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# Effect of Government Spending and Macro-Economic Uncertainty on Private Investment in Services Sector: Evidence from Pakistan

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## Abstract

This study examines the effect of government spending and macroeconomic uncertainty on private fixed investment in services sector of the Pakistan for the period from 1972 to 2005. We first investigated time series properties of data then estimated long run model using cointegration technique. The results show that government spending and interest rate affect private investment in services sector in Pakistan. The preferred short-run dynamic investment function indicates that increase in government current spending and interest rate discourages private investment and similarly macroeconomic instability and uncertainty affect the private investment negatively.

**Keywords:** Private Investment, Government Expenditure, Macroeconomic uncertainty, Services Sector, Co-integration, Pakistan

## 1. Introduction

Investment is a central issue in macroeconomic theory; it plays an important role in economic growth of a country as it raises the productive capacity of the economy and promotes technological progress through embodiment of new techniques. Investment spending is usually volatile because it depends on multiple factors, and is responsible for much of the fluctuations of GDP over the business cycle (Dornbush et al. 1999). Therefore, it is very important to explore the determinants of investment.

The Classics (Smith, Ricardo, Say, Marshall, and others) maintained that free markets are the best route to national prosperity and economic growth, and there is no need of government intervention to activate and regulate the economy. Keynesians (1936), on the other hand, believed that there is need for government intervention to activate and regulate the saving and investment behavior of the society.

In the literature it is argued that government expenditures may either crowd-in or crowd-out<sup>1</sup> private investment, therefore, the relationship between public and private investment has received a lot of attention, both in the developed as well as in the developing countries (Hermes and Lensink, 2001).

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<sup>1</sup> Crowding-out refers to a fall in private investment because of a rise in government expenditures, where as Crowding-in means an increase in private investment due to a rise in government expenditures

Government expenditures are generally classified into two categories: development and non-development expenditures. Development expenditures mainly focus on the provision of infrastructure and its up gradation and hence positively affects private investment. However, non development government expenditures affect private investment positively via the demand channels but may also affect it negatively in terms of budget deficits, future taxes and no complementary effect on investment. In the age of privatization and deregulation, the governments of developing countries continue to make substantial expenditures on development as well as on the non-development heads.

The so-called crowding-in or crowding-out affect also does not lose its significance in the developing countries even if government enterprises are privatized. A number of studies including Aschaver (1989), Greene and Villanuva (1991), Munnell (1992), Shafik (1992), Oshikaya (1994), Ramirez (1994), Ghura and Goodwin (2000), Mamatzakis (2001) and Rashid (2005) found a positive relationship. However others like Akkina and Celibi (2002), Pereira and Sagales (2001), Williams and Darius (1998) and Wai and Wang (1982)] have reported a negative relationship. Thus, there is clearly a need for in-depth analysis of the effects of government expenditures on private fixed investment.

Investment is also sensitive to non-economic variables such as war, political instability and other disturbances both domestic and external. Since such uncertainties are almost impossible to quantify; researchers tend to use only crude proxies to capture the impact of uncertainty on the investment. Empirical studies on the relationship between uncertainties and the private investment are scanty and pertain largely to the United States [Pindyck (1986), Campa (1993), Goldberg (1993), Huizinga (1993), Episcops(1995)]. Studies for United Kingdom include Price (1995) and Henley (1997), and there is only one study for South Africa by Fedderke Johannes (2004). A hand full of cross-country papers including Serven and Solimano(1991), Brunetti and Weder (1997), Serven(1998), Stasavage (2001), Serven (2002) also pertain to developed economies. For the developing countries only Anita and Morisset(1993) and Pattillo (1998) have studied the issue of uncertainty and its effect on investment.

The earlier studies of private investment in Pakistan [Khan (1988) and Naqvi et al. (1993)] estimated disaggregated private investment functions using conventional econometric methodologies. Looney (1997) estimated private investment for large-scale manufacturing applying Engle-Granger (1987) methodology and Naqvi (2002) estimated relationship between aggregate public and private fixed capital formation.

