the expense of more general macroeconomic objectives are some of the criticisms and difficulties that have been levelled at it despite its widespread adoption (Svensson, Lars E. O., 1997).

A central bank that engages in inflation targeting announces a target inflation rate, usually with a medium-term horizon, and then uses its policy tool such as interest rate changes or open market operations—to reach and sustain that target. In addition to regularly updating the public on its policy stance and inflation prognosis, the central bank usually announces its inflation objective (Mishkin F. S., & Schmidt-Hebbel K., 2007). The popular monetary policy framework known as inflation targeting calls for central banks to set a target inflation rate, such as 2%, and then modify interest rates and other measures to attain and sustain that target. Depending on the nation's aims



and economic circumstances, each central bank may have different monetary policy goals and tactics. While controlling the possible dangers of inflation and economic downturns, effective monetary policy management is crucial for fostering economic stability and long-term economic growth.

### **2.1.3 Concept of Monetary Policy**

The term "monetary policy" refers to the measures used by a country's monetary authority to influence the money supply and other aspects of the financial system to achieve more general goals such as price stability, which is typically understood to mean a low and steady rate of inflation. A monetary policy may also be implemented to preserve stable exchange rates with other currencies or to promote economic stability (Lindsey, D.E., Wallich, H.C., 2018). The majority of central banks in rich nations now implement monetary policy to achieve inflation targets, while the majority of central banks in developing nations aim to achieve some form of fixed exchange rate regime. Targeting the money supply is a third monetary policy tool that was popularized in the 1980s and is still the official approach, although its use has declined since then.

The instruments of monetary policy employed by central banks differ based on the institutional framework, political system, customs, and developmental stage of the nation. The main instrument is typically interest rate targeting, which can be attained either through administratively altering the interest rates set by the central bank or indirectly through open market operations. Through a variety of mechanisms known as the "monetary transmission mechanism," interest rates have an impact on overall economic activity and, by extension, employment and inflation (Jahan, Sarwat, 2014). They also play a significant role in setting the exchange rate. Additional policy instruments encompass communication tactics such as forward guidance and, in certain nations, reserve requirements. It's common to categorize monetary policy as either contractionary, which dampens economic activity and hence increases inflation and employment, or expansionary, which increases economic activity and thereby reduces employment and inflation (Bordo, M.D., 2018).

Financial channels including interest rates, currency rates, and the cost of financial assets are some of the ways that monetary policy influences the economy. This is in contrast to fiscal policy, which is a means by which a government controls business cycle phenomena like recessions by altering

taxes and spending. Modern central banks in industrialized economies operate independently of direct government supervision and instructions, meaning that monetary policy and fiscal policy are typically formulated independently in these nations (Friedman, B.M. 2001). The optimal way to implement monetary policy is a topic of active and heated research that draws from different subfields of macroeconomics as well as disciplines such as monetary economics.

Additionally, governments and central banks utilize monetary policy as a crucial instrument to regulate the money supply, interest rates, and general economic activity within a country. It is essential for determining the direction of the economy, controlling inflation, and fostering long-term economic growth.

### **Tools for Monetary Policy**

Central banks can carry out monetary policy with the help of a variety of tools. The most popular instruments consist of Open Market Operations (To affect interest rates and the amount of money in circulation, central banks purchase or sell government assets), Reserve Requirement (A bank's ability to lend money is impacted by changes to the percentage of deposits it must retain in reserves), Interest Rates (Modifying policy interest rates to affect the cost of borrowing and lending in the economy, such as the US federal funds rate) and Forward Guidance (Outlining the central bank's plans for future policy to sway market perceptions).

### **Monetary Policy by Classification**

- Conventional Monetary Policy
- Unconventional Monetary Policy

### **Conventional Monetary Policy**

According to the Reserve Bank of Australia (RBA), conventional monetary policy tools refer to the conventional techniques used by central banks to regulate the amount of money in an economy to uphold price stability, curb inflation, and promote steady economic growth. The use and function of conventional monetary policy tools can be complex, but here's a simplified breakdown:

- The goal of the central bank's reduction of short-term interest rates is to encourage investment and spending through lower borrowing costs.

- Raising interest rates is a strategy for containing inflation and slowing down an overheating economy.
- Changes in one interest rate have an impact on other interest rates, credit availability, and the value of different assets, which direct business and household spending.

### **Conventional Monetary Policy Instruments Mechanism**

Although the application and operation of traditional monetary policy tools might be complicated, the following is a basic explanation:

- **Open Market Operation:** To control the amount of money in the economy, central banks can purchase or sell government securities on the open market. A central bank engages in open market operations when it buys or sells government securities, usually Treasury bonds or bills. A central bank lowers short-term interest rates and increases reserves in the banking system by purchasing securities. On the other hand, it removes funds from the banking system when it sells securities, which lowers reserves and increases short-term interest rates. (Woodford M. 2003).

Through transactions with primary dealers, usually sizable financial firms that are permitted to trade directly with the central bank, central banks carry out open market activities. These exchanges have an impact on the quantity of reserves held by banks, which in turn has an impact on the availability of credit and money, impacting short-term interest rates and overall economic activity (Poole, W., 1970).

In order to transmit monetary policy, open market operations are essential. Central banks can alter the cost and availability of credit, which in turn influences the borrowing, spending, and investment decisions made by individuals and enterprises, by modifying the quantity of reserves in the banking system (Blinder Alan S., 1998).. Short-term interest rates are not the only financial market factor that OMOs can affect. Central banks' announcement and implementation of open market operations have the potential to impact exchange rates, asset prices, bond yields, investor expectations, and overall financial conditions. (J.B. Taylor, 2009). Central banks often utilise open market operations to attain price stability, maximum employment, and financial stability. They also use open market operations in conjunction with other monetary policy tools, such as interest rate policy and forward guidance.

- **Reserve Requirements:** These are changed by central banks to limit the total amount of money that banks can lend out, which in turn affects the money supply. Central banks implement reserve requirements as a regulatory instrument to affect the stability and liquidity of the banking system. Central banks can regulate the amount of money that banks can lend out and hence the total money supply in the economy by requiring banks to keep a specific percentage of their deposits as reserves (Mishkin Frederic S., 2018).

Reserve requirements are usually expressed as a percentage of specific deposit kinds, like time deposits or checking accounts, by central banks. These reserves must be kept on hand by banks, either as cash in safes or as deposits with the central bank. Reserve requirements differ from nation to nation and can be modified over time by central banks in reaction to shifting economic circumstances (Cecchetti, Stephen G., & Kermit L. S., 2017). One instrument that central banks utilise to carry out monetary policy is reserve requirements. Central banks can affect the quantity of money that banks have available for lending by changing reserve requirements. Reducing reserve requirements means banks can lend more money, which boosts economic activity; increasing requirements means banks can lend less money, which slows economic growth (Goodfriend M., & Robert G. K., 1990).

Reserve requirements have certain drawbacks even though they might be a useful instrument for managing the money supply. For instance, compared to other monetary policy tools like open market operations, changes in reserve requirements may have less of an immediate effect on bank lending and money creation in a modern banking system with many financing sources and liquidity management tools (Thornton, D. L., 1996). The extent to which central banks use reserve requirements as a tool for monetary policy varies greatly throughout nations. Reserve requirements are not the only regulatory measures used in some nations to manage systemic risk and restrict liquidity in the financial sector (Demirgüç-Kunt A., & Enrica D., 1998).

- **Discount Rate:** This lending rate to commercial banks is modified by central banks. Typically, this rate is set below current market rates. Central banks use the discount rate as a tool to affect how much it costs to borrow and lend money in the economy. The degree of liquidity and credit in the financial system as a whole can be affected by central banks'

ability to influence banks' borrowing decisions by altering the discount rate. (Mishkin, F. S., 2018)

The target federal funds rate (in the case of the US Federal Reserve) or similar important policy rate is usually the level at which central banks set the discount rate. As a last resort, banks may borrow money through the central bank's discount window to cover short-term liquidity requirements or legal obligations. The central bank may periodically modify the discount rate in reaction to shifting economic circumstances. (Cecchetti S.G., & Kermit L. S., 2017). Although adjustments to the target interest rate or open market operations are more frequently employed as key monetary policy tools, the discount rate can nevertheless have an impact on overall monetary conditions. For instance, a decline in the discount rate may indicate an accommodating monetary policy stance, which would incentivize banks to extend credit and borrow more in order to boost the economy (Goodfriend M., & Robert G. K., 1990).

The stigma attached to borrowing through the discount window, the availability of other funding sources for banks, and the overall health of the economy can all have an impact on how successful changes in the discount rate are as a tool for monetary policy. In addition to modifying the discount rate, central banks can also bolster their policy objectives through the use of forward guidance and other communication techniques (Thornton, D. L., 1996). Different nations and central banks have different discount rates, which are a reflection of the variations in monetary policy frameworks, economic situations, and financial market structures. Discount rates are used by some central banks, such as the Bank of England and the European Central Bank (ECB), in their monetary policy operations, though to varied degrees according to the situation Demirgüç-Kunt A., & Enrica D., 1998).

