

MPRA

Munich Personal RePEc Archive

Impact of Fiscal Policy on the Economy of Pakistan

Dr. Muhammad Imtiaz Subhani

Iqra University Research Centre (IURC), Iqra university Main
Campus Karachi, Pakistan, IQRA UNIVERSITY

2010

Online at <http://mpra.ub.uni-muenchen.de/36172/>

MPRA Paper No. 36172, posted 25. January 2012 15:53 UTC

Published in

South Asian Journal of Management Sciences
Vol. 4, No. 1, (Spring 2010) pp 14 - 22

Impact of Fiscal Policy on the Economy of Pakistan

M. I. Subhani and Jawwad Ali

ABSTRACT

This research paper endeavors the relationship and the positive effect between tax rates, inflation rate and the balance of trade in Pakistan by utilizing the economic survey and current scenario of increasing tax rate because of increasing inflation rates and decreasing of balance of trade to represent the economic position of Pakistan. The data by the researcher was all on yearly basis for the above variables and the tax rate was being recorded by the direct and indirect from the period of 1979 to 2009. The research implement regression model to test the effect of tax rates progression on inflation rate rates and another 2-stage least square test of tax rate on balance of trade so in this result, shows that there was a significant impact in these variables. The study concluded on this way that there was no significant association between tax rates on inflation rate in Pakistan. There was the impact of tax rate on balance of trade.

Introduction

This study is about relationship among Taxes, Inflation Rate, and balance of Trade of Pakistan. It also determines that fiscal policy has significant affect on GDP growth of Pakistan. Now in Pakistan there is a policy on stability, which had an impact on many variables, which included GDP. On the other hand, rising inflation had impact negatively on GDP and the objectives that a country achieved were constant policy and ruled.

Fiscal policy referred to the handling and maintaining of the budget by the government. Usually fiscal policy was about expenditure, spending, and revenue as much as possible by the government at the interest and care of the public or the welfare of the people, thereby inspiring the country and increasing votes without lifting or keeping taxes stable. This had lead to a huge debt and budget deficit. Budget had decided by the federal government were fiscal policy guides two components: spending and income. According to Sheffrin (2003) in economics, fiscal policy is a tool of government revenue collection and spending to influence the economy.

In theory of classical, inflation is caused by money growth (Quantity Theory of Money). The theory suggests that the purpose of price level related with high and increasing rate of money growth. The government required restoring each rupee through two fresh rupees, the prices in conditions of new rupees were doubled as increased. In short,

transformed in money supply carried out in this way connected with balance modify in prices having no consequence on production or employment. If growth of money did not control production, increase in money growth leads to raise the inflation.

There were two methods of financing: taxation (receiving) and borrowing. Taxation took numerous appearances in the developed countries as well as taxation of personal, firm and corporate revenue known to be value added taxation and the gathering of royalties or taxes on definite sets of goods. Levine and Renelt (1992) submit out more than 50 unusual variables reported considerably correlated through economic growth in experiential studies. Howells (1995) contends that horizontal supply curve did not represent stock of money supply. It simply showed the flow of reserved money during market period. However, Lavoie (1996) demonstrated that the horizontal money supply curve was compatible with different view of Post Keynesians such as non-accommodating behavior of the central bank, financial innovations, portfolio adjustments, liquidity preference theory, and the principle of increasing risk. Did the identified fiscal policies have an impact on the macro-economic indicators or not? Was there a significant relationship between identified economic factor and fiscal policy? Identified to what extent fiscal policy had affected most?

Research Hypotheses

H1: Direct Tax Rate at (MP) had an effect on inflation

H2: Indirect tax rate at (MP) had an effect on inflation.

H3: Tax Rates had an effect on Balance of trade through inflation.

H4: Fiscal Deficit had the significant effect on inflation.

Literature Review

In this literature review, it discusses about the aspect of fiscal policy on economy and with the relationship with different variables that have significant impact on the economy. In the study of Friedman (1977) neither taxes and neither government spending and expenditure nor deficits were vigorously connected with economic growth when assessed independently. The requirement of correlation occurred from the incapability of any particular budgetary module to full detain the stance of fiscal policy. It used pair wise grouping of fiscal indicator and factor to evaluate the association of fiscal policy. The study on fiscal policy examined the developing methodology for evaluating simultaneous shocks that were used for one or additional than one factor and observe the desire response for instantaneous, unpredicted and corresponding systematic structural pair-wise arrangement of fiscal factors and indicators.

