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**Monetary policy under inflation
targeting: lessons from industrial and
emerging countries**

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ЕКОНОМІКА ТА УПРАВЛІННЯ НАЦІОНАЛЬНИМ ГОСПОДАРСТВОМ

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Olimkhon F. Aliqoriev, PhD in Economics, senior researcher,
Khalilillo Saydahmedovich Khamidov, intern researcher**MONETARY POLICY UNDER INFLATION TARGETING: LESSONS FROM INDUSTRIAL AND EMERGING COUNTRIES**

Abstract. *This article focuses on inflation targeting (hereafter IT) as a superior monetary policy strategy for attaining price stability, and its theoretical framework, prerequisites to introduce. The article analyses benefits and costs of adoption of inflation targeting and also examines the IT experiences of some industrial and emerging markets. The growing body of empirical researches indicates that the adoption of IT is useful for countries that must enhance their credibility for the management of monetary policy. Personally, the authors suggest that Uzbekistan should also take IT into account seriously and further consider. In the long run, without prejudice to the goal of price stability countries can achieve other objective: high employment, economic growth, financial markets stability, interest rate stability, and stability in foreign exchange markets.*

Keywords: *inflation targeting, monetary policy, price stability, central bank.*

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**МОНЕТАРНАЯ ПОЛИТИКА В РАМКАХ ИНФЛЯЦИОННОГО ТАРГЕТИРОВАНИЯ:
УРОКИ ОТ ПРОМЫШЛЕННЫХ И РАЗВИВАЮЩИХСЯ СТРАН**

Аннотация. *Статья посвящена вопросам инфляционного таргетирования (далее ИТ), рассматриваемого как оптимальная стратегия денежно-кредитной политики по достижению ценовой стабильности, аспектам и предпосылкам для внедрения данного режима. В статье анализируются выгоды и потери применения режима инфляционного таргетирования, а также изучается опыт некоторых развитых и развивающихся стран по применению ИТ. Увеличивающееся количество эмпирических исследований показывает, что принятие инфляционного таргетирования является полезным для стран, которым необходимо повысить уровень доверия. Авторы также предлагают рассмотреть возможность перехода на ИТ в Узбекистане. В долгосрочной перспективе, без ущерба для цели обеспечения стабильности цен, страны могут достичь и других целей: высокая занятость, экономический рост, стабильность финансовых и валютных рынков, стабильность процентных ставок.*

Ключевые слова: *инфляционное таргетирование, денежно-кредитная политика, ценовая стабильность, Центральный банк.*

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**МОНЕТАРНА ПОЛІТИКА В РАМКАХ ІНФЛЯЦІЙНОГО ТАРГЕТУВАННЯ:
УРОКИ ВІД ПРОМИСЛОВИХ КРАЇН ТА КРАЇН, ЩО РОЗВИВАЮТЬСЯ**

Анотація. *Стаття присвячена питанням інфляційного таргетування (далі ІТ), що розглядається як оптимальна стратегія грошово-кредитної політики з досягнення цінової стабільності, аспектів і передумов для впровадження даного режиму. У статті аналізуються вигоди і втрати застосування режиму інфляційного таргетування, а також вивчається досвід деяких розвинених країн і країн, що розвиваються, щодо застосування ІТ. Зростаюча кількість емпіричних досліджень показує, що прийняття інфляційного таргетування є корисним для країн, яким необхідно підвищити рівень довіри. Автори також пропонують розглянути можливість переходу на ІТ в Узбекистані. У довгостроковій перспективі, без шкоди для мети*

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забезпечення стабільності цін, країни можуть досягти й інших цілей: висока зайнятість, економічне зростання, стабільність фінансових і валютних ринків, стабільність процентних ставок.

Ключові слова: інфляційне таргетування, грошово-кредитна політика, цінова стабільність, Центральний банк.

