

**INFLATION AND DISINFLATION POLICY IN TURKEY BETWEEN 1974-2002:  
LSTVAR ANALYSIS**  
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**Abstract**

Persistent high inflation rate is one of the basic problems of Turkish economy until recent years. For solving the high inflation problem, several disinflation programs were put into force under the auspices of International Monetary Fund in 1980, 1994, 1999 and 2001. But, implementation of the disinflation policies was temporary and unstable under the political instabilities. From 1974 to 2002, political instabilities mainly influenced economic policies and implementation of the stabilization programs in Turkey. In this paper, we aimed to show the implementation of disinflation policy is difficult in political instability periods. We will investigate the cost of disinflation policies under the political instability and test by LSTAR-VAR (LSTVAR) analysis the cost of disinflation policies in the context of stabilization programs in Turkey between 1974 and 2002.

*Key Word:* Nonlinear, LSTAR VAR Disinflation

*JEL Classification:* E31, C32

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**1. Introduction**

Persistent high inflation rate is one of the basic problems of Turkish economy until recent years. For solving the high inflation problem, several disinflation programs were put into force under the auspices of International Monetary Fund in 1980, 1994, 1999 and 2001. But, implementation of the disinflation policies was temporary and unstable under the political instabilities. From 1974 to 2002, political instabilities mainly influenced economic policies and implementation of the stabilization programs in Turkey. In this paper, we aimed to show the implementation of disinflation policy is difficult in political instability periods. We will investigate the cost of disinflation policies under the political instability. During the political instability periods big shocks in the economy cause uncertainties which increased the expected inflation rate. There is a close connection between the failure of the disinflation programs and political instabilities. It is seen that disinflation policy is succeeded in stable period which has been started from 2002.

Political instability caused to increase a cost of inflation and disinflation policy between 1974 and 2002. For countries with political instability, the most important cost of disinflation policy is the short-term output loss that generally accompanies with a short-term decline in inflation. It is seen that the output loss based disinflation policies or stabilization programs are accompanied by severe recessions. Government's decisions on the timing and extent of disinflation policy depend on balancing the costs and benefits of the disinflation. In this perspective, the important problem in disinflation policy is the

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output cost of preventing inflation from rising. Disinflation policy should avoid recessions but slower output growth would be the cost of resisting inflationary pressures.

## **2. Theory**

For the purpose of testing the cost of disinflation policy in the context of stabilization policy, we will start with Philips Curves. Traditional Philips Curve approves that there is a trade-off between inflation and unemployment. Recently, some developments in labor markets prove the rigidities and stickiness and approves the New-Keynesian theory, New-Keynesian Philips Curve became more popular in recent years. The New-Keynesian Philips Curve modals, sticky price models and staggered wage models are taken as the models which depend on the conditions and time. In this context of Taylor (1979, 1980) and Calvo's (1983) staggered wage models, Rotemberg's (1982) price adjustment models are very important. J.M. Robert (1995; 1997) found very close results to the other works on this subject. According to him, if the existence of the price stickiness, stagger contracts and stagger price adjustments are accepted the New Keynesian Philips Curve will be similar as the evaluation of the Friedman-Phelps's Philips Curve, in this context the New-Keynesians contribution is nominal rigidities. The Philips Curve model, in the context of stickiness in knowledge of Mankiw and Reis's (2001) is not different. But, under high inflation and political instability both in labor and commodity markets, rigidities and stickiness and the effects of New Keynesian Philips Curve will be lesser. The most important factor behind, is the shortening duration of contracts and increasing indexation against inflation. This development in Philips Curve is affected government's policy choice. This is related to the choice between gradualism and cold turkey strategies. As Taylor (1983), disinflation reduces output but slow disinflation does not. Gradualism is less costly because of wages and prices sticky and rigid. In the cold turkey strategy, disinflation is less costly if it is quick, because rapid disinflation produces credibility under flexible prices in New Classical Economy.