Conclusively, central banks constantly track economic metrics like GDP growth, unemployment rates, and inflation rates to modify these instruments as needed.

### **Unconventional Tools for Monetary Policy**

When instruments other than altering a policy interest rate are employed, unconventional monetary policy takes place. These instruments consist of negative interest rates, asset purchases, credit easing, modifications to market operations and forward guidance (Blanchard O., & Dell'Ariccia, G., 2010). Aside from negative interest rates, most central banks have always had these

instruments in their "toolkit" and have employed them in one capacity or another, usually to assist the operation of the financial markets. The use of these instruments as the main means of accomplishing monetary policy objectives has been novel in recent years.

- **Forward guidance**

The "stance" of monetary policy as communicated by the central bank is known as "forward guidance." It informs the public and market players about the probable future course of the policy interest rate as well as possibly other monetary policy features. Two types of forward guidance exist: time-based and economy-based. With "time-based guidance," the central bank pledges to maintain a particular monetary policy position up until a predetermined date (for example, it won't raise interest rates until then). The central bank adopts "state-based guidance," which entails holding onto its monetary policy position until a predetermined set of economic conditions are satisfied (for example, it won't raise interest rates until unemployment or inflation reaches a specified threshold) Carney, M. (2013). In times of crisis, such as the Great Financial Crisis and the COVID-19 epidemic, central banks have attempted to decrease interest rates generally, set low policy interest rates, and given other targeted steps to help the financial system and economy. They took an active role in offering future direction as well. Reinforcing the central bank's commitment to low interest rates, which helps lower the interest rates consumers can expect in the future, was one of the main goals of its forward guidance. Clarifying the expected response of the central bank in atypical circumstances was another driving force. Forward guidance has generally been useful in lowering uncertainty regarding the financial and economic outlook.

- **Asset purchase**

Asset purchases occur when the central bank buys assets outright from the private sector. To pay for these purchases, the central bank creates "central bank reserves," which are known as Exchange Settlements. (This has sometimes been referred to as "printing money," yet to finance the asset acquisitions, the central bank does not issue any banknotes.) Bernanke, B. S. (2009).

Asset purchases were formerly the primary means of influencing the policy interest rate and have long been a part of central bank operations. But since the Great Financial Crisis (GFC), asset purchases have been utilised more frequently, particularly during the COVID-19 epidemic, which has resulted in a significant expansion of central bank balance sheets. Additionally, some central

banks have purchased a variety of assets as part of their asset purchase programmes, as opposed to previously solely purchasing government bonds, even if government bonds have remained the primary asset class. A central bank can typically set two targets when it comes to asset purchases: one target is the number of assets it will buy (at any price) or the other is the price target (it will buy whatever quantity of assets will achieve that price); in the case of bonds, the relevant price is the interest rate. Quantitative easing (QE) is another term for a quantity objective for asset purchases.

The specific objective of the central bank's asset purchases has varied from nation to nation, but lowering interest rates on risk-free assets (such as government bonds) throughout a range of terms to maturity, or over the yield curve, has been a recurring theme. (Refer to the box under "Risk-free yield curve and government bonds."). The policy interest rate, which may already be as low as it can realistically go—that is, at its effective lower bound—may be lowered in this fashion by the central bank through asset purchases. Bond rates are under further pressure to decline as a result of central bank asset purchases, which also support the central bank's forward guidance that policy interest rates will stay low. Furthermore, investors have the option to buy additional assets with the money they earn from selling their assets to the central bank. The price of these other assets as well as the exchange rate may be impacted by these portfolio modifications made by investors.

- **Negative Interest Rates**

Central banks can utilise negative interest rates to boost economic activity when all other options for monetary policy, such as lowering positive interest rates, have been explored. This policy entails putting nominal interest rates below zero, which implies that financial institutions and occasionally even individual depositors pay a fee to retain their money in the bank rather than receiving income on deposits (European Central Bank, 2014). When central banks set interest rates lower than zero, they are essentially penalising private banks for keeping surplus reserves. This is meant to incentivize banks to extend more credit and boost the economy (Draghi M., 2016).

The goal of negative interest rate policies is to encourage banks to lend more money instead of holding extra reserves, which they would have to pay to keep at the bank. It is anticipated that this will boost consumer and company borrowing and expenditure, hence boosting economic activity (Sveriges R., 2015). A depreciation of the national currency, which increases the competitiveness of exports and stimulates the economy by raising demand for goods and services produced

domestically, is another effect of negative interest rates (Rogoff, K. S., 2016). Negative interest rates lower borrowing costs, which incentivise companies to invest in expansion and new ventures that may spur economic growth and the creation of jobs (Keynes, J. M., 1936)

- **Credit Easing**

A monetary policy tool that central banks employ to increase credit availability in the economy is credit easing, particularly in periods of financial strain or economic downturns. In contrast to conventional monetary policy, which mainly aims to affect short-term interest rates, credit easing entails the central bank buying a larger variety of financial assets to boost certain credit markets and enhance general financial circumstances (Bernanke, B. S., 2009). To enhance credit conditions and encourage lending to individuals and businesses, central banks buy private sector assets like corporate bonds or commercial paper (Federal Reserve Bank of St. Louis, 2010).

Central banks can alleviate liquidity shortages and restore regular market functioning by buying assets in stressed markets. This lowers borrowing costs for households and businesses by lowering risk premiums (Krishnamurthy A., & Vissing-Jorgensen A., 2011). Mortgage-backed securities (MBS), corporate bonds, and other credit instruments are purchased by central banks from the private sector. This lowers returns, promotes lending and investment, and enhances liquidity in those particular markets. Special lending facilities are established by central banks to offer direct assistance to particular financial institutions or sectors. By providing loans on advantageous terms, these facilities can encourage banks to give more credit to consumers and enterprises (Gagnon J., Raskin M., Remache J., & Sack B., 2011).

- **Modification of Market Operation**

Central banks may modify their standard procedures for carrying out open market operations (OMOs) and other monetary policy tools to accomplish particular economic goals, especially in periods of economic instability or crisis. Changes in the kinds of assets bought or sold, the length and frequency of operations, and the requirements for counterparties to be qualified to participate are a few examples of these variations (Gagnon J., Raskin M., Remache, J., & Sack B., 2011). To flatten the yield curve and lower long-term interest rates, central banks sell short-term securities while simultaneously buying long-term securities (Federal Reserve Bank of San Francisco, 2011).



The variety of assets that central banks purchase and sell may increase. They may contain corporate bonds, mortgage-backed securities, and other financial instruments rather than only government securities. Typically, traditional OMOs entail brief transactions. To affect longer-term interest rates and offer more stable liquidity, modified operations may comprise longer-term repurchase agreements or outright purchases of longer-term securities (Mishkin, F. S., 2007).

#### **2.1.4 Role of Central Bank Independence**

The ability of a nation's central bank to establish and follow monetary policy objectives free from intervention from the government or other political forces is known as central bank independence. It includes the central bank's autonomous decision-making power over interest rates, the money supply, and other monetary policy instruments (Cukierman A., Webb S. B., & Neyapti B., 1992).

Numerous central banks function somewhat independently of their own governments, such as the European Central Bank and the U.S. Federal Reserve. The goal of this independence is to keep monetary policy focused on long-term economic stability while shielding it from immediate political concerns. The preservation of price stability and the attainment of macroeconomic stability are deemed contingent upon central bank independence. The credibility and efficacy of monetary policy are increased when central banks are independent and may base their judgements on economic principles rather than impending political issues (Cukierman A., 1997). In the latter half of the 20th century, the idea of central bank independence became more and more popular, especially after the 1970s high inflation episodes. Many nations restructured their central banks to give them more protection from political meddling; these reforms were frequently codified in laws or constitutional clauses (Grilli, V., Donato M., & Guido T., 1991).

Legal and structural safeguards that insulate central banks from political pressure are commonly associated with central bank independence. This can entail definite terms for governors of central banks, bans on government funding, and explicit directives for macroeconomic goals like price stability (Alesina A., & Lawrence H. S., 1993). Studies have indicated that there is a favourable association between central bank independence and multiple indicators of macroeconomic performance, such as decreased rates of inflation, decreased volatility of inflation, and increased macroeconomic stability. Nonetheless, there is ongoing discussion on the causal relationship

between economic performance and central bank independence. (Cukierman A., Webb S. B., & Neyapti B.,1996). Although most people see central bank independence positively, there are drawbacks and obstacles to it. Some contend that undue independence could result in a lack of democratic scrutiny and accountability. Some argue that the independence of central banks may not be as effective in tackling intricate economic issues like income inequality or financial stability (Romer D., 2006).