Introduction. Inflation is considered 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. Additionally, assuming that high uncertainty mirrors to higher risk premium, the higher will be the real cost of borrowing, which in turn will affect aggregate investment in the economy. Thus, fighting inflation and maintaining stable prices is increasingly viewed as the most important objective of monetary policy. 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. Over the last two decades, many central banks have adopted inflation targeting as their optimal framework for pursuing an effective monetary policy to maintain a low and stable inflation in the long run. Many other central banks have acknowledged that monetary policy encourages employment and economic growth in the long-term mostly by conquering inflation. And then they are actively considering the applicability of this regime to their countries by assessing the benefits and costs of this increasingly popular monetary strategy and are making definite preparations to adopt the framework.

What is inflation targeting?

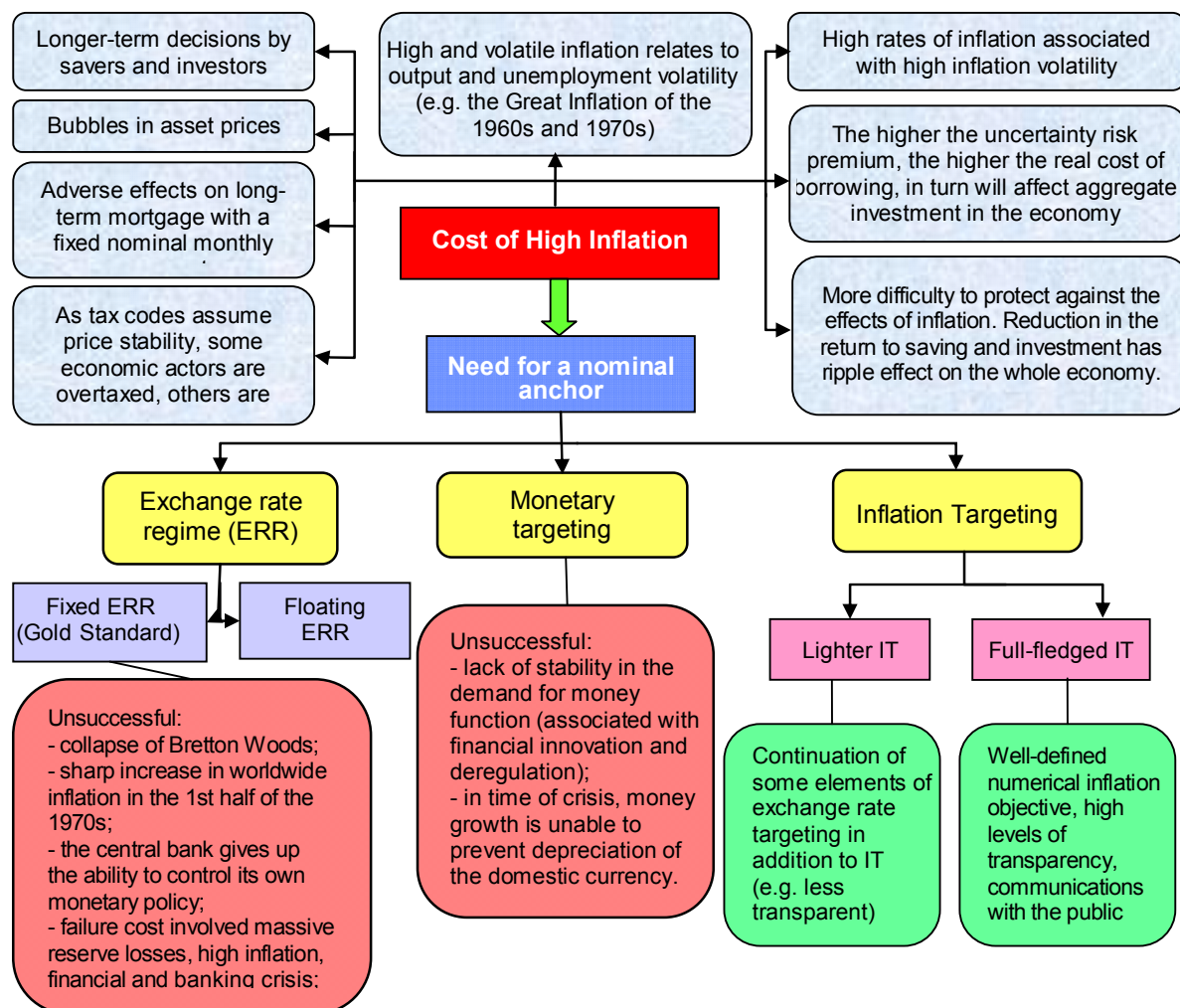
Inflation targeting is one of the operational frameworks within which monetary policy is conducted to maintain price stability. In this framework, a central bank estimates and establishes target inflation rate and then attempts to steer actual inflation toward the target. The approach can be characterized by following aspects [1]:

- 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 rate [2]. 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 [3]. 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 (see Diagram 1).

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Diagram 1



Source: The authors' calculations

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.

How does inflation targeting work?

The central bank forecasts the appropriate level and measure of target inflation rate for stable economic development and compares it with the target inflation rate. The monetary policy rule under inflation targeting is simplified to

$$i_t = \pi^*$$

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where $E_t \pi_{t+j}$ is the inflation expectation, based on information available at time t , of the inflation rate j period ahead, conditioned on some path for the nominal interest rate i_t , and π^* is the inflation target [4]. The difference between the forecast and the target determines to what degree monetary policy has to be adjusted to bring inflation back to the target. The target is typically specified as a point, with bands of plus or minus one percent. Some countries have chosen inflation targets with symmetrical ranges around a midpoint, while others have identified only a point target without any explicit range [5]. All countries have set their inflation targets in the low single digits (Table 1).

Table 1

Inflation targeting in selected group of countries

Countries	IT adoption date	Inflation rate at adoption date (percent)	Current inflation target rate (percent)
Australia	1993	2.00	2-3
Brazil	1999	3.30	4.5 +/-2
Canada	1991	6.90	2 +/-1
Chile	1999	3.20	3 +/-1
Colombia	1999	9.30	2-4
Czech Republic	1998	6.80	3 +/-1
Hungary	2001	10.80	3 +/-1
Iceland	2001	4.10	2.50 +/-1.5
Indonesia	2005	7.40	5 +/-1
Israel	1997	8.10	2 +/-1
Mexico	2001	9.00	3 +/-1
New Zealand	1989	3.30	1-3
Norway	2001	3.60	2.5 +/-1
Peru	2002	-0.10	2 +/-1
Philippines	2002	4.50	4 +/-1
Poland	1998	10.60	2.5 +/-1
Romania	2005	9.30	3 +/-1
Korea, Republic of	2001	2.90	3 +/-1
Sweden	1993	1.80	2.0
Thailand	2000	0.80	0.5-3.0
Turkey	2006	7.70	5.5 +/-2
United Kingdom	1992	4	2.0

Sources: Hammond, 2011; Roger, 2010; and IMF staff calculation

Under what conditions a country can adopt inflation targeting?

Prerequisites for successful adoption of an inflation targeting framework vary across countries. However, in theory it's identified that for successful operation of inflation targeting system following requirements should be met. First, a central bank must have instrument independence (not goal independence) and a clear mandate for price stability. Second, requirement is a strong fiscal position and central bank should not be constrained to finance the government budget. Thus, all of the government's funding requirements should be met directly by nonmonetary means at relatively favourable terms. Third, central bank must have effective monetary policy instruments such as short-term interest rates and a well-understood transmission mechanism between these instruments and inflation. Fourth inflation targeting agencies have forecasting and modelling capabilities. Because of lags in monetary policy instruments, forward-looking and pre-emptive approach is very important to conduct monetary policy long before inflationary pressures appear in the economy. Fifth, central bank independence under inflation targeting must be accompanied by improved accountability, transparency and communi-

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cation with the public. Finally, existence of stable financial markets in inflation targeting countries is equally-important [6].