In Turkey, decrease in nominal and real rigidities is observed since the permanent increases in inflation rates. While inflation rates increase, stickiness and rigidities in markets decrease. The symmetry between regimes of business cycles is deteriorated. In this context, government's policy choice and asymmetry between inflation and production is more important. We will also examine the asymmetry between production and inflation in disinflation process. Empirical evidence of asymmetries between the output-inflation that has also supported in recent researchs is important. Ball (1994) and Jordan (1997) Huh(2002) have studies on asymmetry.

## **3. Turkish economy**

High and persistent inflation is the crucial problem of the Turkish economy in the last three decades. Despite the several implementations of stabilization measures, attempts have been unsuccessful until 2002. "In 1980, the adoption of a series of measures advised by IMF and some other international organizations called the "January 24" measures. There were two aspects of "January 24, 1980" measures. The first related to the drastic economic problem pronounced by scarcity, queues, high inflation and long strikes. The second is these measures were switched the industrialization strategy from import oriented to the export oriented and imposed market economy. Under the military regime

and by the support of international organizations, inflation was brought down from three digit levels in 1980 to some 30 per cent in the subsequent two years, and the cost of disinflation in terms of foregone output was relatively small, with GDP contracting by some 2 per cent in 1980. The export-led growth, with manufacturing exports growing at double-digit rates, supported by favorable exchange rates and massive incentives in the form of tax rebates. The average GDP growth rate stayed above 6 per cent per annum during 1983-1987. However, macroeconomic imbalances reappeared after 1987. Again, inflation accelerated rapidly from 1987 onwards, exceeding on average 60 per cent during the last three years of the decade (Akyüz and Boratav, 2002)."

Two factors have played a significant role in the re-emergence of fiscal imbalances and the acceleration of inflation in the 1980s. First, the return to hotly contested elections and parliamentary democracy after 1987 led to popular demands and compensatory policies.<sup>1</sup> Second, contrary to orthodox rhetoric on sequencing, domestic financial markets was liberalized before fiscal discipline had been secured and inflation brought under control. Deregulation of interest rates and the shift from central bank financing to direct security issues raised the cost of financing of public sector deficits: even before the acceleration of inflation in 1988, interest rates on government paper exceeded the rate of inflation between 10 and 20 percentage points. As a result, mid-1980s inflation had come back with full force. (Akyüz and Boratav, 2002). As a result of this process, Turkey has inflation and political instability throughout the 1990s. The role of government expanded in the economy.

The implementation of stabilization programs have been unsuccessful since 1980. Especially, the number of crises and political instabilities increased in the 1990s created seriously problems. The 1990-1991 Persian Gulf crisis, the 1994 Turkish financial crisis, the 1998 Russian crisis, two earthquakes in 1999, and the 1999-2002 disinflation and economic restructuring program which failed in early 2001 contributed to rising output volatility in the economy (Uygur, 2001). Turkish governments introduced new disinflation measures to stabilize the economy after the 1994 financial crisis. However, these efforts in 1995, 1998 and 2000 failed to reduce the inflation rate below 25% per year, as it had been in the early 1970s. Although the government introduced a three-year program in December 1999, the program had to be revised in light of the two successive liquidity and interest-rate crises; first in November 2000, and then in February 2001. The government abandoned the crawling peg regime under the original plan and floated the Lira in February 2001. The revised three-year plan adopted in early 2002. The early elections on 3 of November 2002 dramatically changed the political climate in Turkey; currently the

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<sup>1</sup> "The 1987 is very important year for Turkish economy, in the sense that it marked the return to fully competitive politics. The referendum of 1987 intensified the political struggle and placed pressure on the party in power to follow policies of 'populist' economic expansionism. ANAP lost general elections in 1991. The coalition government of DYP(the True Path Party) and the SHP(Social Democratic Populist Party) came to power in 1991. The full convertibility of the Turkish Lira in 1989 resulted in a dramatic increase in the international capital inflows to Turkey. The economy expanded at a faster rate than would otherwise have been possible and the rising capital inflows provided a way of satisfying the distributional claims of the key groups (Önis Z. and Aysan A.F., 2000)."

newly established powerful single party government is in contact with the International Monetary Fund to make minor changes in the program to disinflate and restructure the Turkish economy (Diboglu and Kibritçioglu, 2003). The stabilization program was implemented successfully with international support and under the more stable political climate. As a result of the stabilization program, inflation rate have decreased to 12 % in 2004 and it is planned to pull it down to 8 % in 2005.

