ЎЗБЕКИСТОН РЕСПУБЛИКАСИ
ОЛИЙ ВА ЎРТА МАХСУС ТАЪЛИМ ВАЗИРЛИГИ

ТОШКЕНТ МОЛИЯ ИНСТИТУТИ

“КРЕДИТ-ИҚТИСОД”ФАКУЛЬТЕТИ

“ТАСДИҚЛАЙМАН”
“Кредит-иқтисод”факультети
декани Н.Н.Обломуродов _____
“_____” _____2016 й.

“БАНК ҲИСОБИ ВА АУДИТ”КАФЕДРАСИ

ТОХИРЖОНОВ АСРОРЖОН АЛИШЕР ЎҒЛИ

ИНФЛЯЦИОН ТАРГЕТЛАШ БЎЙИЧА БУЮК БРИТАНИЯ ТАЖРИБАСИ ВА УНДАН ЎЗБЕКИСТОН АМАЛИЁТИДА ФОЙДАЛАНИШ (ИНГЛИЗ ТИЛИДА)

5340700– “Банк иши” таълим
йўналиши бўйича
бакалаврдаражасиниолиш учун

БИТИРУВ МАЛАКАВИЙ ИШИ

“Ҳимояга тавсия этилади”
“Банк ҳисоби ва аудит”
кафедраси мудири
_____и.ф.н.Умаров З.А.
“____” _____ 2016й.

Илмий раҳбар:

_____ Н.Н.Обломуродов
«___»_____ 2016й.

ТОШКЕНТ - 2016

CONTENTS

INTRODUCTION

Relevance of the thesis topic. Inflation is deemed to be a major economic problem, especially in transition economies, because of its several adverse effects. Inflation can force people to pay inflation tax indirectly. As a result, people begin to worry about rapid increase in prices of consumer goods and services. High prices can create uncertainty and undermine confidence, and might hamper economic growth by affecting long-term decisions by domestic and foreign investors who find difficulty to plan for the future. The government authorities in charge of monetary policy try to achieve lower inflation uncertainty by adopting sustainable fiscal and monetary policies. Thus, international financial institutions like IMF have periodically advised moving towards a more flexible exchange rate regime and inflation targeting.

The level of exploration of the topic. The topic has been investigated by several Uzbek scholars, in particular, the works done by T. Boboqulov, O. Aliqoriev and Kh. Khamidov stand out, although the research theme remains one of the newest in Uzbekistan. There were quite considerable amount of scientific research done by international experts. Analysis of goals, elements, transmission mechanisms, unconventional tools and outcomes of the inflation targeting were discussed by B. Bernanke, L. Svensson, F. Mishkin C. Goodhart, L. Benati, C. Bean, S. Dale, M. King, I. McCafferty, P. Samuelson, R. Solow, C. Romer, D. Romer, M. Woodford, A. Haldane, A. Yates, P. Rodgers, S. Ingves, C. Walsh, R. Scott, D. Laxton, C. Freedman, B. M. Friedman and many more. Especially the works of B. Bernanke and F. Mishkin lays historical ground for the topic whereas L. Svensson gives complex and at the same time comprehensive mathematical substance which allows to further develop the quantitative aspects of the issue. Other scholars such as Goodhart, Romer, Haldane, King and Scott explored the implications and repercussions of targeting.

The purpose and objectives of the thesis. The purpose of the research is to analyse the possibility of the application of the experience of the Great Britain in inflation targeting. Objectives include finding relevant policy framework which helps to fight inflation efficiently as well as fits the current practise of Uzbekistan in terms of economic activity.

The object and subject of study. The object of the research is monetary policy of the Great Britain in the face of declining opportunities to use its traditional instruments. The subject of research is the inflationary policy framework of monetary policy the Bank of England as a synergistic unity of the two aspects of its functioning: organizational, structural and conceptual.

The theoretical and methodological base of the thesis. Theoretical and methodological basis of research are fundamental scientific works of domestic and foreign scientists and applied scientific research in the field of macroeconomic policy, the theory of money and interest, monetary authorities in the developed countries and emerging markets, comparative economics. We used materials of scientific conferences and symposia devoted to the problems of money and inflation, the selection of goals and modes of monetary policy, the use of traditional and non-traditional instruments of monetary control, the interaction of the central bank and the government, non-inflationary gain financial depth of the economy. The methodological basis of the thesis are the general scientific and special methods and techniques of scientific knowledge: analysis and synthesis, induction and deduction, abstraction and concretization, and other methods of dialectics and formal logic, as well as the methods of statistical and comparative analysis, graphical and formal presentation of the results of the economic analysis.

Scientific novelty of the research results. The revision of the history of inflation targeting and current practice of the Bank of England as well as other central banks urge us to say that inflation can be stabilized and directed under targeting policies. Research results help to show a reliable way which leads to

the price stability in the country and provides solid theoretical approach in handling the issues that may probably arise in transitioning economies by demonstrating the practices carried out by foreign counterparts.

Practical significance. The practical significance is the ability to use the certain proposals developed by the author on the monetary policy concept of central banks in the preparation of the legislative and regulatory framework for the improvement of the state monetary policy, inflation control, price stability and economic development of the Republic of Uzbekistan.

Structure and contents of the research. The thesis consists of introduction, three chapters, conclusion, references and appendices. The first chapter is named "Theoretical views regarding inflation targeting and factors necessitating the usage of targeting policy". It includes following paragraphs: 1.1 "Inflation in general understanding and price stability", 1.2 "Historical background of inflation targeting", 1.3 "Nominal anchor and it's utilization as a target". Next chapter is "Inflation targeting in the practice of foreign central banks and the process of using it". The second chapter is made of three paragraphs: 2.1 "The experience of foreign central banks in applying inflation targeting", 2.2 "Analysis of the monetary policy of the Bank of England", 2.3 "Current state of targeting policy of the Bank of England". In the last chapter problems and prospects are examined and logically takes the name of "Prospects of inflation targeting in Uzbekistan". It includes two paragraphs: "Prerequisites for the fiscal and financial institutes in shifting to the newer targeting regime as viewed by international experts" and "Brief analysis of Uzbek economy and prospects of implementing inflation targeting".

Finally, references contain nine regulatory and law documents, five presidential decrees and decisions, eleven main sources, twenty additional literatures, nine publications, research papers in English, Russian and Uzbek as well as three different encyclopaedias and dictionaries.

I CHAPTER. THEORETICAL VIEWS REGARDING INFLATION TARGETING AND FACTORS NECESSITATING THE USAGE OF TARGETING POLICY

1.1. Inflation in general understanding and price stability

Inflation may be one of the most familiar words in economics. It has plunged countries into long periods of instability. Central banks often aspire to be known as "inflation hawks." Politicians have won elections with promises to combat inflation, only to lose power after failing to do so. Inflation was even declared Public enemy No. 1 in the United States—by President Gerald Ford in 1974[1]. What, then, is inflation, and why is it so important?

Inflation is the rate of increase in prices over a given period of time. Inflation is typically a broad measure, such as the overall increase in prices or the increase in the cost of living in a country. But it can also be more narrowly calculated—for certain goods, such as food, or for services, such as a haircut, for example. Whatever the context, inflation represents how much more expensive the relevant set of goods and/or services has become over a certain period, most commonly a year. Overall, as an economic concept, it is of paramount importance being able to measure and gain control over inflation.

Twenty-six years ago, New Zealand adopted a new approach to monetary policy, based on achieving a specific target for inflation. What made this approach new was the explicit public commitment to controlling inflation as the primary policy objective and the emphasis on policy transparency and accountability. Today more than 30 countries (more recently Russia and Kazakhstan) use inflation targeting, about half of them emerging market or low-income economies. Moreover, a number of central banks in more advanced economies—including the european Central Bank, the U.S. Federal Reserve, the Bank of Japan, and the Swiss National Bank—have adopted many of the main

[1] Yanek Mieczkowski (2005). Gerald Ford and the challenges of the 1970s. Lexington, Ky.: Univ. Press of Kentucky. p. 134. (via Wikipedia: https://en.wikipedia.org/wiki/Whip_inflation_now)

elements of inflation targeting, and several others are in the process of moving toward it.

So, how new an idea is inflation targeting? After all, many central banks have had a goal of price stability well before the advent of inflation targeting. Is inflation targeting really a major step forward in central bank practice?

The word inflation derives from latin word "inflatio" meaning literally "blow in to" and in economic terms, can be described in this way: "inflation" is the rate at which the general level of prices for goods and services is rising and, consequently, the purchasing power of currency is falling.

Inflation is the scourge of the modern economy. It is one of the primary persistent threats that will undermine or even destroy decades of economic growth if unleashed and not curbed. It is feared by central banks globally and forces the execution of monetary policies that are inherently unpopular. It makes some people unfairly rich and impoverishes others. Inflation historically has destroyed entire economies and changed the course of human history. Inflation was one of the forces that unraveled the Roman Empire two millennia ago and the empire of the Soviet Union two decades ago.

The impact of severe inflation often extends far beyond the economy. In the most telling story in modern history, the horrific inflation triggered by the Weimer Republic in Germany at the end of World War I caused prices to rise to such stupendous levels that the exchange rate of the German Mark to the Dollar exceeded three trillion to one![2] The resulting economic devastation created a political black hole from which emerged the National Socialist Party and Adolf Hitler, who exploited the ruination to become Chancellor of Germany in January 1933.

Also, if we come back to Uzbekistan's history, the negative effects of inflation can be seen in early years of independence. And in this regard, it is of

[2] Wolfgang Chr. Fischer (Editor), German Hyperinflation 1922/23 – A Law and Economics Approach, Eul Verlag, Köln, Germany 2010, p. 124

substantial importance to understand the consequencies of this economic phenomenon and pave the way to the knowledgable control over inflation in the future.

Because the term inflation is such a generic term used in many contexts, there is no commonly accepted definition of inflation, nor is there a common agreement on what constitutes acceptable levels of inflation, bad inflation, or hyperinflation. Generally it can be said that inflation is a measure of a general increase of the price level in an economy, as represented typically by an inclusive price index, such as the Consumer Price Index in the United States, the Great Britain, European Union and many other countries. The term indicates many individual prices rising together rather than one or two isolated prices, such as the price of gasoline in an otherwise calm price environment.

The inflation rate is typically expressed as an annual growth rate in prices (again, as measured by an index) even if measured over a shorter period of time. For example, if a radio report states that "consumer prices rose at an inflation rate of four percent last quarter," that would typically mean than the Consumer Price Index for All Urban Consumers (the most quoted index) rose over the last three months at an annualized rate of around four percent, and the press would generally refer to the current inflation rate as around four percent. During healthy economic times when the economy is experiencing neither inflation nor deflation, a term like price stability might describe the economic pricing environment at the time.

So at what point does an economy go from the desired status of price stability to inflationary? (i.e. an economy experiencing inflation, which is almost always seen as a problem). Although all economists recognize that the higher the rate of inflation, the more serious the economic problem, what constitutes the threshold of moving from good to bad and from bad the worse depends upon the economist and to some extent upon the context. Shown below in **Table 1** is the somewhat arbitrary thresholds used by our teachers in their lectures and

writings. Other economists would have thresholds a little more strident than this, yet others a little looser. In Table 1, the common thresholds are described as follows.

Table 1

Inflation thresholds[3]

<0%	Deflation
0% - 2.5%	Price Stability
2.5% - 5.0%	Moderate Inflation
5% - 8%	Serious Inflation
8% - 12 %	Self-compounding inflation
12% - 20%	Hyperinflation
20% +	Explosive inflation

When you look at Table 1 it is clear that a nominal amount of inflation, typically less than 3%, is accepted and might even be good for the economy[4]. But any sustained level above 2.5% or 3% will be seen as a potential problem, and the higher the rate, the more serious and dangerous the problem. Part of the reason for this is because once inflation moves up into the high single-digit range and then double-digit range, it begins to self-compound into a higher rate. In other words, once it reaches a certain rate, it sets in motion a series of forces that tend to move it automatically to a higher rate. More bluntly, a 12% inflation will automatically become a 15% inflation and then a 20% inflation if not dealt with using severe and relentless anti-inflation policies. Once inflation moves above the 20% range, lessons from history tells us that the tendency to self-compound is so great that the inflation becomes explosive and potentially ruinous to an economy.

So, how we measure the indicator of rising prices? Consumers' cost of living depends on the prices of many goods and services and the share of each in

[3] Edwin G. Dolan, "Economics", fourth edition, 1985. p 154;

[4] Hellerstein, Rebecca, "The Impact of Inflation," Federal Reserve Bank of Boston, Winter 1997.;

the household budget. To measure the average consumer's cost of living, government agencies conduct household surveys to identify a basket of commonly purchased items and track over time the cost of purchasing this basket. The cost of this basket at a given time expressed relative to a base year is the consumer price index (CPI), and the percentage change in the CPI over a certain period is consumer price inflation, the most widely used measure of inflation. (For example, if the base year CPI is 100 and the current CPI is 110, inflation is 10 percent over the period.) Here are some statistics of CPI of Uzbekistan:

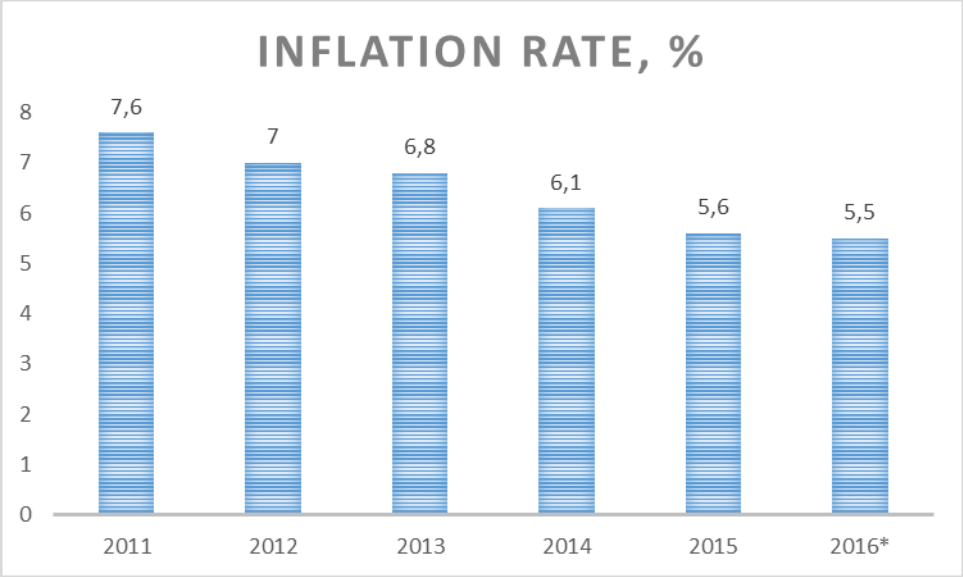

Figure 1. Inflation rate in terms of Consumer Price Index[5]

Core consumer inflation focuses on the underlying and persistent trends in inflation by excluding prices set by the government and the more volatile prices of products, such as food and energy, most affected by seasonal factors or temporary supply conditions. Core inflation is also watched closely by policymakers. Calculation of an overall inflation rate—for a country, say, and not just for consumers—requires an index with broader coverage, such as the gross domestic product (GDP) deflator. The CPI basket is mostly kept constant over time for consistency, but is tweaked occasionally to reflect changing

[5] Official inflation statistics from Statistics Department of Uzbekistan, www.stat.uz;
*2016 figure is based on forcasts in Presedential Decree №2455 from 29.12.2015

consumption patterns—for example, to include new hi-tech goods and to replace items no longer widely purchased. Because it shows how, on average, prices change over time for everything produced in an economy, the contents of the GDP deflator vary each year and are more current than the mostly fixed CPI basket. On the other hand, the deflator includes non-consumer items (such as military spending) and is therefore not a good measure of the cost of living.

To the extent that households' nominal income, which they receive in current money, does not increase as much as prices, they are worse off, because they can afford to purchase less. In other words, their purchasing power or real— inflation-adjusted—income falls. Real income is a proxy for the standard of living. When real incomes are rising, so is the standard of living, and vice versa.

In reality, prices change at different paces. Some, such as the prices of traded commodities, change every day; others, such as wages established by contracts, take longer to adjust (or are "sticky," in economic parlance). In an inflationary environment, unevenly rising prices inevitably reduce the purchasing power of some consumers, and this erosion of real income is the single biggest cost of inflation.

Inflation can also distort purchasing power over time for recipients and payers of fixed interest rates. Take pensioners who receive a fixed 5 percent yearly increase to their pension. If inflation is higher than 5 percent, a pensioner's purchasing power falls. On the other hand, a borrower who pays a fixed-rate mortgage of 5 percent would benefit from 5 percent inflation, because the real interest rate (the nominal rate minus the inflation rate) would be zero; servicing this debt would be even easier if inflation were higher, as long as the borrower's income keeps up with inflation. The lender's real income, of course, suffers. To the extent that inflation is not factored into nominal interest rates, some gain and some lose purchasing power.

Indeed, many countries have grappled with high inflation—and in some cases hyperinflation, 1,000 percent or more a year. In 2008, Zimbabwe experienced one of the worst cases of hyperinflation ever, with estimated annual inflation at one point of 500 billion percent[6]. Such high levels of inflation have been disastrous, and countries have had to take difficult and painful policy measures to bring inflation back to reasonable levels, sometimes by giving up their national currency, as Zimbabwe has.

Although high inflation hurts an economy, deflation, or falling prices, is not desirable either. When prices are falling, consumers delay making purchases if they can, anticipating lower prices in the future. For the economy this means less economic activity, less income generated by producers, and lower economic growth. Japan is one country with a long period of nearly no economic growth, largely because of deflation. Preventing deflation during the global financial crisis that began in 2007 is one of the reasons the U.S. Federal Reserve and other central banks around the world have kept interest rates low for a prolonged period and have instituted other monetary policies to ensure financial systems have plenty of liquidity. Today global inflation is at one of its lowest levels since the early 1960s, partly because of the financial crisis.[7]

Most economists now believe that low, stable, and—most important—predictable inflation is good for an economy. If inflation is low and predictable, it is easier to capture it in price-adjustment contracts and interest rates, reducing its distortionary impact. Moreover, knowing that prices will be slightly higher in the future gives consumers an incentive to make purchases sooner, which boosts economic activity. Many central banks have made their primary policy objective maintaining low and stable inflation, a policy called inflation targeting.

Long-lasting episodes of high inflation are often the result of lax monetary policy. If the money supply grows too big relative to the size of an

[6] Hanke S., & Kwok, A. (2009) "On the Measurement of Zimbabwe's Hyperinflation", Cato Journal, 29 (2);

[7] Scott Roger, “Inflation targeting turns 20”, IMF, Finance and Development, 2010;

economy, the unit value of the currency diminishes; in other words, its purchasing power falls and prices rise. This relationship between the money supply and the size of the economy is called the quantity theory of money, and is one of the oldest hypotheses in economics.

