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**A MODEL OF INFLATION IN MALAYSIA:
1970 - 1990**

BY

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A MODEL OF INFLATION IN MALAYSIA: 1970 - 1990

Under my supervision. The relevant comments made on the paper during its presentation have been incorporated in the present version of the paper to my full satisfaction.

I have pleasure in recommending that the graduate committee may approve the paper in partial fulfilment of the requirements for the degree of Master of Economics.

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A MODEL OF INFLATION IN MALAYSIA: 1970-1990

INTRODUCTION

Malaysia has a remarkable record of low inflation over the last two decades when compared with other countries throughout the world. In fact, Malaysia ranked the 13th. among the countries with low inflation rates [1]. Among the ASEAN economies, Malaysia turns out to be the second after Singapore in terms of low inflation rates [2].

Throughout the twenty years, 1970-1990, Malaysia has experienced two episodes of high inflation. The first is during 1973-1974, where the inflation rates exceeded 10% with 17.4% in 1974 and the second in 1980-1981 where the rates were relatively lower with 9.7% in 1981.

The episodes of high inflation rates in Malaysia have gained much attention from the economists and many studies have been done on these episodes. However, only little attention has been given to study the factors that help Malaysia to sustain such low inflation rates during the period (1970-1990). Thus, this paper seeks to address this issue. The paper also attempts to develop and estimate a model of inflation for Malaysia during this particular period.

[1]. The Economist Book Of Vital World Statistics, Hutchinson Business Books Limited, London, 1990, p.144

As of 1989, Malaysia ranks 13th. with an average rate of 1.6% over the period of 1983-1988, while Saudi Arabia ranks 1st. with an average rate of -1.57% over the same period.

[2]. Economic Reports 1989-1991, Ministry of Finance Malaysia.

The study will then be guided by the following objectives: 1. to make an analysis of the trend of inflation in Malaysia; 2. to derive the factors that contribute to the low inflation rates.

There are two sources of data for the study. The first is the library research of previous studies on inflation. The second is the secondary data, mostly gathered from various issues of Malaysian Economic Reports 1970-1990, Bank Negara Annual Reports and Bank Negara Statistical Bulletins 1970-1990.

Empirical test is used to derive the factors contributing to low inflation rates in Malaysia.

The rest of the paper is organized as follows; Following the Introduction, Section 2 presents the literature review. Section 3 discusses inflation in Malaysia. Section 4 presents data sources and model justification. Section 5 provides the estimates and findings and finally Section 6 is the conclusion.

SECTION 2- LITERATURE REVIEW

Inflation is defined by most economists as a sustained, inordinate increase in the general price level [3]. It is also perceived by many as one of economic evils that afflict mankind. Indeed, it can be said that the Central Bank of Malaysia has always regarded inflation as its "public enemy number one" [4]. There have been enormous debates on this issue particularly on its causes, effects including some which have been scarcely noticed by the contemporaries.

2.1 THEORIES OF INFLATION

Various theories have been developed to explain the possible causes of inflation. The major four schools of thought are Cost-push, Monetarist, Neo-Keynesian and Neoclassical-Rational Expectations.

2.1.1 COST-PUSH THEORY

The cost-push school of thought regards the main cause of inflation is the increase in the cost of production. For instance, an increase in the price of oil is much blamed for the current inflation [5]. Similarly, an increase in the costs of imported goods is also regarded as a factor which accelerates inflation.

[3]. J.A Trevithick, The Economics of Inflation, Martin Robertson and Co. Limited, London, 1975, p.1

[4]. Rosli Yaakop and Lee H.G., "Public Sector and Monetary Policy in Malaysia", Public Sector and Monetary Policy in Seacn Countries, SEACEN Research and Training Centre, Kuala Lumpur, 1991, p.212

[5]. J.A Trevithick, Inflation, Penguin Books Limited, England, 1985, p.101

Nevertheless, inflation, according to this theory, is also much attributed to the monopolistic practices of the trade unions. Trade unions normally ask for an 'unreasonable' increase in wages which then creates an upward pressure on the general price level via increase in the cost of productions. Such a process normally ends up reducing the output and hence, endangers the unemployment level of an economy. An accomodative increase in the money supply would then be required to offset this slackening effect of an economy.