### 2.1.5 Monetary Policy Target

Monetary policy is a tool used by central banks to control economic volatility and establish price stability, or low and steady inflation. Central banks and governments utilise it as a major weapon to accomplish a range of economic goals. Its power to shape financial markets, affect economic conditions, and govern a country's general welfare makes it significant. The main goals may consist of:

- **Price Stability:** A shared goal is keeping prices steady while also managing inflation. In order to maintain the relative stability of the value of money, central banks strive to keep inflation within a target range (Mishkin, F. S., 2015).
- **Economic Growth:** Long-term economic growth is another goal of monetary policy, which is achieved by preserving a macroeconomic environment that is stable and supportive of investment, innovation, and increased productivity (Bernanke B. S., & Gertler M., 1995).
- **Full Employment:** Encouraging as much long-term work as possible is another objective. In order to prevent overheating, central banks seek to reduce unemployment and promote economic development (Mankiw, N. G., 2016).
- **Exchange Rate Stability:** To encourage foreign investment and trade, monetary policy in economies with flexible exchange rates may also seek to preserve market stability (Carbaugh, R. J., 2015).

- **Financial Stability:** By controlling systemic risks, averting asset bubbles, and lessening the effects of financial crises, monetary policy helps to ensure the stability of the financial system (Mishkin, F. S., & Eakins, S. G., 2016).
- **Interest Rate Stability:** According to Parkin, Powel, and Matthews (2014), monetary policy aims to stabilise interest rates in order to promote investment, improve the efficiency of the financial system, and give lenders and borrowers a sense of security.

Other monetary policy targets are long-term economic planning, mitigating crises, predictability and transparency, independence from political pressure etc. Monetary policy plays a critical role in economic analysis. It is an effective tool for controlling inflation, keeping the economy stable, fostering job creation and expansion, and preserving the soundness of the financial system.

### **2.1.6 Concept of Economic Stabilisation**

A stabilization policy is a tactic used by a government or its central bank to preserve modest price fluctuations and a robust rate of economic growth. Maintaining a stabilization policy necessitates keeping an eye on the business cycle and making necessary adjustments to monetary and fiscal policy to prevent sudden swings in supply or demand (Adam Hayes, 2021). Some key features of economic stabilisation are:

- The goal of stabilization policy is to maintain a stable economy by adjusting interest rates as necessary.
- Interest rates are decreased to encourage borrowing for spending and raised to discourage it.
- In order to influence aggregate demand, fiscal policy can also be used to alter taxes and expenditures by the government.
- The goal is to create an economy that is resilient to abrupt changes in demand.

### **Understanding stabilization policy**

Since the end of World War II, the U.S. economy has experienced a recession almost once every seven months, according to a Brookings Institution analysis. Although stabilization policy aims to

lessen the impact and avoid widespread unemployment, this cycle is considered as unavoidable. The goal of a stabilization policy is to contain wild fluctuations in the GDP (gross domestic product) of the country and to restrain sharp increases or decreases in it. Healthy employment rates typically follow the stabilization of these conditions. Governmental responses to economic shocks or crises, including stock market crashes or sovereign debt defaults, are also referred to as stabilization policies. Among the reactions could include emergency actions and reform regulations (Investopedia, 2021).

### **The Roots of Stabilization Policy**

John Maynard Keynes, a trailblazing economist, contended that an economy might go through a severe and prolonged period of stagnation devoid of any type of automatic or natural recovery or correction. Economists in the past had noted that economies expand and contract according to a cyclical pattern, occasionally experiencing downturns that are followed by recoveries and expansions again. Keynes refuted their beliefs, which held that during a recession, one should typically anticipate an economic recovery process. He contended that a protracted period of lower consumer spending, sluggish company investment, and higher unemployment may be brought on by the fear and uncertainty that businesses, investors, and consumers experience; these factors would then reinforce one another in a vicious cycle of demand (Adam Hayes, 2021).

Keynes contended that policy changes are necessary to influence aggregate demand and break the cycle. Along with his fellow Keynesian economists, he contended that in times of optimism and economic expansion, the reverse strategy could be employed to prevent excessive inflation. Demand is lowered to combat increasing inflation and increased to combat high unemployment under Keynesian stabilisation policy. Raising or lowering borrowing interest rates and changing government spending are the two main strategies used today to alter demand. They are referred to as fiscal policy and monetary policy, respectively.

### **The Future of Stabilization Policy**

Stabilization strategies are used in the majority of modern economies, and central banking organizations like the US Federal Reserve Board handle most of the work in this regard. The United States has experienced moderate but positive rates of GDP growth since the early 1980s, which are largely attributed to stabilization policy. It entails implementing contractionary policy

during times of extreme optimism or increasing inflation and expansionary monetary and fiscal policy during recessions. This entails rising taxes, decreasing interest rates, and increasing government deficit spending during recessions and decreasing interest rates, taxes, and deficit spending during prosperous periods (Adam H., Sommer A., & Katrina M., 2021).

Nowadays, a lot of economists think that long-term success depends on maintaining a stable rate of economic growth and stable prices, especially as economies become more sophisticated and complicated. Significant fluctuations in any of those factors may have unanticipated effects on the whole economy.

### **2.1.7 Keynesian Analysis of Economic Stability**

Economists have naturally been concerned with the issues of economic stability and instability for a very long time. However, it arose as a unique area of study most significantly from the intersection of two processes during the 1930s Great Depression. The first was the creation of national income statistics, and the second was the "Keynesian revolution," or the realignment of theoretical thought.

Examining how a contemporary economy functions is necessary to comprehend why John Maynard Keynes' theoretical contributions were valued so highly over the majority of the 20th century. Millions of people are involved in millions of diverse activities that make up this type of economy; these activities include the creation, distribution, and consumption of all the various commodities and services that a contemporary economy offers. Thousands or tens of thousands of people work in productive activities within hierarchies of CEOs and other managerial professionals in some of the larger economic divisions.

With the exception of these few, well-organized islands, the majority of the population goes about its various economic activities unsupervised. It's like an incredibly intricate, dynamic puzzle that keeps getting solved and solved again thanks to the market system. This organisational structure would not last if there were a breakdown in the coordination of activities, like there was during the Great Depression in the 1930s. In truth, such a breakdown of that magnitude only happened once. Since the time of the English economist Adam Smith (1723–90), the general central issue of economic theory has been how the economic riddle is solved without anyone thinking about it.

## **The Problem of Coordination**

A budget of that household's transactions can be created if it is selected from among the millions of economic units and studied over an extended period of time. The budget will seem as a lengthy list of sales and purchases. The answer to the economic conundrum would have been different if this economic unit had ever attempted to do anything other than what it was already doing (such as cutting back on meat purchases to acquire an additional pair of shoes). Both the supply and the demand for meat and shoes would have been in excess of what was available at the going rates.

Whether or not Keynes was correct, his argument was that each economic unit's operations needed to be tightly regulated in order for the economy to work as a whole. Price incentives are used to achieve this. Any economic unit may generally be made to either supply more or demand less of an item by raising its price relative to everything else; conversely, by lowering its price, it can be made to either supply more or demand less. An isolated unit is thereby guided to fit its operations into the larger jigsaw of market supplies and demands through the conflux of pricing. This kind of control over economic units would be necessary for the market-organized system to function.

According to Keynesians, there is, in theory, only one set of prices that can be used in each given scenario to solve the issue precisely. However, the quantities that economic units decide to supply or demand of different goods at any given price list are determined by a wide range of variables, all of which are subject to change over time: the size of the labour force and population; the stock of labour, technology, and material resources; "tastes" for specific consumer goods; and attitudes towards leisure versus work, and so forth. The money supply, tax rates, spending, welfare programmes, and debt levels are examples of government policies that influence supply and demand. The list of prices that formerly would have balanced all of the markets will need to be adjusted in accordance with any change in any of these factors. Prices that are too "rigid" will prevent the system from adapting and cause coordination to fail.

## **Price Flexibility**

Something further is needed in order for coordination of activities to be maintained (or restored) when changes in these determinants upset the economy: every individual price must move in a manner that will bring about equilibrium. It is possible to characterise this need for pricing adjustments in specific directions as a communications requirement. To express it in an extreme

form, an economic unit needs to know what the intents of all other units in the system are in order to organise its operations so that they will "mesh" with those of others. When a shift in one of the factors that determines supply and demand in the market destabilises the system, subsequent price fluctuations must alert all parties involved of the necessary information.

For instance, one can assume that the Middle East's supply of crude oil is shut off during a political crisis. The immediate outcome will be a massive global excess demand for oil and oil products, meaning that supply will be substantially less than demand at current prices. Simultaneously, the earnings of individuals who make their living from the production of oil in the Middle East will decrease, and surplus quantities of the items that those incomes were previously used to purchase will appear on the markets. Orders must be issued to all demanders to reduce their oil consumption and to all other oil suppliers to increase their output in order for the system to respond. In essence, a rise in the price of oil and its derivatives will lead to the following outcome: millions of consumers worldwide who rely on petrol and heating oil will react to the pain of rising costs, which will also serve as a financial incentive for producers to expand their output. (Falling prices will similarly narrow the gaps in the markets where the original disruption led to the development of excess supplies).

Prices that are not fixed due to institutional factors will adjust in reaction to surplus supply and demand. Disappointed consumers will bid up the price when supply exceeds demand, while unsuccessful suppliers will bid down the price when demand exceeds supply. In the above image, the problem of excess demand for oil was resolved by this technique. But the real question is whether the system as a whole will constantly operate to push each price in the direction of its general equilibrium value.