Pressures on the supply or demand side of the economy can also be inflationary. Supply shocks that disrupt production, such as natural disasters, or raise production costs, such as high oil prices, can reduce overall supply and lead to "costpush" inflation, in which the impetus for price increases comes from a disruption to supply. The food and fuel inflation of 2008 was such a case for the global economy—sharply rising food and fuel prices were transmitted from country to country by trade. Conversely, demand shocks, such as a stock market rally, or expansionary policies, such as when a central bank lowers interest rates or a government raises spending, can temporarily boost overall demand and economic growth. If, however, this increase in demand exceeds an economy's production capacity, the resulting strain on resources is reflected in "demand-pull" inflation. Policymakers must find the right balance between boosting demand and growth when needed without overstimulating the economy and causing inflation.

Expectations also play a key role in determining inflation. If people or firms anticipate higher prices, they build these expectations into wage negotiations and contractual price adjustments (such as automatic rent increases). This behavior partly determines the next period's inflation; once the contracts are exercised and wages or prices rise as agreed, expectations have become self-fulfilling. And to the extent that people base their expectations on the recent past, inflation will follow similar patterns over time, resulting in inflation inertia.

The right set of anti-inflation policies, those aimed at reducing inflation, depends on the causes of inflation. If the economy has overheated, central banks—if they are committed to ensuring price stability—can implement

contractionary policies that rein in aggregate demand, usually by raising interest rates. Some central banks have chosen, with varying degrees of success, to impose monetary discipline by finding the exchange rate—tying its currency to another currency and, therefore, its monetary policy to that of the country to which it is linked. however, when inflation is driven by global rather than domestic developments, such policies may not help. In 2008, when inflation rose across the globe on the back of high food and fuel prices, many countries allowed the high global prices to pass through to the domestic economy. In some cases the government may directly set prices (as some did in 2008 to prevent high food and fuel prices from passing through). Such administrative price-setting measures usually result in the government's accrual of large subsidy bills to compensate producers for lost income. Central banks are increasingly relying on their ability to influence inflation expectations as an inflation-reduction tool. Policymakers announce their intention to keep economic activity low temporarily to bring down inflation, hoping to influence expectations and contracts' built-in inflation component. The more credibility central banks have, the greater the influence of their pronouncements on inflation expectations. Ultimately, inflation ought to be dealt with great caution.

1.2. Historical background of inflation targeting

The 1960s began with a relatively benign inflation environment, particularly in the United States where inflation was running at an annual rate of a little over one percent. (Inflation rates were at higher rates in countries such as the U.K., Germany, France and Japan, but were still below 4% in 1960.) The strategy at the Federal Reserve and many other central banks was one in which the central banks focused on "money market conditions": on variables such as nominal interest rates, bank borrowings from the central bank, and free reserves (excess reserves minus borrowings). In addition, economists armed with Keynesian macro econometric models argued that they could fine tune the economy to produce maximum employment with only slight inflation

consequences. Particularly influential at the time was a famous paper by Samuelson and Solow (1960) which argued that work by A.W. Phillips (1958), which became known as the Phillips curve, suggested that there was a long-run tradeoff between unemployment and inflation and that this tradeoff should be exploited.

Indeed, Samuelson and Solow even mentioned that a nonperfectionists goal of a 3% unemployment rate could be attained at what they considered to be a low cost of inflation of 4 to 5% per year[8]. This thinking by the then dominant Keynesian economists led to increased monetary and fiscal policy activism to get the economy to full employment. However, the subsequent economic record was not a happy one: Inflation accelerated, with the inflation rate in the U.S. and other industrialized countries eventually climbing above 10% in the 1970s, leading to what has been dubbed "The Great Inflation", while the unemployment rate deteriorated from the performance in the 1950s.

The counterattack to policy activism initially came from the Monetarists lead by Milton Friedman. Milton Friedman, in a series of famous publications in 1963 established that fluctuations in the growth rate of the money supply were far more capable of explaining economic fluctuations and inflation than nominal interest rates[9]. Karl Brunner and Alan Meltzer in Congressional testimony criticized the use of "money market conditions" to guide monetary policy and suggested that targeting monetary aggregates would produce better policy outcomes[10]. In his famous 1968 presidential address to the American Economic Association, Milton Friedman along with Edmund Phelps argued that there was no long-run tradeoff between unemployment and inflation: rather the economy

[8] Samuelson, Paul and Robert M. Solow, "Analytic Aspects of Anti-Inflation Policy," American Economic Review, vol. 50 (May 1960): 368-79.

[9] Friedman, Milton and Anna J. Schwartz (1963a) "Money and Business Cycles," Review of Economics and Statistics, 45, Supplement: 32-64.

[10] Brunner, Karl and Alan Meltzer (1964b), "An Alternative Approach to the Monetary Mechanism," U.S. Congress, Committee on Banking and Currency, Subcommittee on Domestic Finance, 88th Congress, 2nd session.

would gravitate to a natural rate of unemployment in the long run no matter what the rate of inflation was. In another words, the long-run Phillips curve would be vertical, and attempts to lower unemployment below the natural rate would only result in higher inflation. The Monetarist counterattack implied that monetary policy should be focused on control of inflation and the best way to do this would be the pursuit of steady growth in the money supply.

The Monetarist counterattack was not successful at first in getting central banks to increase their focus on controlling inflation and money supply growth. In the early 1970, estimates of the parameters of the Phillips curve did not yet suggest that the long-run Phillips curve was vertical. Economists and policymakers also were not as fully aware of the importance of expectations to the effect of monetary policy on the economy, which would have led them to accept the Friedman-Phelps natural rate hypothesis more quickly. Also, estimates of the natural rate of unemployment were far too low, thus suggesting that increases in inflation that were occurring at then prevalent unemployment rates were the result of special factors and not overly expansionary monetary policy[11]. It is also notable that the change in the direction didn't come from the policy makers, but rather the methods of conducting monetary policy resulted in the great disparity among the policy makers.

Starting in the early 1970s, Robert Lucas in a series of papers launched the rational expectations revolution[12]. The theory of rational expectations made it immediately clear why there could be no long-run tradeoff between unemployment and inflation, so that attempting to lower unemployment below the natural rate would only lead to higher inflation and no improvement in performance in output or employment. Indeed, one implication of rational expectations in a world of flexible wages and prices was the policy

[11] Romer, Christina D. and David H. Romer (2002), "The Evolution of Economic Understanding and Postwar Stabilization Policy," in Rethinking Stabilization Policy (Kansas City, Mo.: Federal Reserve Bank of Kansas City)

[12] Lucas, Robert E., Jr (1976) Econometric Policy Evaluation: A Critique. in The Phillips Curve and Labor Markets, Brunner K and Meltzer A eds. Carnegie-Rochester Conference Series on Public Policy 1: 19-46.

ineffectiveness proposition[13] which suggested that a constant-money-growth-rate rule along the lines suggested by Milton Friedman does as well as any other deterministic policy rule with feedback. All that policy activism advocated by Keynesian economists would produce is higher and more variable rates of inflation.

The rational expectations revolution also made clearer the need for use of a nominal anchor, a nominal variable such as the inflation rate or the money supply, which ties down the price level to achieve price stability. Adherence to a nominal anchor which keeps the nominal variable within a narrow range promotes price stability by directly promoting low and stable inflation expectations.

Events on the ground were also leading to a rejection of policy activism. Inflation began a steady rise in the 1960s and then in the aftermath of the 1973 oil price, energy shock, inflation climbed to double digit levels in many countries. Research by economists but also the public and politicians began to discuss the high costs of inflation. The ideas espoused by Monetarists that central banks needed to control the growth rate of monetary aggregates now came to the fore.

In the mid-1970s, a number of industrialized countries began to engage in monetary targeting which involved three elements[14]:

1) reliance on information conveyed by a monetary aggregate to conduct monetary policy,

2) announcement of medium-term targets for monetary aggregates, and

3) some accountability mechanism to preclude large and systematic deviations from the monetary targets.

[13] Sargent, Thomas J. and Neil Wallace (1975) "Rational Expectations, the Optimal Monetary Instrument and the Optimal Money Supply Rule," Journal of Political Economy 83: 241-54.

[14] Ben S. Bernanke and Frederic S. Mishkin (1992) "Central Bank Behavior and the Strategy of Monetary Policy: Observations from Six Industrialized Countries," NBER Macroeconomics Annual, 1992, pp. 183-228.

The Federal Reserve started to follow weekly tracking paths for M1 and indicated its preferred behavior for M2. Then in 1975, in response to a Congressional resolution, the Fed began to announce publicly its targets for money growth. The United Kingdom began informal targeting of a broad monetary aggregate, sterling M3 in late 1973 and began formal publication of targets in 1976. The Bank of Canada instituted monetary targeting in 1975 under a program of "monetary gradualism" in which M1 growth was to be controlled with a gradually falling target range. In late 1974, both the Bundesbank and the Swiss National Bank began to announce money stock targets: with the Bundesbank choosing to target central bank money, a narrow aggregate which was the sum of currency in circulation and bank deposits weighted by the 1974 required reserve ratios, and the Swiss National Bank targeting M1. In 1978, the Bank of Japan announced "forecasts" of growth rates of M2 (and after 1979, M2 + CDs).

Monetary targeting had several potential advantages over previous approaches to the conduct of monetary policy. Announced figures for monetary aggregates are typically reported periodically with very short time-lags, within a couple of weeks, and so monetary targets can send almost immediate signals to both the public and markets about the stance of monetary policy and the intentions of the policymakers to keep inflation in check. These signals can help fix inflation expectations and produce less inflation. Monetary targets also have the advantage of being able to promote almost immediate accountability for monetary policy to keep inflation low.

These advantages of monetary aggregate targeting depend on one key assumption: there must be a strong and reliable relationship between the goal variable (inflation or nominal income) and the targeted aggregate. If there is velocity instability, so that the relationship between the monetary aggregate and the goal variable is weak, then monetary aggregate targeting will not work. The weak relationship implies that hitting the target will not produce the desired

outcome on the goal variable and thus the monetary aggregate will no longer provide an adequate signal about the stance of monetary policy. The breakdown of the relationship between monetary aggregates and goal variables such as inflation and nominal income was common, not only in the United States but also even in Germany[15]. A similar problem of instability of the money-inflation relationship has been found in emerging market countries, such as those in Latin America[16]. It also can be seen from the inflation rate in Uzbekistan which uses money mass targets..

Monetary targeting in the United States, Canada and the United Kingdom did not prove to be successful in controlling inflation and there are two interpretations for why this was the case. One is that monetary targeting was not pursued seriously, so it never had a chance to be successful. The Federal Reserve, Bank of Canada especially the Bank of England, engaged in substantial gameplaying in which they targeted multiple aggregates, allowed base drift, did not announce targets on a regular schedule, used artificial means to bring down the growth of a targeted aggregate (the corset in the U.K.), often overshot their targets without reversing the overshoot later and often obscured why deviations from the monetary targets occurred.

The second reason for monetary targeting's lack of success was the increasing instability of the relationship between monetary aggregates and goal variables such as inflation (or nominal income) meant that this strategy was doomed to failure and indeed was not pursued seriously because to do so would have been a mistake. By the early 1980s, it was becoming very clear that the relationship between monetary aggregates and inflation and nominal income had broken down and all three countries formally abandoned monetary targeting. Or

[15] Estrella, A. and F.S. Mishkin (1997) Is There a Role for Monetary Aggregates in the Conduct of Monetary Policy. Journal of Monetary Economics, 40:2, (October): 279-304.

[16] Mishkin, Frederic S. and Miguel A. Savastano (2001) "Monetary Policy Strategies for Latin America," Journal of Development Economics, 66, 2 (December): 415-444.

as a Gerald Bouey a former governors of the Bank of Canada, put it: "We didn't abandon monetary aggregates, they abandoned us."[17]

The weak relationship between money and nominal income, however, implies that hitting a monetary target will not produce the desired outcome for a goal variable such as inflation. Furthermore, the monetary aggregate will no longer provide an adequate signal about the stance of monetary policy. Thus, except under very unusual circumstances, monetary targeting will not provide a good nominal anchor and help fix inflation expectations. In addition, an unreliable relationship between monetary aggregates and goal variables makes it more difficult for monetary targeting to serve as a communications device that increases the transparency of monetary policy and makes the central bank accountable to the public. As we have seen, a monetary target will have trouble serving as a strong nominal anchor when the relationship between money and inflation is unstable. The disappointments with monetary targeting led to a search for a better nominal anchor and resulted in the development of inflation targeting in the 1990s.

Inflation targeting evolved from monetary targeting by adopting its most successful elements: an institutional commitment to price stability as the primary long-run goal of monetary policy and to achievement of the inflation goal; increased transparency through communication with the public about the objectives of monetary policy and the plans for policy actions to achieve these objectives. Inflation targeting, however, differs from monetary targeting in two key dimensions: rather than announce a monetary aggregates target, it publicly announces a medium-term numerical target for inflation; and it makes use of an information inclusive strategy, with a reduced role for intermediate targets such as money growth.

[17] Black, Richard, Macklem and David Rose, 1998. "On Policy Rules for Price Stability," Price Stability, Inflation Targets and Monetary Policy, Proceedings of a Conference held by Bank of Canada, May 1997, Ottawa, Canada:411-61.

The first country to adopt inflation targeting was New Zealand. New Zealand was followed by Canada which announced inflation targets in February 1991, by Israel in January 1992, by the United Kingdom in October 1992, by Sweden in January 1993 and Finland in February 1993. (Chile adopted a softer form of inflation targeting in January 1991). Since its inception, more than thirty countries have adopted inflation targeting, including Russia in 2015 and new ones are added to the inflation targeting club every year. Full list of targeters are provided in the **Table 2.** Some countries adopted only major elements of the concept, others just don't like to call it "inflation targeting". We can see it in the example of Switzerland. They have identical strategy and instruments, however, they refrain from call it "inflation targeting". Because, as they put it, their system is much more flexible and the "target" may lead to some missassumptions and constrain the policies under use.

Table 2

Countries, transitioning to inflation targeting[18]*

1990–1999 years		2000–2015 years	
Developed countries	Developing countries	Developed countries	Developing countries
New Zealand (1Q, 1990)	Chile (3Q 1990)	Norway (1Q 2001)	South Africa (1Q 2000)
Canada (1Q 1991)	South Korea (2Q 1998)	Iceland (1Q 2001)	Thailand (2Q 2000)
Israel (1Q, 1992)	Poland (4Q 1998)	Switzerland (1Q 2000)	Hungry (2Q 2001)
UK (4Q, 1992)	Mexico (1Q 1999)	Slovakia** (1Q 2005)	Peru (1Q 2002)
Sweden (1Q, 1993)	Brazil (2Q 1999)	Japan (1Q 2013)	Philippines (1Q 2002)
Finland** (1Q, 1993)	Columbia (3Q 1999)	Russia (3Q 2015)	Guatemala (1Q 2005)
Australia (2Q 1993)			Indonesia (3Q 2005)
Spain** (1Q 1995)			Romania (3Q 2005)
Czech Republic (1Q 1998)			Turkey (1Q 2006)
			Serbia (3Q 2006)
			Ghana (2Q 2007)
			Armenia (2006)
			Uruguay (2007)
			Paraguay (2011)

**In brackets – official date of transition*

[18] Source: Petursson T. G. Infltion control around the world: why are some countries more successful than others?; Roger S. Infltion targeting at twenty: achievements and challenges. Annual Report on Exchange rate arrangements and exchange rate restrictions. International Monetary Fund, 2013.

Inflation targeting superceded monetary targeting because of several advantages. First, inflation targeting does not rely on a stable money-inflation relationship and so large velocity shocks which distort this relationship are largely irrelevant to monetary policy performance. Second, the use of more information, and not primarily one variable, to determine the best settings for policy, has the potential to produce better policy settings. Third, an inflation target is readily understood by the public because changes in prices are of immediate and direct concern, while monetary aggregates are farther removed from peoples' experience.

A key feature of all inflation targeting regimes is that they have put enormous stress on transparency and communication. Inflation targeting central banks have frequent communications with the government, some mandated by law and some in response to informal inquiries, and their officials take every opportunity to make public speeches on their monetary policy strategy. Communication of this type has been prominent among central banks that have not adopted inflation targeting, including monetary targeters such as the Bundesbank and Switzerland, as well as non-targeters such as the Federal Reserve, but inflation-targeting central banks have taken public outreach a number of steps further: not only have they engaged in extended public information campaigns, even engaging in the distribution of glossy brochures, but they have engaged in publication of *Inflation Report* type documents (originated by the Bank of England).

Inflation targeting also does not ignore traditional output stabilization, but instead puts it into a longer run context. Inflation targeting regimes allow for flexibility to deal with supply shocks and have allowed the target to be reduced gradually to the long-run inflation goal when inflation is initially far from this goal (also a feature of monetary targeters such as Germany). As Svensson had shown, a gradual movement of the inflation target toward the longrun, price-stability goal indicates that output fluctuations are a concern (in the objective

function) of monetary policy[19]. In addition, inflation targeters have emphasized that the floor of the range should be as binding a commitment as the ceiling, indicating that they care about output fluctuations as well as inflation. Inflation targeting is therefore better described as "flexible inflation targeting".

The above discussion suggests that although inflation targeting has evolved from earlier monetary policy strategies, it does represent true progress.

1.3. Nominal anchor and it's utilization as a target

Inflation targeting is one of the operational frameworks within which monetary policy is conducted to maintain price stability. In this framework, a central bank estimates and establishes target inflation rate and then attempts to steer actual inflation toward the target. The approach can be characterized by following aspects:

1) the central bank is publicly committed to official quantitative targets (or target ranges) for inflation rate over one or more time horizons;

2) an institutional commitment to price stability as the primary goal of monetary policy, to which other goals are subordinated;

3) an information inclusive strategy in which many variables (not just monetary aggregates or the exchange rate) are used for deciding the setting of policy instruments;

4) increased transparency of the monetary policy strategy through communication with the public and the markets about plans, objective, and decisions of the monetary authorities;

5) increased accountability of the central bank for attaining its inflation objectives.