2.1.3 NEO-KEYNESIAN

The second major theory concerning the cause of inflation is referred to as the Neo-Keynesian. The Neo-Keynesians believe that the acceleration of inflation depends on the rate of unemployment rather than the growth of money supply per se [6]. This means that inflation basically depends on the overall state of the economy. When the economy is below the critical or the equilibrium rate of unemployment, inflation will thus accelerates. Similarly, when the economy is above the critical rate of unemployment, inflation decelerates.

Keynes also traced the sources of unemployment to a deficiency of effective aggregate demand. Thus, its 'mirror image' inflation is traced to an excess of aggregate expenditure over producible real income [7]. In addition, according to this

[6]. Akhtar Hossain, "The Monetarist versus the Neo-Keynesian views on the acceleration of Inflation: Some evidence from South Asian Countries", Pakistan Development Review, Spring 1990, p.20
[7]. J.A Trevithick, Inflation, op.cit, p.44

school of thought, there are several factors that can lead to excess demand. This includes expansionary fiscal policy, cost push factors and excessive monetary growth which can either affect inflation separately or in combination [8].

2.1.3 MONETARIST

Friedman, the 'high-priest' of monetarism, stated that his objections to Keynesianism are: a) that the government does not enjoy the flexibility in implementing its own employment policy that the simple Phillips curve appears to apply; b) that the most important determinant of aggregate spending is the supply of money; c) that for a constant rate of increase in the supply of money, unemployment will eventually settle down at its natural rate and the rate of inflation will ultimately be equal to the difference between the rate of increase in the supply of money and the rate of growth of output [9].

The Monetarist hypothesis assumes that there exists a stable real demand function for money and the exogeneity of money supply. Inflation, according to the Monetarists, is primarily a monetary phenomenon resulting from an excess supply of money over money demand. Prolonged supply of money over money demand leads

[8]. Bank Negara Annual Report 1991, Bank Negara Malaysia, p.120

[9]. J.A Trevithick, Inflation, op. cit, p.78

to an increase in expenditure on goods and services which consequently raises the general price level.

Monetarism, accepts the quantity theory that emphasizes the role of money in inflation. In this tradition, monetarists argue that the direction of causation is from monetary expansion to the increase in the general price level [10]. This is postulated in the famous equation of exchange: $MV=PY$, where M is the nominal supply of money, V is the income velocity of circulation, P is the index for the general price level and Y is the real income. With the assumption that output is at full capacity level, there is a direct relationship between the changes in the price level P and the changes in money supply M.

Various empirical studies have tested these competing views of the Monetarists and the Neo-Keynesians for example Stein (1982), Zannoni and McKenna (1980), Rea (1983), Turnovsky and Mohan (1984), Akhtar Hossain (1990) etc. Most studies, with the exception of few, have consistently support the Monetarists' view that the major contributory factor to the acceleration of inflation is the change in real money supply.

[10]. George Macesich, Monetarism, Praeger Publishers, New York, 1983, p. 139

2.1.1 NEO-CLASSICAL- RATIONAL EXPECTATIONS

The Rational Expectations School, on the other hand, assumed that the expected rate of inflation would change only as a result of prior changes in the experienced rate of inflation.

Individuals are supposed to predict the future behaviour of the price level by extrapolating from the past inflation rate [11].

This school of thought further argues that once the economy becomes accustomed to the experience of inflation, economic agents become very adept at distinguishing relative price changes from changes in the absolute price level. The rational economic agents will then be able to formulate their own 'correct prediction' of what determines the price level. This also means that any ordinary employer or a housewife are all in a position to formulate their own correct prediction. As such, any disturbances in the economy which people can anticipate like policies aimed at reducing the level of unemployment or raising the real output can consequently result into an increase in the general price level.

[11]. J.A Trevithick, Inflation, op. cit, p.69

2.2 OTHER CAUSES OF INFLATION

The theories of inflation have classified the other common causes of inflation as follows;

2.2.1. The expansion of Incomes

The rising prices of inflation are also the results of spending by consumers, business, government and foreigners. If the National Income increases faster than the real output, producers inevitably raised prices [12]. An increase in income also increases the cost of production which then raises the general price level as explained by the cost-push theory.

2.2.2 The trade-off of unemployment and inflation

Irving Fisher (1926) first observed the significant statistical association between the rate of inflation and the level of unemployment. This observation went unnoticed until it A. W. Phillips (1958) established an empirical relationship between the two variables which was then known as the Phillip's Curve [12]. This explains that in times of prosperity when the aggregate spending was high and unemployment was low, there is a greater tendency for inflation to accelerate. Similarly, in times of recession and high unemployment, inflation tends to decelerate.

