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Political Stability and of Inflation Targeting :New Empirical Evidence

[1]Ahmad Jafari Samimi, [2]Mani Motameni

[1]Professor of Economics, University of Mazandaran, Babolsar Iran.
[2]Ph.D Student of Economics, University of Mazandaran, Babolsar Iran.

Abstract: In this paper, we investigate to find the factors motivating countries toward implementing inflation targeting. We find that political instability reduce the probability of Inflation Targeting adoption.

Key words: Inflation Targeting, Political Instability.

INTRODUCTION

Inflation Targeting is a monetary policy that was introduced in New Zealand in 1989, has been very successful and now had been adopted by several Industrialized and Non-Industrialized Countries. Inflation Targeting is characterized by an announced numerical inflation target, an implementation of monetary policy that gives a major role to an inflation forecast and has been called 'inflation-forecast targeting', and a high degree of transparency and accountability (Svensson 2007). The benefits of Inflation Targeting on economic performance can be summarized in two strands. First, an inflation targeting framework could lower the level and variability of inflation, increase output growth but decrease its variability, and diminish the persistence of inflation. For example, Neumann and von Hagen (2002) compare statistics for inflation targeters and non-targeters across different periods and find that inflation targeting reduces the volatility of inflation, output, and interest rates. Second, inflation targeting improves inflation forecasting by lowering the level of expected inflation (Schmidt-Hebbel 2001). On the other hand, some studies claim not to find clear evidence supporting the benefits of inflation targeting, though their results do not provide arguments against it either. For example, Ball and Sheridan (2003) examine changes in the level and variability of inflation and output as well as the persistence of inflation for 7 inflation targeters and 13 non-targeters among industrial countries. There is no evidence that inflation targeting improves performance as measured by the behavior of inflation, output, or interest rates. But it is clear that, for many countries inflation targeting offers a framework for conducting monetary policy that has a number of advantages, including clarity and transparency.

In this study we investigate the factors affecting the probability of choosing Inflation Targeting regime. According to Goncalves and Carvalho (2008) in econometric parlance, the adoption of Inflation Targeting was not random: some countries deliberately chose to implement the regime, whereas others preferred not to. This raises the following question: what are the specific countries' characteristics affecting the probability they will become inflation targeters? Goncalves and Carvalho (2008) tried to answer this question with OECD economies data. They Compare Inflation Targeters and Non- Targeters in OECD countries and found that the probability of moving to IT increases with average past inflation and negatively correlated with the level of public indebtedness. Neither the degree of political instability nor the volatility of exchange rate matter much. Also the empirical study of Leyva (2008) indicates that financial development, GDP per capita and trade openness exert a positive contribution to the likelihood of adopting Inflation Targeting. There are many different results regarding factors determining adoption of Inflation Targeting. In this paper we compare 13 Inflation Targeters that adopt Targeting during 1999 - 2003(Brazil, Chile, Colombia, south Korea, South Africa, Poland, Thailand, Hungary, Iceland, Mexico, Norway, Philippine and Peru) and 13 Non-Targeter countries that didn't adopt Targeting until 2003 (Iran, Panama, Bulgaria, India, Ireland, Indonesia, Malaysia, Pakistan, Nigeria, Morocco, Romania, Saudi Arabia, and Venezuela). This List of countries is extracted from Hu (2003).

Data & Model

The dependent variable is the probability of Inflation Targeting adoption. For Targeters this variable will be 1 and for Non-Targeters will be 0. Our independent data include Inflation, Exchange rate volatility, Economic Growth, Unemployment rate, Political Instability and the rate of budget deficit to GDP. Inflation

Corresponding Author: Ahmad Jafari Samimi, Professor of Economics, University of Mazandaran, Babolsar Iran.
E-mail: jafarisa@umz.ac.ir

variable in our model is the average of five year inflation before adoption Inflation Targeting for Targeters and The average of five year to 2003 for Non-Targeters. Comparison of these data in fig (1) indicates that Non Targeters inflation is higher than Targeters. Inflation for all 26 countries is CPI Inflation from IMF financial data.

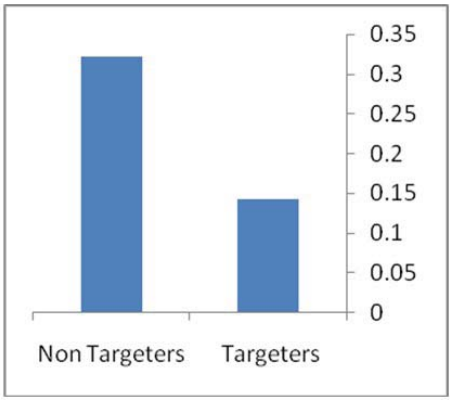

Fig. 1: Inflation.

Also the rate of budget deficit to GDP is the average of five year as like as inflation. This is an annual data from IMF.

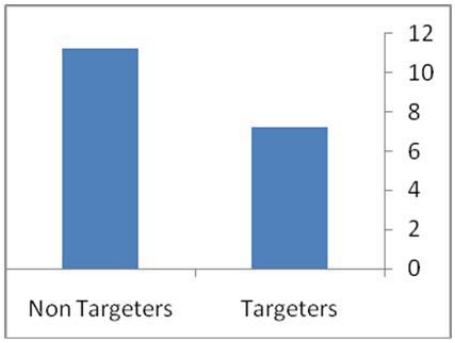

Fig. 2: Deficit/GDP

For Exchange rate volatility we use standard error deviation of real exchange rate from IMF. As it shown in Fig (3) the volatility of Exchange rate in Non targeters country is higher.