Luca Benati and Charles Goodhart (2011) emphasize that a key feature of IT is that the central bank sets the target for inflation, which is then required to achieve by varying its main instrument such as the official short-term interest

[19] Svensson, Lars.E.O., 1997. "Inflation Forecast Targeting: Implementing and Monitoring Inflation Targets," European Economic Review, 41: 1111-1146.

rate. Lars E.O. Svensson (2011) concludes that inflation targeting is a monetary-policy strategy characterized by an announced numerical inflation target, an implementation of monetary policy that gives a major role to an inflation forecast that has been called forecast targeting, and a high degree of transparency and accountability. It is clear that countries have conducted three monetary policy strategies, all of which focus on price stability as the main, long-term objective of their monetary policy: exchange rate regime, monetary targeting, and inflation targeting. Among these strategies, inflation targeting is new-born strategy in which inflation expectations converge to inflation target. The decision made by many central banks to adopt inflation targets directly has resulted from the failure of alternative monetary policy regimes, based on either monetary or exchange rate targeting (**Figure 2**).

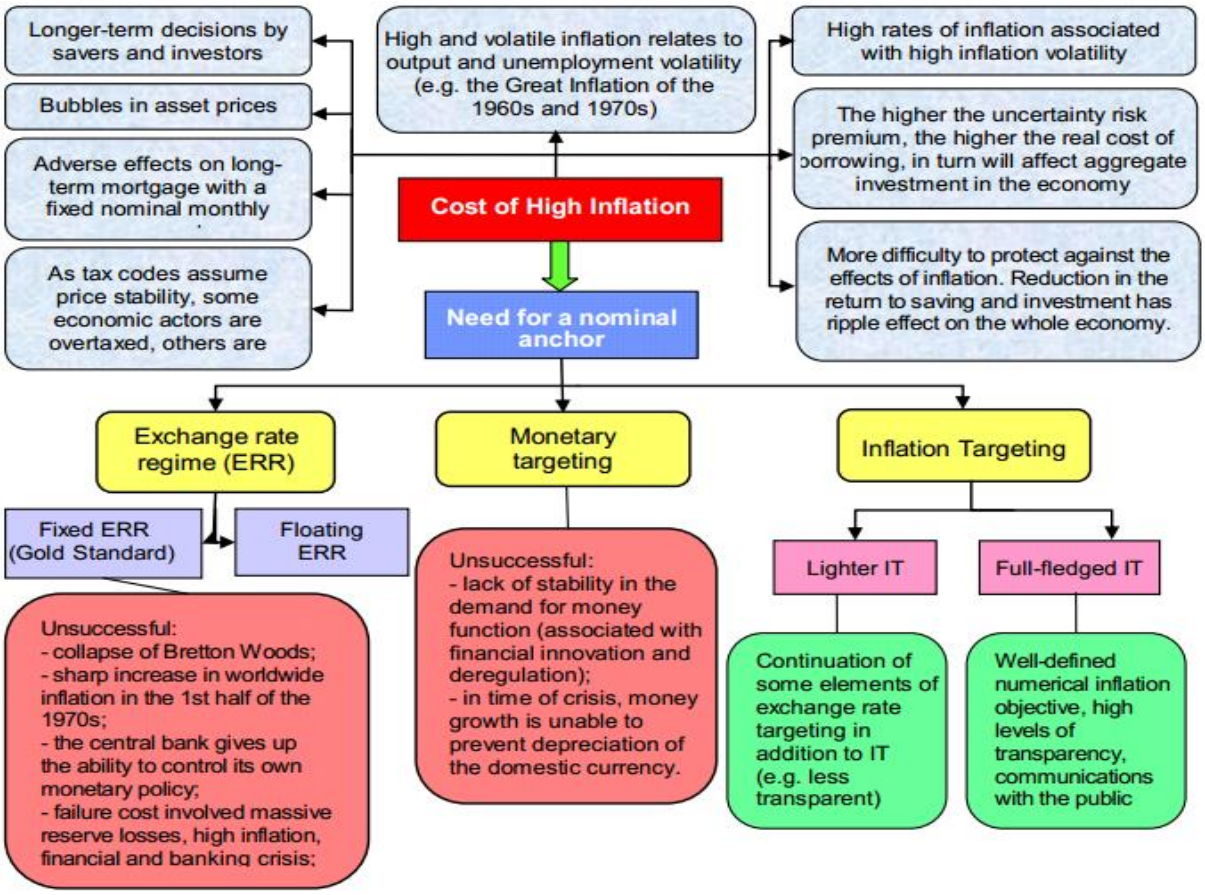

Figure 2. Explanation for the need for the nominal anchor[20]

[20] O. Aliqoriev and Kh. Khamidov, "Monetary policy under inflation targeting: lessons from industrial and emerging countries"; MPRA Paper No. 59540, 2014.

For example, monetary base targeting experience in the US, Canada, Japan, and the United Kingdom shows that the money supply has a number of benefits. However, it is only advantageous when there is a strong and reliable correlation between the targeted monetary base and nominal income. In fact, the demand for money has displayed strong fluctuations and frequent structural changes over time. As a result, monetary targeting cannot achieve low inflation due to the breakdown of the relationship between the money supply and the policy objective.

Other popular nominal anchor is the adoption of predetermined path for the exchange rate with which the central bank has limited scope to conduct its own monetary policy and accepts limits on its capability to react to domestic or foreign shocks. For example, in 1992 exchange rate crisis spurred to the adoption of IT in the transition countries of Central and Eastern Europe.

Economists often discuss jointly the costs to an economy from unemployment and inflation because, for much of the period since the late 1950s, it was generally believed that a long-run tradeoff existed between the two. While the cost of unemployment was well articulated, the cost of inflation was relegated to "shoe leather." The high U.S. inflation rate of the late 1960s, 1970s, and early 1980s caused economists to rethink the costs of inflation to an economy. What follows is a distillation of those efforts. Describing the costs to an economy from inflation can be confusing for several reasons. First and foremost there is the confusion over the cost to the economy versus the cost to specific individuals. Costs to individuals may not impose a burden on the economy because they are in the nature of a redistribution of either income and/or wealth. What is lost by some is gained by others. Nevertheless, some of these redistributions can have real effects. Second, some of the costs of inflation are permanent in the sense that so long as the inflation continues the costs will be incurred. Others are only transitory and arise as the economy moves from one inflation rate to another or because the rate of inflation itself is variable. Third,

some costs are incurred only because the inflation is unanticipated while other costs arise even when the inflation is fully anticipated. Finally, some costs occur only because of the absence for one reason or another of appropriate safeguards: for example, the absence of indexed contracts.

As an introduction to understanding the costs imposed on an economy by inflation, consider first an economy that is completely indexed for inflation. Thus every conceivable contract is adjusted for changes in the price level including those for debt (bonds and mortgages) and wages and salaries; where taxes are imposed only on real returns to assets, where tax brackets, fines and all payments imposed by law are indexed, where the exchange rate is free to vary and there are no legal restrictions imposed on interest rates, etc. In this economy, the distinction between anticipated and unanticipated inflation is unimportant except if the inflation rate is high and the indexed adjustments are not continuous. Then real costs can occur. However, for analytical purposes, assume that all individuals perfectly anticipated the inflation and that the indexed adjustments are continuous.

In this economy, inflation can impose only two real costs: the less efficient arrangement of transactions that result from holding smaller money balances and the necessity to change posted prices more frequently (the so-called menu costs).

The first of these, entailing the rearrangement of transactions due to the higher costs of holding money, is the one cost uniformly identified in the text books as “the cost of inflation.” It is worth considering what is involved. Both individuals and businesses hold money balances because it allows each to arrange transactions in an optimum or least cost way (e.g., for business this involves paying employees, holding inventories, billing customers, maintaining working balances, etc.) and to provide security against an uncertain future. Holding wealth or assets in a money form, however, is not costless. A measure of the so-called opportunity cost is the expected rate of inflation, a cost that rises

because wealth can be held in alternative forms whose price or value rises with inflation. When inflation occurs or when the rate of inflation rises, holding money becomes more costly. Individuals and businesses then attempt to get by with less money (for businesses this may mean billing customers more frequently, paying employees more frequently, etc.). This means that least cost transactions patterns are no longer least cost. The new patterns are less efficient—they use more time or more resources to effect a given transaction. In addition, holding smaller real money balances also reduces the security money provides against an uncertain future. The magnitude of this cost has been reduced in the UK in recent years because financial institutions can now pay interest on a variety of deposits that function as money. Thus, the primary cost of inflation on money holding applies to currency on which no interest is paid. To the extent, however, that financial institutions are slow to raise interest rates in tandem with inflation, deposit holders will economize on holding deposits and arrange transactions less efficiently, thereby imposing a short-run cost on the economy. The other cost imposed by inflation in a fully indexed economy is the so-called menu cost, which involves the extra time and resources that are used in adjusting prices more frequently in an environment where prices are rising. These additional costs are incurred mainly with goods and services that are sold in nonauction markets. It does not apply to auction markets where prices change more or less continuously in response to shifts in supply and demand. Thus, in order to diminish the repercussions and side effects of the inflation costs central banks use inflation targeting.

A key aspect that separates inflation targeting from other sensible monetary policies is the public announcement of a numerical target. By making the inflation target explicit, inflation targeting not only provides a nominal anchor but also a focal point that may anchor inflation expectations. Therefore, it is possible that the impact of inflation targeting on inflation and on other

macroeconomic variables may arise through its effects on inflation expectations and on the expectations-formation process.

Even with sensible monetary policies, if the central bank does not announce a target for inflation and inflation performance is therefore not evaluated based on a reference number, economic agents in the economy need not have the same expectation about inflation in the future. It could be said that inflation expectations are anchored when individual expectations for a forecast horizon equal to or greater than the central bank's control lag are very close to the inflation target, even if inflation at the time at which expectations are formed is not close to the target. By homogenizing information sets across agents, inflation targeting is perceived to be able to anchor inflation expectations more rapidly and durably than other strategies[21].

The main features of inflation targeting that distinguish it from other monetary policy strategies are: (i) the central bank is committed to a unique numerical target (level or range) for annual inflation; (ii) the inflation forecast over some horizon is the de facto intermediate target; and (iii) an important role for transparency, accountability, and communication with the public.

Regarding the numerical inflation target, all central banks with an inflation-targeting regime define their target in terms of one of the following categories: (i) a point target; (ii) a point target with an interval; or (iii) a tolerance range.1 Among the explanations offered by central banks in terms of the width of the interval around the target, it is argued that they are useful to reflect a symmetric concern with respect to deviations of inflation from above and below the target, to acknowledge the volatility of some CPI items, to provide some flexibility in the conduct of monetary policy, and to allow for deviations of inflation from the target in the face of temporary shocks in order to avoid frequent changes in the interest rate. We emphasize the importance of

[21] Bernanke, B. S., T. Laubach, F. S. Mishkin, and A. S. Posen. 1999. "Inflation Targeting: Lessons from the International Experience." Princeton, New Jersey: Princeton University Press.

having a symmetric target, meaning that the central bank will monitor both inflationary and deflationary pressures so that businesses and individuals can make long-range economic plans with increased confidence. However, in general, it is difficult to find quantitative evidence in the literature that supports the choice of an inflation-target level by central banks.

With respect to the inflation forecast, it is well known that monetary policy is more effective if it is guided by forecasts, because there is a lag between monetary policy actions and their impact on the central bank's target variables. The implementation of inflation targeting therefore gives a main role to forecasts of inflation and other macroeconomic variables.

Conclusions of chapter I

Owing to the importance of forecasts, inflation targeting has encouraged the use and development of several analytical tools that have led central banks to engage in research projects alone and together with academia. Over the years, these developments have improved the understanding of the structure and the functioning of the economies and the role played by monetary policy.

Finally, as mentioned, inflation targeting is characterized by a high degree of transparency, accountability, and communication. Typically, an inflation-targeting central bank publishes a regular monetary policy report that includes the bank's forecast of inflation and other variables, a summary of its analysis behind the forecasts, and the motivation for its policy decisions. The current emphasis on transparency is based on the insight that monetary policy has an impact on the economy mostly through the effect of monetary policy actions and announcements on private sector expectations. Inflation expectations for the next one or two years affect current pricing decisions and inflation for the next few quarters. Therefore, the anchoring of inflation expectations in the private sector is a crucial precondition for the stability of actual inflation.

II CHAPTER. INFLATION TARGETING IN THE PRACTICE OF FOREIGN CENTRAL BANKS AND THE PROCESS OF USING IT

2.1. The experience of foreign central banks in applying inflation targeting

It is crucial to understand the impact of the targeting regime in a similar developing country as Uzbekistan. One of them is Mexico, which also switched from exchange rate oriented regime to targeting one in mid 90s. In the aftermath of the financial crisis that affected Mexico's economy throughout 1995, one of the goals of the economic program was to stabilize the economy in an orderly fashion and as quickly as possible, in order to guarantee that a fiscal dominance situation would not arise. As argued by Ramos-Francia and Torres García (2005), in doing so, the three challenges posed by the crisis were met: (i) the government fulfilled all of its obligations; (ii) the economy adjusted swiftly to a new macroeconomic environment (the current account deficit fell from 7.1 per cent of GDP in 1994 to 0.61 per cent in 1996 and 1.8 per cent in 1997); and (iii) a meltdown of the financial system was avoided.

Currently, it is clear that in both academic circles and among the world's monetary authorities, monetary policy's best contribution to sustained growth is to foster price stability. For that reason, in recent years, the central banks of many countries, including Mexico, have reoriented their monetary policy objectives, setting price stability as their main goal. This goal has been formalized, in most cases, by establishing low-level inflation targets.

As Ramos-Francia and Torres García (2005) point out, the challenge faced by policymakers at Banco de México was to establish monetary policy as the nominal anchor of the economy at a time when there was widespread uncertainty about the bank's commitment and its ability to achieve both financial and price stability. The strategy consisted mainly of three elements:

(i) improve the transparency of the implementation of monetary policy; (ii) maintain a clear restrictive bias in order to induce a sustainable reduction in inflation; and (iii) respond appropriately to inflationary shocks.

Several main points are of note in the process that led to the adoption of an inflationtargeting regime in Mexico. In this process, inflation has decreased from close to 52 per cent in 1995 to levels close to 3 per cent over recent years, under a flexible exchange rate regime[22] (**Figure 3**).

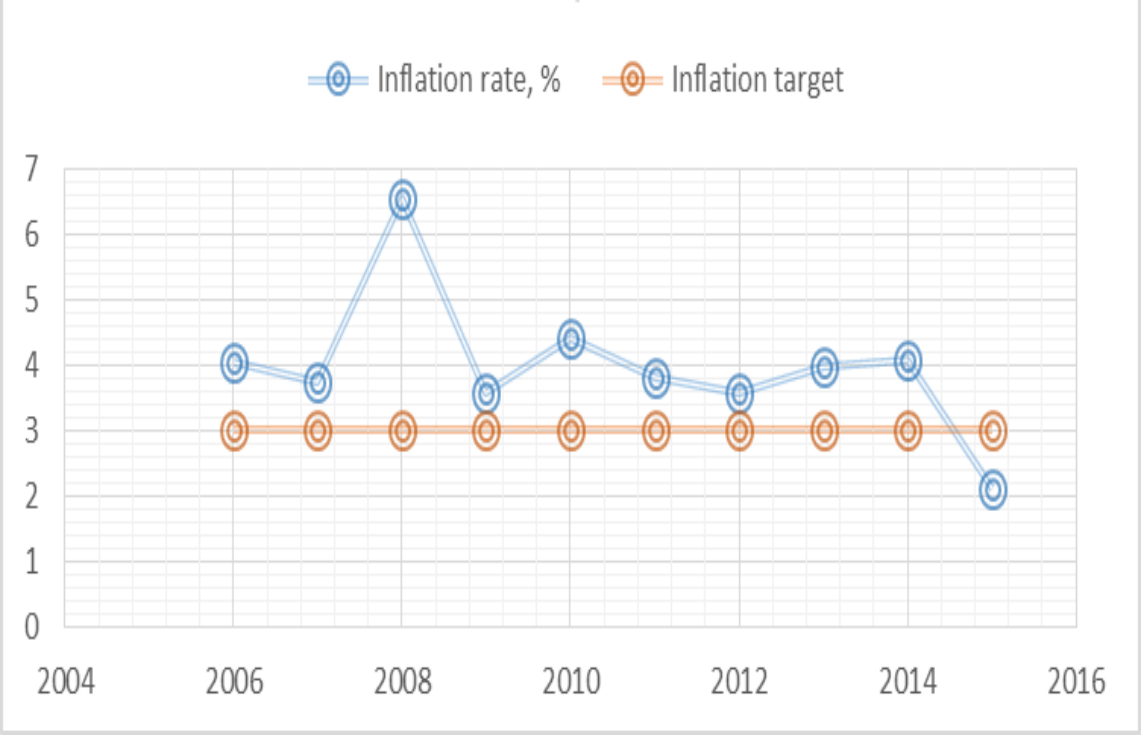

Figure 3. Mexican inflation rate versus its target

Since the adoption of a free-floating exchange rate regime as a consequence of the balance of payments crisis of 1994-1995, the exchange rate ceased to be the policy instrument that consolidated inflation expectations around the authority's objectives. Monetary policy became what in technical terms is known as the economy's nominal anchor. The monetary policy regime was modified with the aim of increasing its effectiveness and transparency in the

[22] Source: visualized by the author of the paper according to the Banco de Mexico and INEGI (statistics agency of Mexico) statistics.

face of the changes undergone by Mexico's economy. As a result, policy has evolved toward an inflation targeting regime.

Among the benefits obtained by countries that have adopted this regime, the following stand out:

a) Greater transparency and better understanding of monetary policy implementation.

b) An improved rendering of accounts by the monetary authority.

c) Reduced inflation and inflation volatility, as well as consolidation of price stability.

d) A diminished impact on inflation from shocks produced by other economic variables, such as the exchange rate.

e) Anchoring of inflation expectations around the inflation target.

f) Lower costs associated with the disinflation process.

g) Favorable performance from other economic variables important to public well-being, such as exchange rate volatility.

The document titled "The Monetary Policy Regime" describes the key characteristics of the inflation targeting regime currently used by Banco de Mexico.

It is also of paramaount importance to look at the practise of developed nations as Japan. They have been practicing unconventional ways lately to meet their targets. The Bank of Japan conducts monetary policy based on the principle that the policy shall be aimed at achieving price stability, thereby contributing to the sound development of the national economy, and is responsible for maintaining financial system stability. The Bank aims to achieve price stability on a sustainable basis, given that there are various factors that affect prices in the short run. The Bank recognizes that the inflation rate consistent with price stability on a sustainable basis will rise as efforts by a wide range of entities toward strengthening competitiveness and growth potential of Japan's economy make progress. Based on this recognition, the Bank sets the

price stability target at 2 percent in terms of the year-on-year rate of change in the consumer price index[23]. We can observe the historical change of inflation rate and target below.