[12]. Simon N. Whitney, Inflation since 1945, Praeger Publishers, U.S.A 1982, p.30

[13]. J.A Trevithick, Inflation, op.cit, p.57

2.2.3. Food, Shelter, Energy, Medical care

The increase in sub indices of food, shelter, energy, and medical are said to be the "core of inflation" as these are considered as the basic necessities. A rise in this component of Consumers Price Index leads to inflation.

The oil price reduction will also have important implications for the rate of inflation in the world economy. From the point of view of an oil importing country, a reduction in the price of oil leads to a decline in import costs and thus could lead to an improvement of the inflation rates. A study on the effect of a sustained fall in the world price of oil on the Nigerian economy reveals that output and the Gross Domestic Product have increased and the inflation rate declined [14].

2.2.4. Transmission of the International Inflation

There are two basic hypotheses concerning the international transmission of inflation under fixed exchange rates [15];

- a). Any discrepancies between prices of similar goods in different countries will lead to commodity arbitrage across countries and thus leads to inflation in one country.
- b). The rise in the world inflation rates leads to a fall in relative domestic price level which generates excess demand and a balance of payments surplus. As the price of imported goods

[14]. Jacob Aflobi, Robin Bladen Hovell, "The Effects Of A Fall in the Price of Oil in A Small-Scale Simulation Model of the Nigerian Economy", The Manchester School of Economics and Social Studies, Vol:58, 1990, pp.1-19

[15]. Michael Parkin, "A Monetarist Analysis of the Generation and Transmission of the World Inflation", n.a, pp.168-169

goes up , it induces the prices of import-substitution to increase which certainly leads to an economy to inflation.

SECTION 3- INFLATION IN MALAYSIA

3.1 AN OVERVIEW OF INFLATION

Malaysia, being a small open economy is always believed to be vulnerable to external influences particularly, on the problem of inflation. However, Malaysia to this date is observed to be one of the countries in the world with low inflation rates. Its ability to maintain domestic price stability within an acceptable limit is remarkable.

Among the ASEAN countries, Malaysia has recorded relatively low and stable prices as indicated in Table 1.

TABLE 1

Rates of Growth of Consumer Prices (%)

	Average 1970-1979	1980	1985	1986	1987	1988	1989	1990
Indonesia	20.1	18.5	4.4	9.2	9.3	5.5	6.4	9.9
Philippines	13.1	17.8	5.7	-0.3	7.5	8.8	10.6	12.7
Thailand	9.5	19.7	2.4	1.9	2.5	3.8	5.8	6.1
Malaysia	7.3	6.7	0.4	0.6	0.8	2.5	2.8	3.1
Singapore	5.5	8.5	0.5	-1.4	0.5	1.5	2.8	3.4

Sources: Economic Reports 1989-1990, pp.166-168
1990-1991

3.2 MEASUREMENT OF INFLATION

There are three basic measurements of inflation which are widely used i.e. Consumer Price Index (CPI), Producer Price Index (PPI), and GDP Deflator.

3.2.1 Consumer Price Index (CPI)

The Consumer Price Index (CPI) is widely used to measure the rate of inflation in an economy. Nevertheless, it has been argued that the current Malaysian CPI does not measure the rate of price increases effectively and that it underestimates the current rate of inflation in the country.

The CPI is an index designed to measure the average changes in the general price level of a fixed basket of goods and services which represents the expenditure pattern of the average private household in Malaysia with reference to a base year [16].

The weights used in the CPI were first based on the estimates of private consumption expenditure of the National Accounts of 1967, Later (after 1980), the 1980 weights for the current CPI are based on the expenditure pattern of the average household derived from the Household Expenditure Surveys (HES) of 1980 for Peninsular Malaysia and 1982 for Sabah and Sarawak. The next HES will be due in 1992 [17].

[16]. Economic Report 1990/1991, Ministry of Finance, p.210
[17]. Bank Negara Annual Report 1991, Bank Negara Malaysia, p.210

The CPI can generally be calculated on the basis of different formulae such as the Paasche's Index Formula or the Laspeyres Index Formula. In Malaysia, the CPI is based on the Laspeyres Index Formula as it is more expensive to carry out a household survey every year.

The computations of CPIs for Sabah and Sarawak are normally done separately until 1980 when the CPI for the whole of Malaysia was computed.