Debates over inflation targeting efficiency**Advantages of IT**

Transparency, credibility, and communication. Since inflation targeting is medium-term objective, it is not frequently changed and thus helps the public better understand and evaluate the performance of the central bank. Having been informed where monetary policy is, the economic agents can plan the future interest rate, investment based on their inflation expectations. In turn, central bank can secure full credibility for price stability with understanding of the government and the public. Therefore, a high credibility in the policy will be achieved by frequent and transparent communication with the public (e.g. inflation report, pamphlets, open letters, resource material, speeches, articles, interviews, and a functioning website). By doing so, the central bank explains the following concepts to the general public, financial market participants, and the government: 1) the goals and limitations of monetary policy, including the rationale for inflation targets; 2) the numerical values of the inflation targets and how they were determined; 3) how the inflation targets are to be achieved, given current economic conditions; 4) reasons for any deviations from targets. The transparency increases the accountability of the central bank.

Accountability. Because the central banks are mandated and commits to a quantitative target, they have to account for meeting their targets to win the public trust.

Lower economic cost in the onset of target failure. Economic costs of failures of exchange rate pegs or money growth targeting might be massive reserve losses, high inflation, financial and banking crises, and possibly debt defaults. Comparatively, missing the target might lead to higher inflation than the targeted and output growth may slower temporarily.

Disadvantages of IT

Delayed signaling. Because of different lags in the effect of monetary policy, some have criticized IT signaling for being too late. Typically, changes in interest rate first affect output and then affect inflation. Despite of this, taking into account long lags of its instruments, central banks in IT regimes have clear understanding of transmission mechanism between these instruments and inflation as well as forecast modelling capabilities with forward-looking and pre-emptive approach.

Too much rigidity. Rigid rules and limitations of the ability in inflation targeting framework to respond to speculative shocks of IT have been criticized by some economists. However, in practice the countries in inflation targeting regime have adopted more flexible IT to achieve the trade-off between inflation variability and output variability through several instruments by using all available information. Inflation targets might be modified in some circumstances to stabilize the economy.

Increased output fluctuations. Critics of IT have argued that IT focuses on inflation as the only goal for monetary policy and thus ignore other goals such as high employment, financial stability, and economic growth that lead to larger output fluctuations. However, in reality central banks in inflation targeting regimes determine inflation targets above zero because of their concern of that deflation can have substantial adverse effects on real economic activity (e.g. recent deflation experience of Japan). Moreover, the levels of short-term interest affect expenditure and savings, and in turn, prices. As, according to the Taylor rule, short-term interest rate has ripple effect on inflation, monetary authorities care about both inflation and output fluctuations.

Due to the presence of an output gap in the Taylor rule, central bank cannot ignore output fluctuations.

Low economic growth. In the short run, inflation targeting central bank may aggressively respond to inflationary pressures that could temporarily lead to reduction in potential output. When stable low inflation levels were ensured, output and employment returned to normal levels. In the long run, there is no time inconsistency problem between the price stability and the other goal of monetary policy. The empirical results conclude that in many IT countries, strong economic growth and price stability has been achieved in tandem.

International experience

Since its introduction in New Zealand in December 1989, number of central banks that have adopted explicit inflation targeting (IT) as a monetary policy framework has been increasing. Batini and Laxton