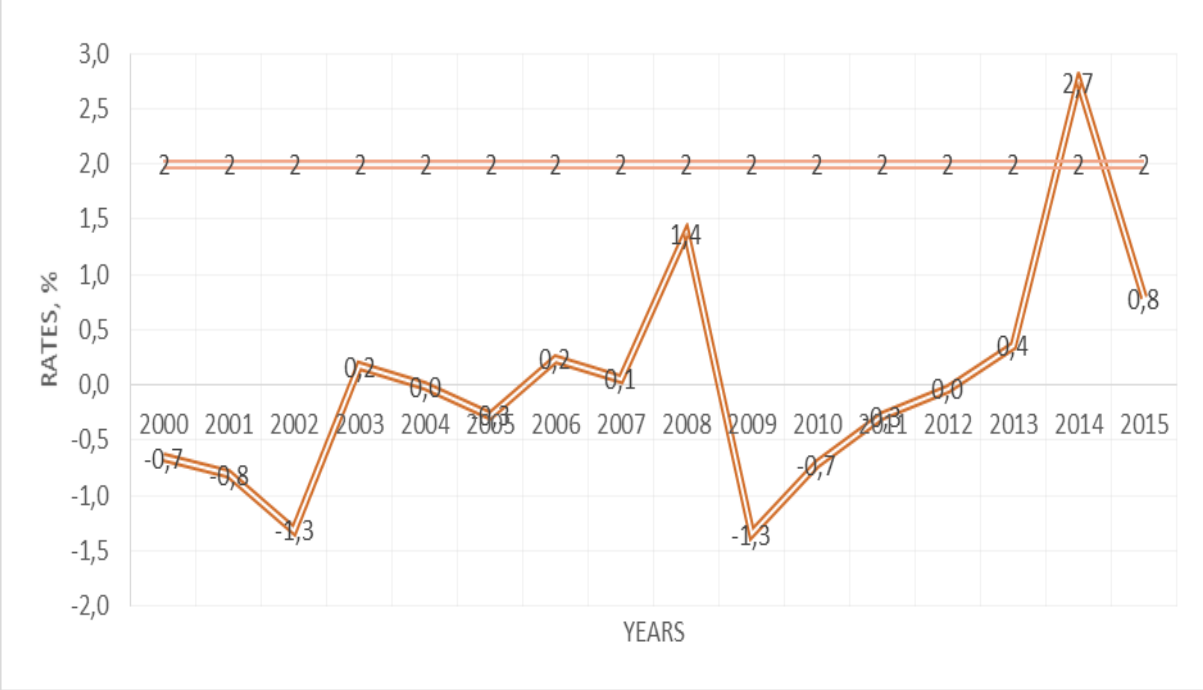

Figure 4. Japanese inflation rate compared to inflation target

Under the price stability target specified above, the Bank will pursue monetary easing and aim to achieve this target at the earliest possible time. Taking into consideration that it will take considerable time before the effects of monetary policy permeate the economy, the Bank will ascertain whether there is any significant risk to the sustainability of economic growth, including from the accumulation of financial imbalances.

Previously, the "price stability goal in the medium to long term" was in a positive range of 2 percent or lower in terms of the year-on-year rate of change in the CPI and the Bank set a goal at 1 percent for the time being. This time, replacing a "goal" with a "target" and setting that target at 2 percent in terms of the year-on-year rate of change 2 in the CPI are based on the following recognition. The Bank recognizes that the inflation rate consistent with price

[23] Source: visualized by the author of the paper in accordance with World Bank data.

stability on a sustainable basis will rise as efforts by a wide range of entities toward strengthening competitiveness and growth potential of Japan's economy make progress. Today's expected rate of inflation has been shaped over the years. As the strengthening of growth potential makes progress going forward, the actual rate of inflation would gradually rise and accordingly the expected inflation rate of households and firms is likely to rise as well. Going forward, as prices are expected to rise moderately, it is judged appropriate to clearly indicate the target of 2 percent in order to anchor the sustainable rate of inflation.

Switching from a "goal" to a "target" reflects an increasing awareness regarding the importance of flexibility in the conduct of monetary policy in Japan. The effects of monetary policy permeating economic activity and thereafter prices require a considerable and variable time lag. The conduct of monetary policy has to be flexible by examining various risk factors, including those related to financial imbalances, in addition to the assessment of current developments and outlook for economic activity and prices, from the perspective of achieving sustainable growth with price stability. Such understanding has been widely shared around the globe; particularly, in the aftermath of the global financial crisis, major economies of the world have come to emphasize flexibility in the conduct of monetary policy -- by, for example, publicly articulating the importance of paying due attention to financial system stability. Over the last year, there has been an increasing awareness of such understanding in Japan as well. In such circumstances, it is judged transparent and appropriate to use the expression, "target," in order to explain the Bank's thinking on price stability.

Additionally, Bank of Japan is now in the forefront in the implementation of the unconventional monetary policy. A negative interest rate policy (NIRP) is an unconventional monetary policy tool whereby nominal target interest rates are set with a negative value to hold on to the promised inflation target, below the theoretical lower bound of zero percent.

During deflationary periods, people and businesses hoard money instead of spending and investing. The result is a collapse in aggregate demand which leads to prices falling even farther, a slowdown or halt in real production and output, and an increase in unemployment. A loose or expansionary monetary policy is usually employed to deal with such economic stagnation. However, if deflationary forces are strong enough, simply cutting the central bank's interest rate to zero may not be sufficient to stimulate borrowing and lending.

A negative interest rate means the central bank and perhaps private banks will charge negative interest: instead of receiving money on deposits, depositors must pay regularly to keep their money with the bank. This is intended to incentivize banks to lend money more freely and businesses and individuals to invest, lend, and spend money rather than pay a fee to keep it safe.

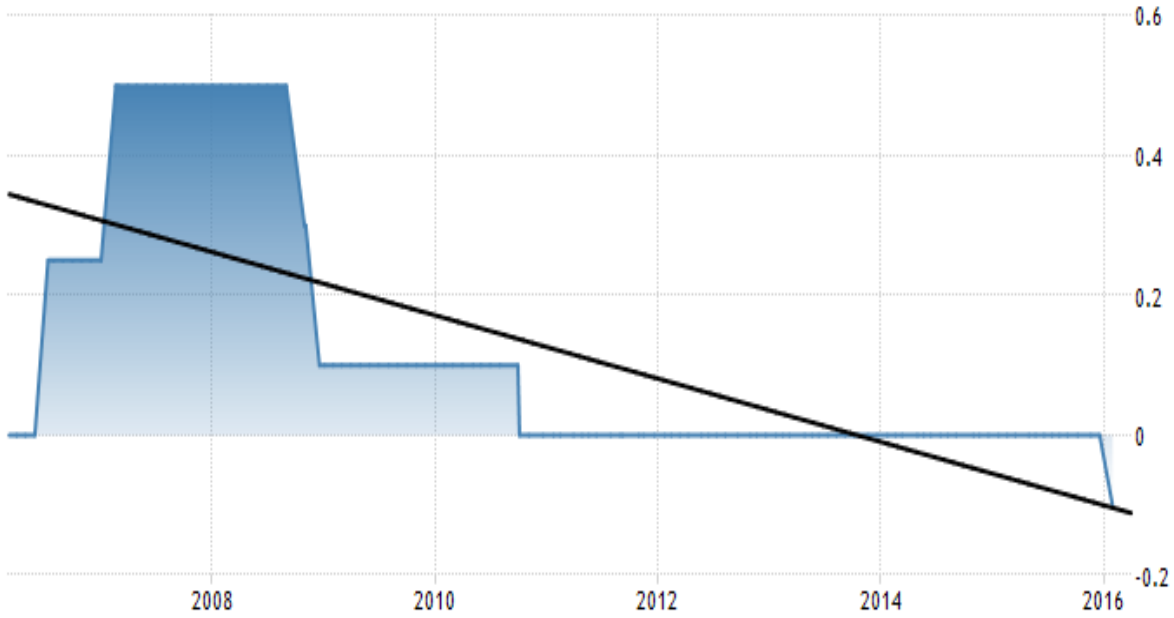

Figure 5. Interest rates set in Japan[24]

Out of the blue, the Bank of Japan surprised markets on January 29, 2016, by adopting a negative interest-rate strategy. The move came one and a half years after the European Central Bank became the first major central bank

[24] Bloomberg View, "New horizons in Japanese monetary policy" 29.01.2016: www.bloombergview.com

to venture below zero. With the fallout limited so far, policy makers are more willing to accept sub-zero rates. Also, The ECB cut a key rate further into negative territory to keep inflation target going on December 3, 2015, even though President Mario Draghi earlier said it had hit the "lower bound." It now charges banks 0.3 percent to hold their cash overnight. Sweden also has negative rates, Denmark used them to protect its currency's peg to the euro and Switzerland moved its deposit rate below zero for the first time since the 1970s. Since central banks provide a benchmark for all borrowing costs, negative rates spread to a range of fixed-income securities. By the end of 2015, about a third of the debt issued by euro zone governments had negative yields[25]. That means investors holding to maturity won't get all their money back. Banks have been reluctant to pass on negative rates for fear of losing customers, though Julius Baer (banking group) began to charge large depositors[26].

A negative return on parking funds with the central bank might also encourage banks to invest in riskier assets to secure a return, potentially driving new asset bubbles and more pain further down the line. Although, it must be noted that if these measures don't take place in time, the target set by central banks may very well be taken out from current issues' agenda.

European Unions recent policy is also a good example of great monetary conduct. Despite the instability in some EU member countries (such as Greece and Spain) the inflation level has been maintained pasitively. From our point of view, ECB's policy conduct cannot be left uncovered when analyzing the inflation targeting policies of the foreign countries.

The primary objective of the ECB's monetary policy is to maintain price stability. The ECB aims at inflation rates of below, but close to, 2% over the medium term. Inflation refers to a general increase in consumer prices and is measured by an index which has been harmonised across all EU Member States:

[25] European Central Bank, www.ecb.europa.eu

[26] The Financial Times, "Julius Baer charges institutional clients", 26.02.2015: www.ft.com

Harmonised Index of Consumer Prices (HICP). The HICP is the measure of inflation which the Governing Council uses to define and assess price stability in the euro area as a whole in quantitative terms.

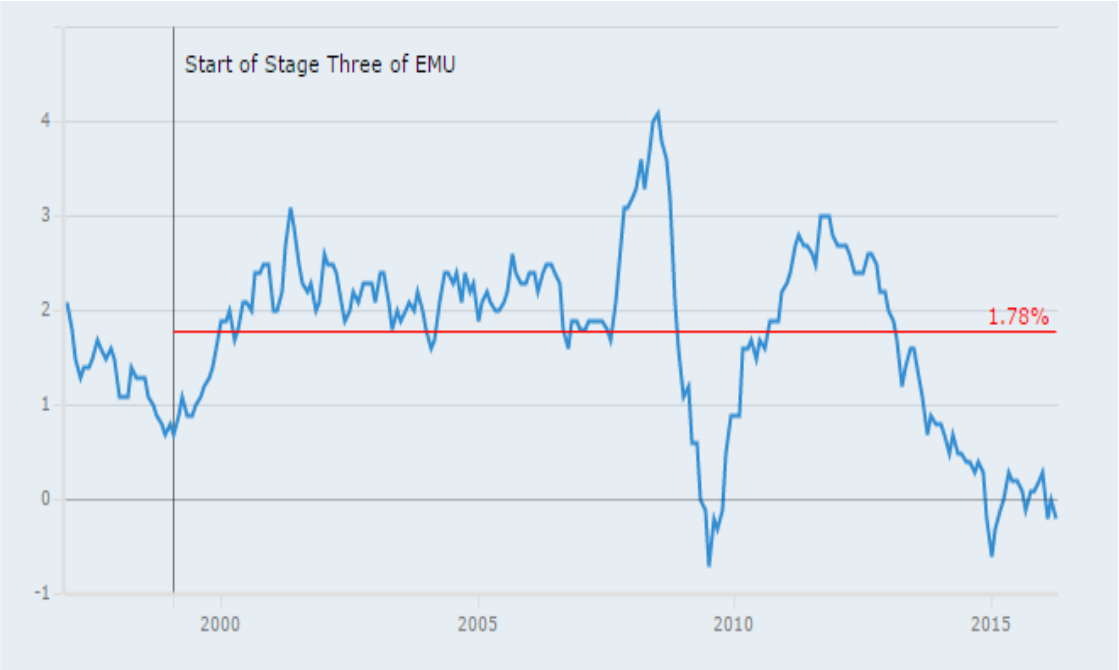

Figure 6. Annual inflation rate in the euro area[27]

The head of the ECB, Mario Draghi had this to say about the recent challenges in the policy realm of the Bank:

"Against a background of further declines in commodity prices, notably oil, recent HICP inflation numbers have drifted back to levels around zero, following the rebound from negative rates seen earlier in the year. Looking ahead, headline inflation is expected to remain very low in the near term, until upward base effects relating to energy prices push it up towards the end of the year. Inflation rates are foreseen to rise further during 2016 and 2017, supported by the expected economic recovery, the pass-through of past declines in the exchange rate, and, assuming current prices in futures markets materialise, somewhat higher oil prices in the years ahead. The Governing Council will continue to closely monitor the risks to the outlook for price developments over the medium term, in particular risks related to the pass-through of the monetary

[27] Eurostat. Data prior to 1996 are estimated on the basis of non-harmonised national Consumer Price Indices (CPIs). Average inflation since 1999.

policy measures as well as global economic, financial, commodity price and exchange rate developments.

Our monetary policy continues to aim to safeguard price stability. Since mid-2014 we have taken a number of both conventional and unconventional measures to address the heightened risks of too prolonged a period of too low inflation, encompassing targeted longer-term refinancing operations (TLTROs), a third covered bond purchase programme (CBPP3) and an asset-backed securities purchase programme (ABSPP). In January 2015, an expanded asset purchase programme (APP) was launched. The APP continues to proceed smoothly and – together with other monetary policy measures – has a favourable impact on the cost and availability of credit for firms and households, contributing to the euro area recovery and a gradual rise in inflation. We intend to purchase private and public securities until the end of September 2016, or beyond if necessary, and, in any case, until we see a sustained adjustment in the path of inflation that is consistent with our aim of achieving inflation rates below, but close to, 2% over the medium term. In the light of renewed risks that have emerged on the back of recent developments in global and in financial and commodity markets, we are closely monitoring all relevant incoming information and are ready to use all the instruments available within our mandate to act, if warranted, in particular by adjusting the size, composition and duration of the asset purchase programme."[28]

In conclusion, it is obvious that rigorous manipulation of monetary instruments in different countries contributes to the acheivement of the overall inflationary target. That's why, the utilization of different monetary tools must be strictly under supervision in order to effectively manage the unexpected situations and deal with the critical moments in the due time. The researchers on the matter evaluate it as a an important feature of the central banks.

[28] Statement by Mario Draghi, President of the ECB, at the thirty-second meeting of the International Monetary and Financial Committee, Lima, 9 October 2015, https://www.ecb.europa.eu/press/key/date/2015/html/sp151009.en.html

2.2. Monetary policy analysis of the Bank of England

The UK has operated five broad monetary policy regimes in the post-war period, including inflation targeting, which was introduced in 1992 and updated in 1997 with central bank independence. Each of these regimes has had different institutional constraints and external environments.

Fixed exchange rate (Bretton Woods), 1948-71. Following the end of the Second World War the UK operated monetary policy through a regime of fixed exchange rates under the Bretton Woods system, which established set values between the US dollar and the currencies of 32 member countries. Such a system required direct controls on credit creation as well as strong foreign capital controls. The prevalent view at the time was that fiscal policy was more effective at managing demand in the economy, as monetary policy was constrained by the exchange rate and the current account. The UK experienced recurring balance of payments crises and sterling devaluations, including in 1949 and 1967.

Floating exchange rate, no monetary anchor, 1971 -76. In 1971, the US ended the convertibility of the US dollar into gold, which brought an end to the Bretton Woods system. For most of the following five years the UK had a floating exchange rate but with no monetary anchor. During this period "the framework for monetary policy was, at best, opaque"[29]. The oil crisis of 1973 and the sterling crisis of 1976 meant that this period saw very high and volatile inflation coupled with weak output growth.

Monetary targets, 1976-87. During this period, monetary policy aimed to control various monetary aggregates in order to keep inflation down. This approach required there to be a degree of stability in the velocity of money, or the speed with which money circulates in the economy, which would have meant that there was a direct relationship between money supply and inflation. However, this period was characterised by significant global financial

[29] The Inflation Target Five Years On. King, 1997.

deregulation, including in the UK, which saw, for example, a relaxation of exchange and credit controls in 1979. Financial liberalisation and innovation made it more difficult to monitor aggregate measures of money supply and reduced the stability of the relationship between money and the wider economy. Inflation was successfully reduced during this period, but the monetary framework itself remained unstable.

Exchange rate targeting, 1987-92. During this period policy makers, both in the UK and elsewhere in Europe, directed monetary policy to targeting the exchange rate. The UK entered the Exchange Rate Mechanism in 1989. UK interest rates were set in order to keep the value of sterling within a certain band relative to the German currency, which provided the nominal anchor. In the face of large international capital flows and speculation, the monetary authorities could not maintain the exchange rate target indefinitely. This resulted in some instability of both output and prices, as well as a sharp depreciation of sterling in 1992.

Inflation targeting, pre-independence: 1992-97. Following the exit from the Exchange Rate Mechanism, sterling was allowed to float freely and a target for inflation was introduced for the first time. The details of the arrangements were set out in a letter from the then Chancellor to the Chair of the Treasury and Civil Service Committee. The intention was to achieve a rate of inflation, as measured by the Retail Prices Index excluding mortgage interest payments (RPIX), "in the long term of 2 per cent or less", but for the remainder of the Parliament, to keep "underlying inflation within the range 1 -4 per cent". The target range was not intended to be symmetrical over time. The aim instead was "to be in the lower part of the range" by the end of the Parliament. At Budget 1995, the target was specified to be 2½ per cent or below by the end of that Parliament. Monetary policy decisions were still controlled by the Chancellor. Inflation fell in this period, but inflation expectations remained above the official target.

Inflation targeting, independent MPC: 1997-present. Under the Bank of England Act 1998, the Monetary Policy Committee of the Bank of England was given operational independence over monetary policy. The MPC operated in this form from May 1997. The new institutional arrangements helped improve credibility and accountability, leading to stable inflation and anchored inflation expectations. Initially the target was for inflation of 2½ per cent as measured by the RPIX. The target was changed in December 2003 to inflation of 2 per cent as measured by the Consumer Prices Index[30]. In the remit for the MPC set at Budget 2013, the Government has reaffirmed the 2 per cent inflation target, which applies at all times. The remit has been updated to clarify the trade-offs that are involved in setting monetary policy to meet a forward-looking inflation target.

