Full Length Research Paper

Measuring the impact of multiplier, to determine the Keynesian model of income, in open economy, in the context of Pakistan

Naveed Iqbal Syed*, Muhammad Sohail Tahir and Shamim A. Sahibzada

Department of Management Sciences, Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology, H-8/4, Islamabad, Pakistan.

Accepted 27 May 2011

The main objective of this study is to measure the impact of Keynesian four sector open economy multiplier model in the context of Pakistan's economy and to suggest to the government how the size of multiplier could be increased. For this purpose, 19 years time series data have been collected for different components of the aggregate demand function of the Keynes model. Stationarity of the data was checked by Augmented Dickey-Fuller (ADF) unit roots test. Next, the regression analysis is applied. By Keynesian multiplier model, multiplier (K) value is obtained for each year and on the basis of multiplier value, national income equilibrium is determined. Overall, the mean value of multiplier (K) is equal to 0.841088 times. The significance of the model $R^2 (0.970894)$ indicates that 97.08% of the dependent variable are explained by the independent variables. This is because of the fact that there is significant unbiasedness in the data and adjusted $R^2 =0.963133$ which is closer to the $R^2$. The consumption, investment and government expenditure have a significant impact on national income, whereas the t value of net export ($X$) is less than two which is insignificant and may be because of recession and fluctuation in the pattern of international demand. The coefficient of variation, t-statistic, $R^2$, and adjusted $R^2$ lies within the acceptable ranges. For policy recommendations, government must provide incentives to develop industrial base in the country. Expenditure dampening policy should be encouraged to discourage imports of luxury and unnecessary imports. Simultaneously expenditure switching policies should be adopted by the government to find out substitutes to the expensive imports like ethanol could be developed to decrease oil imports. The scope of the government expenditures should be increased. The transfer payments systems like Benazir Income support programme (BISP), Bait-ul-Mall scheme and Zakat should be improved.

Key words: Marginal propensities, multiplier, national income, John Maynard Keynes, recession, expenditure dampening, expenditure switching.

INTRODUCTION

Economic phenomena are very complex in its nature but are always unique in its application. Although the laws of economics are not like natural laws, with minor changes, model developed in one country could be easily applied in another country or economy (Alam, 2009). The provisions for minor adjustments are given because all economic models or laws are true under ceteris paribus conditions.

A basic proposition of the Keynesian theory is that the equilibrium level of income and output depends upon the economy’s aggregate spending for output. If the aggregate spending is not sufficient to call forth the level of output that require the employment of all variables like workers for its production, unemployment results, and production of goods and services falls below its potential. If the aggregate spending is just sufficient, full employment results, and production reaches its potential. If
aggregate spending, exceeds the required level, inflation results. However, at any level of output, from that which calls for the full employment of the labour force to that which imposes idleness on a large part of the labour force, it is a possible equilibrium level.

A major task of macroeconomics is the explanation of what determines the economy's aggregate output of goods and services. In any time period, that output may be equal to what can be produced with full utilisation of the economy's resources or it may be something below this. What it actually is can only be ascertained by measurement (Alam et al., 2010). Conceptually, the expenditure and income approaches to measurement yield the same figure for the value of the economy's final output of goods and services. This total figure is broken down to provide a framework for the use to determine aggregate demand or expenditure function. Our expenditure sides are the amount accounted for the expenditure of the consumer, business, government and the rest of the world; and the aggregate supply side are the amount devoted to the payment of taxes, purchases of consumer goods and services and saving.

National income determination has been a long outstanding issue to both researchers and practitioners. Keynes (1930) devises a comprehensive measure to determine national income equilibrium in his famous concept of closed and open economy, and how the increments in national income will take place due to different injections into the income stream like Investment (I), government expenditures (G), and exports (X).

The main objective of this study is to measure the impact of Keynesian four sector open economy multiplier model in the context of Pakistan's economy and to suggest to the government how the size of multiplier could be increased. For this purpose, 19 years time series data have been collected for different components of the aggregate demand function of the Keynes model. The main research question is: are there any significant impacts of multipliers like investment, government expenditures and exports on the Keynesian model (or national income)? Literature review is followed by the introduction section, which further leads to research objectives, questions, hypothesis, data collection techniques, methodology, specification of the model, discussion, conclusion, and recommendations for the government.