The CPI for Malaysia is calculated monthly, based on the following elements [18]:

i) a standard "basket" of goods and services which represents the expenditure pattern of the average sample household in Malaysia conducted in 1990 (the base year). The items are classified into nine major groups;

ii) information on prices of about 130 items are obtained from about 4000 retail outlets in 84 towns in Peninsular Malaysia, 800 outlets in 12 towns in Sabah and 650 outlets in seven towns in Sarawak;

iii) prices are then weighted according to a presented "1990 basket" and

iv) the weighted prices are then converted into Laspeyres Index [18].

[18]. Bank Negara Annual Report 1991, Bank Negara Malaysia, p.122

3.2.2 Producer Price Index (PPI)

The Producer Price Index (PPI) is another measure of inflation that is commonly used. It is issued by the Department of Statistics where it measures the average rate of change in prices of all commodities charged by the producers and paid by importers in Malaysia. Like the CPI, it is also computed based on the Laspeyres formula. Nevertheless, it is less used in Malaysia because it reflects input prices of products where the major proportion is exported.

At present, the Producer Price Survey covers about 1000 establishments and collects some 3000 price quotations for about 700 commodities. The commodities are classified according to the Standard International Trade Classification (SITC) system [19].

The PPI includes goods from major sectors of the economy such as agriculture, mining, manufacturing, electricity, gas and water. Hence the PPI includes prices of commodities such as rubber, palm oil, tin and crude petroleum which are not included in the CPI.

Most countries use the CPI to reflect inflationary pressures, though in some countries both the PPI and CPI are used. These two indices are not normally substituted for one another [20].

[19]. Economic Report 1990, Ministry of Finance, p.211

[20]. Ibid

3.2.3 GDP DEFLATOR

The third common measure of inflation is the GDP Deflator. It is derived by dividing the GDP in current dollars by GDP in constant dollars. The GDP is an amalgam of the prices of imports, exports and consumers [21].

Despite the debate of its reliability, the CPI is the common measure of inflation. Thus, in this study, CPI is used as a measure of inflation over the period of analysis, 1970-1990.

3.3 INFLATION EXPERIENCE

During the period of analysis, Malaysia has experienced two episodes of high inflation. The Malaysian experience in these periods can be best summarized as follows [22]:

Malaysia: High Inflation Rates and Its Main Causes

Period 1	CPI	Causes
1973	10.5%	1. Expansion of money supply
1974	17.4%	2. Oil embargo
Period 2		
1980	6.7%	1. External influences such as increase in imports and
1981	9.6%	2. Increase in oil prices

Sources: Economic Reports 1970-1990

[21]. Bank Negara Annual Report 1991, Bank Negara Malaysia, p.122

[22]. For the causes, also refer to:

Mansor Jusoh, " Money, Monetary Policy and Inflation in Malaysia in the 70's: A Comment", Jurnal Ekonomi Malaysia, 1986, pp. 87-91

3.3.1 First High Inflation Episode 1973-1974

Over the last twenty years, Malaysia experienced only two distinct periods of high inflation. As indicated in Figure 1, the first period was in 1973-1974 where the CPI increased significantly from 3.2% in 1972 to 10.5% and 17.4% in 1973 and 1974 respectively.

The high inflation rates during this period were very much attributed to the increase in the growth rates of money supply in the preceeding year. Mansor Jusoh [23] analysed the historical trend of the monetary aggregates and inflation rates in Malaysia over the period 1970-1984 and concluded that growth rate of money supply during this particular period did affect the inflation rates. An examination of Figures 2 and 3 and 4 (pages 17-19) seems to support his observation which was not empirically tested.

There were also other factors that are believed to contribute to the high inflation rates in this period. The demand for exports was too strong resulting in more foreign exchange flowed in the economy [24]. The money supply was then inflated and reached its peak at 31.2% in 1973 (Figures 2 and 3).

The prices of oil and food were also regarded as the contributory factors to the acceleration of inflation [25] as indicated in Table 1.