As we reviewed the important milestones in UK's history of monetary policies, let's analyse current state of policy framework. Inflation targeting in the UK was adopted in 1992, with a target range for inflation of 1 - 4 per cent for RPIX inflation[31], later specified at Budget 1995 to be 2½ per cent or below. In 1997, the framework was updated, consistent with two key conclusions of monetary policy research and experience since the early 1990s. The first was the importance of central bank independence to overcome time inconsistency. The second was that objectives should be as clearly defined as possible. To varying degrees, and with some differences of detail, all advanced economy monetary policy frameworks now exhibit these features, as shown in **Table 3.**

Despite the fact that different countries use various methods and make goals according to their economic and political parameters, the underlying mechanism they use is quite similar and it can be seen from their respective targets too. The interconnected monetary targets of different countries represent the experience of the various central banks.

[30] December 2003 remit of the Bank of England is available at the following link: http://www.hm-treasury.gov.uk/

[31] Inflation Targeting: some extensions, Svensson, 1997

Table 3

Advanced countries' monetary policy framework features[32]

Central Bank	Statutory monetary policy objectives	Inflation targeting adoption date	Target (in)dependence	Current inflation target (per cent)
Reserve Bank of New Zealand	Stability in the general level of prices	1990	Agreed bilaterally with government	Midpoint of 2 in range of 1 -3
Bank of Canada	Price stability	1991	Agreed bilaterally with government	Midpoint of 2 in range of 1 -3
Bank of England	Price stability and, subject to that, to support the economic policy of the government, including for growth and employment	1992	Set by government	2
Reserve Bank of Australia	Stability of the currency, full employment, economic prosperity and welfare	1993	Agreed bilaterally with government	2-3
Sweden Riksbank	Price stability	1993	Set by central bank	2
European Central Bank	Price stability	2000	Set by central bank	Below but close to 2
Federal Reserve	Maximum employment, stable prices and moderate long-term interest rates	2012	Set by central bank	2

[32] Information taken from respective central bank websites, prepared by the author of the paper.

Bank of Japan	Price stability, thereby contributing to the sound development of the national economy	2013	Set by central bank	2
Central Bank of Russia	Price stability	2015	Set by central bank	4 by 2017

As in most countries, price stability objectives in the UK are set in statute. The Bank of England Act 1998 sets the objectives for the Monetary Policy Committee of the Bank of England, which are "to maintain price stability", and "subject to that, to support the economic policy of the Government including its objectives for growth and employment."[33] Price stability is therefore the primary objective. The MPC is responsible for monetary policy over the entire UK and is accountable to all parts of the UK through the UK Parliament. In the UK's framework, the MPC has operational independence but not goal or target independence. That is, the Treasury is required by the Bank of England Act 1998 to specify the MPC's objectives, while the MPC is independent in setting policy to meet those objectives. The specification of monetary objectives is set out in the Chancellor's annual remit for the MPC, usually published at the time of the Budget.

The remit for the MPC specifies the MPC's price stability objective as an inflation target of 2 per cent, measured by the 12-month increase in the Consumer Prices Index. The CPI replaced the RPIX as a basis for the inflation target in December 2003, and has been retained since, including in Budget 2015. The remit also specifies the Government's economic policy objective as "to achieve strong, sustainable and balanced growth that is more evenly shared across the country and between industries." This objective was specified by the Government in March 2011 and is retained in Budget 2015. One of the key

[33] Bank of England Act 1998, Section 11(a) and (b), Part 2.

accountability channels of the MPC is therefore to the Government and Parliament for meeting the remit. In specifying these objectives, the Government is able to set out its preferences over the MPC's objective function, which the MPC is required to operationalise through its judgements about the economy and the appropriate policy-setting.

Related to the specification of the objectives required by legislation, the remits for the MPC set between 1997 and 2012 provided important flexibilities, or 'constrained discretions', for the MPC in meeting these objectives[34]:

- first, while the inflation target has been "at all times", the interpretation of the policy horizon is at the discretion of the MPC. Since independence, the MPC has viewed the horizon to be the medium term, defined as two to three years. This is informed by its assessment that it takes around two years for the maximum impact of interest rate changes to be felt on inflation, and that there are transparency benefits from an additional year in the forecast horizon
- second, and related, the remits have allowed for deviations from the inflation target caused by "shocks and disturbances" outside the MPC's control. This has enabled the MPC to look through one-off shocks to the price level, for example from global commodity price increases or an indirect tax change, and to focus on more persistent pressures on price stability for example from wage settlements or inflation expectations. For any appreciable deviations of inflation by more than 1 percentage point in either direction from the target, the remit has required an exchange of open letters between the Governor of the Bank of England and Chancellor of the Exchequer. This has provided a formal mechanism of transparency and accountability.

The remit, by leaving it to the MPC's discretion to decide how quickly inflation should be returned to target, was described by Charles Bean in 1998 as

[34] HM Treasury, "Review of the monetary policy framework", March 2013; p. 17

having the nature of an 'incomplete contract'. He argued that little is lost from the lack of explicit preference on how quickly deviations of inflation from target should be corrected and hence to what degree to minimise output variability, as long as central banks know that the policy preferences implicit in their objective function are not extreme.[35] In the remit set at Budget 2013, the Government has reaffirmed the pecification of the Government's monetary policy objectives, and updated the remit to clarify the trade-offs that are involved in setting monetary policy to meet a forward-looking inflation target.

Relative to much of the post-war period, inflation has remained low and stable since 1992. Inflation expectations fell after 1992, and again after the MPC was granted operational independence in 1997.

The MPC operated in this form from May 1997. The new institutional arrangements helped improve credibility and accountability, leading to stable inflation and anchored inflation expectations. Initially the target was for inflation of 2½ per cent as measured by the RPIX. The target was changed in December 2003 to inflation of 2 per cent as measured by the Consumer Prices Index[36]. In the remit for the MPC set at Budget 2013, the Government has reaffirmed the 2 per cent inflation target, which applies at all times. The remit has been updated to clarify the trade-offs that are involved in setting monetary policy to meet a forward-looking inflation target.

Thus it would be of great importance to analyze this period in detail, in order to understand of the 2% target was met firmly in the given time and continued to justify the requirement of the government. It is also crucial to express that the RPIX measures proved to be too error-prone and the Bank of England had to change it to more reliable indicator.

Following chart illustrates the inflation tendencies of England.

[35] The new UK monetary arrangements: a view from the literature, Bean, 1998.

[36] December 2003 remit of the Bank of England is available at the following link:

http://webarchive.nationalarchives.gov.uk/

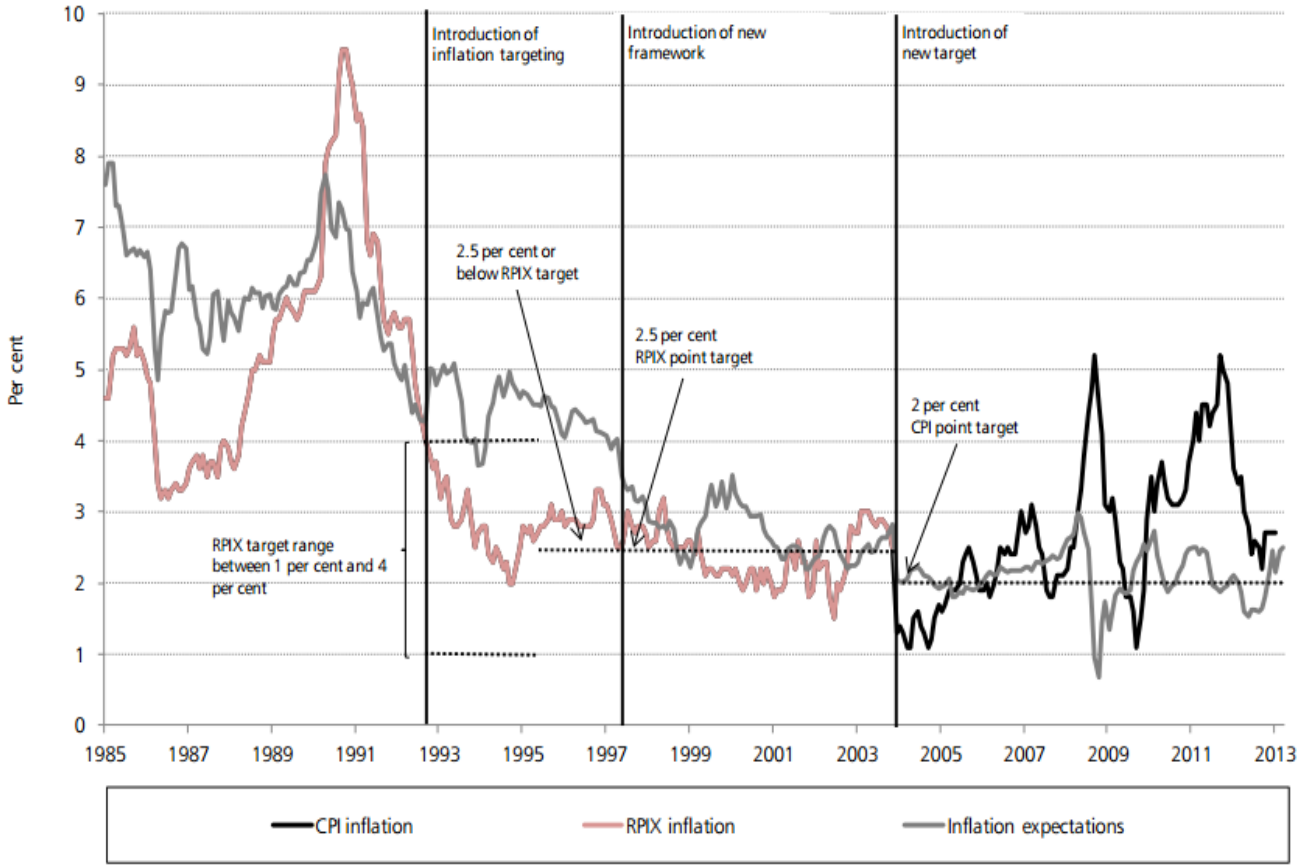

Figure 7. Market inflation expectations and inflation outturns, 1985-2015[37]

Figure 7 shows long-term inflation expectations in financial markets have remained anchored since the introduction of inflation targeting. This is true for different gilt maturities as well as different financial market measures. It is also true of survey measures of shorter-run expectations. For example, inflation swaps suggest expectations have remained anchored and the one year ahead measure in the Bank's inflation attitudes survey has averaged 2.7 per cent since the survey began in 1999.[38]

Wage settlements provide a further indicator of inflation expectations and have been stable since 1992, averaging 3.0 per cent between October 1992 and May 1997; 3.7 per cent between May 1997 and December 2003; and 2.5 per cent between December 2003 and February 2013. Given fluctuations in

[37] Office for National Statistics (Code D7G7 and CDKQ), Bank of England (Code IUMAMIZC) and HM Treasury calculations.

[38] Inflation Attitudes Survey, Bank of England/GfK NOP, November 2015.

productivity growth, which should also be reflected in wage settlements, these averages are broadly consistent with the inflation targets prevailing in these periods.

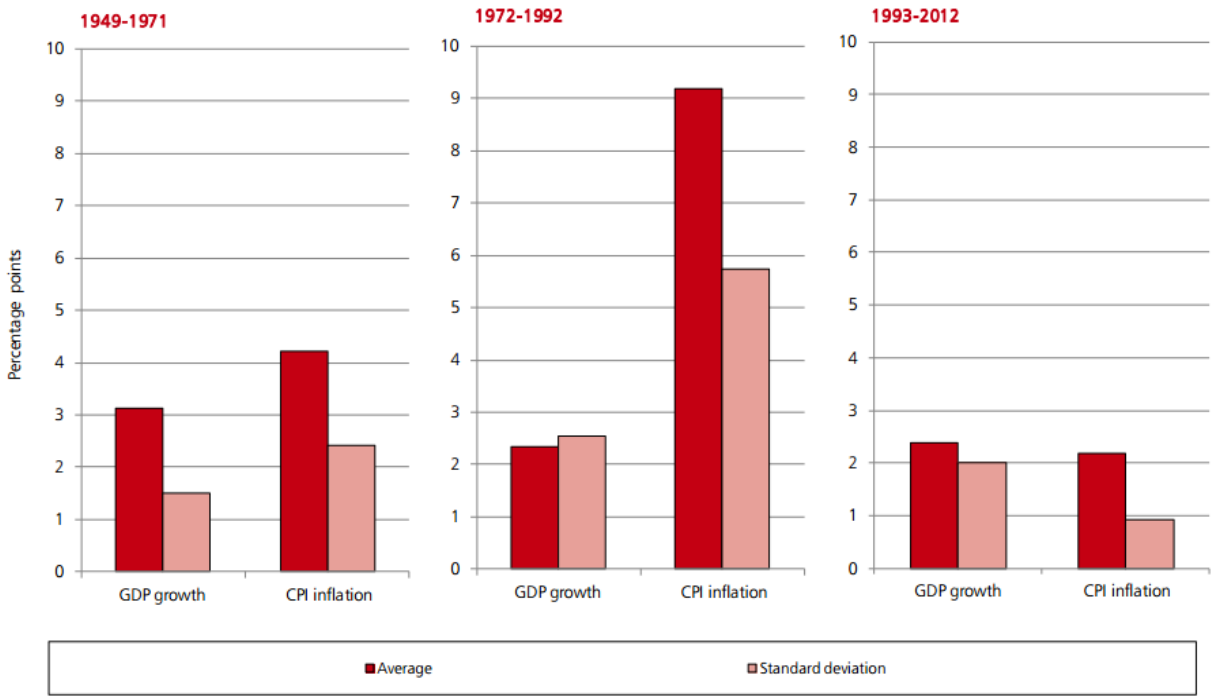

Figure 8. UK average and standard deviation for GDP growth and CPI inflation across post-war policy frameworks[39]

During the inflation targeting period, like most advanced economies, the UK also saw a marked decrease in the average variability of both inflation and output from the early 1990s until 2008, as shown in **Figure 8**. This period, sometimes described as the 'Great Moderation', was the most stable in the post-war period, and also in recorded UK history. Mervyn King described the 10 years after the mid-1990s as the 'nice' decade – standing for 'non-inflationary, consistently expansionary'. However, that stability came to an abrupt end with the global financial crisis and recession of 2008-09, which demonstrated that inflation targeting and consumer price stability were not sufficient to ensure broader macroeconomic stability.

.As with any monetary policy framework, there have been debates about whether inflation targeting is the optimal framework to allow central banks to

[39] Office for National Statistics and Bank of England

provide economic stability. Key critiques have been whether concurrent global factors were more important in bringing about stability during the 'Great Moderation' and whether inflation targeting frameworks were a contributory factor in policy makers not identifying or addressing the imbalances that built up during the pre-crisis decade. The period of above-target inflation in the UK since 2009 has provided another challenge.

Post-crisis, the consensus has shifted to how macro-prudential policy, rather than monetary policy, should focus on financial stability. For economic policy to be efficient, it has long been argued that at least one independent policy instrument is needed for each policy objective. The UK has been at the forefront of post-crisis institutional development in this area, establishing the Financial Policy Committee (FPC) at the Bank of England, to identify and address systemic risks to financial stability[40]. The FPC's primary objective will be to contribute to the Bank's objective to protect and enhance the stability of the UK financial system and, subject to that, as with the MPC, to support the economic policy of the Government, including its objectives for growth and employment[41]. Having operated in interim form since February 2011 , the FPC will operate on a permanent statutory basis from April 2013 under the Financial Services Act 2012.

The secondary objectives of both Committees match. The Government has ensured significant executive cross-membership between the MPC and FPC, with a non-voting Treasury representative on the MPC and a non-voting Treasury member of the FPC. The Financial Services Act makes provision for joint meetings of the two Committees if required. In addition, the remit for the MPC requires it to have regard to the policy actions of the FPC. The government will also ask the FPC to have regard to the policy settings and

[40] A new approach to financial regulation: building a stronger system, HM Treasury, 2011.

[41] Section 9B of the Bank of England Act 1998, as amended by Section 4 of the Financial Services Act 2012.

forecasts of the MPC. Such an approach will help to frame the decisions of both Committees on a consistent basis.

The need for consistent forecasts that incorporate financial sector linkages is recognised in an independent review of the MPC's forecasting practices, published in 2012 – the Stockton Review[42]. This notes that all of the major models used in forecasting and policy analysis inside and outside central banks have proved inadequate to the task of anticipating financial disturbances and projecting their propagation into activity and inflation. Stockton suggests that the Bank should increase the detail with which the financial sector is incorporated into its forecasts.

An additional challenge to the performance of the flexible inflation targeting framework in the UK is that since the 2008-09 crisis and recession, inflation has been above target more than it has been at or below target. This has been due to a series of price level shocks, each of which in isolation could be considered a one-off shock. These have included supply-side shocks to the prices of oil and other commodities, changes in indirect taxes and the impact of sterling depreciation on import prices. The shocks over this period also include rises in some administered and regulated prices related to the Government's commitment to necessary fiscal consolidation.

These factors have constituted temporary shocks to the price level. Mervyn King (Governor of Bank of England at the time) noted in a speech in 2011 that "those three factors [the fall in sterling, the rise in world energy prices and the rise in VAT] by themselves would account for a remarkable 12 per cent addition to the price level over four years", which implied a contribution from domestically-generated inflation "close to zero".[43] The first-round effects of these temporary price-level shocks do not reflect underlying inflationary pressure. Accordingly, the impact on inflation from temporary shocks has been

[42] Review of the Monetary Policy Committee's Forecasting Capability, Stockton, 2012.

[43] Speech at the Civic Centre, Newcastle, King, 2011.

accommodated by monetary policy. Signs of second-round effects on inflation expectations and wage settlements have not been evident in the recent UK context.

Recent above-target inflation has been associated with errors in inflation forecasts made by official and private sector institutions. The Stockton Review examines the explanations for these errors in relation to the Bank of England's forecasts, which include, for example, the use of financial market futures curves to forecast commodity prices. The Bank of England has previously explained that commodity futures curves offer a simple, transparent and market-based measure that help the MPC to communicate the underlying assumptions in its forecasts, and that it is not clear that there are better alternatives in terms of forecast performance.[44] Forecast errors can also arise in relation to the contribution to inflation from administered prices, where forecasts are predicated on current policy at the time the forecast is made; subsequent policy changes therefore necessitate updated forecasts.

Despite above-target inflation and repeated upward price-level shocks, inflation expectations have remained anchored, suggesting that inflation targeting has guarded against second-round inflationary effects in wages.

2.3. Current practices of the Bank of England as a part of their policy framework

The Bank's monetary policy objective is to deliver price stability – low inflation – and, subject to that, to support the Government's economic objectives including those for growth and employment. Price stability is defined by the Government's inflation target of 2%. The remit recognises the role of price stability in achieving economic stability more generally, and in providing the right conditions for sustainable growth in output and employment. The Government's inflation target is announced each year by the Chancellor of the

[44] What can the oil futures curve tell us about the outlook for oil prices? Bank of England, Quarterly Bulletin, 2012 Q1 .