LITERATURE REVIEW

According to Hassan (1960), the Keynesian-type income multiplier has little relevance for an underdeveloped country having extremely low elasticity of output; any boost in autonomous investment is likely to result in the rise in prices. This assumption of Hasan (1960) is not true in its applied nature. Keynesian model is equally applicable to all countries irrespective of its nature of development. To fill this gap, we have applied Keynesian model on a developing country like Pakistan, and the study of Behrman (1975) supports our point of view. He considered a nine-sector model with capacity creation and utilization, import, export, price and wage determination. Consumption-savings decisions are estimated for households and nonprofit institutions, businesses, and the government. Many aspects of government fiscal and monetary policies are endogenous. In its specification, the effort is made to overcome the common shortcomings encountered in Keynesian-based national income determination models for developing economies. The developing countries are far from homogeneous. In terms of almost any relevant feature, the range across countries is enormous. Further, the suggested modifications reflect characteristics not necessarily common to all developing countries, but at least to a significant number of them.

Husain and Abbas (2000) report long run relationship among money, income, and prices. Their analysis further suggests one way causation from income to money, implying that, probably, real factors rather than money supply has played a major role in increasing Pakistan's national income. Although real income had increased in real and monetary term but significant increase in national income is due to inflation too. So, for national income determination, we have taken real instead of nominal income and other related variables. Almost same study conducted by Holst and Sancho (1992) set a method for analyzing the varying composition of income and production with a social accounting matrix. Their method was designed to show the structural components of income and expenditure in the economy as these affect relative incomes. It was shown that, for any defined model of nominal income determination, a structure can be specified which captures the affects of external shocks on the distribution of income. It does not consider real income determination affect such as taking into consideration, inflation. Both studies of Husain and Abbas (2000), Holst and Sancho (1992) did not consider the real value or adjustment for inflation in their studies.

According to Hussain (1994), economist usually derives multiplier for shifts in IS-Investment Saving curve and multipliers are confined to goods market. Values of multipliers change when the money market is brought into consideration. Romer (2000) considered recent development works to the disadvantage of IS-LM. This observation suggests that it is time to revisit the question of whether IS-LM values of multipliers will further change when supply side is added to the IS-LM demand side model. But this model is still suitable not only for goods market but also for services and other segment of the society because open/four sector model of income determination gives better solution to all sector of the economy. To overcome this gap, all sector of the economy like consumption, saving, investment, taxes, government expenditure, exports and imports are included in the present study.

Torre et al. (2002) showed that in an economy showing
strategic complementarities and spillovers, equilibrium is not usually unique, and certain equilibriums are inefficient. In the Keynesian model, there is a concept of stable equilibrium and short run fluctuations like deflationary and inflationary gaps which could be resolved by fiscal policy tools.

As shown by the study of Chumacero et al. (2004) and Andini (2007), a problem of deficient effective demand arises because the marginal propensity to consume (MPC) is lower than one. The condition implies that the amount of aggregate monetary savings increases as the aggregate monetary production-income level increases. If MPC is less than one, then the remaining part is saved. Saving according to Keynesian model are leakages out of the income stream which ultimately becomes injections in the form of investment through multiplier effect. This gap is addressed in this study by including different multipliers like investment, government expenditures and exports.

Already, Ahmad (2008) and Feizi (2008) in their studies emphasized the importance of Keynesian model of income determination in the open economy, with the introduction of a new instrument of Islamic interest free system. In their studies, exchange rate was used as an alternate to the interest rate because of prohibition of the interest rate in Islamic system. Keynesian model, on the other hand, believes that investment is autonomous, that is, does not depend upon interest rate. It means interest rate has no influence on the Keynesian model so their model could directly be applied to Islamic economy.

Tcherneva (2008) argued in his study that Keynes had a targeted demand approach to full employment. Modern policies, aim to “close the demand gap,” were inconsistent with the Keynesian approach on both theoretical and practical grounds. Aggregate demand tends to boost inflation and erode income distribution that is why true full employment is not possible via traditional pro-growth, pro-investment aggregate demand stimuli. This was well understood by Keynes, who preferred targeted job creation during expansions. But even in recessions, Keynes did not campaign for wide-ranging aggregate demand tools; because, different policies have different employment creation effects. There was significant proof to argue that Keynes had an “on the spot” approach to full employment, where the problem of unemployment is solved via direct job creation, irrespective of the stage of the economic cycle these aspects are covered in this study by adding multipliers and injections instrument in the model.