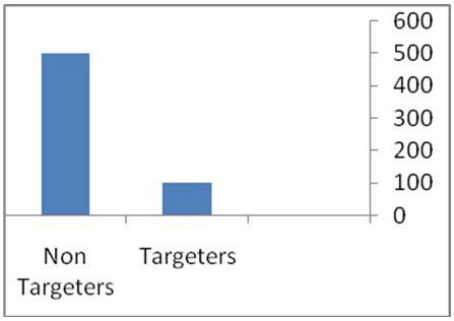

Fig. 3: Exchange Rate Volatility

Unemployment rate in Non Targeters country is also higher than Inflation Targeters.

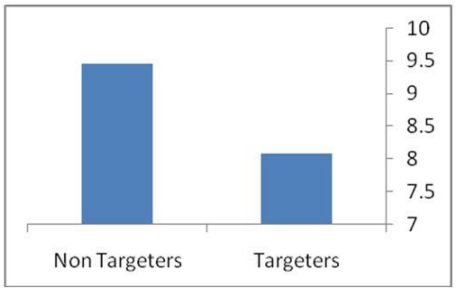

Fig. 4: Unemployment

At last Political Instability in Non Targeters country is more than Inflation Targeter country. The measure of political instability is the frequency of changes in government.

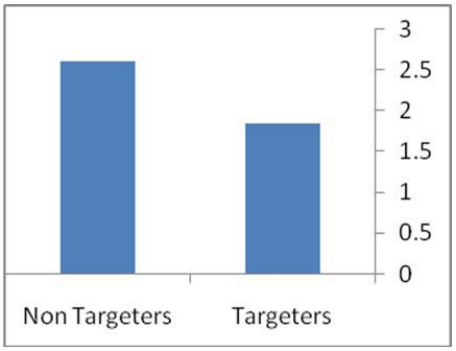

Fig. 5: Political Instability

In table (1) the change of Inflation, Growth and Unemployment in Inflation Targeter countries before and after targeting are shown.

Table 1: Macroeconomic Data of Inflation Targeter Country

Inflation Targeter Countries	Adoption Year	Inflation		Growth		unemployment	
		Before	After	Before	After	Before	After
Brazil	1999	8.9	7.9	3.2	2.3	7	9.8
Chile	1991	19.7	7.2			6.3	
Poland	1999	24.1	4.7	7.9	3.7	14.3	16.7
Colombia	1999	20.4	7.5	3.3	2.3	11.1	15.8
Korea	2001	4	3.3	4.6	4.5	4.4	2.7
South Africa	2000	7.3	5.1	2.6	3.8		27.7
Thailand	2000	5.1	2.2	1.5	1.7	1.9	2.4
Hungary	2001	15.2	2.9	4.2	4.2	8	6.1
Iceland	2001	6.7	2.5	5.9			
Mexico	1999	24.5	7.2	1.7	4.8	2.7	1.9
Philippine	2002	6.3	5	3.1	5.1	10.2	11.5
Peru	2002	5	1.9	2	5.2	7.8	10.2

Obviously Inflation decreased after adoption but there is no clear result in unemployment and economic Growth.

Since the dependent variable is binary, we employ a simple probit method to find the factor effect the probability of Inflation Targeting.

$$P(y = 1[x) = H(c_0 + c_{1\,\text{inflation}} + c_{2\text{Ex Vol}} + c_{3\text{deficit/GDP}} + c_{4\text{growth}} + c_{5\text{political instability}} + c_{6\text{Unemploument}})$$

Table 2: Probit regressin

Probit regression				Number of obs =		2.6
				LR chi 2(6) =		10.77
				Prob > ch12 =		0.0959
Log likelihood =	-12.639179			Pseudo R2 =		0.2987

targetin	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interva]
inflatio	2.776158	4.718652	0.59	0.556	-6.47223	12.02455
stde ex-	-.0001029	.0004804	-0.21	0.830	-.0010444	.0008386
deficit	-.003318	.0073367	-.45	0.651	-16.53992	6.439745
growth	-5.050087	5.862267	-0.86	0.389	-16.53992	6.439745
pol-ins	-1.135719	.4779232	-2.38	0.017	-2.072432	-.1990072
unemploy	.0565809	.076104	0.74	0.457	-.0925801	.205749
-cons	2.774705	1.146435	2.42	0.016	.5277328	5.021677

Deficit/GDP, Growth and Political instability has negative correlation to Targeting. Inflation and unemployment has positive correlation. But only political instability is a significant factor in 5%. Marginal effect of these factors indicated in Table (3).

Table 3: Marginal Effect

Marginal effects after probit

Y = Pr (targetin) (predict)

= .50892511

variable	dy/dx	std. Err.	z	P>|z|	[95%	C.I.]	X
inflatio	1.107249	1.88116	0.59	0.556	-2.57975	4.79425	.211046
stde-ex-	-.0000411	.00019	-0.21	0.830	-.000417	.000335	300.95
deficit-	-.0013234	.00293	-0.45	0.651	-.007058	.004411	9.2382
growth	-2.014189	2.33671	-0.86	0.389	-6.59406	2.56568	.237739
pol-ins	-.4529731	.19018	-2.38	0.017	-.825718	-.080228	2.23077
unemploy	.0225669	.3034	0.74	0.457	-.036902	.082035	8.08647

According to Table (3), one unit increasing the political instability, will decrease 45% of probability of adopting Inflation Target regime.

Conclusion:

In this Study we compare 26 countries including 13 Inflation Targeters and 13 Non-Targeters. The Probit model indicates that political instability is an important factor influencing policy makers to push their country to adopt Inflation Targeting. Inflation, Exchange rate volatility, Growth, unemployment didn't have significant effect in this sample. Inflation and unemployment have positive correlation with Targeting. Deficit/GDP and growth and political instability have negative correlation to Targeting. Inflation in Targeting category has been decreased after adoption the regime but unemployment and growth didn't show clear path after adoption.

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