Keynes declined. According to him, there are situations in which there may not be "effective" communication of excess demands (or supply). In these cases, prices may be in disequilibrium, but no process of moving them away from these unsuitable levels will be initiated. This is the shortcoming in the conventional understanding of how the price system functions, which led Keynes to propose the idea of "effective demand." The inferred difference between (supposedly) "ineffective" and "effective" demand would not have made sense analytically to pre-Keynesian economists. Traditional economic theory's logic suggested two scenarios that could render the price system ineffective: (1) that prices in some markets are "rigid" for institutional reasons,

meaning that they won't change in response to competitive pressures from excess supplies or demands, or (2) that in some markets, neither demanders nor suppliers respond to price incentives, making it impossible to close a "gap" between supply and demand. Keynes found a third possibility that he claimed explained the length and depth of severe depressions: in some circumstances, prices may exhibit no tendency to fluctuate, despite the fact that institutional reasons for rigid prices do not exist and market forces do not align buy and sell desires.

### **2.1.8 Determinant of Economic Stability**

A comprehensive overview of the determinants of economic stability (Blanchard O., & Johnson D., 2013). Key factors that influence economic stabilisation include:

#### **1. The Monetary Policy:**

- Interest Rates: Interest rates are a tool that central banks utilize to affect borrowing costs and, in turn, investment and spending. While higher interest rates can help cool an overheating economy, lower rates promote borrowing and expenditure.
- Money Supply: Another facet of monetary policy is managing the money supply. Reserve requirements, open market operations, and other instruments are some of the ways that central banks can modify the money supply.

#### **2. Fiscal Policy:**

- Taxes and Spending by the Government: Fiscal policy is a tool that governments can utilise to heat up or cool down the economy. While lower spending or higher taxes may have a contractionary effect, higher government spending or tax cuts may increase demand.

#### **3. Exchange Rates:**

- Currency Value: Exchange rates have an effect on the stabilization of the economy, particularly in nations that rely significantly on foreign commerce. Exports may increase as a result of a weaker currency, thereby boosting economic activity.

#### **4. Conditions of the Labour Market:**



- Unemployment Rates: High rates may point to a struggling economy, while extremely low rates may point to an overheating one. Economic policymakers rely heavily on labour market developments as indicators.

**5. Inflationary Pressures:**

- Consumer Price Index (CPI): An economy may become unstable if inflation is either too high or too low. To preserve price stability, central banks frequently set targets for specific rates of inflation.

**6. Global Economic Conditions:**

- International Trade: A nation's attempts to stabilize its economy may be impacted by the state of the world economy. The success of the domestic economy can be impacted by shifts in the world market, commodity prices, and financial circumstances.

**7. Technology and Innovation:**

- Productivity Growth: Improvements in productivity and technological breakthroughs Labour can promote long-term growth and efficiency, which will have a good impact on economic stabilization.

**8. Financial Market Stability:**

- Banking System Health: The stability of the banking system is a prerequisite for the stability of the economy. Financial crises or disturbances in the banking industry may have detrimental effects on the economy as a whole.

**9. Government Debt levels:**

- Public Debt can restrict the alternatives available for fiscal policy, particularly in times of economic recession. Lower debt levels may provide governments more leeway to enact countercyclical measures.

**10. Company and Consumer Confidence:**

- Confidence Indices: The psychological aspect of company and consumer confidence contributes to economic stabilization. While low confidence might have the opposite impact, high confidence levels can result in increased expenditure and investment.

### **11. Political Stability:**

- Consistency in policies: Consistent policies and a stable political climate are prerequisites for economic stability. Unpredictable and abrupt changes in policy have the potential to cause uncertainty and impede economic growth.

### **12. Natural Catastrophes and Outside Shocks:**

- External Events: Economic stability may be impacted by natural disasters, geopolitical upheavals, and other external shocks. It is necessary for governments to have systems in place for handling unforeseen circumstances.

These factors are interrelated, and depending on the unique conditions of a nation or area, their influence may differ. Effective economic stabilization frequently necessitates a thorough and well-coordinated strategy that considers these different aspects. Furthermore, the ability of policymakers to adjust and be flexible in the face of shifting economic conditions may determine how effective stabilisation programmes are.

## **2.2 Empirical Review**

Following its declaration of independence in 1991, Azerbaijan has begun enacting market-oriented reforms. There have been military conflicts and political cataclysms along with the shift to the new politico-economic order. Azerbaijan was categorized by the World Bank as a war-torn nation with a semi-democratic political system.

The reality of the situation and the lack of clarity surrounding the future of market reforms in the former Soviet nations have led to a significant increase in the body of literature on the political economics of transition during the past ten years. Numerous theories explaining the relationship between political and economic reforms as well as national and regional explanations for the post-Communist countries' transition have been proposed. Shafiqul Islam provides a detailed explanation of the market-reform process, arguing that the four interconnected wheels of the transition vehicle are macroeconomic stabilisation, liberalization, economic privatisation, and the creation of institutional infrastructure that supports the market.<sup>2</sup> He classified the latter three wheels as "marketization."

Additionally, he talks about many ideas and theories related to the political economy of the post-Communist transition. However, my main concern is how Azerbaijan's reform process has been impacted by political shifts throughout the transition. The path of Azerbaijan's post-Communist transition can be broadly categorized into three stages: (1) the state of nature during the country's first years of independence (1991–1994); (2) Heydar Aliyev's strong autocratic regime and stabilization (1994–2003); and (3) after Heydar Aliyev's death and his son İlham Aliyev's election as president (after 2003), known as the post–Heydar Aliyev state. I examine Azerbaijan's three political phases and how they have affected market reforms, especially the marketization process. A combination of qualitative and quantitative techniques is used to obtain and then analyze measures of nominal political stability and market reforms.

Ultimately, it demonstrates how the consolidation of power aided in the stabilisation aspect of reforms, but hindered the marketization aspect. Furthermore, this paper asserts that a political-economic system in transition finds it very challenging to decentralize once it has been centralized. In conclusion, looking at the "three I's" approach to resolving the difficulties of a post-Communist transition and suggest and analyze additional actions for public policy.

The majority of the nondemocratic CIS governments turned into presidential autocracies in the 1990s, designing hopes that they may at least become democracies with adjectives (Collier/Levitsky 1997). From regime divergence at the start of the 1990s to regime convergence now, the post-Soviet regimes show an intriguing evolution (Collins 2002).

The autocracies in the CIS ranged from rigid forms that showed no signs of changing anytime soon to soft or competitive forms that showed occasional, minor adjustments (e.g., Means 1996; Ottaway 2003; Levitsky/Way 2002 and 2006). Strong and individualized presidentialism or excessive executionalism ('exezessiver Ex-ekutionalimus', Rub 2007) is a highly significant predictor of post-Soviet autocracy, according to research on authoritarianism (Frye 1997; Shestopal 2007; Brownlee 2007). Start claims that authoritarian rulers who base their regimes on their own personalities, a combination of authoritarian political culture, "oriental" or "Central Asian" traditional culture, Soviet rule, and strong subnational local networks, clans, families, and wealthy magnates are the hallmarks of post-Soviet autocracies, particularly in Central Asia and the Caucasus (Starr 2006). In addition to their authoritarian demeanour, the political elites enjoy a

vast abundance of natural riches, particularly oil and gas. According to Franke et al. (2009), this combination stabilizes this new kind of stable post-Soviet rentier governments.

Using data from Freedom House, Ure et al. (2019) reported on political independence and growth rates while accounting for the influence of openness and growth rates. It was also stated that some countries were classified as developed due to the policies followed by roughly thirty countries. It was determined that political errors prevent nations from growing and from implementing the idea of justice. As a result, the way income is distributed is unfair. Orujova (2014) looked at the difficulties that lie ahead in the shift to a market economy. One of those responsibilities, it was mentioned, is privatisation. Another is ensuring that a market economy operates as efficiently as possible, which calls for the ideal distribution of big and small businesses. It was also mentioned that the amount of monopoly has decreased as small businesses have grown.

The "State Programme for the Development of Small and Medium Enterprises in the Republic of Azerbaijan (2002-2005)" was created on August 17, 2002, in response to those changes, with the goal of fostering the growth of the country's enterprise sector. A novel technique known as MOORA (Multipurpose Optimisation Based on Relationship Analysis) was presented by Brouers and Zavadskas (2006). The model states that privatisation in a transition economy, for example, serves as an example of how the technique is applied and is utilised to optimise numerous aspects. Tandircioglu (2002) examined the issues that surfaced in a transitional economy during privatisation. Privatisation was mentioned as a crucial component of the transition economy. The study contrasted opinions held by various groups debating how quickly or slowly to privatise. Additionally, it emphasised the significance of private sector growth in transition economies. According to a 1999 EBRD (European Bank for Reconstruction and Development) assessment, 20 out of 26 transition economies had a private sector that produced more than 50% of their GDP.

Aghaev (2011) investigated the connection between exports and economic expansion in twelve former USSR states. The majority of these nations' total exports are made up of raw materials, energy, agricultural products, and mining resources. It was suggested that there is no direct correlation between economic growth and export growth. It was also emphasised that low income levels lead to low levels of investment, which are characteristics of less developed nations. As a result of insufficient investment in physical capital, economic development and industrial expansion are stagnating.