The empirical literature on government expenditures, macroeconomic uncertainty and private fixed investment in the services sector has not been analyzed in Pakistan so far. Therefore, this study first time attempts to investigate the impact of non-development government expenditures on private fixed investment in the services <sup>2</sup> sector, as well as to capture the effect of macroeconomic uncertainty on the private fixed investment over the period 1972-2005.

Section-2 highlights the investment climate in Pakistan, section-3 describes the theoretical foundation, the specification of the econometric model and discussed the data issues; section-4 deals with the estimation methodology; empirical results of unit roots, long run cointegration analysis and dynamic error correction mechanism (ECM) are reported and discussed in section-5; and finally section-6 presents the conclusion and policy implications drawn from this study.

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<sup>2</sup> The services sector comprises of transport, storage and communication, wholesale and retail trade, finance and insurance, ownership of dwellings, public administration and defense, social, community and personal services.

## **2. Investment Climate in Pakistan**

At the time of independence Pakistan was basically an agrarian underdeveloped economy with negligible industrial base. The adoption of the industrial development through the import substitution strategy resulted in impressive growth in large-scale manufacturing until 1965. However after the war of 1965 private investment slowed down due to the sharp decline in foreign resources and the sudden increase in defense expenditures. The industrial sector faced a second blow when the government adopted the policy of nationalization during early 1970s. As a result private investment fell sharply while public investment doubled. The military government which took over in 1977 started to reverse the nationalization process gradually; as a result the private investment exhibited a positive trend. The accumulation of budget deficits and worsening balance of payments in late eighties forced the government to seek IMF assistance in 1987 in the form of structural adjustment programs. The Prime Minister's economic revival program announced on 28<sup>th</sup> March 1997 with a special focus to encourage the private investment provided the needed incentives to the private sector to become active once again. A new policy for Independent Power Projects (IPPs) was announced in 1998 to create a competitive power market. Small and Medium Enterprises Development Authority (SMEDA) was established to promote investment in small and medium size enterprises. However the sanctions by the international communities and freezing of foreign currencies accounts by the government after the nuclear explosion in 1998 once again dealt a serious blow to the investment prospects. Once again the military government in 1999 announced an economic revival plan under the International Monetary Fund's Poverty Reduction and Growth Fund framework (PRGF). Besides the strict adherence to the IMF program, the events in the aftermath of September 11, 2001 also helped to ease the public debt situation. This has had a favorable impact on the investor's confidence. The easy access to industrial raw materials coupled with liberal incentives to investors helped to improve the investment climate in Pakistan.

Pakistan's investment policy has been formulated to create an investor friendly environment, with a focus on further opening up the economy and marketing the potential for direct foreign investment. The essence of the policy is to strengthen Pakistan's competitiveness by improving the policy regime, offering fiscal and tariff relief and providing comprehensive facilitation services.

The salient features of the investment policy are; foreign investors are permitted to hold 100% of the equity of industrial projects without seeking permission of the government, no government sanction is required for setting up any industry in terms of field of activity, location, and size, except for the following: Arms and Ammunitions, High Explosives, Radioactive Substances, Security Printing, Currency and Mint, there is no requirement for obtaining no objection certificates (NOC) from the provincial governments for locating the project anywhere in the country except in the areas that are notified as negative areas. However an investment for producing of alcoholic beverages or liquors is prohibited.

Prior to 1997 only the manufacturing sector was open to foreign investment, however since 1997 the policy regime has become more liberal and foreign investment on repatriable basis is also permitted allowed in the services, infrastructure, social and agriculture sectors. The investors have to simply register their company with the Security and Exchange Commission of Pakistan (SECP) under the Companies Ordinance 1984, and to inform the State Bank of Pakistan that the relevant conditionalities are fulfilled.

In case of the services sector foreign direct investment is allowed in any activity subject to conditions that the amount of foreign equity investment in the company/ project shall be at least US \$ 0.3 million; foreign investors are allowed to hold 100% of the equity subject to the condition that the repatriation of profits will be restricted to a maximum of 60 % of total equity or profits; and the condition that a minimum of 40% of the equity is held by Pakistani investors (including sale of shares in stock exchange) within five years. Investment in social sector activities includes projects in the field of education, technical/ vocational training, human resource development (HRD), hospitals, medical and diagnostic services subject to the condition that the amount of foreign equity investment in the company/ project shall be at least US \$ 0.3 million and 100% foreign equity is allowed. Further the

housing and construction sector has also been declared an industry. Local and foreign companies involved in the real estate projects will not market these projects unless the title of the property is transferred in the name of a locally incorporated company and the “commencement of business” certificate is issued by the SECP to the firm.