Exchequer in the annual Budget statement. It is essential for the bank to carry out certain tasks in accordance with the budget.

The 1998 Bank of England Act made the Bank independent to set interest rates. The Bank is accountable to parliament and the wider public. The legislation provides that if, in extreme circumstances, the national interest demands it, the Government has the power to give instructions to the Bank on interest rates for a limited period.

The inflation target of 2% is expressed in terms of an annual rate of inflation based on the Consumer Prices Index (CPI). The remit is not to achieve the lowest possible inflation rate. Inflation below the target of 2% is judged to be just as bad as inflation above the target. The inflation target is therefore symmetrical.

If the target is missed by more than 1 percentage point on either side – i.e. if the annual rate of CPI inflation is more than 3% or less than 1% – the Governor of the Bank must write an open letter to the Chancellor explaining the reasons why inflation has increased or fallen to such an extent and what the Bank proposes to do to ensure inflation comes back to the target.

A target of 2% does not mean that inflation will be held at this rate constantly. That would be neither possible nor desirable. Interest rates would be changing all the time, and by large amounts, causing unnecessary uncertainty and volatility in the economy. Even then it would not be possible to keep inflation at 2% in each and every month. Instead, the MPC's aim is to set interest rates so that inflation can be brought back to target within a reasonable time period without creating undue instability in the economy.

The Bank seeks to meet the inflation target by setting an interest rate. The level of interest rates is decided by a special committee – the Monetary Policy Committee. The MPC consists of nine members – five from the Bank of England and four external members appointed by the Chancellor. It is chaired by

the Governor of the Bank of England. Decisions are made by a vote of the Committee on a one-person one-vote basis.

The MPC currently meets over three days each month. After the meeting on 15 September 2016, the meetings will take place over three days eight times a year. These changes follow the recommendations of the Warsh Review, and are set out in the Bank of England and Financial Services Act 2016.

At the first meeting, normally held on the Thursday prior to the MPC decision, members discuss their views on how to interpret the most recent economic data. At the MPC's second meeting - the first of the two policy meetings, normally held the following Monday - MPC members debate what the appropriate stance of the policy should be.

The MPC's final meeting - its second policy meeting - is normally held on the Wednesday. Following further discussion on the appropriate stance of monetary policy, the Governor puts to the meeting the policy which he believes will command a majority and members of the MPC vote. Any member in a minority is asked to say what level of interest rates he or she would have preferred.

The MPC is committed to the greatest possible degree of transparency around its decision-making. The minutes of the MPC meetings are published simultaneously with the interest rate decision. They also record the votes of the individual members of the Committee. The minutes give a full account of the policy discussion, including differences of view.

In addition to the MPC minutes, the Bank publishes its Inflation Report every quarter. This report gives an analysis of the UK economy and the factors influencing policy decisions. The Inflation Report also includes the MPC's latest forecasts for inflation and output growth.

Current economic conditions are exceptional. Unlike the first decade of the Committee’s existence, the UK economy has been subject to substantial disturbances during the past six years, including not only the global financial

crisis and the attendant need for significant private and public sector balance sheet repair, but also the repercussions of the continuing adjustment within the euro area as well as several significant cost shocks. As a consequence, output has remained depressed while inflation has been persistently above the 2% target. Moreover, employment has remained surprisingly resilient and productivity unusually weak, leading to considerable uncertainty about the supply capacity of the economy and the extent to which the deterioration in supply performance will be reversible as demand recovers. As a result, the Committee has been faced with the need to balance the risk of achieving an insufficiently rapid restoration in activity against the risk that continued elevated inflation results in medium-term inflation expectations becoming less well anchored to the target. In addition, the scope for further cuts in Bank Rate has been limited since early 2009, complicating the conduct of monetary policy.

In the letter accompanying the 2013 remit for the MPC, the Chancellor of the Exchequer asked the Committee to provide more information about the trade-offs inherent in setting monetary policy to meet a forward-looking inflation target while avoiding undue output volatility. The Committee was also asked to provide an assessment of whether it would be appropriate, given the current unprecedented economic circumstances, to deploy explicit forward guidance – including intermediate thresholds – in order to meet its objectives more effectively.

Since 2007, inflation – as measured by the twelve-month change in the Consumer Prices Index (CPI) – has been elevated, averaging close to 3% (Figure 9)[45]. Inflation has been above the 2% target for around 90% of that time, and above 3% for almost half. The elevated rates of inflation have largely reflected the effects of a series of cost shocks – increases in energy prices, higher non-fuel commodity prices, and rises in VAT – and the depreciation of sterling in 2007/08. More recently, above-target inflation has also reflected an

[45] Visualized by the author, statistics source: World Bank.

unusually large contribution from administered and regulated prices – that is, prices that are affected by government or regulatory decisions and so tend to be less sensitive to the balance of domestic demand and supply.

Figure 9. Inflation rate and target of the Bank of England in the last decade

The recovery since the end of the deep recession in 2008/09 has been muted. Output growth has been weak compared with previous and current recoveries in many other advanced economies and compared with the average experience following past regional banking crises (Figure 10).

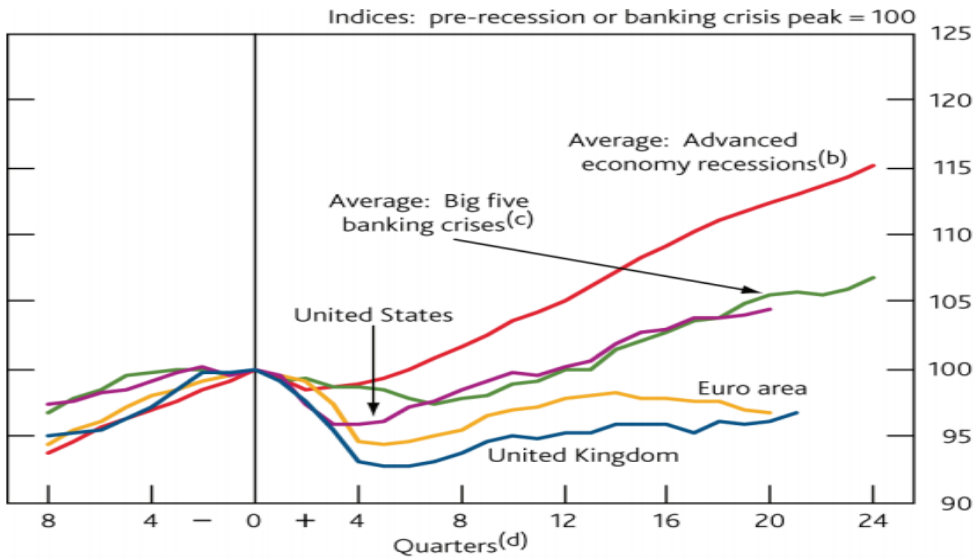

Figure 10. Output growth in select countries and historical averages[46].

[46] OECD, Reinhart, C.M and Rogoff, K.S (2008), Thomson Reuters Datastream and Bank calculations.

In 2013 Q2, the level of real GDP stood more than 3% below its pre-crisis peak, and close to 20% below the level that it would have achieved had it continued to grow at its pre-crisis average rate (Figure 11).

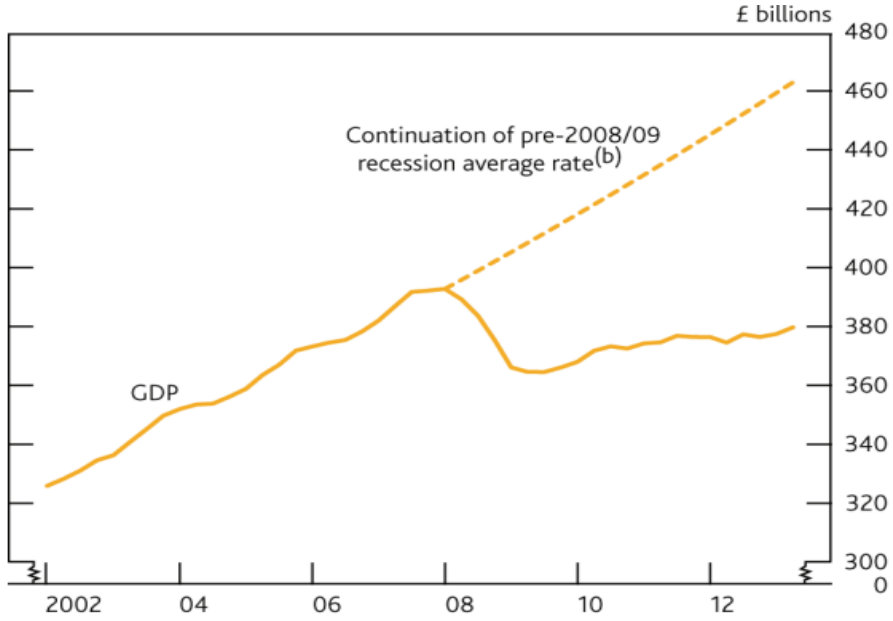

Figure 11. Pre-crisis average growth rate versus real[47].

Although the number of people out of work has increased by less than might have been expected given the depth of the recession, the unemployment rate has been around 8% since the middle of 2009[48], about 3 percentage points higher than its average in the decade before the crisis. The weakness of output growth is, in part, due to the cost shocks eroding the real purchasing power of households and reducing consumer spending. It also reflects the legacy of the global financial crisis of 2007/08, which has depressed domestic demand through various channels, including the effects of heightened uncertainty. The crisis has also had serious repercussions for economic activity elsewhere, which has lowered demand for UK exports – particularly from the euro area – as well as weighing on UK domestic demand through financial and confidence channels.

[47] The continuation of the pre-2008/09 recession average rate is calculated by projecting forward GDP from 2008 Q2 using the average quarterly growth rate between 1999 Q3 and 2008 Q1.

[48] Labour Force Survey headline three-month moving average measure. Bank of England.

Since early 2009, the MPC has had to rely on unconventional policy tools to provide additional monetary stimulus. Bank Rate was cut sharply in response to the financial crisis and the associated deterioration in the economic outlook, to 0.5% in early 2009 from 5% in the summer of 2008. Since then, the MPC has judged that further cuts in Bank Rate – including cuts that could take Bank Rate below zero – were not the preferred way of providing additional monetary stimulus. That is because there are limitations to the extent to which the rate of interest paid on reserves could be held below zero without inducing significant substitution into cash, and because lowering Bank Rate below 0.5% could also have adverse consequences on the strength of banks' balance sheets and the supply of credit, thus offsetting any expansionary impact on aggregate demand.

Additional monetary stimulus has instead been provided through the Committee's programme of asset purchases, financed by the issuance of central bank reserves (also known as quantitative easing). Some £375 billion of gilts have so far been purchased, equivalent to about a quarter of annual nominal GDP.

Forward guidance is one of the tools the Bank of England's Monetary Policy Committee (MPC) can use to hit the Government's 2% inflation target. It's designed to help people understand how the MPC sets interest rates. This means households and businesses can plan their spending and investment with more confidence. Forward guidance was first used in August 2013. The MPC said it would leave interest rates unchanged at 0.5% at least until the unemployment rate had fallen to 7%, provided there weren't risks to inflation or financial stability. By February 2014, unemployment had fallen close to 7%. The MPC said there remained room for growth in the economy before raising interest rates. And, when they come, increases in interest rates are likely to be gradual and limited. To enable the above mentioned goals, MPC can use the following mechanism[49]:

[49] MPC guidelines: the transmission mechanism of monetary policy, www.bankofengland.co.uk

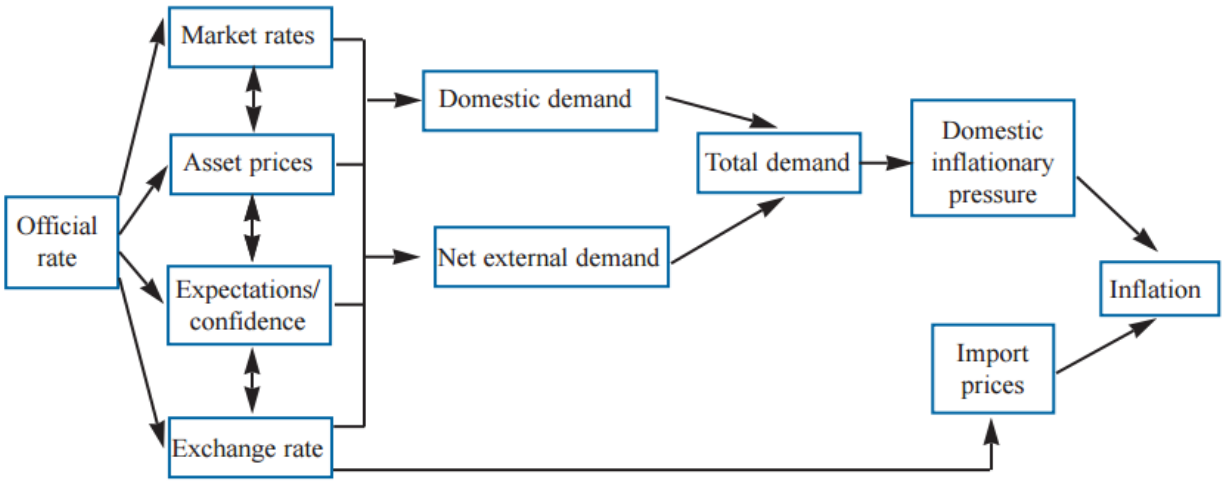

Figure 12. The transmission mechanism used in the UK.

First, official interest rate decisions affect market interest rates (such as mortgage rates and bank deposit rates), to varying degrees. At the same time, policy actions and announcements affect expectations about the future course of the economy and the confidence with which these expectations are held, as well as affecting asset prices and the exchange rate. Second, these changes in turn affect the spending, saving and investment behaviour of individuals and firms in the economy. For example, other things being equal, higher interest rates tend to encourage saving rather than spending, and a higher value of sterling in foreign exchange markets, which makes foreign goods less expensive relative to goods produced at home. So changes in the official interest rate affect the demand for goods and services produced in the United Kingdom.

Third, the level of demand relative to domestic supply capacity—in the labour market and elsewhere—is a key influence on domestic inflationary pressure. For example, if demand for labour exceeds the supply available, there will tend to be upward pressure on wage increases, which some firms may be able to pass through into higher prices charged to consumers. Fourth, exchange rate movements have a direct effect, though often delayed, on the domestic prices of imported goods and services, and an indirect effect on the prices of those goods and services that compete with imports or use imported inputs, and hence on the component of overall inflation that is imported.

Conclusions of chapter II

Monetary policy can also guide economic agents' expectations of future inflation and thus influence price developments. A central bank with a high degree of credibility firmly anchors expectations of price stability. In this case, economic agents do not have to increase their prices for fear of higher inflation or reduce them for fear of deflation. This is the process through which monetary policy decisions affect the economy in general and the price level in particular. The transmission mechanism is characterised by long, variable and uncertain time lags. Thus it is difficult to predict the precise effect of monetary policy actions on the economy and price level.

Since the experience of the leading central banks show that the volatility of the policy results call for the deeper research in the area. Inflation targeters also seem to have been more resilient in turbulent environments. Recent studies have found that in emerging economies, inflation targeting seems to have been more effective than alternative monetary policy frameworks in anchoring public inflation expectations. Furthermore, the monetary policy of inflation targeters appeared to be more suited to dealing with the recent financial crisis.

In some countries, notably in Latin America, the adoption of inflation targeting was accompanied by better fiscal policies. Often, it has also been accompanied by the enhancement of technical capacity in the central bank and improvement of macroeconomic data. Because inflation targeting also depends to a large extent on the interest rate channel to transmit monetary policy, some emerging economies also took steps to strengthen and develop the financial sector. Thus, the monetary policy outcomes after the adoption of inflation targeting may reflect improved broader economic, not just monetary, policymaking.

III CHAPTER. PROSPECTS OF INFLATION TARGETING IN UZBEKISTAN

3.1. Prerequisites for the fiscal and financial institutes in shifting to the newer targeting regime as viewed by international experts

In the paper of Calvo and Mishkin on the choice of exchange rate regimes in emerging market economies , they have outlined five fundamental institutional differences for emerging market countries that must be taken into account to derive sound theory and policy advice. These are:

- weak fiscal institutions.
- weak financial institutions including government prudential regulation and supervision.
- low credibility of monetary institutions.
- currency substitution and liability dollarization.
- vulnerability to sudden stops (of capital inflows).

Advanced countries are not immune to problems with their fiscal, financial and monetary institutions, the first three items in the list above, but there is a major difference in the degree of the problem in emerging market countries. Weak fiscal, financial and monetary institutions make emerging market countries very vulnerable to high inflation and currency crises, so that the real value of money cannot be taken for granted. As a result, emerging market countries face the threat that domestic residents may switch to a foreign currency leading to currency substitution (Calvo and Végh, 1996). Currency substitution is likely to be due not only to past inflationary experience but also to the sheer fact that a currency likes the U.S. dollar is a key unit of account for international transactions. This phenomenon has induced the monetary authority to allow banks to offer foreign exchange deposits. In this fashion, a sudden switch away from domestic and into foreign money need not result in a bank run, since in the presence of foreign exchange deposits, such a portfolio shift could be implemented by simply changing the denomination of bank deposits.

Otherwise, deposits would be drawn down to purchase foreign exchange, resulting in a bank run.

Foreign exchange deposits induce banks—partly for regulatory reasons that prevent banks from taking exchange rate risk—to offer loans denominated in foreign currency, usually dollars, hence leading to what is called *liability dollarization*. As pointed out in Mishkin (1996) and Calvo (2001) liability dollarization is what leads to an entirely different impact of currency crises on the economy in emerging market versus advanced countries. In emerging market countries, a sharp real currency depreciation raises the value of liabilities in local currency, thus causing the net worth of corporations and individuals to fall, especially those whose earnings come from the nontradables sector. This serious negative shock to corporations and individuals' balance sheets, then increases asymmetric information problems in credit markets, leading to a sharp decline in lending and an economic contraction. Thus, liability dollarization (where the currency mismatch takes place in corporates' and households' balance sheets) may become a major problem for economies that are relatively closed and highly indebted (this has typically been the case in several emerging market countries after the capital-inflow episode in the first half of the 1990s; see Calvo, Izquierdo and Talvi, 2002). Under those circumstances, the monetary authority is likely to display "fear of floating" (see Calvo and Reinhart, 2002) i.e., a reluctance to allow free fluctuations in the nominal exchange rate,[2] placing an additional constraint on emerging market countries' monetary policy. It should be noted, however, that not all emerging market countries suffer from liability dollarization in a serious way (e.g., Chile, and South Africa, see Eichengreen, Hausmann and Panizza, 2002).