According to Rosenberg and Saavalainen (2003), the oil-rich former Soviet republics surrounding the Caspian Sea saw two distinct challenges during their various transitions to market economies: the first was the adjustment to a new economic system, and the second involved structural adjustments related to the oil industry.

In their paper, Fischer and Sahay (2000) provided an overview of the macroeconomic performance of the transition economies. It was mentioned that reforms and privatisation support economic expansion. A sound legal and financial infrastructure are prerequisites for privatisation. Growth increases with the speed at which reform is occurring. According to Hunya (2017), foreign direct investment, or FDI, made technology and business expertise accessible during the shift from a transition economy to a market economy. Due to reduced capital inflows, the EU Member States of Central and Eastern Europe (EU-CEE) were compelled to redress their balance of payments, which resulted in several years of slow economic growth. Many nations evaluated capital in GDP and FDI between 2010 and 2012 and between 2013 and 2015.

## **2.3 Theoretical Framework**

### **2.3.1 Keynesian Monetary Policy**

Three ideas make up Keynes's theory of monetary policy: the interest rate, the marginal efficiency of capital, and the investment multiplier. Keynes provides an explanation for his opposition to countercyclical monetary policy by examining the interactions between these three ideas in the short term. Additionally, he clarifies why the economy tends to oscillate around a long-period equilibrium position that is marked by unemployment by examining how they interact over an extended period of time. According to Keynes, the monetary authority's only goal should be to use its control over interest rates to push the economy away from its long-term equilibrium position, which is defined by unemployment, and towards a long-term equilibrium position, which is defined by full employment.

Demand-side remedies for recessionary times are the main focus of Keynesian economics. A crucial tool in the Keynesian toolbox for combating underemployment, unemployment, and weak economic demand is government involvement in the economy. Keynesian thinkers frequently

disagree with proponents of little government involvement in the markets due to their emphasis on direct government intervention in the economy.

Keynesians contend that government intervention is necessary to keep wages and employment on track because they react to market demands more slowly than other variables. Moreover, they contend that when monetary policy interventions are implemented, prices do not respond instantly but rather alter gradually, giving rise to the monetarism subfield of Keynesian economics.

When prices fluctuate slowly, the money supply can be used as a weapon to manipulate lending and borrowing by altering interest rates. One way that governments can significantly influence economic systems is by lowering interest rates, which will stimulate expenditure on both investments and consumption.<sup>8</sup> Interest rate reductions that provide a short-term increase in demand stimulate the economy, reviving employment and service demand. Next, the increased economic activity fuels further expansion and job creation.

Keynesian theorists contend that if action is not taken, this cycle will be broken, making market growth more erratic and vulnerable to extreme swings. The goal of maintaining low interest rates is to boost the economy by enticing people and companies to take out additional loans. The money they borrowed is then spent by them. The economy is stimulated by this new expenditure. However, lowering interest rates doesn't always result in a stronger economy.

Monetarist economists typically steer clear of the zero-bound dilemma in favour of controlling the money supply and lowering interest rates as ways to address the economy's problems. Lowering interest rates to stimulate the economy becomes less effective as they get closer to zero since it lessens the motivation to invest rather to just retain cash or close substitutes like short-term treasury. If interest rate manipulation is unable to encourage investment, it may no longer be sufficient to create new economic activity and the effort to create an economic recovery may come to a full standstill. One kind of liquidity trap is this one.

Keynesian economists contend that other tactics, namely fiscal policy, must be used when cutting interest rates is ineffective. Additional interventionist measures include controlling the labour supply directly, altering tax rates to indirectly raise or lower the money supply, shifting monetary policy, or imposing restrictions on the flow of goods and services until demand and employment are restored.

In conclusion, the concepts of John Maynard Keynes serve as the foundation for Keynesian monetary theory, which emphasizes the significance of interest rates and the function of central banks in shaping aggregate demand. Keynesians contend that monetary policy should be used by central banks to stabilize the economy, especially in times of economic depression, and that changes in interest rates can have a major impact on consumption and investment. Keynesian thinkers contend that active economic intervention is necessary to stimulate short-term demand since economies do not stabilize on their own very rapidly.

### **2.3.2 Monetarist model**

According to the macroeconomic theory of monetary theory, governments can promote economic stability by focusing on the rate at which the money supply expands. It is, in essence, a collection of opinions predicated on the idea that the amount of money in an economy as a whole is the main factor influencing economic growth.

Milton Friedman, a renowned economist, is closely linked to monetary theory. Friedman maintained that the money supply should be kept relatively constant, increasing by a small amount annually to accommodate the economy's natural expansion. His arguments were based on the quantity theory of money. The creator of monetarism, Milton Friedman, claimed that monetary policy should be aimed at achieving the money supply's growth rate to preserve price and economic stability, given the potential for inflation that comes with an excessive expansion of the money supply.

The K-percent rule, which Friedman proposed in his book *A Monetary History of the United States 1867–1960*, states that the money supply should grow at a constant annual rate linked to the growth of the nominal gross domestic product (GDP) and be expressed as a fixed percentage per year. In this manner, the economy will grow steadily, the money supply will be predicted to grow moderately, companies will be able to plan for the annual changes in the money supply, and inflation will be managed at low levels. The main ideas of monetarism theory are as follows:

- The macroeconomic theory of monetarism holds that governments can promote economic stability by focusing on the rate at which the money supply expands.

- The quantity theory of money, which holds that the money supply (M) multiplied by the annual growth rate of money expenditure (V) equals the nominal expenditures (P \* Q) in the economy, is fundamental to monetarism.
- Milton Friedman, the economist, is closely linked to monetary theory. Friedman maintained that the money supply should be kept relatively constant, increasing it somewhat annually primarily to accommodate the economy's natural growth.
- Unlike most Keynesians, monetarism is a subfield of Keynesian economics that emphasizes the use of monetary policy over fiscal policy to regulate aggregate demand.
- Some fundamental ideas of the theory have become a mainstay of nonmonetarist analysis, even though the majority of contemporary economists deny the importance of money expansion that monetarists claimed in the past.

According to the economic school of thinking known as monetary theory, the main factor influencing economic growth in a country is the amount of money available. The overall demand for products and services rises when there is more money in the economy. A rise in aggregate demand promotes the creation of jobs, which lowers the unemployment rate and boosts economic expansion.

An economic tool employed in monetarism, monetary policy is applied to modify interest rates, which regulate the money supply. People are more inclined to save rather than spend when interest rates are raised, which causes the money supply to decrease or shrink. On the other hand, the cost of borrowing goes down when interest rates are decreased in the wake of an expansionary monetary policy, allowing people to borrow more and spend more, which boosts the economy.

### **2.3.3 Phillips Curve Theory**

The relationship between the unemployment rate and the rate of inflation is represented by the Phillips curve. His study on wage inflation and unemployment in the UK is a seminal work in the field of macroeconomics, despite having forerunners. Phillips discovered a constant inverse relationship: salaries rose quickly during periods of low unemployment and slowly during periods of high unemployment. According to Phillips' assumption, employers must boost pay more quickly



to recruit scarce labour when the unemployment rate is lower because it indicates a tighter labour market. The pressure lessened as unemployment rose. The average association between wage behaviour and unemployment during the business cycle was illustrated by Phillips' "curve." It displayed the rate of wage inflation that would happen if a specific unemployment rate continued for a while (Phillips, A. W. H., 1958).

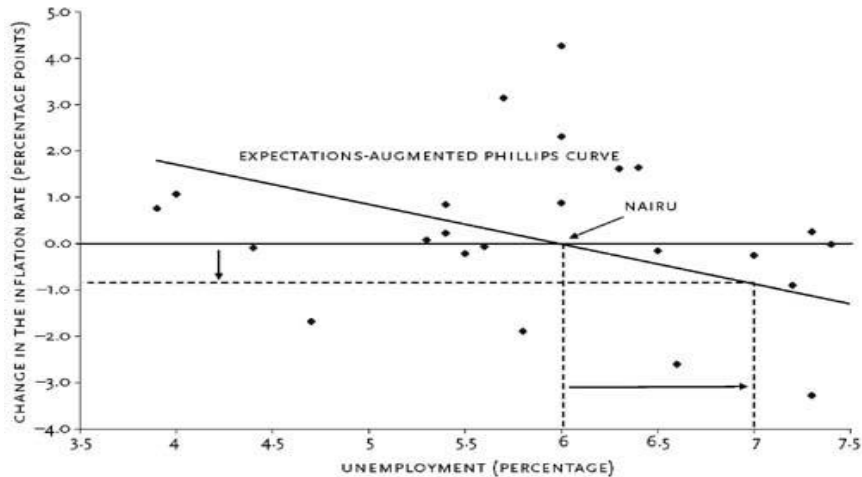
Soon after, most developed economies' Phillips curves were estimated by economists. Most people connected unemployment to general price inflation rather than salary inflation. Naturally, there is a direct correlation between a company's wage costs and the prices it charges. A typical Phillips curve fitted to US data from 1961 to 1969 is depicted in Figure 1. Many economists treated the Phillips curve as a type of menu of alternatives for policy because of the close fit between the calculated curve and the data, as supported by Paul Samuelson and Robert Solow. For instance, if the unemployment rate is 6%, the government may choose to boost the economy in order to reduce it to 5%. The theoretical foundations of the Phillips curve were questioned independently by Milton Friedman and Edmund Phelps during the height of its use as a policy guide. They maintained that sensible, well-informed employers and employees would only consider real wages or the money wages' adjusted buying power due to inflation. According to their theory, real wages would rise until the labour supply and demand were balanced, at which point the unemployment rate would fall to a level that could be related to those real earnings—what they called the "natural rate" of unemployment.