The prerequisites for a sustained economic growth have gradually come into place. Economic recovery has raised the perceived wealth of households and thus boosted confidence, leading to higher consumption. This positive prospect for consumer demand backed by investment spending, if sustained, will be crucial support for the government’s major macroeconomic target. Wide-ranging structural reforms, sound macroeconomic policies, financial discipline, and consistency and continuity in policies for the last six years have transformed Pakistan into a stable and resurgent economy.

### 3. Econometric Model

Theories of investment indicate that investment is determined by income, interest rate, and macroeconomic environment. Aschaver (1989) conjectured that government expenditures/spending is another variable that plays important role in the determination of investment. A priori expectations are that income has positive effect on investment and interest rate and macroeconomic uncertainty have negative effect and government expenditures can have positive as well as negative impact on investment (Dixit and Pindyck, 1994). The private investment is affected positively by income level; with higher income levels investors would tend to shift more of their wealth to finance investment<sup>3</sup> The interest rate has a negative effect on private investment because when the rate of interest increases the returns on investment decline. Private Investment is considered to be negatively related to uncertainty as the fixed investment decisions cannot be undone if future events turn out to be unfavorable Capital once installed is immobile as compared to labour.<sup>4</sup> Government consumption expenditures have no complementary effect on private investment, it may build an upward pressure on interest rate or it may be a substitute of private investment. However, these expenditures may have positive effect on private investment via demand channel. Following Ahmad (2007) private investment in services<sup>5</sup> sector can be written as:

$$PIS_t = F(R_t, Y_t, CG_t, UN_t, \varepsilon_t) \quad (1)$$

Where

$PIS_t$  = Real private fixed investment in services

$Y_t$  = Real gross domestic product

$CG_t$  = Real government consumption expenditure

$R_t$  = Interest rate (weighted average rate of return on advances)

$UN_t$  = Uncertainty measure (derived by percentage change in annual inflation rate, where inflation rate is based on the consumer price index)

$\varepsilon_t$  = Random error term assumed to be independent and identically distributed (iid).

The dynamic private investment model can be represented by the error correction mechanism on the assumption that the time series data are non-stationary and presence of cointegrating relationship between the real private investment in services sector and its determinants. The dynamic error correction private investment function in Pakistan can be obtained by using autoregressive distributed lags (ADL) approach, which start as;

$$I_t = \mu + \Pi_1 I_{t-1} + \Pi_2 I_{t-2} + \dots + \Pi_k I_{t-k} + \varepsilon_t \quad (2)$$

<sup>3</sup> Private investment is positively affected by income level as reported by Chhibber & Wijnbergen (1988) for Turkey, Shafik (1992) for Egypt, Ramirez (1994) for Mexico, Monadjemi (1996) for Australia, Britian & US, Mamatzakis (2001) for Greece, Pereira and Sagales (2001) for Spain, Akkina and Celibi (2002) for Turkey, Lim & Kim (2004) for Korea and Ouattara Bazoumana (2005) for Senegal.

<sup>4</sup> Capital equipment becomes industry-specific and can hardly be put to another use or productive process or activity without incurring a substantial cost.

<sup>5</sup> The gross fixed capital formation in services sector includes expenditures incurred on land improvement, building construction works, all types of machinery, transport equipment and furniture and fixtures. The investment of private sector in services covers all private educational services, research and scientific institutions, medical and health services, religious institutions, recreational and cultural services, personal and household services like laundries, barbershops, beauticians, and trading establishments.