*Political Development* : 1970s witnessed highly unstable political conditions in Turkey. While the deterioration in economic conditions brought about declining power of left-wing CHP, Justice Party in a result of 1979 election was found new minatory government. In this year, the most important problem was violence among left-wing and right- wing groups by the beginning of 1980. When violence was accelerated and it reached the level of civil war, the Turkish military forces realized a bloodless coup on 11 September 1980.

Following the coup, violence was brought to an end by military and the National Security Council (NSC) was established by the five leaders of the coup. There was no violence during 1980-83. In 1983, there was the transition to multi-party regime. ANAP, new party of center right came out of the election as first party in the first general election held on 1983. As a result of municipal elections of 26<sup>th</sup> March, no party could receive 30% of the votes while ANAP lost high number of votes, SHP became the first party collect 28.7% of the votes. This was the first reaction to the incapacity of the government in facing terrorism ANAP become the third party by 21.8% of the votes. In 1991 election, there were some distinct characteristics. First, there was had been the open or disguised coalitions of some parties. Religious and nationalist party made a coalition and entered the elections under of the same umbrella. Or the other hand SHP, left-wing and HEP, made a coalition. The coalition of SHP with HEP at the 1991 election has given further damage to SHP. ANAP came out of this election as second party with 24% of the votes. Since no party could receive sufficient votes a coalition government was formed by right of center right DYP and center left SHP.

The local elections of 27 March 1994 gave very different result from the elections of 26 March 1989 and 20 October 1991, RP, religious party increased its votes, being important opposition party, ANAP the members of the coalition lost great volume of votes. However, DYP, one member of coalition was still the first party. The second member SHP became 4<sup>th</sup> party. In SHP's fall, unsuccessful local rule was also an important factor beside coalition with HEP.

In general elections of 24 December 1995, it was very important that RP party of religion and an order of equality became the first party after 1995 elections with 21.4% of votes. Main opposition and third parties were right wing parting MHP; nationalist party could not enter the parliament. RP did not enter a coalition with any of the parties and a coalition government was a formed by ANAP and DYP on 4 March 1995. This period ended on 25 May 1995. The second coalition was formed by RP and DYP on 30 June 1995. Alongside the crisis, political instability and terrorism in country were getting deeper. And in this period, religious movement had arisen, becoming alternative for Turkish people who were fed up with social and economic problems and terror. It was established as the first religious-oriented government on 8 July. Political instability after the election in December 1995 with no party gaining clear majority was very increase. Political instability was increasing in this period of consecutive coalition governments,

because coalition partners in the government was continuously changing. In 1996-1999 periods, it was found the fourth government, ANAYOL(ANAP/DYP) during 3month 22 day, REFAHYOL (RP/DYP) a year 2 day, ANASOL-D (ANAP/DSP/DTP) a year 6month and 11day and DSP (Minority) 3 month 7day. In February 1999, Ocalan the leader of PKK was captured and this situation was considered as Ecevit's success and bringing DSP to be the first party in early elections on 18 April 1999, MHP was closely following.

In this period, Turkey's current coalition government, the nationalist left-wing DSP, the centrist ANAP, and the nationalist right-wing MHP, is an alliance of left and right that has managed to advance a social and economic-reform program. MHP and DSP being coalition have been enemies during the 1970s and 1980s and they still seem as opposites. However, majority of Turkish people does not want to like the political instability that has plagued the country's recent history.

Since 1990, the result of the elections depicts that the structure of Turkish Parliament is unstable. The second important point is that the switching votes to the centralist radical party. This is very important for political instability. Voter often searches for a new party when they do not get any salvation to his problems. There is not adherence to one party.