Friedman and Phelps contended that the government was unable to consistently exchange reduced unemployment for increased inflation. Assume that the natural rate of unemployment is observed. The real wage is constant because, to maintain their purchasing power, workers who anticipate a certain rate of price inflation demand that their pay rise at the same rate. Imagine for a moment that the government attempts to bring unemployment below its natural rate by using expansionary fiscal or monetary policies. Because of the consequent rise in demand, businesses are compelled to raise prices more quickly than employees had anticipated. Businesses are willing to hire additional people at the previous salary rates and may even boost them somewhat in response to increased revenues. Workers experience a temporary phenomenon known as the "money illusion," in which they voluntarily provide extra labour because they perceive an increase in their money pay. As a result, the jobless rate declines. Because prices have increased more quickly than they

anticipated, individuals are not immediately aware that their purchasing power has decreased. However, workers eventually reduce their labour supply and demand wage increases that keep up with inflation as they grow accustomed to greater rates of price inflation. Both the real wage and the unemployment rate revert to their pre-crisis levels. However, the wage and price inflation caused by strategies of expansion persist at the new, increased rate (Kevin D. Hoover, 2015).

The "long-run" and "short-run" Phillips curves are distinguished by the analyses of Friedman and Phelps. Inflation and unemployment will be inversely correlated as long as the average rate of inflation stays relatively steady, as it did in the 1960s. However, following a period of adjustment, unemployment will return to the natural rate if the average rate of inflation changes, which it will when policymakers consistently attempt to drive unemployment below the natural rate. That is, the natural rate of unemployment is compatible with any rate of inflation if workers' expectations of price inflation have had time to adjust. The graph might display the long-run Phillips curve as a vertical line above the natural rate. The original curve would consequently only be applicable during short transitory periods and would be subject to shifts if the average rate of inflation underwent a sustained change. It is possible to merge these short- and long-term relationships into a single "expectations-augmented" Phillips curve. The faster workers' expectations of price inflation adjust to shifts in the real rate of inflation, the faster unemployment returns to its natural rate and the less effective the government's monetary and fiscal actions are in lowering unemployment. A fundamental assumption of both Friedman's and Phelps's studies is now acknowledged by the majority of economists: there exists a certain rate of unemployment that, if sustained, can coexist with a stable rate of inflation. However, unlike the phrase "natural rate," many refer to this as the "nonaccelerating inflation rate of unemployment" (NAIRU) because it does not imply that an unemployment rate is socially ideal, constant, or unaffected by policy (Friedman, Milton, 1968).

**Figure 1:** The Expectations-Augmented Phillips Curve, 1976–2002



*Source:* Bureau of Labor Statistics.

*Note:* Inflation is based on the CPI.

The expectations-augmented Phillips curve is a cornerstone of nearly all macroeconomic forecasting models currently in use by industry and government. The majority of macroeconomic theory's various diverse schools of thought accept it. Early, new, classical theories made the assumptions that expectations were created rationally, or without systematic inaccuracy and that prices adjusted freely. According to these presumptions, Figure 1's Phillips curve ought to be quite steep, and departures from NAIRU ought to be transient (see new classical macroeconomics and rational expectations). Even modern classical economists now acknowledge that wages and prices are somewhat sticky, even if they continue to support the rational expectations premise. The significant variations in unemployment surrounding NAIRU and the sluggish pace of convergence back to NAIRU can be explained by wage and price inertia, which causes real wages and other relative prices to deviate from their market-clearing levels (Sheffrin, S.M., 1996).

According to certain "new Keynesian" and free-market economists, an economy's tendency to return to NAIRU is, at most, negligible. They contend that the actual unemployment rate does not tend to recover to a natural rate. Rather, NAIRU increases along with real unemployment when it rises and stays high for a while. The hypothesis of hysteresis refers to how NAIRU is dependent on real unemployment. In a highly unionised economy, hysteresis may occur because unions exclusively serve the interests of individuals who are currently employed. Unionisation reduces the ability of non-members to compete for jobs by maintaining high pay. Instead of lowering their pay expectations to encourage the rehiring of unemployed workers, employed union workers may

choose to pursue the advantages of higher earnings for themselves during protracted layoffs. The hysteresis hypothesis states that even in the near term, unemployment is mostly resistant to monetary and fiscal stimuli if it reaches a high level, as it did in Europe during the recessions of the 1970s. In 1968, West Germany had a 1.5% unemployment rate and France had a 1.8% rate. On the other hand, the unemployment rates in West Germany and France have varied from 7 to 11 percent since 1983. The German rate was 8.4% in 2003, while the French rate was 8.8%. The hysteresis hypothesis seems to apply more to Europe than to the US, with its far more flexible labour markets, given the region's greater unionisation rate and the numerous obstacles that labour laws erect to hiring and firing. In 1968, the unemployment rate in the United States was 3.4%. The rate of unemployment in the United States reached a peak of 10.8% in the early 1980s before sharply declining until it once more fell below 4% by 2000.

Another variation of the Phillips curve is frequently used in contemporary macroeconomic models, where the unemployment rate is substituted with the output gap as the indicator of aggregate demand compared to aggregate supply. The difference, defined as a percentage of potential, between the current GDP level and the potential (or sustainable) level of aggregate output is known as the output gap. This formulation explains why prices did not increase during the conclusion of the 1990s boom when unemployment rates were far lower than NAIRU estimates. Here's the explanation for it. Potential output is dependent on capital inputs such as plant and equipment in addition to labour inputs. Following almost ten years of fast investment, businesses discovered they had too much capital after the boom. Due to the increased potential output caused by the extra capacity, the pressure on prices decreased and the output gap widened (Samuelson, A., & Robert M.S, 1997).

The Phillips curve is criticised in several pieces in the conservative business press because the authors argue that it refutes the premise that excessive money expansion is the real source of inflation and instead suggests that growth generates inflation. However, it doesn't do that. It is possible to accept the Phillips curve while still understanding that higher growth will lower inflation under all other circumstances. Ironically, Milton Friedman, one of the creators of the expectations-augmented form of the Phillips curve, is also a leading proponent of the theory that "inflation is always, and everywhere, a monetary phenomenon," therefore the criticism of the curve is misguided. In the 1960s, the Phillips curve was heralded as offering a description of the inflation

process that the traditional macroeconomic model had been unable to explain. Four decades later, the natural-rate hypothesis's expectations-augmented version of the Phillips curve is still crucial for linking inflation and unemployment (both labour and capital) in mainstream macroeconomic theory (Kevin D. Hoover, 2015).

### **Critics of Philip Curve**

When the US experienced "stagflation" in the 1970s a state marked by high unemployment and inflation—this idea was called into doubt. This implied that the Phillips curve theory's assumption about the relationship between inflation and unemployment was not accurate. Furthermore, the U.S. had consistently low unemployment and relatively low inflation at the start of the twenty-first century, refuting the idea that unemployment and inflation are inversely related (Phelps, Edmund S., 1967)

### **2.3.4 Taylor Rule**

According to the economics Taylor rule, the federal funds rate should be determined after levels of inflation and economic growth. The interest rate at which banking institutions lend each other their surplus reserves without collateral is known as the federal funds rate. In economics, Taylor's rule seeks to clarify the connection between the GDP, inflation, and the federal discount rate—the Federal Reserve's primary tool for implementing policy. John B. Taylor created the Taylor Rule in 1992. One of the primary tools the Federal Reserve utilises to carry out its policy is the federal funds rate. This tool of policy is crucial for maintaining healthy and steady economic growth and regulating inflation rates (John T., 1993).