A dominant phenomenon in emerging market countries is a *sudden stop*, a large negative change in capital inflows, which, as a general rule, appear to contain a large unanticipated component (see Calvo and Reinhart, 2000). This phenomenon is mostly confined to emerging market countries. It likely hits only

emerging market countries because of their weak fiscal and financial institutions, and it is only recently that it is being subject to systematic empirical analysis. Preliminary evidence suggests that there is a high degree of bunching of sudden stops across emerging market countries. This is especially evident after the Russian 1998 crisis, and the recent Enron *et al* Wall Street scandals. This leads to the conjecture that, to a large extent, sudden stops have been a result of factors somewhat external to emerging market countries as a group. It might have been triggered by crisis in one emerging market country, as the Russian crisis illustrates, but contagion across emerging market countries was likely due to difficulties experienced outside these countries, especially in world financial centers (for evidence about that, see Kaminsky, Reinhart and Vegh, 2003). To illustrate, a possible contagion mechanism is a liquidity crunch in a financial center triggered by margin calls following unexpected capital losses, which leads the financial center to dump emerging market securities or, at least, not to participate in biddings for new debt instruments issued by emerging market countries. Calvo (1999b) conjectures that this mechanism could explain the large negative impact that the Russian crisis had over all emerging markets.

The effect of sudden stops on individual countries is by no means uniform. In Latin America, for example, Argentina suffered a very serious dislocation, while neighboring Chile escaped relatively unscathed (although Chile has seen its growth rate fall by more than 50 percent). In Asia, Korea has had a strong recovery, while Indonesia is still reeling from the shock. Tentative analysis suggests that these different outcomes have much to do with initial conditions. Chile had low debt relative to Argentina and did not suffer from liability dollarization, while at the time of crisis most debt instruments in Argentina were denominated in U.S. dollars. On the other hand, even though both Korea and Indonesia suffered from foreign exchange debt, the former was able to socialize much of the financial problem (as a result Korea's debt climbed from about 12 to about 33 percent of GDP in 1996-8). Hence, once again, debt

and currency mismatch appear to have played a crucial role in determining the depth of crisis.

Fiscal stability is a fundamental necessary condition for inflation control and hence inflation targeting. A key lesson from the "unpleasant monetarist arithmetic" discussed in Sargent and Wallace (1981) and the recent literature on fiscal theories of the price level (Woodford, 1994 and 1995) is that irresponsible fiscal policy puts pressure on the monetary authorities to monetize the debt, thereby producing rapid money growth and high inflation. If fiscal imbalances are large enough, monetary policy eventually becomes subservient to fiscal considerations (so-called fiscal dominance) and an inflation target would have to be abandoned or seriously modified.

Similarly, a safe and sound financial system is also a necessary condition for the success of an inflation targeting regime. A weak banking system is particularly dangerous. Once a banking system is in a weakened state, a central bank cannot raise interest rates to sustain the inflation target because this will likely lead to a collapse of the financial system. Not only can this cause a breakdown of the inflation targeting regime directly, but it can also lead to a currency collapse and a financial crisis that also erode the control of inflation. When markets recognize the weakness of the banking system, there will be a reversal of capital flows out of the country (a sudden stop) that will result in a sharp depreciation of the exchange rate which leads to upward pressures on the inflation rate. Moreover, as a result of the currency devaluation, which most likely accompanies the monetary expansion, the debt burden of domestic firms which are denominated in foreign currency rises, while the assets which are denominated in domestic currency do so at a much slower pace, thus leading to decline in net worth. As described in Mishkin (1996), this deterioration in balance sheets then increases adverse selection and moral hazard problems in credit markets, leading to a sharp decline in investment and economic activity, and ultimately a complete collapse of the banking system. The subsequent

bailout of the banking system leads to a huge increase in government liabilities which will have to be monetized in the future (Burnside, Eichenbaum and Rebelo, 2001), thus undermining the inflation targeting regime. Unfortunately, the scenario outlined here has happened all too often in recent years as evidenced by the twin crises (currency and financial) in Chile in 1982, Mexico in 1994-95, East Asia in 1997, Ecuador in 1999, Turkey in 2000-2001.

Fiscal imbalances can also lead to banking and financial crises that will blow out any monetary regime to control inflation. As outlined in Mishkin and Savastano (2001), large budget deficits may force the government to confiscate assets, particularly those in the banking system and this has indeed happened often in Latin America. The suspicion that this might occur, would then cause depositors and other creditors to pull their money out of the banking system, and the resulting banking crisis would then also cause a contraction of lending and the economy. This happened several times in Argentina's checkered history, with the most recent variant of this mechanism occurring in 2001. The Argentine banking system was generally in quite good shape until 2000, even though the economy had been in a recession for several years. The strength of the Argentine banking system was the result of a sophisticated prudential regulatory and supervisory regime put into place after the tequila crisis that made Argentina's prudential supervision one of the best in the emerging market world (e.g., see Calomiris and Powell (2000). Large budget deficits forced the Argentine government to look for a new source of funds, the banking system which was primarily foreign-owned. After Domingo Cavallo became Minister of the Economy in April 2001 and the central bank president, Pedro Pou, was forced to resign, prudential supervisory standards were weakened and banks were both encouraged and coerced into purchasing Argentine government bonds. With the decline in the value of these bonds as the likelihood of default on this debt increased, bank's net worth plummeted. The likely insolvency of the banks, then led to a classic run on the banks and a full-scale banking crisis by

the end of 2001. The result was a collapse of currency, a devastating depression and an initial surge in inflation.

The particular problems for inflation control arising from fiscal and financial sector imbalances are of course not unique to emerging market countries and are a concern in advanced economies. However, these problems are of a different order of magnitude for emerging market countries and so must be addressed at the outset if an inflation targeting regime is to be able to keep inflation under control. Fiscal reforms which increase transparency of the government budget and budget rules which help keep budget deficits from spinning out of control are needed to prevent the fiscal imbalances that can lead to a collapse of an inflation targeting regime.

Avoiding financial instability requires several types of institutional reforms. First, prudential regulation of the banking and financial system must be strengthened in order to prevent these types of financial crises.[4] Second, the safety net provided by the domestic government and the international financial institutions set up by Bretton Woods might need to be limited in order to reduce the moral hazard incentives for banks to take on too much risk.[5] Third, currency mismatches need to be limited in order to prevent currency devaluations from destroying balance sheets. Although prudential regulations to ensure that financial institutions match up any foreign-denominated liabilities with foreign-denominated assets may help reduce currency risk, they do not go nearly far enough. Even when the banks have equal foreign-denominated (dollar) assets and liabilities, if banks dollar assets are loans to companies in dollars who themselves are unhedged, then banks' are effectively unhedged against currency devaluations because the dollar loans become nonperforming when the devaluation occurs.

Thus limiting currency mismatches may require government policies to limit liability dollarization or at least reduce the incentives for it to occur.[7] Fourth, policies to increase the openness of an economy may also help limit the

severity of financial crises in emerging market countries. The reason why openness may affect financial fragility is that businesses in the tradable sector have balance sheets which are less exposed to negative consequences from a devaluation of the currency when their debts are denominated in foreign currency. Because the goods they produce are traded internationally, they are more likely to be priced in foreign currency. Then a devaluation which raises the value of their debt in terms of domestic currency is also likely to raise the value of their assets as well, thus insulating their balance sheets from the devaluation. Moreover, as argued in Calvo, Izquierdo and Talvi (2002), the more open is the economy, the smaller will be the required real currency depreciation following a sudden stop. Therefore, although firms in the nontradable sector are exposed to balance sheet shocks if they are liability dollarized, the size of the shock is smaller, the more open is the economy.

One view is that the fiscal and financial reforms discussed above must be in place before inflation targeting can even be attempted (Masson, Savastano and Sharma, 1997). However, although fiscal and financial stability are necessary conditions for inflation control, I think the view that these reforms are prerequisites for attempting an inflation targeting regime in emerging market countries is too strong. Because inflation targeting commits the government to keeping inflation low, it can be argued (Brash, 2000, and Bernanke, Laubach, Mishkin and Posen, 1999) that inflation targeting can help promote fiscal and financial reforms because the it now becomes clearer that the government must support these reforms if the inflation targeting regime is to be successful. Also a commitment to inflation control by the government makes it harder for the government to advocate loose fiscal policy because it is clearly inconsistent with the inflation target. However, institution of an inflation targeting regime by no means insures fiscal and financial reforms. If an inflation targeting regime is to be sustainable, a commitment to and work on these reforms is required when an inflation targeting regime is implemented.

3.2. Brief analysis of Uzbek economy and prospects of implementing inflation targeting

To understand the inflationary policy of the Central Bank of the Republic of Uzbekistan we have to analyse the current economic situation in the country. In recent years, Uzbekistan has been successful in implementing a number of reforms in order to keep high economic growth.

Despite a generally subdued performance in the developing Europe and Central Asia (ECA) region, Uzbekistan continues to grow strongly. In 2015, output expanded by 8 percent, slightly higher than the 7.8 percent growth rate estimated by the World Bank. With this, real GDP growth averaged 8.3 percent per annum between 2008 and 2014, making Uzbekistan one of the fastest growing economies in the ECA region and among middle-income countries during this period.

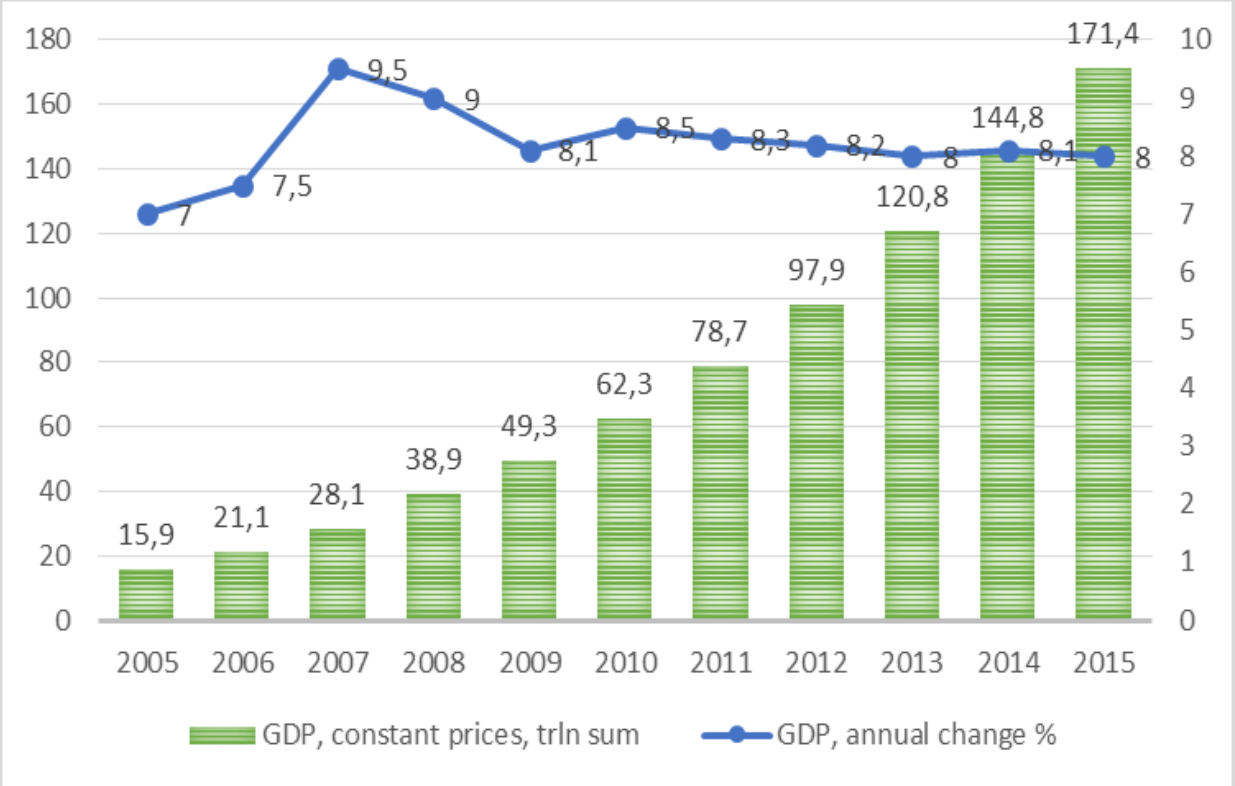

Figure 13. Growth tendencies of Uzbekistan[50]

[50] Official statistics from the Statistics Committee of Uzbekistan, www.stat.uz;

The Government's industrialization policies are contributing to changes in the structure of Uzbekistan's economy. While services continued to dominate the economy at 54.5 percent of GDP in 2015, the share of industry has increased by around 10 percentage points of GDP over the past decade and at 24.1 percent of GDP, now exceeds that of agriculture (17.2 percent). Public and publicly guaranteed debt is low, and debt sustainability is not of concern. The state budget and current account surpluses over the past decade have translated into rapidly falling indebtedness, with public and publicly guaranteed debt at around 8 percent of GDP in 2012–14.

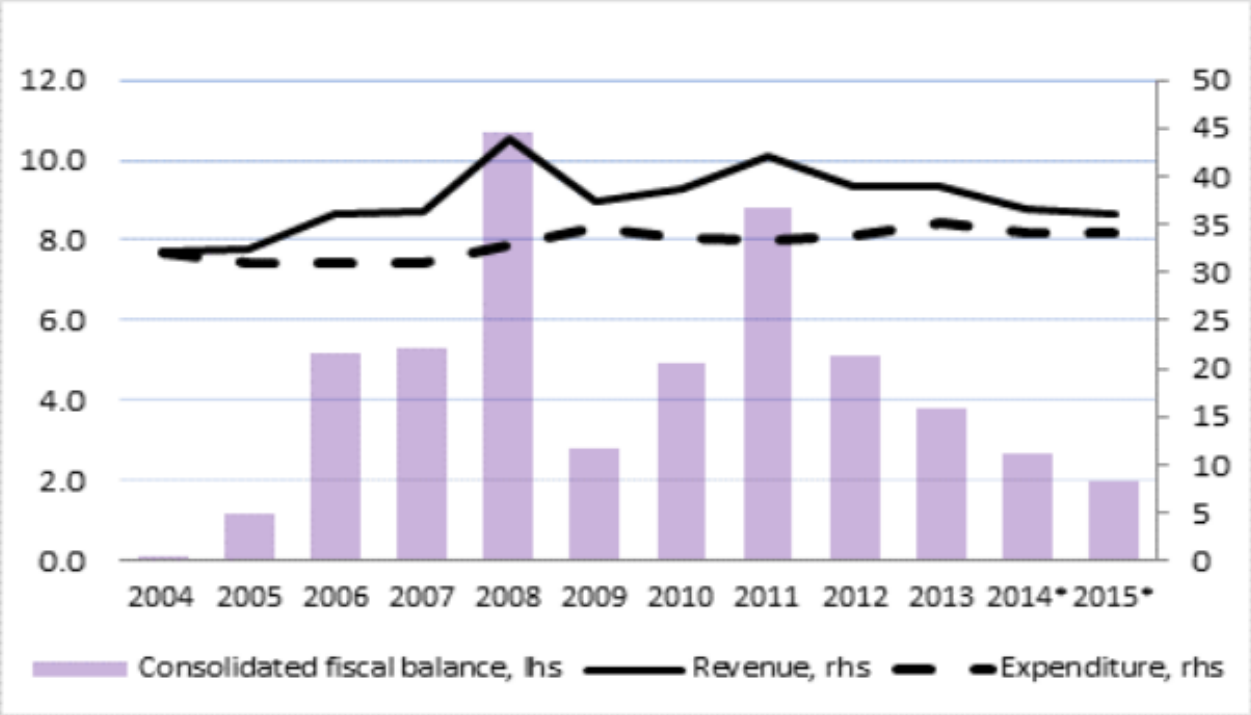

Figure 14. Consolidated Budget of Uzbekistan (in percent of GDP)[51]

Domestic public debt was paid down in full in 2012. Given high international reserves, the Government is not expected to borrow domestically in the medium term. Uzbekistan remains a net creditor relative to the rest of the world despite its massive capital needs, with foreign assets at more than 14 months of imports of goods and services in 2015. To finance its 2016 public investment program, the Government is likely to continue borrowing externally, but the total Uzbek

[51] World Bank calculations, https://www.worldbank.org/content/dam/Worldbank/document/Uzbekistan-Snapshot.pdf

external debt-to-GDP ratio at 17 percent in 2015 is projected to increase only slightly. The Government has pursued a strategy to widen the tax base and reduce the tax burden, as total tax revenues have been falling as a share of GDP. Total tax revenues fell from 26.2 of GDP in 2000 to 21.5 percent of GDP in 2008 and to 20.5 percent of GDP in 2012–13. Further tax reductions continued in 2014, reducing overall tax revenue to 20.1 percent of GDP in an attempt to increase compliance and sustain high economic growth. The Government has been gradually reducing marginal rates on a number of taxes. For the personal income tax, the top rate has been reduced from 40 percent in 2000 to 23 percent in 2014–15, and the tax rate for incomes up to five times the minimum wage was reduced to 7.5 percent in 2014. Starting in 2015, the tax rate for incomes up to the minimum wage is reduced to zero. The corporate profit tax was reduced from 31 percent in 2000 to 8 percent in 2014 and 7.5 percent in 2015, and payroll tax was reduced from 40 percent in 2000 to 25 percent in 2014–15, and further to 15 percent in 2015 for micro- and small firms as well as for agriculture farms. Commercial banks are still subject to a 15 percent rate[52].

The Central Bank of Uzbekistan (CBU) has been trying to balance support for domestic demand with the need to address inflationary pressures. Given slowing inflation, the CBU cut its key rate to 10 percent in January 2014 from 12 percent in 2013 and further to 9 percent in January 2015, and in 2016 the rate was left unchanged. It also reduced the interest rate on its certificates of deposit operations to facilitate liquidity sterilization. Meanwhile, to keep inflation under control, the CBU maintained stricter direct controls over payments and promoted noncash payments. As a result, broad money (M2) growth slowed from 22.5 percent in 2013 to 20 percent in 2014, but credit growth remained strong at around 30 percent. Despite currency weakening across the region, the CBU in 2014 continued its policy of steady nominal

[52] "Essential macroeconomic indicators forecast of the Republic of Uzbekistan in 2015 and state budget parameters": http://lex.uz/pages/getpage.aspx?lact_id=2516175

exchange rate depreciation of the som against the U.S. dollar. The official exchange rate depreciated against the dollar in nominal terms by 15.1 percent on average in 2015, noticeably faster than the 9.7 percent in 2014 and the 11 percent in 2013. The likelihood of large official currency depreciation is mitigated by robust inflows of export revenues, including from gas, as prices for Uzbek gas exports have not been affected by the decline in oil prices.