Where  $I_t$  is a vector of variables (i.e.,  $LPIS_t$ ,  $LR_t$ ,  $LY_t$ , and  $LCG_t$ ) included in the private investment function,  $\mu_t$  is a vector of deterministic term and  $\varepsilon_t$  is iid disturbance term. The dynamic error correction model (ECM) of the real private investment in services sector can be written as;

$$\Delta I_t = \mu + \sum_{i=1}^{k-1} \Gamma_i \Delta I_{t-i} + \Pi I_{t-k} + \varepsilon_t \quad (3)$$

where

$$\Gamma_i = -I + \Pi_1 + \dots + \Pi_i, \quad i = 1, 2, 3, k \quad (4)$$

and

$$\Pi = -I + \Pi_1 + \dots + \Pi_k \quad (5)$$

Under the assumption of non stationary variables and existence of cointegrating relationship between the variables, the  $\Pi I_t$  term is stationary. The  $\Pi$  is a long run matrix that can be factorized as  $\Pi = \alpha\beta'$ . The vector  $\beta$  indicates the cointegrating relationship, it has the property that  $\beta'I_t$  is stationary, though  $I_t$  itself is non-stationary. The vector  $\alpha$  is a loading vector with negative expected sign. It gives the speed of adjustment towards the state of equilibrium.

The study covers the period 1972 to 2005 and all data series are based on the constant market prices of 1980-81. The data for advancing rate is taken from the State Bank of Pakistan's annual reports, and all other series are taken from different annual issues of the Pakistan Economic Survey of Government of Pakistan.

#### 4. Estimation Methodology

The private investment model for services sector is estimated by using the three steps methodology (Ahmad and Qayyum, 2008 and Qayyum, 2002). These steps include, i) univariate statistical analysis of a time series, ii) multivariate co-integration analysis and the estimation of the long-run private investment function by using the Johansen (1988) maximum likelihood method and iii) to obtain a parsimonious short-run dynamic private investment function through the error correction mechanism.

In the first step we used standard ADF test investigate the stationarity of the variables included in the model. We estimate the following ADF equation (Dickey and Fuller, 1979, 1981).

$$\Delta X_t = \alpha + \beta T + \delta X_{t-1} + \sum_{i=1}^m \gamma \Delta X_{t-i} + \varepsilon_t \quad (6)$$

for  $i = 0, 1, 2, 3, m$

Where  $X_t$  is any time series to be tested for unit roots,  $T$  is time trend and  $\varepsilon_t$  is white noise error term. In the case  $i = 0$ , it is simple Dickey and Fuller (1979, 1981) test<sup>6</sup> The lagged dependent variables in the ADF regression equation are included until the error term becomes white noise (LM test is applied to check the serial correlation in error term). First we test the hypothesis that  $\delta=0$  in equation 6 by t-test. First Fuller (1976) and afterwards MacKinnon (1991) provided adjusted t-ratios to test the significances of the estimated  $\delta$ .

After testing the unit root hypothesis we moved to test the presence of cointegrating relationship(s) between the private investment in services sector and its determinants. For the purpose of cointegration analysis we use trace and maximal likelihood statistics proposed by Johansen (1988). These statistics are asymptotically distributed as  $\chi^2$  with  $r$  ( $p-r$ ) degrees of freedom. The precise relevant critical values are provided by Osterwald-Lenum (1992). Johansen (1988) maximal likelihood method is used to estimate long run relationship between private investment in services sector and its determinants.

Final in the third step we estimate dynamic error correction mechanism private investment function obtained through using general to specific methodology (i.e., equation 3). As all the variables in the model are stationary, this function can be estimated by OLS. The estimation starts with the

<sup>6</sup> Banerjee et al (1993) says that the lag structure in the ADF tests is ad hoc, it seems safest to over-specify the ADF regression.

unrestricted general model, in which every variable enters with optimal lag length.. The preferred private investment functions would have to pass a number of diagnostic tests. These tests include the test the no serial correlation by Godfrey (1981) and White (1980) test of hetroskedasticity. To test the stability of the estimated function we applied CUSUM and CUSUM of Squares tests proposed by Brown et al. (1975).