According to Benassy (2006) and Cogan et al. (2009), models used in practice to evaluate fiscal policy stimulus proposals are not forceful. The multiplier effect, by which an increase in government spending can create an increase in consumption, is attributed to price or wage rigidities. Government spending multipliers in an alternative empirically estimated and widely cited new Keynesian model are much smaller; the estimated stimulus is extremely small just when needed most, and GDP and employment effects are large, with private sector employment impacts likely to be even smaller. According to Polyzos et al. (2008), changes in the regional income brought about by increases in state spending are associated to the government spending multiplier, or to the marginal tendency of the economy for consumption and the marginal tendency for imports or exports per region. In the latter study, a new variable location quotient is used which does not exist in the actual Keynesian model.

Based upon the findings of Hussain (1994), Romer (2000), Chumacero et al. (2004), Benassy (2006), Andini (2007), and Cogan et al. (2009) that injections multiplier needs to be addressed in a particular situation from country to country because the basic structure of the multiplier remains same, the circumstances like marginal propensities to save, tax and imports are different in structure and size. Based upon these findings, the main research question is generated to be answered.

Research objectives

The main objective of this study is to measure the impact of Keynesian four sector open economy multiplier model in the context of Pakistan’s economy and to suggest to the government how the size of multiplier could be increased.

Research questions

Q: Are there any significant impacts of multipliers like investment, government expenditures and exports on the Keynesian model (or national income)?

Research hypothesis

H₀: There are no significant impacts of multipliers like investment, government expenditures and exports on the model Keynesian model (or National Income).

METHODOLOGY/ MODEL

1. Taking log
2. Taking real value (adjusting for inflation)
3. Stationarity – ADF-unit root test
4. Coefficient of variation
5. Regression analysis
6. Keynesian multiplier and national income formulae

Data collection

Mainly, the secondary data is used in this research study from the period of 1990 to 2009, taking annualized data and average data where actual annualized data was not available. The data was taken from World Bank, State Bank of Pakistan, Economic Survey of Pakistan, Pakistan Development Review, Federal Bureau of Statistics Pakistan, Federal Board of Revenue, and International Monetary Fund.
Table 1. Unit root test. ADF Test Statistic for different variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF</th>
<th>K</th>
<th>Significance (%)</th>
<th>Critical value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>-3.9985*</td>
<td>(1)</td>
<td>1</td>
<td>-3.8877</td>
</tr>
<tr>
<td>C</td>
<td>-3.2985*</td>
<td>(1)</td>
<td>5</td>
<td>-3.0521</td>
</tr>
<tr>
<td>I</td>
<td>-3.0885*</td>
<td>(1)</td>
<td>10</td>
<td>-2.6672</td>
</tr>
<tr>
<td>G</td>
<td>-5.7985*</td>
<td>(1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>-5.402*</td>
<td>(1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>-3.40</td>
<td>(1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*MacKinnon critical values for rejection of hypothesis of a unit root.

Analysis

This is originally Keynes (1930) model of income determination in different sector of the economy. In this particular research paper, we are using it to determine equilibrium level of national income in four sector economy in Pakistan. This model has been used by Zind (1999). Secondary data from 1990 to 2009 has been taken to determine multiplier first and ultimately national income equilibrium in four sector economy model in the special case of Pakistan. All dependent and independent variables are taken on annual basis.

The data is converted into real terms by dividing it by retail price index (RPI) of the respective years. First, stationary of the time series data is checked by Augmented Dickey-Fuller (ADF) unit roots test, using e-views software package. All data was transformed into natural log before applying the Augmented Dickey Fuller Unit Root test.

The following further analysis is done to complete the study. To examine relationship between national income and other independent variables, the ordinary least square estimation technique is applied.

In the second analysis, Keynes (1930) technique was used to determine four sector multiplier and national income equilibrium.

Specification of the empirical model

This is the original Keynes (1930) model of income determination in an open economy, used by Zind (1999) in his research paper to determine multiplier and income in six member states of the Gulf Cooperation Council (GCC):

\[ Y = \alpha + C + I + G + (X - M) + U_T \]  

Where, \( \alpha \) = constant; \( Y \) = national income; \( C \) = consumption; \( I \) = investment; \( G \) = government expenditure; \( X \) = exports; \( M \) = imports; \( U_T \) = error term.