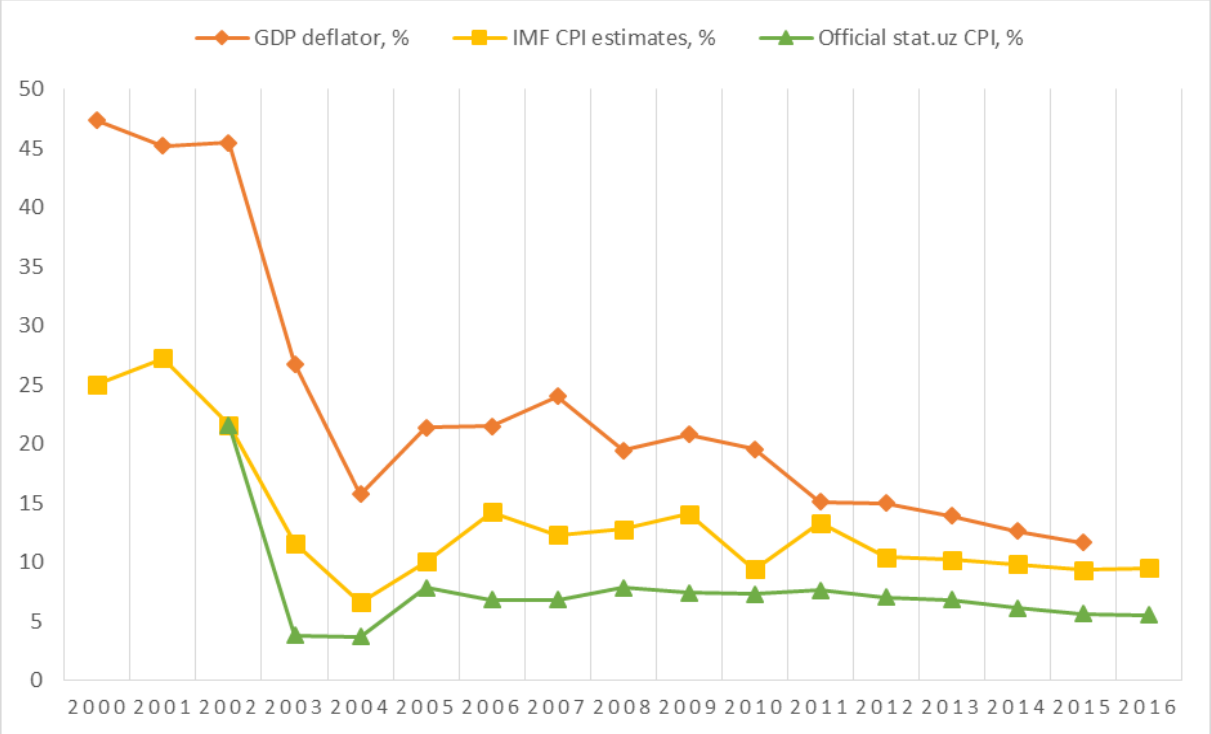

Figure 15. Inflation indicators by different sources, %[53]

Despite price controls, moderate inflation persists. The official CPI inflation rate was 5.6 percent in December 2015, down from 6.1 percent in December 2014. The main sources of consumer inflation include administrative price increases on utilities, transport services, and some foods; expectations of a future gradual depreciation of the national currency; the monopolization of the wholesale import trade; and the sizable liquidity injections generated from the mandatory surrender requirements on exports[54]. In response to inflation pressures, the CBU

[53] Calculations of the World Bank (GDP deflator), International Monetary Fund and Statistics Committee of Uzbekistan, numbers from websites of the respective organisations.

[54] World Bank data, Country snapshot – Uzbekistan, 2015; p. 5

continues monetary tightening by absorbing excess liquidity, exercising stricter controls over payments, promoting noncash payments via more debit cards issued to individuals, (as of 2016, about 16,5 million debit cards were issued throughout the country) encouraging self-sufficiency in food by increasing food production and improving rural infrastructure, and reducing excise taxes on some imported food (e.g., vegetable oil).

As with the most transitioning economies, Uzbekistan is carrying out reforms aimed at developing the elements of market economy step by step. In this regard, Central Bank plays a key role in keeping the macroeconomic balance in check. The main aim of the Central Bank, according to the Law, has been set "…to ensure the stability of the national currency"[55]. The Central Bank has been forbidden to engage in commercial investing, and subsidizing particular banks or other organizations independently from their ownership. The Law "On the Central Bank" has also defined its status of independent from the state budget institution.

Uzbekistan conducts monetary policy in line with inflationary targets, supports loans to the real sector, monitors financial stability, and reforms the banking system in part to reduce the circulation of money outside of it. To regulate the liquidity of Uzbekistan's banking system, the CBU has actively used a variety of instruments to manage the money supply. To attract free funds into long-term deposits and expand banks' long-term investment base, the CBU established in September 2009 differentiated reserve requirements for commercial banks. These included reserve requirements of 15.0% for instant deposits for up to 1 year. The reserve requirements for deposits with a term of 1–3 years is 12.0% and for deposits with a term exceeding 3 years 10.5%. To manage commercial bank liquidity more efficiently, the CBU in November 2009 shortened the settlement period of compulsory reserves from 1 month to 14 days. To facilitate investment, the CBU refinancing rate was reduced from

[55] The law "On the Central Bank of Uzbekistan".

10.0% to 9.0% in January 2015. The refinancing rate of the CBU has been set based on the national inflation rate and used to affect interest rates within the money market.

Table 3

Chronology of refinancing rate of CBU[56]

Period	%
01.01.2015—…	9
01.01.2014—31.12.2014	10
01.01.2011—31.12.2013	12
15.07.2006—31.12.2010	14
21.12.2004—14.07.2006	16
05.07.2004—20.12.2004	18
10.09.2003—04.07.2004	20
16.07.2003—09.09.2003	24
01.01.2002—15.07.2003	30
01.07.2000—31.12.2001	24
01.06.2000—30.06.2000	27,6
01.05.2000—31.05.2000	28,8
01.04.2000—30.04.2000	30
01.01.1998—31.03.2000	36
01.11.1997—31.12.1997	30
01.01.1997—31.10.1997	39,6
01.08.1996—01.12.1996	48
01.07.1996—31.07.1996	60
01.08.1995—30.06.1996	84
01.07.1995—31.07.1995	120
20.03.1995—30.06.1995	300
01.02.1995—19.03.1995	250
01.10.1994—31.01.1995	225
02.05.1994—30.09.1994	150

Conclusions of chapter III

As we can see from the table, inflationary policy of the Central Bank of Uzbekistan was very stringent in terms of managing inflation with the help of

[56] Central Bank of the Republic of Uzbekistan, www.cbu.uz

monetary instruments. The application of the British experience would be vital in knowledgeable control of inflation and would provide modern tools to fight of negative effects of it through number of activities. In our opinion, with due respect to the practice of the Bank of England, following recommendation would be of use in the monetary policy of the CBU:

- setting up special informative quarterly paper to supply relative data regarding the anti-inflationary operations. (e.g. Inflation Report of the Bank of England);
- develop the legal base of the Central Bank to allow it the usage of modern unconventional tools and targeting framework;
- setting up precise inflation target to eliminate speculative activities of different parties, especially, consumers;
- decide the target bilaterally with the government;
- increase the transparency of the activities of the Central Bank through organising "Central Bank Minutes" (informative briefings);
- improve the transmission mechanism of the central bank according to the world standards;
- modernize the financial markets in order to effectively avoid using Central Bank interventions and in the long term, control stability through the financial mechanisms as suggested by the experience of the Bank of England.

Additionally, carrying out public researches concerning the desirable level of inflation would be of substantial benefit to overcome the challenges of inflation policies.

CONCLUSION

We have attempted to investigate the inflation, it's consequences, how can inflation be impeded by the targeted framework, assess the Bank of England's conduct and operation of monetary policy in the UK, which has come to be known as IT, and the role of HM Treasury in the process. The time period considered spans from October 1992, when the Bank of England adopted the principle of IT, including the changes introduced in 1997, to today.

We have focused at the beginning of the paper on the definition and historical background of the inflation targeting and the institutional dimension of the Bank of England's monetary policy, and the role assigned to the British HM Treasury in this framework. We then proceeded to highlight the theoretical framework upon which the IT policy framework is based. The policy that has been pursued since 1948 has been reviewed, and a number of key elements of the inflation targeting have been identified. The strategy has been successful in terms of keeping UK inflation rates within the targets set by the government of the Great Britain.

As a conclusion, we can state the followings:

1. We conclude that it is possible to employ the experience of the Bank of England and other central banks to maintain price stability and shift towards inflation targeting. The necessity to switch to the targeted framework can be illustrated in that, with the fast growth of the financial market instruments, the turn-over speed of the M2 will rise dramatically and control over M2 aggregate will become less effective.

2. The experience of the Bank of England proves the superiority of the current monetary policy and suggests that the employment of such a strategy will have a remarkable impact on the stability of inflation.

3. We expect that the announcement of the medium term forecasts of macroeconomic indicators (GDP growth rate, CPI index, refinancing rate, foreign exchange rate of the local currency, etc.) will act as a reference point for

the economic agents such as small business enterprises and companies to plan their activity for the medium term.

4. Macroeconomic stability, stable budget surplus of the Republic of Uzbekistan, persistent financial system, independence of the Central Bank, the absence of the state budget financing by the Central Bank prove the readiness of the prerequisites to shift towards principals of the inflation-targeting regime.

In the nutshell, we can confidently conclude that the methods used by the Bank of England were definitely successful in dealing with the inflationary realm of the economy. From our point of view, the Central Bank of the Republic of Uzbekistan could also benefit from the experience gathered by the British counterparts and use in their practice with several modifications to the original policy measures. Overall, it is a fine example of focused monetary conduct and a good guide for other, less experienced developing countries like Uzbekistan.

Considering the above conclusions, we suggest the followings:

1. In order to increase the credibility of the forecasts of inflation we recommend to use more sophisticated empirical tools which are in use by the Bank of England and adapt their methods.

2. We strongly believe that the transparency is one of the most important features of the inflation targeting and in order to move towards it, the Central Bank of Uzbekistan should be more active in publishing information regarding inflation.

3. It is equally important to update the legal base that is required to carry out the targeting policy in accordance with the experience and standards of the major central banks of the world.

4. The public opinion poll of the Bank of England represents the real domestic expectations of the public. That is why, it would be useful to organize a quarterly poll that can express the public inflation expectation and readjust the monetary policy considering the results of the poll.

REFERENCES

I. REGULATORY AND LAW DOCUMENTS

1.1. The Civil Code of the Republic of Uzbekistan . 1992.

1.2. “On the Central Bank of Uzbekistan” law of the Republic of Uzbekistan; 25.12.1995.

1.3. “On the Accounting’’ law of the Republic of Uzbekistan 16.04.2016

1.4. “On bank and banking activity” Law of the Republic of Uzbekistan; 26.04.1996.

1.5. ,,On the Bank Secrecy’’ law of the Republic of Uzbekistan 30.08.2003

1.6. Bank of England Act, 1998 (the Great Britain)

1.7. Charter of the Bank of England, 1998 (the Great Britain)

1.8. Banking Act, 2009 (the Great Britain)

1.9. Financial Services Act, 2012 (the Great Britain)

II. DECISIONS AND DECREES OF PRESIDENT

2.1. Karimov I. A: “Essential macroeconomic indicator forecasts of the Republic of Uzbekistan in 2016 and state budget parameters” Presedential Decree №2455 from 29.12.2015.

2.2. Karimov I. A: “The final economic reports for the 2015 and budget parameters for the year of 2016”; January 16, 2016

2.3. Karimov I. A : “Further development of the banking system and the available funds to the banking resolution on the measures to attract’’ . No. 726 dated November 7, 2007.

2.4. Decision of the President of Uzbekistan “On the main directions of improving and stabilizing the republican financial system as well as fulfilling high rating requirements in 2011 — 2015”. November 26, 2010, PQ-1438.

2.5. Karimov I.A. “The year 2014 will be the year of reaching high growth, persistent stability and peace in our country .”-T.: Uzbekistan, 2013.

III. MAIN SOURCES

3.1. Ismoilov A.: „ Maintance of the monetary system stability in Uzbekistan", 2014 year, on 5 december.

3.2. Abdullayeva Sh.: "Banking" – textbook. Tashkent financial institute, Tashkent, 2014.

3.3 Mullajanov F. "Banking system of the Republic of Uzbekistan"; 2011

3.4. Boboqulov T.: "Anti-inflationary methods and problems of dealing with inflation in Uzbekistan"; BPK, 2013.

3.5. Scott Roger, "Inflation targeting turns 20", IMF, Finance and Development, 2010;

3.6. Frederic S. Mishkin:"Inflation Targeting: True Progress or Repackaging of an Old Idea?", Columbia University, 2006

3.7. World Bank data, Country snapshot – Uzbekistan, 2015

3.8. "A new approach to financial regulation: building a stronger system", HM Treasury, 2011.

3.9. Bernanke, Ben S.; Laubach, Thomas; Mishkin, Frederic S. and Posen, Adam S. "Inflation Targeting: Lessons from the International Experience". Princeton, NJ: Princeton University Press, 1999.

3.10. Yanek Mieczkowski (2005). Gerald Ford and the challenges of the 1970s. Lexington, Ky.: Univ. Press of Kentucky

3.11. "Inflation Targeting: some extensions", Svensson, 1997

IV. ADDITIONAL SOURCES

4.1. Wolfgang Chr. Fischer (Editor), German Hyperinflation 1922/23 – A Law and Economics Approach, Eul Verlag, Köln, Germany 2010

4.2. Edwin G. Dolan, "Economics", fourth edition, 1985.

4.3. Hanke S., & Kwok, A. (2009) "On the Measurement of Zimbabwe's Hyperinflation", Cato Journal

4.4. Samuelson, Paul and Robert M. Solow, "Analytic Aspects of Anti-Inflation Policy," American Economic Review, vol. 50

4.5. Friedman, Milton and Anna J. Schwartz (1963a) “Money and Business Cycles,” Review of Economics and Statistics,

4.6. Brunner, Karl and Alan Meltzer (1964b), “An Alternative Approach to the Monetary Mechanism,” U.S. Congress, Committee on Banking and Currency, Subcommittee on Domestic Finance, 88th Congress, 2nd session.

4.7. Romer, Christina D. and David H. Romer (2002), “The Evolution of Economic Understanding and Postwar Stabilization Policy,” in Rethinking Stabilization Policy (Kansas City, Mo.: Federal Reserve Bank of Kansas City)

4.8. Lucas, Robert E., Jr (1976) Econometric Policy Evaluation: A Critique. in The Phillips Curve and Labor Markets, Brunner K and Meltzer A eds. Carnegie-Rochester Conference Series on Public Policy

4.9. Hammond, Gill, 2011, “State of the Art of Inflation Targeting,” Centre for Central Banking Studies Handbook—No. 29, (London: Bank of England).

4.10. Sarwat Jahan: “Inflation Targeting: Holding the Line” FINANCE & DEVELOPMENT Journal, 2015.

4.11. Ireland, Peter N., 2008, “Monetary Transmission Mechanism,” The New Palgrave Dictionary of Economics, 2nd ed., ed. by Steven N. Durlauf and Lawrence E. Blume (Houndmills, United Kingdom: Palgrave MacMillan).

4.12. Wolfgang Chr. Fischer (Editor), German Hyperinflation 1922/23 – A Law and Economics Approach, Eul Verlag, Köln, Germany 2010, p. 124

4.13. Hellerstein, Rebecca, "The Impact of Inflation," Federal Reserve Bank of Boston, Winter 1997.;

4.14. Samuelson, Paul and Robert M. Solow, “Analytic Aspects of Anti-Inflation Policy,” American Economic Review.

4.15. O. Aliqoriev and Kh. Khamidov, “Monetary policy under inflation targeting: lessons from industrial and emerging countries”; MPRA Paper No. 59540, 2014.

4.16. Estrella, A. and F.S. Mishkin (1997) Is There a Role for Monetary Aggregates in the Conduct of Monetary Policy. Journal of Monetary Economics, 40:2, (October)

4.17. Mishkin, Frederic S. and Miguel A. Savastano (2001) "Monetary Policy Strategies for Latin America," Journal of Development Economics, 66, 2 (December)

4.18. Black, Richard, Macklem and David Rose, 1998. "On Policy Rules for Price Stability," Price Stability, Inflation Targets and Monetary Policy, Proceedings of a Conference held by Bank of Canada, May 1997, Ottawa, Canada;

4.19. Petursson T. G. Infltion control around the world: why are some countries more successful than others?; Roger S. Infltion targeting at twenty: achievements and challenges. Annual Report on Exchange rate arrangements and exchange rate restrictions. International Monetary Fund, 2013;

4.20. Svensson, Lars.E.O., 1997. "Inflation Forecast Targeting: Implementing and Monitoring Inflation Targets," European Economic Review;

V. NEWSPAPERS AND JOURNALS

5.1. Bloomberg View, “New horizons in Japanese monetary policy” 29.01.2016

5.2. The Financial Times, “Julius Baer charges institutional clients”, 26.02.2015

5.3. Statement by Mario Draghi, President of the ECB, at the thirty-second meeting of the International Monetary and Financial Committee, Lima, 9 October 2015.

5.4. The Inflation Target Five Years On. King, 1997.

5.5. Review of the Monetary Policy Committee’s Forecasting Capability, Stockton, 2012.

5.6. What can the oil futures curve tell us about the outlook for oil prices? Bank of England, Quarterly Bulletin, 2012 Q1

5.7. Inflation Attitudes Survey, Bank of England/GfK NOP, November 2015.

5.8. OECD, Reinhart, C.M and Rogoff, K.S (2008), Thomson Reuters Datastream and Bank.

5.9. Labour Force Survey headline three-month moving average measure. Bank of England.

VI. INTERNET SOURCES:

www.cbu.uz – Central Bank of the Republic of Uzbekistan

www.bankofengland.co.uk – Bank of England

www.worldbank.org – World Bank

www.imf.org – International Monetary Fund

www.ecb.europa.eu – European Central Bank

www.boj.or.jp/en - Bank of Japan

www.banxico.org.mx – Bank of Mexico

www.stat.uz – Statistics Commitee of Uzbekitan

www.wikipedia.org – Web Encyclopedia

www.press-service.uz –Press-service of the President of Uzbekistan

www.soliq.uz – Taxation Commitee of Uzbekistan

www.mf.uz – Ministry of Finance of Uzbekistan

www.ft.com – The Financial Times

www.bloomberg.com – Bloomberg Business Analytics and News