After the election the 2002 it looks that political instability have decreased. Single party government, the support of the IMF to the disinflation program created more stable conditions previous years of 2002. Since 1970s, first time inflation rates started to fall constantly which shows the importance of the political stability.

#### 4. Data, econometric methodology and empirical results

In this study we will calculate the cost of inflation lowering policies by testing LSTAR-VAR (LSTVAR) model between 1974 and 2002 which is the the period of highly intensive political instabilities in Turkey. We use these variables; inflation rate ( $\pi$ ) and real production ( $y$ ). Data was gathered from the DPT and TCMB. In the paper, annually period is estimated between 1974 and 2002. Political instability shock is increasing of political instability rate. It shows social and political dismantles such as, military interventions, terrorism, and social unhappiness. Until 1980 social problems, after 1984 terrorism are important factors. Political instability is a serious factor to test the effects of political shock. Figure 1 presents the evolution of the inflation rate and real Gdp rate, in 1974-2002, and figure 2 the relationship between both variables

Figure 1. Evolution of the rates of inflation and growth of real Gdp: Turkey, 1974-2002

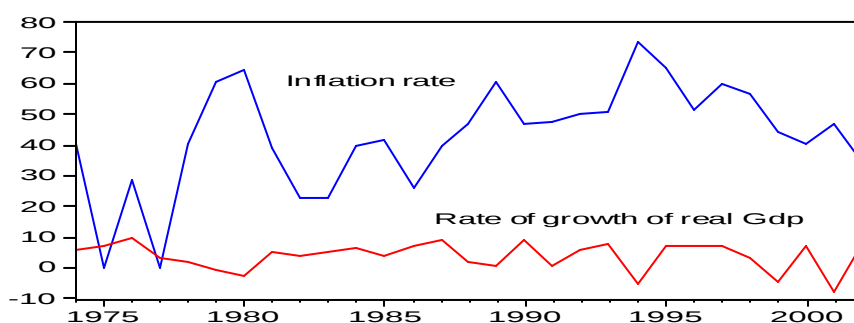
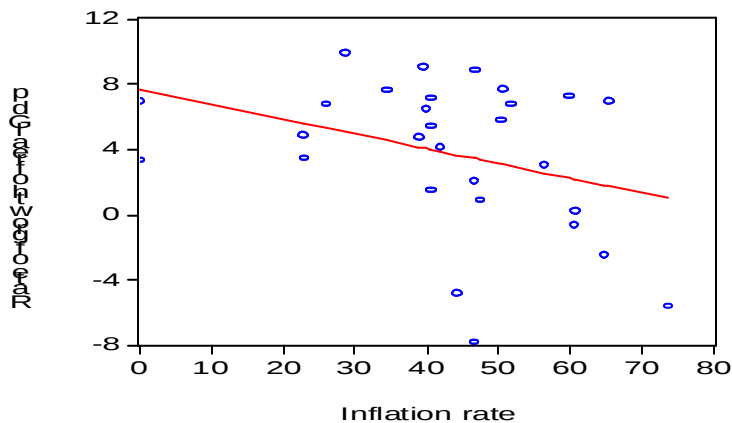


Figure 2. Relationship between the rates of inflation and growth of real Gdp in Turkey



#### 4.1. Econometric Methodology

Both nonlinear and dynamic structures of the time series changed in time. The movement of nonlinear macroeconomic time series is depended on the phases in business cycle and it is used in many studies, such as Terasvirta(1994), Terasvirta and Anderson(1992), Lundbergh S., T.Terasvirta and Van Dijk, (2001, 2002), Luukkonen, Saikkonen and Terasvirta(1988, 1998), Micheal, Nobay and Peel (1997) and Montgomery, Zarnowitz, Tia and Tsay (1998), Van Dijk,D. and P.H.Franses, (1993), Van Dijk, D., and P. H. Franses, (1998), Van Dijk, D., T. Teräsvirta, and P. H. Franses (2002) etc. Nonlinearity and structural change is important for many time series, some studies showed for examining structural change and nonlinearity. It was utilized non-parametric techniques in order to test the characteristics of business cycle such as time and magnitude of the boom and recessions. Lutkepohl, Terasvirta and Wolters(1998) and Wolters, Terasvirta and Lutkepohl (1999) used smooth models in order to test staility and linearity.