Levine and Renelt (1992) found that none of these fiscal indicators were strongly associated or correlated with economic growth when assessed individually.

The vulnerability of fiscal indicator originated in Levine and Renelt (1992) contradictory finding of the expansion literature in general possibly happened from the incapability of any single budgetary and accountant module to full detain the position of fiscal policy. It examined an increase in government expenditures which had been considered expansionary if it was finance by deficit spending. However, it had also considered concretionary if it was finance by an increase in taxes because such a policy implies an increase in the size of the public sector.

It considered three dimensions in taxes financed by a corresponding increase in deficit, increase in government expenditures financed by a corresponding tax increase and an increase in government expenditures financed by a corresponding increase in the deficit and examined each policy action using two complementary vector autoregressive (VAR) techniques.

If larger public deficits were associated with higher inflation, what were the tradeoffs in financing the deficit through money creation and interest rate was another ambiguous factor.

Although the problem was, tranquil not settled empirically for industrial countries Leiderman and Blejer (1988), there was growing substantiation that contest theory that correspondence suggested for developing countries. A further unresolved matter concerned and important effected of government spending or expenditure on investment.

This study provides a detailed study of the effected fiscal policy on economic activity., at the beginning the study revealed the fiscal policy on the composition of GDP namely by estimating the impact of government spending and government revenue shocked on private consumption and private investment (Gali & Monacelli, 2008).

The second study finds the impact of fiscal policy on the independent variables that were including tax. This analyzed how fiscal policy strength affects on economic growth. On the individual, the high taxation tax rate given to people in a smaller amount of inducement and incentives to work hard with advance investment by putting extra force on the financial system and suppressing development. Taxes also used to cause distortions between various sectors of the economy causing firms to allocate capital sub-optimally. On the other hand, taxes were necessary in order to have spending which perhaps increase growth rate by investing in capital.

This theory has observed and predicted that fiscal policy has influenced economic growth by varying inducements for investment and labor per capita as well as by twisting after-tax returns across sectors because the income was always been deducted by the taxes, which were being imposed by the government.

Blanchard and Perotti (2002) used in sequence about the elasticity of fiscal units. Comparable studied applied to additional countries were comparatively scarce mainly due to the restricted accessibility of quarterly public finance information and in addition it did not make available a consensual vision. Blanchard and Perotti (2002) examined the belongings of fiscal policy in Australia, Canada, Germany and the U.K. and they found a comparatively large optimistic effected on private consumption and no response of private investment.

A study by Chaudhry (2001) offered an appraisal of most favorable tax theory to develop a suitable tax policy in favor of the agriculture division of Pakistan. Optimal tax theories were expecting buoyancy rates to be soaring and important. The study had suggested that if local and provisional bodies were through accountable for tax collection then supplementary costs was avoided and rates were high.

Tanzi (1987) studied the economic development was predictable to convey about together an increase demand meant for public expenditure plus a better capacity to gather these demands. Musgrave (1969) argued that lack of accessibility of tax handles force limit revenue gathering at low level of income including the per capita and these restrictions were happen to fewer strict as the economy developed.

Research Methods

Method of Data Collection

Tax rate, fiscal deficit, balance of trade and inflation rates are the four vital tools for the development and balancing the economy of the Countries. The data of these variables obtained from State Bank of Pakistan Statistical Bulletin the Annual Reports and some various issuances from Economic Survey of Pakistan websites.

Sampling Technique

A regression measures whether independent account for variability in a dependent variable. Statistics explanation was a check with company with regression expertise. Regression analysis had used regression interpretation and an assumption, to evaluation of the R-square, was analysis of the beta coefficient the regression equation. Two-Stage least squares (2SLS) analyzed was a statistical and analytical technique that used to interpret of structural equations. Two-stage least squares (2SLS) analysis statistical technique was the addition of the OLS analyzed. Two-stage least squares (2SLS) interpret technique had been used when the dependent variables or the factors in the error terms correlated and associated with the independent variables.