Equation 1 is the aggregate demand or expenditure function of Keynesian model which consider on one side of the equation \( Y \) as national income or gross domestic product (GDP) and other side of the equation is broken down components of \( Y \), consumption \( C \), investment \( I \), government expenditures \( G \), exports \( X \) and imports \( M \). Equation 2 indicates that the national income is a dependent variable and \( C \), \( I \), \( G \), \( X \), \( M \) are independent variables respectively:

\[ Y = f (\alpha + C + I + G + (X - M) + U_T) \]  

Where, \( \alpha \) = constant; \( Y \) = national income; \( C \) = consumption; \( I \) = investment; \( G \) = government expenditure; \( X \) = exports; \( M \) = imports; \( U_T \) = error term.

Equation 3 is the four sector (open economy) National income equilibrium determination function:

\[ Y = \frac{1}{1 - c + m} (Ca + cT + I + G + XM) \]  

Where, \( c \) = marginal propensity to consume (MPC); \( m \) = marginal propensity to import (MPM); \( Ca \) = autonomous consumption (could be calculated as \( C = Ca + cY \)); \( T \) = taxes; \( I \) = autonomous investment; \( G \) = government expenditures; \( X \) = exports; \( M \) = imports; \( Y \) = national income; \( Ma \) = autonomous imports (could be calculated as \( M = Ma + mY \)).

Equation 4 determines the multiplier of four sector economy. Multiplier gives the multiple times of change in national income due to injections in the economy. Multiplier could be negative or positive depending upon the circumstances:

\[ K = \frac{1}{1 - c + m} \]  

Where, \( K \) = multiplier; \( c \) = marginal propensity to consume; \( m \) = marginal propensity to import.

\[ 1 - MPC = MPS \]  

Where, \( MPC \) = marginal propensity to consume; \( MPS \) = marginal propensity to save.

Equation 5 is being derived on the assumption that \( MPC + MPS = 1 \).

Unit root test

In the time series data, unit roots exist subject to stochastic trends, which is why examining the stationarity of a time series is important. The Augmented Dickey Fuller (Fuller, 1979) was employed to check the non-stationarity of the series.

The rejection of null hypothesis means that the series are stationary.

This hypothesis can be rejected by providing strong evidence against it. Table 1 reports the results of the ADF test. Since the ADF test statistic for different variables like national income consumption, investment government expenditure, imports export absolute values are greater than the critical value. The null hypothesis of a unit root is rejected at 1% level of significance. Therefore, all variables are stationary at first difference level.

RESULTS AND DISCUSSION

Regression analysis

To determine national income equilibrium (Table 2), different marginal propensities are calculated like marginal propensity to save, tax, and imports. Marginal propensities are the first order derivative of the saving, taxes and import equations. They explain how much saving,
taxes, and imports are changed due to change in income. While calculating marginal propensities, few results turned out to be greater than one. These may be due to some exogenous factor or may be due to the impact of economic cyclical movement over the period of time, or may be due to recession in the economy. Over all the major portions of results are in quite acceptable range according to the defined rules.

After calculating different propensities, four sector multiplier (Equation 4) is calculated by using multiplier formulae. National income equilibrium (Equation 3) is calculated for each year over the period of time. To get the single value of multiplier and national income equilibrium, arithmetic mean was taken and average multiplier and national income figures were determined (Table 3). Overall, the value of multiplier (K) is equal to 0.841088, which indicates that if injections like investment (I), government expenditure (G), and net exports (X) increase by Rs. 100, national income will increase by Rs. 100 × 0.841088 = Rs. 84.1088. This according to the present circumstances is quite acceptable. The value of $R^2$ (0.970894) in this research study (Table 4) indicates that 97.08% of the dependent variable is explained by the independent variables. This is because of the fact that there is significant unbiasedness in the data and adjusted $R^2 = 0.963133$ which is closer to the $R^2$. The absolute values of t-statistic of C, I and G, are greater than 2 (or 1.96), which are significant so we reject the null hypothesis and accept the alternate hypothesis that C, I, and G have an impact on the national income.

The t-statistic of X is less than two which is insignificant which leads to the acceptance of null hypothesis that net exports have not any significant impact on national income and may be because of recession and fluctuation in the pattern of international demand.

The latter may be mainly due to the number of internal and external factors including heavy expenditures on war against terrorism and last year's heavy floods in the 80 years history of Pakistan. Another reason of insignificant value of the net exports is because of power crisis in Pakistan, besides quotas imposed by developed countries on Pakistani exports.