## 5. Empirical Results

To highlight the properties of an individual time series, first; we plot the growth form data series against time. On close inspection, these Figures (not presented here) show strong trend in the variables over time which implies non stationarity of data. Formally we tested the hypothesis of unit root and the order of integration of each series with ADF test. All data series except uncertainty variables are transformed into log form. We ensured that error term is free from the problem serial correlation. The ADF is applied on the log form with an intercept and a linear trend term (as is appropriate) included in the ADF test equation of these variables. Only intercept term is significant in ADF regression for public consumption expenditure (LCG), Gross Domestic Product (LY), uncertainty (UN) and interest rate (LA) whereas in case of private investment in services (LPIS) both intercept and trend are significant. To test the hypothesis that the  $\delta=0$ , the calculated t-values are compared with the tabulated value given in Mackinnon (1991). The results are presented in table 1.

**Table 1:** Augmented Dickey-Fuller Test Results for Unit Roots

VariablesLevel	ADF-stats	LagLength	Result	First Difference	ADF-stats	Lag Length	Result
LCG	-1.8929 <sup>C</sup>	1	I (1)	$\Delta$ LCG	-5.7572 <sup>C*</sup>	0	I (1)
LY	-1.8033 <sup>C</sup>	0	I (1)	$\Delta$ LY	-4.8653 <sup>C*</sup>	0	I (1)
LPIS	-2.6583 <sup>C, t</sup>	0	I (1)	$\Delta$ LPIS	-3.6484*	0	I (1)
LA	-2.4434 <sup>C</sup>	0	I (1)	$\Delta$ LA	-4.0108*	0	I (1)
UN	-6.6425 <sup>C*</sup>	0	I (0)				

**Note:** \*, denote significance at 5 percent, "c" indicates the constant term is significant; c, t, indicates that both the constant and the trend are significant; I (1), indicates unit root in levels and stationary after first differencing.

The results show that all variables, except uncertainty are integrated of order one I(1). Therefore these series require first differencing to remove the stochastic trends from the data. To confirm these finding of I(1) variables, the ADF<sup>7</sup> test is also applied on the first difference of the series<sup>8</sup> The results provide ground for cointegration analysis and indicate the variables (i.e., LPIS<sub>t</sub>, LR<sub>t</sub>, LY<sub>t</sub>, and LCG<sub>t</sub>) to be included in the cointegration analysis.

### 5.2. Private Fixed Investment in Services Sector: A Cointegration Analysis

This section analyzes the behavior of private fixed investment in services sector. We have investigated the number of cointegrating vectors by applying the likelihood ratio test that is based on the maximal eigenvalue and trace statistics of the stochastic matrix of the Johansen (1988) procedure. The results from the likelihood ratio tests are summarized in Table 2.

<sup>7</sup> The whole estimation is carried out by computer software the E-Views Version 3.0

<sup>8</sup> Phillips-Perron test is also used in the analysis for the unit roots in order to confirm the order of integration of the data series.

**Table 2:** Johansen Test for Cointegration

Maximum Eigenvalue			Trace		
Null Hypothesis	Alternative Hypothesis	Test Statistic	Null Hypothesis	Alternative Hypothesis	Test statistic
r = 0	R = 1	55.18941*	r = 0	R ≥ 1	88.05278*
r = 1	R = 2	29.7736*	r = 1	R ≥ 2	38.03733*
r = 2	R = 3	9.110013	r = 2	R ≥ 3	11.05502
r = 3	R = 4	3.088631	r = 3	R ≥ 4	2.799059

Note: 1. \* Indicates significant at the 5 percent level.

2. Variables included in the cointegration analysis: LPIS, LCG, LA and LY.

As can be seen from the Table 2, there are two cointegrating vectors between the variables that is private investment in services sector and its determinants. Error terms from these two cointegrating vectors are presented in the Figures 1 and 2. The long-run private investment function for services is obtained by normalizing the first estimated cointegrating vector on the private investment in services (PIS) and its determinants. The results are reported in Table 3.

**Table 3:** Normalized Coefficients of First Cointegrating Vector

Variables	Coefficient	Standard Errors	T-values
LY	1.464310*	0.11236	13.03
LCG	-0.463709*	0.07211	-6.43
LR	-0.279433*	0.11381	-2.46
Constant	-3.552472		

Note: (\*) represent significance at 5% critical values.