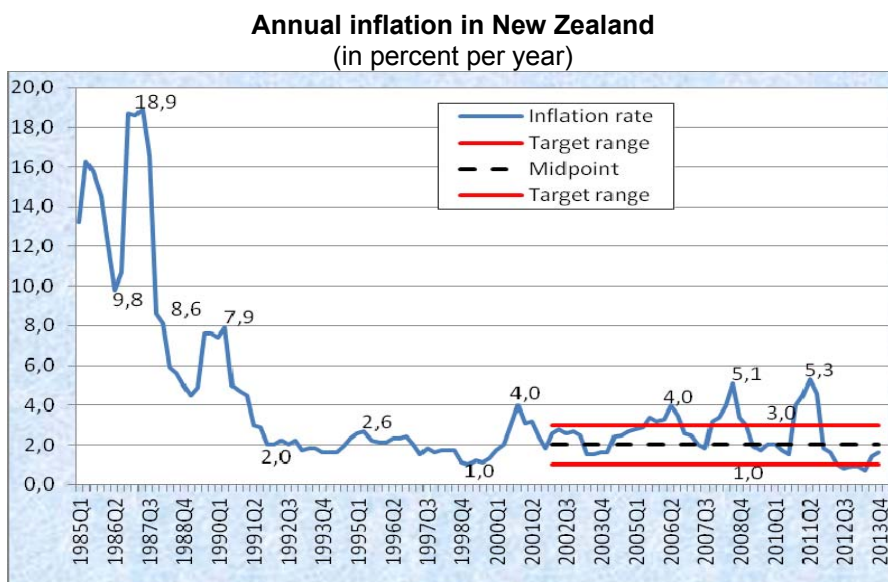
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(2006) survey the experience of 31 emerging markets by comparing the performance of the IT countries with non-IT countries and show that there are significant improvements in anchoring inflation and inflation expectations with no adverse effects on output [6]. They also add that in countries with IT regime interest rates, exchange rates, and international reserves are less volatile, and the risk of currency crises relative to money or exchange rate targets is smaller. In their case, it is not mandatory to meet a stringent set of institutional, technical, and economic prerequisites so as to switch to IT successfully. Scott Roger (2009) investigates that countries which have adopted inflation targeting framework have tentatively coped better with the commodity price and financial shocks in 2007-2009 than non-inflation targeters.

New Zealand experience

The Reserve Bank of New Zealand, in 1989 was granted the independence and set the single objective of price stability. The first Policy Targets Agreement (PTA) was signed in March of 1990. It was designed to lend more discipline and accountability to the conduct of monetary policy. The Governor would be given explicit policy goals, and his performance would be judged accordingly. Inflation targeting within 3-5 % was introduced in the midst of a number of reforms including substantial industry deregulation, privatization and corporatization within the state enterprise sector, major reductions in barriers to international trade, sweeping tax reforms, labour market reforms, removal of industry subsidies, the complete removal of all capital controls and the subsequent free floating of the exchange rate, and rigorous and comprehensive fiscal reforms. Those reforms were helpful in restraining inflation (Figure 1). From September 2002 onwards, the inflation target has averaged within a range of 1-3 per cent. Since 1990 the mean of CPI inflation has been around 2.5%. This compares with averages of around 12% in the 1970s and 11% in the 1980s. As a result, over the 20 years New Zealand's growth rate has been high, with some years exceeding 5%, and unemployment has come down significantly. Even though the RBNZ missed its target during the global financial crisis, it managed to steer inflation back to averaged 1.15 % in 2013. Owing to the price stability, annual GDP growth is expected to average about 3 percent through 2014 before moderating from early 2015.

Figure 1



Source: Statistics New Zealand, the RBNZ. Notes: Interest rates are excluded.

Japan experience

Even though Japan is not a formal IT country, the Bank of Japan has been battling its biggest headache - deflation that has lasted for nearly 15 years since 1998, targeting the 2 percent price stability target adopted in January 2013. Since April 2013, the Bank of Japan introduced quantitative and