[23]. Mansor Jusoh, "Money, Monetary Policy and Inflation in Malaysia in the 70's: A Comment", Jurnal Ekonomi Malaysia, 1986, p.87-103

[24]. Mohammed bin Yusof, "Inflation and Controls: Malaysian Experience in 1970's ", Jurnal Ekonomi Malaysia, 1985, p.38

[25]. Ibid, p.35

YEAR - CPI

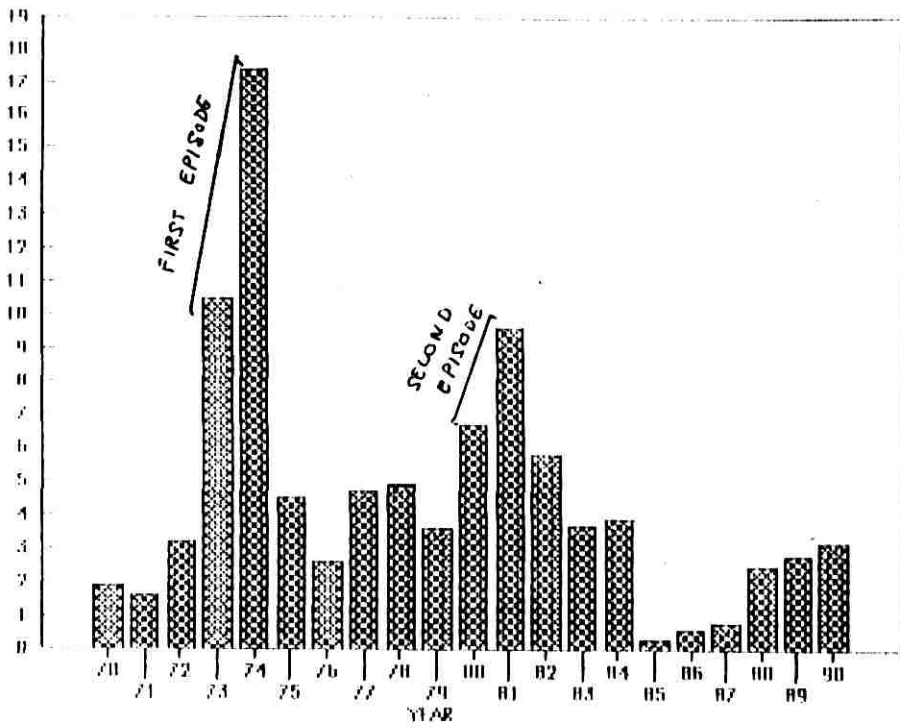


FIGURE 1

YEAR² - M1

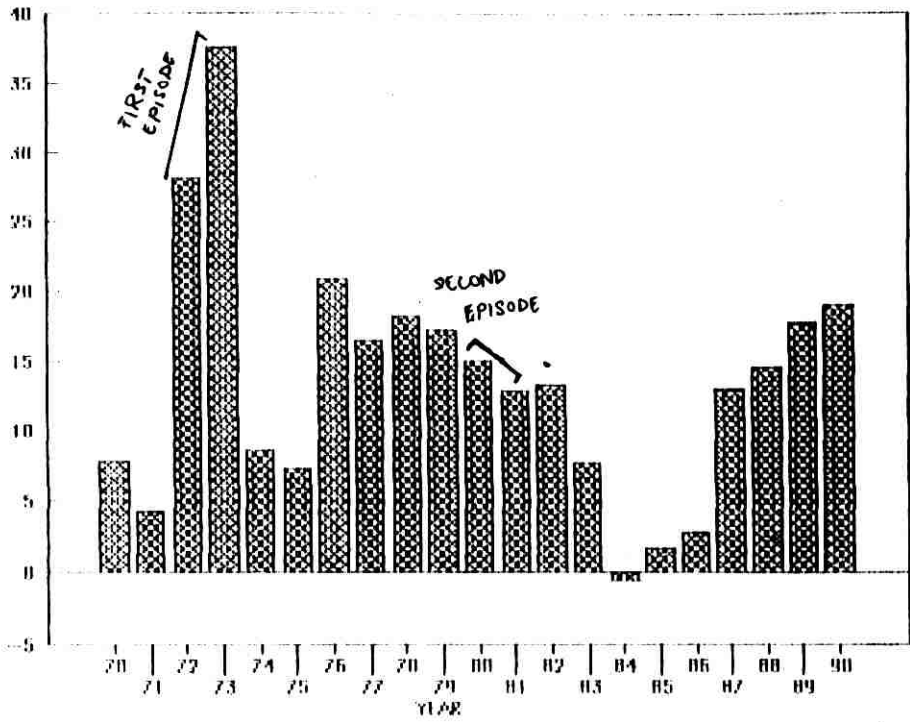


FIGURE 2