The estimated coefficients of LY, LCG and LR are significant and bear *a priori* signs. The estimated equation indicates that the private investment in services sector is determined by the gross domestic product, public consumption expenditure and the interest rate having elasticities of 1.46, -0.46 and -0.28, respectively.

The estimated co-efficient of gross domestic product (YDP) is positive and greater than the coefficient of aggregate investment function which is 1.097 (Ahmed and Qayyum, forthcoming). This result strongly supports the accelerator principle because of the larger positive coefficient of the GDP. Also this result shows that the size of market expands investment in this sector of the economy. It shows that acceleration coefficient is more powerful as compared to all other variables in the determination of private investment in services.

The estimated coefficient of government consumption (CG) is negative; implying that in long run it may cause an upward pressure on interest rate that exerts a negative effect on private investment in the services sector. This is mainly the outcome of an increase of government expenditures for wages and salaries of public employees and other such type of current expenditures, which have no complementary effect on private investment. The government expenditures have stronger impact on private investment in services sector than aggregate private investment function.

The analysis indicates that there is a negative long run relationship between private investment in services and interest rate. It implies that the decrease in interest rate creates the appropriate economic environment that prompts private sector to invest in the services sector by reducing the private sector's cost of production and hence raises the profitability of the private fixed investment in this sector.

The second co-integrated vector, we found in our data is the standard IS curve or relationship in which interest rate negatively affects the GDP through its impact on investment. We find significant negative relationship of interest rate with output of the economy<sup>9</sup>. The results are presented below<sup>10</sup> (t-ratios are in the parenthesis):

<sup>9</sup> Fore estimation E-Views Version 5.0 software is used.

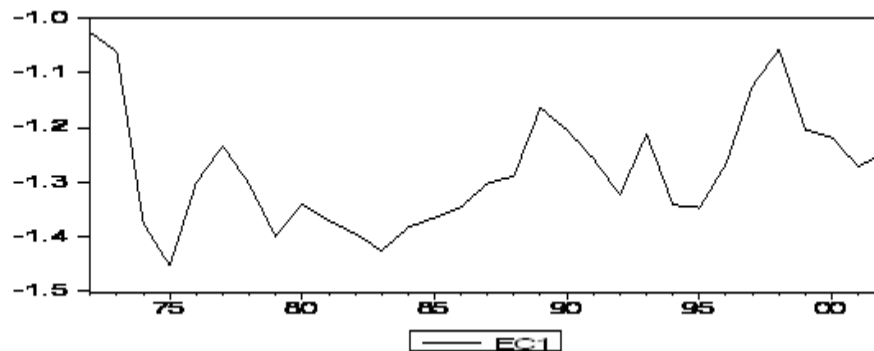
<sup>10</sup> For identification of second cointegrating vector we impose restrictions such that the coefficient of GDP is one while that of investment and public consumption expenditures are zero.



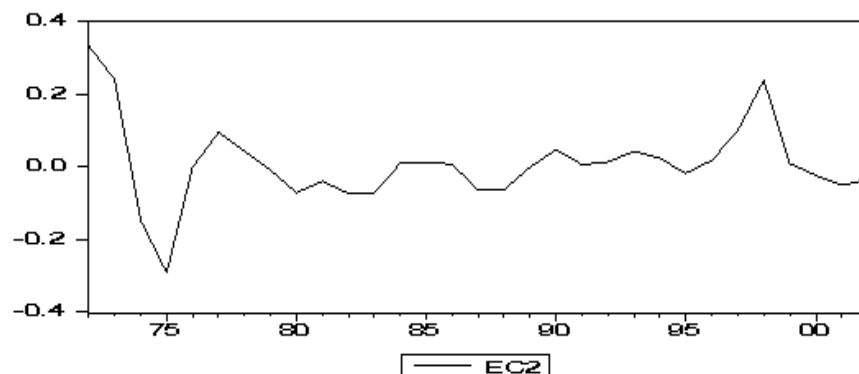
$$LY = 6.10 - 4.31*LR$$

(1.93) (2.77)