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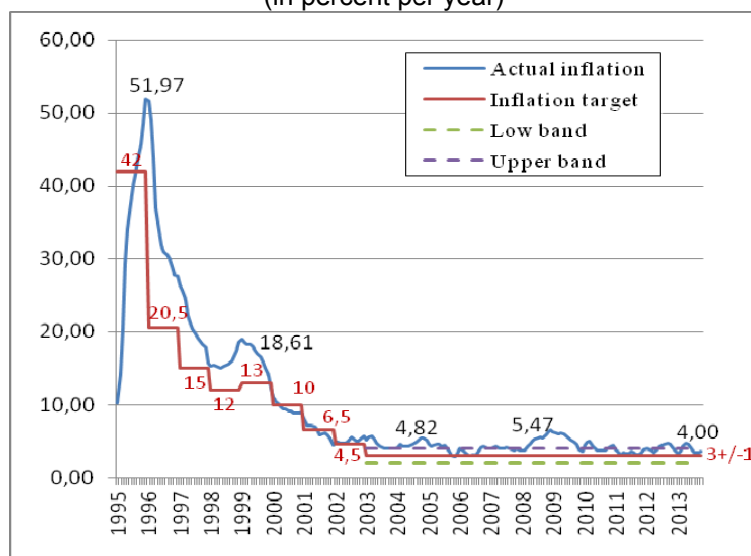
qualitative monetary easing (QQE) that further strengthened existing monetary easing to boost domestic consumption. Because of a slowdown in big trade partners such as the US and Euro zone and increased competition from Chinese and South Korean producers, Japan's economy had been quite depressed. That is why the large expansionary policies targeting 2 percent price stability to stimulate the economy has helped to end the decade-long deflation in 2013 [7].

Mexico experience

In the late of 1990s and the early of 2000s emerging markets – East Asia (1997), Ecuador (1999), Turkey (2000-2001) experienced the currency and financial crisis. Similarly, during 1994-1995 banking and financial crisis was keeping Mexican policymakers and economics guru awoken at nights to find ways how to get out of the crisis as quickly as possible and stabilize the economy. The implemented several measures and the adoption of a consistent macroeconomic program immediately after the crisis ensured Mexico's success in stabilizing the economy. In this process, inflation has decreased from close to 52 percent in 1996 to levels close to 3 per cent over the last decade, under a flexible exchange rate regime (Figure 2). Since 2003 the conduction of monetary policy in Mexico has sought to converge inflation towards its 3 % permanent target which has the minimum cost to economic activity though inflation target was missed during the global crisis. In 2013 annual inflation remained within the interval of the target, at 3,83% level.

Figure 2

Annual inflation and inflation targets in Mexico
(in percent per year)



Source: Bank of Mexico

As Uzbekistan continues its stable macroeconomic strategy, we also have to assess the introduction of the new scheme by in-depth examination of experiences in both industrial and emerging economies. Frank Hespeler (2011) concludes that in Uzbekistan the stronger monetary policy should complete to wring inflation and

devaluation expectations out of the economy and pave the way to the gradual abandoning of crawling peg, and in turn, should introduce an inflation targeting policy in the long run.

Conclusion

The aforementioned brief information and experiences in industrial and emerging markets prove that inflation targeting has been successful in many countries in reducing inflation and maintaining it at low levels. In addition, no empirical analysis shows that switching to inflation targeting framework has had deleterious results on the real economy beyond the very short run. However, a country that is moving toward IT regime has to take into account financial sector development, the ability of the cen-

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tral bank to implement policy using indirect, market-based instruments, the availability of the timely good quality data for forecasting purposes, the macroeconomic outlook, risks and uncertainties.

Inflation targeting can be a powerful tool to secure macroeconomic stability in the long-run period. Derived conclusions support the idea that IT can be applied to industrial, emerging and transition economies. As the researchers indicate that since inflation targeting offers a number of operational advantages alongside with relatively few and manageable drawbacks, it can be identified as effective monetary strategy countries should take serious consideration.

Therefore, Uzbekistan has to seriously consider two different monetary regimes under inflation targeting: flexible IT when the monetary authority handle only one tool-the interest rate, and "hybrid" inflation targeting when objectives of the monetary authority include output and exchange rate interventions. Because exchange rate fluctuations is complicated problem for central banks who engage in flexible inflation targeting, for Uzbekistan, the latter may appropriately be offered due to high percentage of exports and imports in its GDP.

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