Sample Size

For the sample size of study data that had tax the balance of trade of 30 years, it also include the data of inflation that was generally raised in prices. The federal revenue subtracted from the fiscal expenditure, so the fiscal deficit had taken fiscal deficit.

Research Model Developed

After defining and explaining the dependent variables i.e. inflation rate and balance of trade and independent i.e. tax rates, fiscal deficit variables, the effect of tax rate, fiscal deficit on inflation rate, balance of trade was discussed and how it affects on economic of a country. It was studied in first analysis, the relationship between the variables and identified the significant relationship. After that, the study was analysis and evaluated the empirical investigation in regression model as a statistical tool. It studied simple regression model that was defining the equation, which represented below:

$$\text{Inflation Rate} = \alpha + \beta_1 + \varepsilon$$

Whereas,

- I = Inflation rate.
- α = the intercept of the equation.
- β_1 = the changing coefficient of tax rate.
- ε = the error term of the equation.

From the above equation explained model, the hypothesis testing technique and equation was used by the study that developed the following estimation and used for the establishment of the model. Therefore, the all compatible data was entered in to SPSS for statistical analysis.

Results

Findings and Interpretations

- H1: Direct Tax Rate at (MP) had an effect on inflation.
- H2: Indirect tax rate at (MP) had an effect on inflation.
- H3: Fiscal Deficit had the significant effect on inflation.

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate	Durbin-Watson
1	0.405	0.164	0.102	3.76341	1.061

Interpretations

It showed the R Square value in the table of Model Summary which explains the value of variance in the dependent factors as inflation that had been explained by the independent factor predictors. The independent variables were the taxes, which included the direct tax at (MP), indirect tax at (MP) accounts for 0.164 of the impact on the percentage of Inflation. It had to seemed that significant valued F (2.643) (p-value) = 0.089. At $p > 0.05$, or p-value is greater than the 0.05.

Model	Sum of Square	df	Mean Square	F	Sig
Regression	74.88	2	37.44	2.643	0.089
Residual	382.407	27	14.163		
Total	457.287	29			

The consequence was not acceptable or suitable and there was no association between independent factors of all tax rates and dependent factors inflation rate. Therefore, the hypothesis (There was no acceptable relationship between tax rate, fiscal deficit and inflation rate and was not accepted. The value of R (0.405) indicated the correlation coefficients of multiple squared connected all the independent factors and the dependent factors. The Standard error value of the estimated was a compute on the bases of the multiple correlations.

Interpretations

It had been observed from the chart that Sig. (p value) = 0.089. At $p > 0.05$, or p-value was greater than the value of 0.05 independent variables were not significantly improved than be accepted by possibility and chances. It generally be accounted in a related to other ANOVAs: $F(2, 27) = 2.643$ $p > 0.05$. The F- value is 2.643 that was the division of regression mean square to the residual value of mean square.

Model	Un-standardized Coefficient		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
Constant	-6.7099	6.735118		-	0.32797
Direct tax MP	2.8226	1.2621	0.49379	2.236425874	0.03378
Indirect tax MP	0.87696	0.493697	0.3922	1.776320495	0.08695

Interpretations

It showed the constant un-standardized coefficient Beta showed the negative of -6.7099 but the positive to the tax on inflation coefficients of the independents variables in this regression value with all the dependent variables.

Inflation rate = 2.823 Direct tax at MP

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
0.218	0.047	-0.063	3.487	1.332
The Prais-Winsten estimation method is used.				

The individual variable contributed to the model made by the standardized beta constant coefficient, which showed that an individual model. The standard error of un-standardized coefficients value supported the interpretation with an estimated of the unpredictability of the coefficients. The according interpretation to the resulted indirect tax at MP was not related because the $p > 0.05$ so its result was unrelated. Since the Durbin Watson test showed, the autocorrelation was present in the independent variable (i.e. direct tax at MP and indirect tax at FC). This Autocorrelation was resolve by applying the Auto regression.

Interpretations:

It showed that the auto regression model in the form of model, this table explains that the relationship between all the dependent and independent variables were not significant, which indicated the regression model was best fit. The total variation explained in the regression model as indicated by R-square. The significant F-value suggests that the calculation of R-square in the model was correct. Since the Durbin Watson has removed the Auto correlation.