Stanford University's John Taylor has developed a solution known as the Taylor rule. The Taylor rule states that the real fed funds rate (real fed funds rate that is consistent with full employment over the long term) plus an "equilibrium" real fed funds rate (real fed funds rate that is equal to the inflation rate) plus a weighted average of two gaps (the output gap being the percentage of real GDP deviating from an estimate of its potential (natural rate) level and the inflation gap being the current inflation minus a target rate). The following is one way to write this rule:

Federal funds rate target = inflation rate + equilibrium real fed funds rate +  $\frac{1}{2}$  (inflation gap) +  $\frac{1}{2}$  (output gap)

Taylor assumed that there would be equal weights of 1/2 on the production gaps and inflation, with an equilibrium real-fed funds rate of 2% and an adequate objective for inflation of 2%. Assume the following for a numerical example of the Taylor rule: real GDP is 1% above potential, meaning that there is a positive output gap of 1%, and the inflation rate is 3%, meaning that there is a positive inflation gap of 1% (= 3% - 2%). The federal funds rate should therefore be set at 6% [= 3% inflation + 2% equilibrium real fed funds rate + 1/2 (1% inflation gap) + 1/2 (1% output gap)]. The fact that the coefficient on the inflation gap, 1/2, is positive is a crucial component of the Taylor rule. The federal funds target is increased by more than a one-to-one ratio if the inflation rate increases by one percentage point, or by 1.5 percentage points. Stated differently, a one percentage point increase in inflation causes a twelve percentage point increase in the real federal funds rate. The Taylor principle, which states that nominal interest rates should be raised by the monetary authority by a greater amount than the rate of inflation, is essential to the effectiveness of monetary policy. Assume that real interest rates decrease as inflation increases and that the Taylor principle is not observed, meaning that the increase in nominal rates is smaller than the increase in the inflation rate. When inflation rises, monetary policy is effectively loosened, which in turn causes future inflation to soar even higher, causing serious instability. In fact, the monetary policies of the 1970s, which resulted in the loss of the nominal anchor and the so-called "Great Inflation" era, when inflation rates reached double digit levels, are characterised by this scenario. Thankfully, the Taylor principle has been incorporated into monetary policy since 1979, leading to far better results for aggregate output and inflation (Frederic S. Mishkin., 2014).

## CHAPTER THREE

### MODEL SPECIFICATION AND DATA

#### 3.1 Model specification

The fundamental goal of economic modelling is to provide a representation of the phenomenon being studied that allows the researcher to assign numerical values to the idea. "The Impact of Monetary Policy on Economic Stabilization in Azerbaijan" needs to be ascertained. Constructing an econometric model for economic stabilisation involves specifying a relationship between key economic variables and assessing how changes in policy variables impact the stability of the economy.

Various studies address the impact of stable and low inflation on economic stability, this is acknowledged by scholars like Blanchard O., & Johnson D. R., (2013). Mishkin, F. S. (2016) describe the role of stable interest rates in helping firms and businesses make long-term plans. The impact of stable and sustainable GDP growth on economic stability is considered by Dornbusch, R., Fischer, S., & Startz, R. (2014). Auerbach, A. J., & Gale, W. G. (2009) explore the crucial role of fiscal policy including spending and taxation in maintaining economic stability. Friedman, M. (1992) explain that a stable money supply is necessary for economic stability. Krugman, P. R., & Obstfeld, M. (2018) analyse the impact of a stable exchange rate in preventing volatility having an immense contribution to economic stability. Considering the aforementioned studies, below is a simplified example of an econometric model that includes key variables related to economic stabilisation.

Let's consider a simple model:

$$ES_t = \beta_0 + \beta_1(MP)_t + \beta_2(FP)_t + \beta_3(EF) + \mu_t$$

Where:

- $ES_t$  is the economic indicator of interest (e.g., GDP growth, inflation rate).
- $MP_t$  represents a monetary policy variable (e.g., money supply, the central bank's interest rates).
- $FP_t$  represents a fiscal policy variable (e.g., taxation or government spending).

- $EF_t$  could represent external factors (e.g., exchange rate, oil price).
- $\beta_0, \beta_1, \beta_2, \beta_3$  are coefficients to be estimated.
- $\beta_0$ : the intercept of the model
- $\beta_1$  : The effect of changes in monetary policy on  $ES_t$ .
- $\beta_2$ : The effect of changes in fiscal policy on  $ES_t$ .
- $\beta_3$ : The impact of changes in external conditions on  $ES_t$ .
- $\mu_t$  is the error term representing unobserved factors affecting  $ES_t$ .
- $\tau$  is the time series data's linear deterministic trend, which is included.

In this simple model, we're trying to understand how changes in monetary policy  $MP_t$ , fiscal policy  $FP_t$ , and external conditions ( $EF_t$ ) influence the economic indicator ( $ES_t$ ). The coefficients ( $\beta_0, \beta_1, \beta_2, \beta_3$ ) indicate the size and direction of these effects.

Nevertheless, for this research, our major consideration is monetary policy. The independent variables are quite complex and must be simplified into various components. It can be simplified as:

Monetary policy (MP): can be simplified as Money Supply (MS) and Interest rate (IR)

External Factor (EF): can be associated with international trade and can be simplified as Exchange rate (ER).

Other Factor: Gross Domestic Product (GDP)

The new model becomes:

$$ES_t = \beta_0 + \beta_1(MS)_t + \beta_2(IR)_t + \beta_3(ER)_t + \beta_4(GDP)_t + \mu_t$$

The above model is being modified as:

Mathematical form

$$ES_t = F(MS, IR, ER, GDP)$$

Statistical form



$$ES_t = \beta_0 + \beta_1(MS)_t + \beta_2(IR)_t + \beta_3(ER)_t + \beta_4(GDP)_t$$

Econometric form

$$ES_t = \beta_0 + \beta_1(MS)_t + \beta_2(IR)_t + \beta_3(ER)_t + \beta_4(GDP)_t + \mu_t$$

**NOTE:**  $ES_t$  is the economic stability proxied by the inflation rate,  $MS_t$  is the money supply,  $IR_t$  is the interest rate,  $ER_t$  is the exchange rate,  $GDP_t$  is the gross domestic product and  $\mu_t$  is an error term.

### **3.2 Nature and Sources of Data**

The impact of monetary policy on economic stability in Azerbaijan between 2005 and 2024 will be investigated in this study using monthly data. The information on the dependent variable "Economic Stability" proxied by inflation rate and the independent variables "Monetary Supply (MS), Interest Rate (IR), Exchange rate (ER), and Gross Domestic Product (GDP)" will be gathered from the Central Bank of Azerbaijan (CBAR) monthly.

## CHAPTER FOUR

### ECONOMETRIC METHODOLOGY

#### 4.0 Introduction

The analysis technique that will be applied in the study to produce an estimated numerical model is covered in this chapter. The method comprises model specification, evaluation/estimation procedures, data nature and sources, and software for estimate.

#### 4.1 Method of Evaluation/Estimation Techniques

Before estimating the long-term relationship, the variables must be tested for non-stationarity. This is done using the Augmented Dickey-Fuller (ADF) test, developed by Dickey and Fuller in 1981. Once it is confirmed that the variables are integrated in the same order, the next step is to test for a long-term co-movement or cointegration relationship. This cointegration relationship is examined using the Park Added Variables test, proposed by Park in 1992. The long-term impact of the independent variables on economic stabilisation is then estimated using the Dynamic Ordinary least square (DOLS) method.

##### 4.1.1 Economic Apriori Expectation

The economic apriori expectation evaluates the parameters concerning the standard economic theory expectations.

**Table 4.1.1**

Parameters	Expected Sign
$\beta_0$	Positive/Negative
$\beta_1$	Positive/Negative

$\beta_2$	Positive/Negative
$\beta_3$	Positive/Negative
$\beta_4$	Positive/Negative

$\beta_0$ - the intercept of the model can be positive or negative

$\beta_1$ - The relationship between money supply and economic stability can be complicated and isn't always positive or negative, according to empirical research. For example:

Positive: Stable and modest money supply growth can help maintain price stability.

Negative: Inflation can result from the money supply expanding excessively and faster than the expansion of commodities and services.

$\beta_2$ - Interest rates and economic stability have a complex relationship that is neither purely positive nor negative. Depending on the larger economic environment, interest rates (both high and low) can affect economic stability in different ways. For example:

Positive: Lower interest rates may occasionally encourage borrowing and expenditure, which would boost the economy. This is particularly true when the economy is struggling and central banks are lowering interest rates to promote borrowing and investment.

Negative: Prolonged periods of exceptionally low interest rates have the potential to promote excessive risk-taking and the development of asset bubbles in the financial markets. The collapse of these bubbles may result in unstable finances.

$\beta_3$ -Exchange rates and economic stability have a complicated relationship that can be both good and negative depending on a number of variables. For example:

Positive: Stability in the exchange rate can help maintain price stability overall. Because stable exchange rates affect the cost of imported goods and services, they also serve to manage inflation. Exchange rate policies are one tool that central banks can employ to target inflation.

Negative: In some situations, a stable exchange rate may lead to reduced competitiveness for a country's exports. A nation's exports may cost more to overseas consumers if its currency stays strong, which could have an effect on the trade balance and overall economic stability.

β4. The Gross Domestic Product (GDP) and economic stability have different relationships depending on the circumstances and particular policies that are put in place. Although it is generally preferred to have a positive relationship, there are occasionally circumstances that can result in a negative relationship. For example:

Positive: GDP is frequently used to gauge the size and general health of an economy. A growing GDP usually means that businesses are creating more goods and services, that the economy is growing, and that earnings are rising. Lowering unemployment, boosting consumer confidence, and encouraging investment can support economic stability.

Negative: GDP growth occasionally raises inflationary pressures and inequalities, which, if improperly handled, could jeopardise economic stability.