Studies typically begin with nonlinear model and expanded with misdefinition tests. By modifying inadequacies of the model, alternative forecasted model is built. Then, Nonlinearity is found and modeled. Alternative forecasted model is rarely tested as it is seen in Eitrheim and Terasvirta (1996) and Terasvirta (1998). The essay of Terasvirta's (1994) STAR (Smooth Transition Autoregressive) is taken as basic for LSTVAR.

$T=1-p, 1-(p-1), \dots, -1, 0, 1, \dots, T-1$ , STAR model

$$y_t = \phi'_1 x_t (1-G(s_t; \gamma; c)) + \phi'_2 x_t (G(s_t; \gamma; \lambda)) + \varepsilon_t \quad (1)$$

$x_t = (1, x_t^*)'$   $x_t^* = (y_{t-1}, \dots, y_{t-p})'$   $j_i = (j_{i,0}, j_{i,1}, \dots, j_{i,p})$  ve  $W_{t-1} = \{y_{t-1}, y_{t-2}, \dots, y_{t-p}\}$   
so,  $E[e_t/W_{t-1}] = 0$   $E[e_t^2/W_{t-1}] = s^2$  dir.

The additional regressors  $z_{1t}, \dots, z_{kt}$  are expanded the model with external variables. STAR model is examined in Terasvirta (1998).  $G(s_t; g; c)$  is a transition function and it is permanent function between 0 and 1. If it is concentrated on logistic function,

$$G(s_t; \gamma; c) = [1 + \exp \{ - \gamma (s_t - c) \}]^{-1} \quad \gamma > 0 \quad (2)$$

Transition function  $G(\cdot)$  is first degree logistic function.  $c$  determines the threshold between the two regimes  $s_t$ , transition variable moves below  $c$  to above  $c$ .  $g$  determines the smoothness of the transition from one regime to the other and restrained in  $g > 0$ . If  $s_t$  increases, logistic function changes between 0 and 1. If,  $g \rightarrow \infty$ , logistic function  $G(s_t; \gamma; c)$ , indicator function will close to  $I[s_t > c]$ . Finally, for  $\gamma = 0$ ,  $G(s_t; \gamma; c) = 1/2$ .

The value of transition function united with (1) and (2) models can be taken as regime-switching model. Transition function is between the two points  $G(s_t; \gamma; c) = 0$  and  $G(s_t; \gamma; c) = 1$ , and transitions are smooth.  $t$  is determined by  $s_t$ .

Model used in this paper is

$$Z_t = \phi(H) Z_t^* + \Xi(H) Z_t^* G(s_t) + \varepsilon_t$$

$Z_t = \phi(H) Z_t^* + \varepsilon_t$  is compact notation of

$$\begin{pmatrix} \Delta y_t \\ \Delta \pi_t \end{pmatrix} = \begin{bmatrix} \sum_{i=0}^p a_{yt,i} H_i \sum_{i=1}^p a_{yy,i} H_i (1-H) \sum_{i=0}^{p-1} b_{y\pi,i} H_i \\ \sum_{i=0}^p a_{\pi t,i} H_i \sum_{i=1}^p a_{\pi y,i} H_i \sum_{i=1}^p a_{\pi\pi,i} H_i \end{bmatrix} \begin{bmatrix} \Delta y_t \\ \Delta \pi_t \end{bmatrix} + \begin{pmatrix} \varepsilon y_t \\ \varepsilon \pi_t \end{pmatrix}$$