	Sum of Squares	df	Mean Square
Regression	15.713	2	7.857
Residual	316.08	26	12.157
The Prais-Winsten estimation method is used.			

Interpretations:

It showed Regression and Residual in Auto regression. However, the Durbin Watson was increased but there was no significant level in the data after applying the auto regression.

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
direct tax mp	1.75	1.539	0.241	1.136	0.266
indirect tax mp	0.268	0.519	0.11	0.517	0.61
(Constant)	1.514	7.24		0.209	0.836
The Prais-Winsten estimation method is used.					

Interpretations:

It showed the result summary showed that the reflection of the variable in the form of model. This table explained the relationship between variables, in which the constants variables were the intercept the tax rate and inflation. The table explained the relationship between the above-mentioned variables and all the variables, which were dependent, and independent the relationships were statistically not significant at all the 0.05 level. However, the constant negativity was been removed and the Durbin Watson was increased. Therefore, the problem of Autocorrelation had been resolve by the Auto regression. . It had been seem that the Durbin Watson had been improved to 1.332 that was nearly equal to 2 and the following models are not found significant in explaining inflation when Auto correlation was resolved.

$$\text{Inflation Rate} = \alpha + \beta_1 (\text{DTR}) + \text{ET} \quad (1)$$

$$\text{Inflation Rate} = \alpha + \beta_1 (\text{ITR}) + \text{ET} \quad (2)$$

Empirical Results and Interpretation of Finding obtain through 2-Stage Least Square Regression

H4: Tax Rate had an effect on balance of trade through Inflation.

Multiple R	0.39208
R-Square	0.15372
Adjusted R Square	0.1235
Standard Error	333984.0475

Interpretations

It showed the multiple R=39.208% and adjusted R-Square =12.35%. So the model was being to moderate because the model was best fit. In this model, R-square adjusted value was being significant because it was adjust with the error and less then significance.

This showed that, the 2-Stage least square model, which seemed that tax rate, had effected on balance of table through inflation. In the model, the table explained that the relationship between all the dependent and independent variables were significant at 99.8% and the F-value of this model was significant at 0.000 levels, which indicated the regression model was best fit.

	df	Sum of Square	Mean Square
Regression	1	5.6733E+11	5.6733E+11
Residuals	28	3.12327E+12	1.11545E+11
F = 5.08609		Significance F = .0321	

Interpretations

It showed the two stage least square shown that the tax rates had the negative affected on the balance of trade. The significant level was 0.0321 that shown the impact of taxes on balance of trade and the beta showed the negative so the conclusion showed that if the taxes were raises the balance of trade decrease and vice versa.

It had observed from the chart that Sig. (p value) = 0.0321. At $p < 0.05$, or p-value was less than the value of 0.05 the independent variable were significantly improve than be accepted by possibility. It generally be accounted in a related to other ANOVAs: $F(1, 28) = 5.08609$ $p < 0.05$. The F- value was 5.08609 that was the division of regression mean square to the residual value of mean square.

Variable	B	SE B	Beta	T	Sig T
Inflation	-58228.25175	25819.13429	-0.604637	-2.255	0.321
(Constant)	264467.2655	2189808.644		1.203	0.0239

Interpretations

Balance of Trade = 264467.265227 -58228.251745 tax rate. It showed the standard error of un-standardized coefficients supported given with an approximation of the unpredictability of the coefficients. the significant was p-value was less the 0.05 which was 0.0321 that was the variable had an associations between it. According to the result, the negative beta showed the inverse relationship that if the tax rates increased it decreased the surplus in the balance of

trade and the inflation impact had seemed. This resulted was also consistent with other thesis who reported a negative connection between tax rates and balance of trade. Widmalm (2001) a tax rate and balance of trade had the negative relationship with the using of technique 2-stage least square. It had been seemed that the tax were reduced it increased the trade which include the domestic and foreign trade. Linn and Weitzel (1990) also had shown the attractiveness between the taxes and trade. Tanzi (1987) in the studied had shown the significant relationship between the inflation and tax rate which using of technique of regression. The analysis of this study is the relationship between inflation and the income growth/ budget deficit for the economy of turkey by a multivariate co-integration analyzed and single-equation model was showing that the income growth or budget deficit significantly affected inflation in Turkey.