## CHAPTER FIVE

### EMPIRICAL RESULTS AND DISCUSSIONS

#### 5.0 Introduction

This chapter presents the information, estimations, results of the empirical study, and additional diagnostic tests of equations addressing the Impact of Monetary Policy on Economic Stability in Azerbaijan. The Dynamic Ordinary Least Square (DOLS) method is used to evaluate data from the Central Bank of Azerbaijan (CBAR).

##### 1. Test for Stationarity or Unit Root

This test deals with checking the level of unit root and stationarity using Augmented Dickey Fuller (ADF). The Augmented Dickey Fuller (ADF) test is used to identify the stationary or non-stationary nature of time series data. In time series analysis, stationarity is a crucial notion since it shows whether a series' statistical characteristics, such as its variance and mean, hold steady throughout time. The ADF test can guide forecasting and modelling decisions by assisting analysts in comprehending the behaviour of a time series. Hence, any variable is said to be stationary when we reject the null hypothesis of having unit root i.e. it does not have unit root.

**Table 1: Unit Root Test**

Variable	Augmented Dickey Fuller (ADF)		
	Level	First Difference	Order of integration
Inflation	-1.870357	-13.23304***	I(1)
GDP	-1.813392	-17.99345***	I(1)
Exchange Rate	-2.270941	-10.62666**	I(1)
Interest Rate	-2.569193	-11.19798**	I(1)
Money Supply	2.343480	-8.239424**	I(1)

**Note:** \*, \*\*, \*\*\* indicating 1%, 5% and 10% levels of significance respectively. I(1)) shows the order of integration of the first difference.

In Table 1 above, the Augmented Dickey-Fuller (ADF) test of unit roots was conducted for all the variables employed in the study. It Indicates that all variables are stationary at their first differences.

## 2. Cointegration Test

The above test is used to test for the long-run relationship of variables i.e. long-run relationship for both dependent and independent variables, the analysis of the result is shown below;

**Table 2: Cointegration Test**

	Value	DF	Probability
Chi-square	1.173339	1	0.2787

H<sub>0</sub>: Series are cointegrated.

H<sub>1</sub>: Series are not cointegrated.

**Decision Rule:** Reject the null hypothesis if the probability value is less than the level of significance, accept if otherwise.

From the table above, it is shown that there is no long-term relationship between economic stability and all independent variables because the probability value is greater than 0.05 level of significance. Hence, it can be concluded that series are not cointegrated.

## 5.1 Presentation of Result

The table below displays the findings from the estimation methods.

**Table 3: Regression (DOLS) TEST**

Variables	Coefficient	Std. Error	t-Statistic	Prob.
Constant	91.95400	33.70336	2.728333	0.0073
GDP	0.001358	0.000245	5.545587	0.0000

Exchange Rate	-0.830707	0.356205	-2.332105	0.0214
Interest Rate	-0.613280	0.457768	-1.339719	0.1829
Money Supply	0.000848	0.000489	1.734064	0.0855

**5.2 Result Interpretation**

**5.2.1 Analysis of Result Based on Economic Criteria**

The purpose of the test is to ascertain whether economic theory best fits the signs and sizes of the results. This results in the following analysis: 0.0855

**1. GDP**

According to the aforementioned data, GDP and economic stability proxied by inflation have a positive relationship with a coefficient of 0.001358, meaning that if inflation is a major part of the monetary policy framework, every unit increase in GDP will result in a 0.001358 increase in inflation as a proxy of economic stabilization. Based on its probability value of 0.0000, which is less than 0.05 level of significance, this is statistically significant.

**2. Exchange Rates**

Based on the findings above, with a coefficient of -0.830707, the exchange rate and inflation have a negative connection. This indicates that a unit increase in the exchange rate will result in a -0.830707 fall in the level of inflation. Furthermore, at the 0.05 significant level, the exchange rate is statistically significant.

**3. Interest Rates**

The results above show that interest rates and inflation have a negative relationship with a coefficient of -0.613280. This suggests that a unit increase in interest rates will result in a -0.613280 decrease in inflation. Based on its probability value of 0.1829, this is not statistically significant.

**4. Money Supply**

According to the aforementioned data, the money supply rate and inflation have a positive relationship with a coefficient of 0.000848. This means that, a unit increase in the exchange rate will result in a 0.000848 increase in the inflation. Furthermore, at the 0.10 significant threshold, the money supply rate is statistically significant.



## CONCLUSION AND POLICY IMPLICATIONS

This study has reviewed the empirical issues on the impact of Monetary Policy on Economic Stability in Azerbaijan. This study investigated empirically the impact of variables such as interest rate, money supply, exchange rate and GDP on inflation as a proxy of economic stabilization using the DOLS method. All data used are secondary data obtained from the Central Bank of Azerbaijan (2005–2024).

Using inflation as a key component of economic stabilization, the DOLS results show that GDP and money supply have a positive relationship with economic stability while interest rate and exchange rate have a negative relationship with economic stability.

The cointegration test indicates that there is a long-term relationship between economic stability and all independent variables, and the unit root test depicts that all variables are stationary at the first difference at 5% and 10% significance levels.

This study concludes that using inflation targeting as a key component of the economic stability, there is a positive relationship between money supply and inflation. This study is in line with the findings and postulation of (Friedman, M., 1963) and (Sargent, T. J., 1982) which explain that both individuals and businesses have more money to spend as the money supply rises. This increase in demand for goods and services, if not matched by an increase in supply, leads to higher prices. Also, (Bernanke, B. S., 2009) and (Friedman M., & Schwartz A. J., 1963) explained the relationship between money supply and economic stability that by decreasing interest rates and encouraging borrowing and investment by both consumers and businesses, a rise in the money supply can boost economic growth. This can lead to increased income, employment, and production which contribute to economic stability.

The study also identifies that there is a negative relationship between interest rates and inflation as a proxy of economic stabilization. This study is in line with the findings of (Romer, D. 2000) and (Gertler, M., & Gilchrist, S., 1994) which state that high interest rates can increase the cost of borrowing for businesses and consumers as well as constraints on investments.

A proper introduction of the subject has evaluated the impact of Monetary Policy on Economic Stability in Azerbaijan, an extensive review of related literature and empirically addressing relevant hypotheses. It is recommended in the light of this study that the Central Bank of

Azerbaijan should maintain a stable money supply and interest rate to maintain economic stability using monetary policy tools, a relatively high or low money supply or interest rate as economic implication which will lead to economic instability.

Monetary policy has a complex effect on Azerbaijan's economic stability, which is essential for maintaining long-term growth and prosperity. The Central Bank of Azerbaijan (CBAR) is primarily responsible for implementing monetary policy, which has an impact on several economic factors such as inflation, exchange rates, loan availability, and stability in the financial sector.

Azerbaijan must remain vigilant in adjusting its monetary policy framework to shifting economic conditions, improving policy effectiveness, and reducing possible risks to achieve long-term economic development and stability. By putting stability, adaptability, and sustainable prosperity first, Azerbaijan can take advantage of opportunities and overcome obstacles to ensure that its people have a prosperous future.

The result shows that there is a significant relationship between the used variables using inflation as a key indicator of economic stability. This explains why fluctuation in interest rates and money supply has led to fluctuation in inflation and economic growth causing economic instability in Azerbaijan. Based on the findings, the following recommendations are proposed to the government and Monetary authority to maintain Economic Stability in Azerbaijan:

- There is a need to maintain a stable money supply and interest rate to maintain economic stability using monetary policy tools.
- The Central Bank of Azerbaijan (CBAR) need to regulate the supply of money according to money demand independently.
- The monetary authority can maintain stability in the economy using inflation targeting as a key component of the monetary policy framework. Using another economic indicator such as economic growth may be quite complicated as it can be significantly influenced by other factors or policies beyond the monetary policy framework.
- The need to put in place reliable surveillance and monitoring systems to identify early indicators of instability in the economy. By being proactive rather than reactive, central

banks can better anticipate and mitigate potential risks to economic stability, such as inflationary pressures or financial imbalances.

- There is a need for Central Bank Independence to prevent economic stability, independence of the central bank will enable them to execute policy more precisely and promptly in branches, ensuring the consistency between policy decision and execution, and thus enhance the efficiency and effectiveness when implementing policy.
- The Central Bank of Azerbaijan (CBAR) should be transparent and communicate policy objectives, choices, and reasoning to the public and financial markets, this is crucial for guiding market speculation, regulating inflation expectations and enhancing the effectiveness of monetary policy in achieving economic stability.
- The monetary policymaker should encourage international policy coordination and cooperation given the interconnection of the world's economies and financial markets to mitigate spillover effects and increase resilience to external shocks.

Through the implementation of these ideas, monetary policymakers can augment its efficacy in advancing economic stability, cultivating sustainable growth, and upholding financial resilience within an ever-more intricate and interconnected global economy.

Conclusively, Monetary policy has a variety of effects on Azerbaijan's economic stability, including coordination with fiscal policy, control over inflation, stability of the currency rate, lending conditions, and stability of the financial system. Proactively bolstering monetary policy frameworks, improving the efficacy of policies, and tackling macroeconomic obstacles are essential for advancing stable and sustainable economic growth in Azerbaijan.

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