**Figure 1:** Error Term (EC1) from First Cointegration Vector



**Figure 2:** Error Term (EC2) from Second Cointegration Vector



### 5.3. The Short-Run Dynamic Model of Private Investment in Services Sector The Error

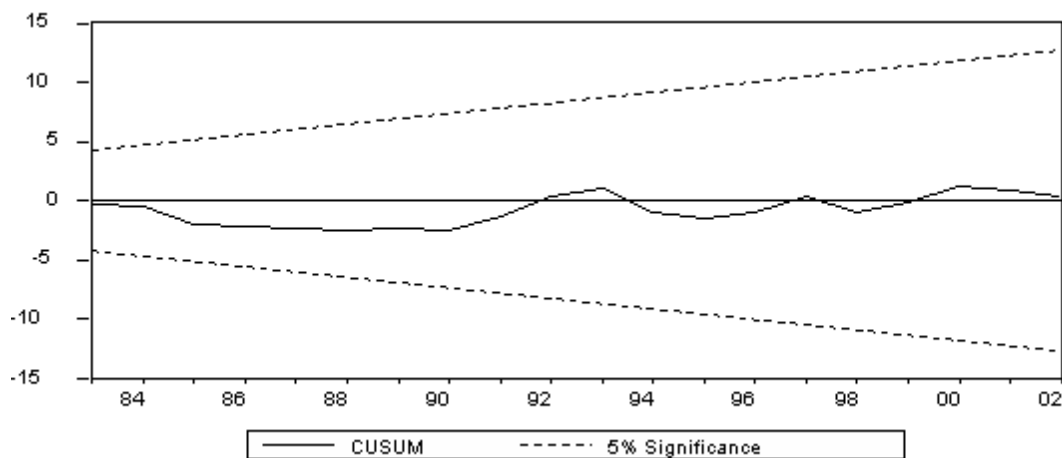
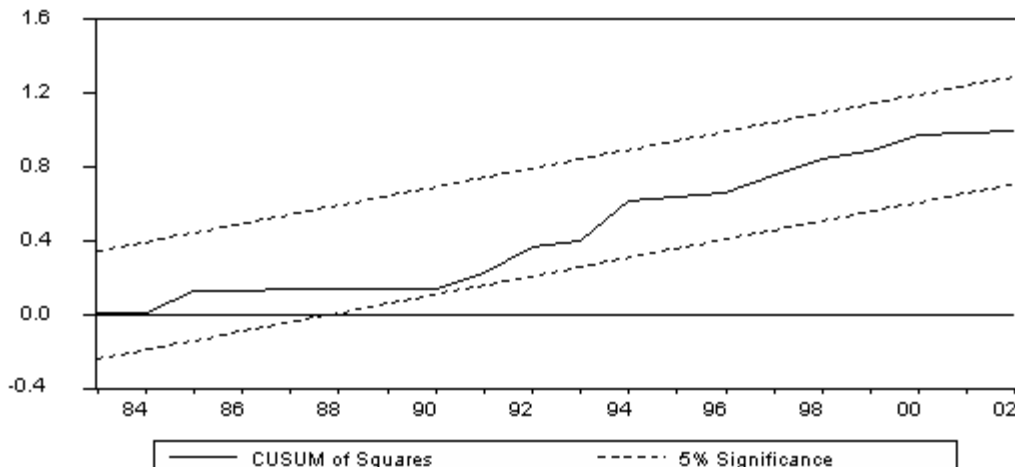
#### Correction Approach

At this stage we estimate a dynamic error correction model (ECM) of private investment function for services sector. Following general to specific methodology we started with one lag of each variable and error terms that is EC1 and EC2 which consist of the residuals from first and second cointegrating vector obtained from cointegration analysis.

All the variables are in first differences except the uncertainty variable (UN) which is used for capturing the effect of macroeconomic uncertainty on the private investment in services sector. The results of final estimated parsimonious dynamic error correction model are presented in the table 4. This model passed a battery of diagnostic tests. The residual passed the diagnostic test of no autocorrelation [ $\chi^2(1) = 3.376157$ ], no heteroskedasticity [ $\chi^2(4) = 20.13223$ ] at the 5 percent level of significance. The stability of the estimated function is established by using CUSUM and CUSUM of Squares tests for stability. The results are presented in the Figures 2 and 3. As can be seen from the figures, there is no movement outside the critical lines in both tests that shows the coefficients are stable and there is no instability in the model.