$G(s_t; g; c) = [1 + \exp \{ - g (s_t - c) \}]^{-1} - 1/2$   $G(s_t)$  is in the range of  $-1/2$  and  $1/2$  and  $g > 0$ . The  $s_t$  is a switching indicator and  $c$  is the threshold. In this model, value of  $g$  depends on the magnitude of the switching variable  $s_t$ . (Huh:2002)

#### 4.2. Empirical Result

In political instability period, we will calculate the cost of inflation lowering policies by testing LSTAR-VAR (LSTVAR) model between 1974 and 2002. Political instability is important factor to test the effects of political shock. Political instability variable is determined from the study of Eren and Bildirici (2001). In this study, this function can be defined as the effects of change in the forecasting the variables. Following the shock, the reaction of the variable can be tested against to the unshapening of the shock. As Huh (2002), we adopted the concept of generalized impulse response functions:

$GI_x(n, s_t, w_{t-i}) = E[X_{t+n} | s_t, w_{t-1}] - E[X_{t+j} | w_{t-1}]$   $n=0,1,2,\dots$   $n$  is a forecasting horizon.  $s_t$  is a political shock.  $GI_x$  is also random the  $GI$  functions must be computed by simulating the model.  $GI$  model's show responses to the shocks.

Following the shock, the response of the variable can be tested against to the "no shock" situation. So, the impulse and response function can be defined the difference between the two conditional expectations. Null hypothesis is  $H_0: g = 0$   $H_1: g > 0$ .

The switching variable  $s_t$  is a priori. The results of LM and LR tests are showed that, being  $p$ -values in Table 1. The linearity is rejected in favour of *LSTAR* when the  $D P_{t-1}$  and  $D y_{t-1}$ , the variables with smallest  $p$ -value as suggest by Terasvirta (1998) are used being the switching variables. It is shown that the estimates of  $g$  and the results obtained

from  $(g \rightarrow \infty)$  when  $Dy_{t-1}$ , being switching variable is used, the choice is  $c=1$  and  $g=10.47$  in  $DP_{t-1}$ ,  $c=0.0$  and  $g=1.21$ . Smoothness parameter show smooth transition from one regime to another.

Diagnostic tests are important for LSTAR modal's statistical sufficiency. In final stage, for  $DP_{t-1}$  and  $Dy_{t-1}$  we moved from the beginning values and these cases are examined: Low-growth ( $\Delta y_{t-1} < 0$ ), high-growth ( $\Delta y_{t-1} > 0$ ), and  $\Delta p_{t-1} < 0$ ,  $\Delta p_{t-1} > 0$ . The figures under 1% and 2% are computed from the impulse response functions to political instability shock. In model, 1% disinflation cost 19.57% of output in high-growth state of economy 21.7% in low-growth state of economy. When the economy is stronger, the output is less effective from tighter monetary policy. Output cost in preventing incipient inflation pressures model is 19.49 in rising inflation and 20.1 in falling inflation. 1% preventing incipient inflation pressures cost 19.7 % of output in high-growth state of economy 20.2% in low-growth state of economy.

Table 1. Empirical Result

*LM Linearity Test against LSTAR*

| Switching variables | LM Test    |              | LR Test | Switching variables | LM Test    |              | LR Test |
|---------------------|------------|--------------|---------|---------------------|------------|--------------|---------|
|                     | $\Delta y$ | $\Delta \Pi$ |         |                     | $\Delta y$ | $\Delta \Pi$ |         |
| $\Delta \Pi_{t-1}$  | 0.06       | 0.09         | 0,05    | $\Delta y_{t-1}$    | 0.01       | 0.05         | 0,07    |
| $\Delta \Pi_{t-2}$  | 0.09       | 0.05         | 0,08    | $\Delta y_{t-2}$    | 0.02       | 0.08         | 0,09    |
| $\Delta \Pi_{t-3}$  | 0.11       | 0.12         | 0,09    | $\Delta y_{t-3}$    | 0.32       | 0.18         | 0,30    |
| $\Delta \Pi_{t-4}$  | 0.27       | 0.38         | 0.26    | $\Delta y_{t-4}$    | 0.40       | 0.19         | 0.4     |
| $\Delta \Pi_{t-5}$  | 0.321      | 0.42         | 0.29    | $\Delta y_{t-5}$    | 0.43       | 0.22         | 0.51    |