In an open economy, where imports depend in part on the level of income, the overall expansionary effect of any increase in autonomous spending will be dampened by the "leakage" of some part of any expansion of income into the purchase of imports. Assume that as a result of a rise of income in other countries there is a rise in exports

### Table 2. National income multiplier and equilibrium.

<table>
<thead>
<tr>
<th>Years</th>
<th>MPS</th>
<th>MPT</th>
<th>MPM</th>
<th>K</th>
<th>Equilibrium</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>0.988644</td>
<td>0.883976</td>
<td>0.956779</td>
<td>0.36060834</td>
<td>517169.4</td>
</tr>
<tr>
<td>1992</td>
<td>0.92474</td>
<td>1.20386</td>
<td>1.188345</td>
<td>0.681447432</td>
<td>638225.2</td>
</tr>
<tr>
<td>1993</td>
<td>1.034163</td>
<td>0.977101</td>
<td>0.551381</td>
<td>2.022984597</td>
<td>646798.9</td>
</tr>
<tr>
<td>1994</td>
<td>0.970779</td>
<td>0.991056</td>
<td>1.068206</td>
<td>0.330028519</td>
<td>625368.3</td>
</tr>
<tr>
<td>1995</td>
<td>0.875648</td>
<td>1.073901</td>
<td>1.118914</td>
<td>0.759205787</td>
<td>608671.3</td>
</tr>
<tr>
<td>1996</td>
<td>1.148897</td>
<td>1.301076</td>
<td>1.348278</td>
<td>0.666463798</td>
<td>598417.4</td>
</tr>
<tr>
<td>1997</td>
<td>0.900008</td>
<td>1.011091</td>
<td>0.764715</td>
<td>0.42263727</td>
<td>590054.2</td>
</tr>
<tr>
<td>1998</td>
<td>0.950017</td>
<td>0.848713</td>
<td>1.003403</td>
<td>0.932596678</td>
<td>3929055.8</td>
</tr>
<tr>
<td>1999</td>
<td>0.887299</td>
<td>0.710481</td>
<td>0.567648</td>
<td>2.022984597</td>
<td>646798.9</td>
</tr>
<tr>
<td>2000</td>
<td>0.505618</td>
<td>1.007166</td>
<td>1.017636</td>
<td>0.701539077</td>
<td>590054.2</td>
</tr>
<tr>
<td>2001</td>
<td>0.956557</td>
<td>0.820773</td>
<td>0.739645</td>
<td>0.390808993</td>
<td>3801928</td>
</tr>
<tr>
<td>2002</td>
<td>0.97502</td>
<td>0.814713</td>
<td>0.894621</td>
<td>0.87000932</td>
<td>3696568</td>
</tr>
<tr>
<td>2003</td>
<td>0.867351</td>
<td>0.86869</td>
<td>0.967428</td>
<td>0.358208757</td>
<td>387803.4</td>
</tr>
<tr>
<td>2004</td>
<td>0.888861</td>
<td>0.854985</td>
<td>0.994988</td>
<td>0.365130903</td>
<td>3867240</td>
</tr>
<tr>
<td>2005</td>
<td>0.779841</td>
<td>0.848713</td>
<td>1.003403</td>
<td>0.932596678</td>
<td>3929055.5</td>
</tr>
<tr>
<td>2006</td>
<td>0.81266</td>
<td>0.910109</td>
<td>1.033112</td>
<td>0.362860334</td>
<td>4303330</td>
</tr>
<tr>
<td>2007</td>
<td>0.920682</td>
<td>1.034701</td>
<td>1.175496</td>
<td>0.319399101</td>
<td>4598898</td>
</tr>
<tr>
<td>2008</td>
<td>1.006072</td>
<td>1.046995</td>
<td>1.049981</td>
<td>0.32263789</td>
<td>7080727</td>
</tr>
<tr>
<td>2009</td>
<td>0.842624</td>
<td>1.121845</td>
<td>1.149492</td>
<td>1.227030393</td>
<td>7082817</td>
</tr>
</tbody>
</table>

### Table 3. Average and coefficient of variation.

<table>
<thead>
<tr>
<th>Variable</th>
<th>K</th>
<th>Equilibrium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average value</td>
<td>0.841088</td>
<td>2461553</td>
</tr>
<tr>
<td>Coefficient of Variation</td>
<td>0.57</td>
<td>0.039</td>
</tr>
</tbody>
</table>
Table 4. Regression model.

