ABSTRACT

The budget deficit issue has attracted a great deal of attention over the past two decades, as reflected in substantial in the academic literature and in the policy making community. Moreover, the budget deficit and related issues has become a major problem facing the Iranian economy.

The main objectives of this study are as follows: First, to macro model prospective developments in the Iranian economy for policy analysis and evaluation. The main purpose of this study is to develop a dynamic macroeconomic model to examine the effect of budget deficit, liquidity (M2), official exchange rate and political factors on inflationary process in Iran during 1963-2002.

The second objective of this study is to analyse the economic trends and macroeconomic policies in Iran over the period of investigation. To make that judgment, it analyses public sector deficit, monetary development, and inflation with consideration of political factors such as the 1979 revolution, the 1980-1988 war with Iraq, and the economic reform programme after war.

Many economists have studied the relationship between budget deficit, money supply and inflation in both developed and developing countries. They have used various econometric models to estimate the relationship between budget deficit and inflation. There are two group studies, in first group, budget deficit variable is directly entered into the model and the relationship with inflation has been studied, second group has indirectly studied the relationship between budget deficit and inflation. This study has also directly studied the relationship between budget deficit and inflation.

The selection of variables for our baseline model is based on the following consideration. First, to measure the price inflation, the consumer price index (CPI) is included in the baseline model. Second, we included the budget deficit and liquidity (M2) in the price equation together following Choudhary and Parai (1991). In fact, these variables are used to allow for the effects of fiscal and monetary policies on price level. Third, we also included the official exchange rate in model following Piontkivsky et al. (2001) to detect the effect of exchange rate policy on price level in Iran.

This study involved Autoregressive Distributed Lags (ARDL) and Phillips and Hansen (1990) approaches to univariate cointegration tests and Johansen and...
Juselius (1990) maximum-likelihood approach to multivariate cointegration test to detect the existence of a long-run relationship between variables included in model. To investigate the short-run dynamics of system with the information of the cointegration relationship, an Error Correction Model (ECM) is estimated.

Estimated model, based on the time series annual data from 1963 to 2002, showed that budget deficits as well as liquidity (M2) and official exchange rate have a significant effect on price level in long-run in Iran. The estimated coefficients for the dummy variables were positive and highly significant, indicating that the eight-year war with Iraq during 1980-1988; and the economic reform programme after war during 1989-2002 have impacted on the price level. It is also important that the long-run estimated coefficients in univariate cointegration tests the point of view of size element with the multivariate cointegration test are symmetrical. But, according to the result of ECM, liquidity (M2) has only a positive impact on price level in short-run, and statistically significant. In addition, results showed that estimated coefficient of liquidity (M2) in short-run is less than estimated coefficient of liquidity (M2) in long-run. Finally, Error Correction Term (ECT) was as low as -0.32 meaning that in every year 32 per cent of the divergence between the short-run price levels from its long-run path is eliminated.

This study provides some major policy implications for the Iranian economy. First, between 1963 and 2002, Iranian government has had a budget deficit. The large size of government in economy and the large state subsidies on essential food items, fuel and public services have increased budget deficit in Iran. An anti-inflationary policy, which can be successful in reducing inflation at the lowest income cost, is related to fiscal policy through reconsideration of the structure of government revenue, expenditure. The government must reduce the budget deficit by solving the problem of public enterprises, eliminating subsidies, denationalizing its numerous public sector activities and also by cutting down drastically the size of its bureaucracy. In addition, the government must increase revenue through taxes. Of course, Iran needs to reform the tax revenue system.

Second, the dynamic model of inflation showed that liquidity (M2) plays a crucial role in determining inflation in Iran in long-run and short-run. Therefore, monetary policy can make a principle contribution for the society’s welfare and the economy as a whole through reducing inflation and maintaining an environment of low inflation and price stability. To reduce inflation through monetary policy, it is
necessary that the authorities make: Control the high liquidity (M2) growth through Central Bank of Iran (CBI). Manage the total private sector liquidity (M2) to economic growth and the reconsideration to converse the oil revenue into domestic currency.

Third, according to the empirical results of this study the official exchange rate is another determinant of inflation rate in Iran. It was shown that a depreciation of domestic currency causes an increase in the inflation in long-run, specifically following the devaluation of exchange rate in formal sector. This study recommends that the CBI should support unified rate, specifically now that CBI has sufficient foreign exchange reserves. Moreover, since anti-inflationary policy requires an increase in the value of the domestic currency, CBI should manage the exchange rate markets to design an anti-inflationary policy through time.

Finally, we considered social and political factors not only in macroeconomic policies and performance but also in our econometric model. The estimated model showed that the dummy variables such as the eight-year war with Iraq (shock1) during 1980-1988; and the economic reform programme after war (shock2) during 1989-2002 have impacted on the price level in Iran. During the eight-year war (with Iraq) experienced a steep increase in the budget deficits, high growth rates of liquidity (M2), and instable exchange rate. Moreover, these trends were accompanied by a steep increase in the inflation rates in Iran. This study recommends that authorities must prevent to occurrence of new war. It is possible by improving international relations with world community. Moreover, over the period of 1989-2002 (development plans after war) the average annual rate of inflation was 21.2 per cent. In addition, Iran has experienced the highest inflation rate (49.4 per cent) in 1995. Therefore, authorities must reconsider the economic reforms programme implemented after war to adopt an inflation target regime in the near future for the Fifth Five-Year Development Plan (FYDP).

**Keywords:** Budget deficit; Inflation; Cointegration; Error correction model

**JEL Classifications:** H62; E31; C22; C32