**Table 4:** Error Correction Model of Private Investment in Services Sector ( $\Delta$ LPIS)

Explanatory Variables	Coefficient	Standard Error	T-ratio
$\Delta$ LPIS (-1)	0.693711	0.134079	5.17
$\Delta$ LCG	-0.302137	0.123967	-2.44
$\Delta$ LCG (-1)	-0.170698	0.099063	-1.72
$\Delta$ LR	-0.364900	0.171675	-2.13
$\Delta$ LY	-1.230719	0.458631	-2.68
$\Delta$ LY (-1)	-1.521681	0.530711	-2.87
UN	-0.031271	0.020685	-1.51
EC1 (-1)	-0.935714	0.144774	-6.46
EC2 (-1)	-0.348521	0.05196	-6.71
Constant	0.163768	0.033605	4.87
R-Square = 0.761392		F-statistic= 7.977419	

**Figure 3:** CUSUM Test of Stability for Private Investment in Services Sector**Figure 3:** CUSUM Square Test of Stability for Private Investment in Services Sector

The error correction terms, that is EC1(-1) and EC2(-1), in the estimated equation are significant with theoretically correct signs. The estimated coefficient of EC1(-1) indicates that approximately 94 percent of the disequilibrium in the private investment in services sector is corrected immediately i.e., in the next year. The estimates of EC2 (-1) show that when ever there is disequilibrium in the market (IS relationship) approximately 35 percent of the disequilibrium is corrected in the next year, which is slow as compared to the first error term.

In the estimated dynamic error correction model, the coefficient of lagged changes in the private investment in services is positive and highly significant which shows that the previous period growth in private investment in services brings positive changes in the private investment in the services over the short-run. This implies that investment decisions are based on previous behavior. Growth in investment cannot be treated as the output of only present period decisions.

The estimated coefficient of change in public consumption expenditure is -0.30 and the estimated coefficient of previous period changes is -0.17, these findings show that private investment in services is affected negatively by the public current consumption expenditure on salaries, wages and subsidies in the short run.

The changes in interest rate negatively affect private investment in services, over the short-run, as its coefficient is -0.36. This shows that decrease in interest rate reduces the cost of production in this sector and increases the profitability of investment. The estimated coefficient of uncertainty proxy is -0.03 it supports the idea that macroeconomic instability and uncertainty depresses private investment in this sector.

## **6. Summary and Concluding Remarks**

The empirical results discussed above show that the government's non-development expenditures mostly appear as substitutes to private investment and affect private investment in services negatively in the long run. Another major finding is that macroeconomic uncertainty affects private investment negatively. It is noted that present uncertainty depresses current year investment activities in the services sector. The analysis also proves that there is a negative relationship between private investment in the services sector and interest rate. On the basis of empirical results, the study recommends the following strategies to promote sustainable private investment in this sector.

The analysis suggests that a high degree of macroeconomic stability and low and predictable inflation rates have paramount importance to ensure a strong response of private investment to economic incentives. Macroeconomic instability is hampering the current private investment despite massive incentives and is responsible for the poor performance of private sector. So, overall harmony and stability in the country is essential for the promotion of private investment. Moreover, proactive measures are also required to ensure the macroeconomic stability.

The increase in non-development public expenditures may increase budget deficit and futures taxes. Moreover, fiscal deficit causes depreciation in the local currency and thus affects foreign investors' confidence. So non-development public expenditures should be economized to encourage private investment. There is a need that special attention must be paid to increase public development expenditures to minimize the cost of production of the private sector, which increase the profitability of the investors and enables them to reap the benefits of the economies of scale. So, the development expenditures should be enhanced to encourage the private investment.

The analysis also shows that interest rate policy should be framed considering the investment climate and the targeted sector of the economy, so that the private investment activities are encouraged. Lastly, the expansion in the size of the market and the enhancement of purchasing power of the people are also needed to encourage private investment in the services sector.

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