Hypotheses Assessment Summary

S. No	Hypothesis	Empirical Technique	Regression Coefficient β	Sig. Value	Result
1	Direct tax rate (MP) had an effect on inflation	Auto Regression	1.750	0.266	Rejected
2	Indirect tax rate (MP) had an effect on inflation	Auto Regression	0.268	0.610	Rejected
3	Tax Rate had an effect on balance of trade through inflation	2-Stage Least Square Regression	58228.25175	0.0321	Accepted

Since it had observed that by applying the linear regression, the Durbin Watson had found the Autocorrelation but by applying the auto regression, the problem solved. After resolving the auto correlation issue it was found that the both the first two hypotheses found rejected. As out of first two, the second hypothesis was accept before when the independent variable (IV) had autocorrelation issue.

Conclusion

According to the resulted and conclusion had divided into two (i) the relation between tax rate and the inflation and the (ii) relationship was between tax rate and the balance of trade. It had seen that the tax rate had the significant impact on inflation and balance of trade .The variable had the significant impact. Blanchard and Perotti (2002) identified fiscal shocks by exploiting decision lags in fiscal policymaking. This approach supposed that: (i) optional government expenditure and revenues were determined through high opinion to the macroeconomic variables in addition to (ii) it used information and studied about the elasticity (% changed in the variables) of fiscal variables to economic activity, which allowed identifying the regular reaction of fiscal policy. Afonso and Sousa (2008) included recognition of the automatic response of fiscal policy to macroeconomic variables such inflation rate and volume of trade. Whilst narrower in scope as its goal was solely to understand the linkages between fiscal policy and asset markets than the in attendance work. The opinion of an immediate system of equations in a Bayesian structure was shown to be a practical option approach, whereas agreed to assessing the sturdiness of the sound effect of fiscal policy on asset marketplace.

References

- Afonso, A., & Sousa, R. (2008). Fiscal policy, housing and stock prices. *Journal of Economic Literature* , 65, 107-136.
- Blanchard, O., & Perotti, R. (2002). An empirical characterization of the dynamic effects of changes in government spending and taxes on output. *Journal of Economic Literature*, 117, 1329-1368.
- Chaudhry, M. (2001). Theory of optimal taxation and current tax policy in Pakistan's Agriculture. *Pakistan Development Review* , 40(4), 489-502.
- Friedman, M. (1977). Inflation and unemployment. *Journal of Political Economy* , 85, 451-471.
- Gali, J., & Monacelli, T. (2008). Optimal monetary and fiscal policy in a currency union. *Journal of Banker and Economic* , 48, 156-201.
- Howells, P. (1995). The Demand for Endogenous Money. *Journal of Post Keynesian Economics* , 18(1), 89-106.
- Lavoie, M. (1996). Horizontalism, Structuralism, Liquidity Preference and the Principle of Increasing Risk. *Journal of Economic Literature* , 43(3), 275-300.
- Leiderman, L., & Blejer, M. (1988). Modeling and Testing Ricardian Equivalence: A Survey. *Journal of Economic Literature* , 35 (1), 1-35.
- Levine, R., & Renelt, D. (1992). A Sensitivity Analysis of Cross-Country Regressions. *American Economic Review* , 82, 942-963.
- Linn F.J. & Weitzel D. (1990), Public Finance, Trade and Development: What Have We Learned? In *Fiscal Policy in Open Developing Economies*, ed. By Tanzi, 9-28.
- Musgrave, R. A. (1969). *Fiscal Systems*, New Haven and London: Yale University Press.
- Sheffrin, S. (2003). Fiscal Adjustment and Deficit Financing. *Review of Economics and Statistics* , 33 (1), 340.
- Tanzi, V. (1987). The Response of Other Industrial Countries to the U.S. Tax Reform Act. *National Tax Journal*, 40(3), 339-55.
- Widmalm, F. (2001). Tax Structure and Growth: Are Some Taxes Better than Others? *Public Choice*, 107, 199-219.