\*the figures shows p values,  $LM_i = T(SSR_i^0 - SSR_i^1)/SSR_i^0$  for each equation i.  $LM_i$  is distributed  $\chi^2(m_i)$ .  $LR_{12} = T \left\{ \log(\det(\hat{\Omega}_1)) - \log(\det(\hat{\Omega}_2)) \right\}$  where T is the number of observations effectively employed in the estimation.

*The Estimation of (g) and (c) Parameters*

| Switching variables | Constant Estimation of $\gamma$ and c |                | $\gamma = \infty$ and c  |
|---------------------|---------------------------------------|----------------|--------------------------|
| $\Delta y_{t-1}$    | c=1.0                                 | $\gamma=10.47$ | $\gamma = \infty$ c=0,89 |
| $\Delta \Pi_{t-1}$  | c=0.0                                 | $\gamma=1.21$  | $\gamma = \infty$ c=0,49 |

*Diagnostic Tests for LSTAR*

|              | F Test (p values)  | $\sigma^2/\sigma_L^2$ | Auto(k) | ARCH(4) | Normality | LSTAR |
|--------------|--------------------|-----------------------|---------|---------|-----------|-------|
|              | $\Delta y_{t-1}$   |                       |         |         |           |       |
| $\Delta y$   | 0.043              | 0.82                  | 0.21    | 0.105   | 0.32      | 0.25  |
| $\Delta \Pi$ | 0.04               | 0.71                  | 0.20    | 0.180   | 0.19      | 0.21  |
|              | $\Delta \Pi_{t-1}$ |                       |         |         |           |       |
| $\Delta y$   | 0.015              | 0.74                  | 0.29    | 0.175   | 0.27      | 0.39  |
| $\Delta \Pi$ | 0.041              | 0.67                  | 0.192   | 0.134   | 0.389     | 0.43  |

The normality figures in the table are, Jarque-Bera's normalite tests figures.  $\sigma^2/\sigma_L^2$  show the ratio of the estimated variance of the model. Auto(k) and ARCH(4) show the F versions of LM test. The normality test is Jarque-Bera test. LSTAR show the results of testing linearity against the LSTAR specification using the estimated residuals.

### Cost of Disinflation

|                                          | $\Delta y_{t-1}$     |                      | $\Delta \Pi_{t-1}$     |                        |
|------------------------------------------|----------------------|----------------------|------------------------|------------------------|
|                                          | $\Delta y_{t-1} < 0$ | $\Delta y_{t-1} > 0$ | $\Delta \Pi_{t-1} < 0$ | $\Delta \Pi_{t-1} > 0$ |
| Disinflation                             |                      |                      |                        |                        |
| %1                                       | 21.7                 | 19.57                | 11.9                   | 19.01                  |
| %2                                       | 22.8                 | 23.42                | 23.34                  | 21.4                   |
| Preventing Incipient Inflation Pressures |                      |                      |                        |                        |
| %1                                       | 20.2                 | 19.7                 | 20.1                   | 19.49                  |
| %2                                       | 21.06                | 22.98                | 21.5                   | 23.05                  |

## 5. Conclusion

This study showed that under the intensive political instability periods, the output cost of inflation is higher than that the political stability period. This means that the cost of disinflation is higher during the political instabilities. The social cost of inflation is very important for the effect on unemployment. At the end of the 2002, political stability and implementation of the IMF's stabilization program decreased the inflation. There is an other problem by 2004, eventhough the inflation decreased, the cost of employment has not dropped. The effect of *hysteresis worked*, while the inflation went down production increased but unemployment rate continued to increase. The Turkish economy has become more stable but unemployment has not went down. As *hysteresis* said that it was hard to tackle the incipient level of unemployment.

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