<table>
<thead>
<tr>
<th></th>
<th>α</th>
<th>C</th>
<th>I</th>
<th>G</th>
<th>X</th>
<th>UT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>-233068.1</td>
<td>2.8122</td>
<td>11.74131</td>
<td>12.636</td>
<td>-2.468</td>
<td>0.029</td>
</tr>
<tr>
<td>t-Statistic</td>
<td>(-0.18341)</td>
<td>(3.57784)</td>
<td>(2.90566)</td>
<td>(1.9820 7)</td>
<td>(-1.088)</td>
<td></td>
</tr>
<tr>
<td>Prob.</td>
<td>0.856935</td>
<td>0.002747**</td>
<td>0.01086**</td>
<td>0.056***</td>
<td>0.2935</td>
<td></td>
</tr>
</tbody>
</table>

R² 0.9708
Adjusted R² 0.9631

P-value, *Significant at 1%, ** Significant at 5%, *** Significant at 10%

of the domestic economy.

This will cause an equal initial increase in domestic income as production is stepped up to meet increase in foreign spending. The MPC indicates that this initial rise in income will induce an increase in consumption expenditures, but the MPM reveals that some of the additional consumption expenditures will be for imported goods.

Therefore, at the second stage of the expansion process, domestic income raises by the amount of induced consumption expenditures less the rise in induced consumption expenditures for imported goods. The restricted increase in income at the second stage leads to smallest third-stage increase in domestic income than would otherwise be the case, because again, part of the increased expenditures at third stage is for imported goods. Thus, for any given increase in autonomous spending, the size of the multiplier is reduced when there is a positive marginal propensity to import.

Conclusion

There is global recession and the developing country like Pakistan is severely hit by this external factor as well as discriminatory policy of the developed countries to impose export quotas on a country like Pakistan. This is also one of the major factors contributing to the low value of multiplier.

Within the country, war against terrorism, local recession in the economy, decrease in aggregate demand, power crisis and floods have created major hurdles in the pace of economic development. Although the economy is growing but the GDP growth rate is very low. This study could be further extended by incorporating Islamic model of interest free economy.

RECOMMENDATIONS

Keynesian model is a demand oriented model so it needs to find out means to increase aggregate demand of the economy. For this, individual components of the aggregate demand need to be targeted. For example, if marginal propensity to consume increases, this could increase the value of multiplier. MPC is percentage change in consumption due to change in income. This is not just the consumption of consumer goods but includes consumption of all sectors of the economy including industrial and agricultural. If raw materials are efficiently utilized (or consumed), this increases employment, potential income, standard of living, economic growth and decreases poverty beside other multiplier impacts. The other component of the Multiplier in Pakistan is marginal propensity to imports. It is percentage change in imports due to change in income. High MPM is not acceptable if imports are either consumer goods or luxury goods. But if imports are either raw material or machinery to produce value added products for export purpose, then this type of imports should always be encouraged. Government must provide incentives to develop industrial base in the country. Expenditure dampening1 policy should be encouraged to discourage imports of luxury and unnecessary purchase of goods and services simultaneously expenditure switching2 policies should be adopted by the government to find out substitutes to the expensive imports like ethanol could be developed to decrease oil imports, industrialist should be given incentives like in Gujranwala and Gujrat industrialists are producing those products which would have been imported other wise like washing machines, water pumps, etc. The scope of the government expenditures should be increased. The transfer payments3 system could be improved. In Benazir, income support programme (BISP), Bait-ul-Mall scheme and Zakat, the distribution of funds through debit cards is one of the major achievements to ensure transparency. Gawadar port could be used to increase local exports and make Pakistan a free port to encourage other countries to use it. This would create multiplier time’s

1 Expenditure dampening policy which is also known as expenditure reducing policy is a decreasing the consumption of imported products to ensure the balance of payment of a country to be improved either by imposing high rate of direct tax or by campaigns.

2 Expenditure switching policy: Encouraging people to switch to consume domestic products rather than imported products.

3 Transfer payments: All those payments by the governments to the citizens for which government does not ask for any return.
positive impact on employment, poverty, government revenue, standard of living, income, etc.

Limitations

1. This is demand oriented model.
2. This is short run model.
3. Multiplier process works only when there is sufficient availability of consumer goods.
4. Full value of multiplier is obtained only when various increments in investments are repeated at regular intervals of time.
5. The full value of the multiplier can be achieved only when there is no change in the marginal propensity to consume (MPC) during the process of income propagation.
6. To consider the full value of multiplier, it is assumed that there are no time lags between the receipt income receipt and its spending. But in the real life this is impossible:

REFERENCES
