

The Socio-Economic Role of Private Investment in Ownership of Dwellings

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Abstract

This study examines the socio-economic role of private investment in ownership of dwellings using time series data for the period of 1981-2010. The investment accelerator model is used in the study and regressed through OLS method. The variables included in the study are Private Investment in Ownership of Dwellings (Ipd) and the independent variables are Value-Added in Ownership of Dwellings (Vod), Population Growth Rate (Popg), Remittances (Rm), Weighted Rate of Interest (rw), Exchange Rate (ER) and dummy variable (Dps) for the political stability and favorable effect of revival of democracy and privatization. All the variables are significant with desired sign showing the positive effect of private investment on ownership of dwellings. The study also suggested some policy recommendation for the government to bring more improving in the investment and output.

Keywords: Private investment, ownership of dwelling, investment models.

1. Introduction and Background of the Study

Investment is capital formation, the acquisition or creation of resources to be used in production. In the national income accounts, investment consists of the addition to the nation's capital stock (i.e. fixed investment) of buildings including residential and non-residential, machines and equipments used in production (i.e. business fixed investment) and changes in business inventories (i.e. inventory investment) during a year. Investment involves the sacrifice of current consumption to increase future consumption. Classical and neo-classical economists have stressed on the role of investment in providing for the future. Investment is the flow of spending that adds to the physical stock of the capital (it is a flow concept, because it is concerned with the creation of new capital, whereas capital is stock concept, because it is concerned with the accumulated volume of capital). To calculate the capital stock, it is necessary to know the capital addition is the rate of investment and capital losses. In common terms, investment often refers to buying financial or physical assets. In macro-economics, investment has a narrower, technical meaning: investment is the flow of spending that adds to the physical stock of capital (Balassa, 2006).

Ownership of dwellings or household's residential construction is the major investment which is made by private sector in construction activity. The construction of residential buildings (dwellings) accounts for forty (40) percent of capital expenditure on construction. Gross Fixed Investment or Gross Fixed Capital Formation in residential buildings/ownership of dwellings covers expenditure on construction of new residential structure and major alterations. In additions old dwellings are generally estimated by multiplying the number of houses constructed each year by average cost per house. The investment estimates in the private residential construction were made separately for rural and urban areas bifurcating into three categories i.e. Pakka, Semi-Pakka and Kacha.

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Residential investment consists of the building of single family and multi-family dwellings (Housing). Housing is distinguished as an asset by its long life. It includes the purchase of new housing both by people who plan to live in it and by landlord. The more wealthy individuals are the more housing they desire to own.

The demand for housing stock an asset depends on the real return on other assets or on the net real returns obtained by owning housing and on the demographic factors such as population. As an economic boom raises national income and the demand for housing, similarly an increase in population does the same. Many people take out loans to buy their homes; the interest rate is the cost of that loan. In turn, the costs of owning the housing consists of (real) interest costs typically the mortgage interest rate, plus and real estate taxes and depreciation affect the demand for housing. These costs are deducted from the gross return and after tax adjustment, constitute the net return. An increase in the net return on housing caused, for example by a reduction in the mortgage interest rate, makes housing a more attractive form in which to hold/invest wealth. If returns on other forms of holding wealth are low then housing looks a relatively attractive form in which to hold wealth. The higher the asset price the greater the supply of new housing. Thus the supply of new housing is nothing other than gross investment in housing – total additions to the housing stock. The rise in the interest rate causes a decline in housing investment.

Developing countries pose even a greater challenge in an analysis of their investment behavior. The investment in such countries is financed through both domestic and international savings. Domestic savings are hard to mobilize specially in the private sector while foreign investment cannot be predicted by any means.

Investment is undertaken not just in fixed assets but also in indeterminate and rather subjective factors such as human capital and in financial assets etc. however studies have generally focused on the assets, which include capital equipment, building and machinery. Asante (2000) examined the relationship of private investment in ownership of dwellings through depreciation in currency. The study found that depreciation in currency has negative impact on private investment in ownership of dwellings, by increasing the cost of goods. Oshikoya (1994) studied the impact of private investment on ownership of dwellings from supply side effects. He found that devaluation of currency has uncertain for investment. Saeed (1995) concluded that devaluation of Pakistan currency had ineffective in Pakistan raising the cost of goods and bringing fluctuation in the exchange rate. Priemus(1998) studied the effect of private rental investment on ownership of dwellings for Dutch. He found that from 1947 to 1998, the private sector investment had fall from 60% to 13%.

In summary, there is very rare literatures review available on such issue, while it is very important topic having dual characteristics both social and economic. This topic has needed a brief research especially in Pakistan. In this regard, the main objective of the present study is to find the socio-economic role of private sector investment in Ownership of Dwellings.

2. Data and Methodology

2.1 Data Description

The data used in this study are based on annual figures because quarterly data for most of the variables are not available from any source in case of Pakistan. The time period of the study data is from 1981 to 2014, because data prior to 1981 at constant price are unavailable. There is no direct source to complete data; therefore data are collected from Economic Surveys, Federal Bureau of Statistics, State Bank of Pakistan, Ministry of Housing of Pakistan and World Development Report (WDR).

2.2 Methodology of the Study

The accelerator model developed from Keynesian Approach to investment (extension of Keynes work) is applied. All the econometric equation developed for behavioral equation

is regressed through advance econometric software E-views (Econometric Views) and by applying the Ordinary Least Square Method (OLS). The results are discussed below for each category separately.

Gross investment equals net investment and depreciation therefore

$$I_t = \delta\alpha_0 + \alpha_1 r_t + \alpha_2 P_{kt} - \alpha_1(1-\delta)r_{t-1} - \alpha_2(1-\delta)P_{kt-1} + \alpha_3(Q_t - Q_{t-1})$$

$$I_t = \alpha_0 + \alpha_1 r_t + \beta_1 r_{t-1} + \beta_2 P_{kt-1} + \alpha_3 \Delta Q_t$$

$$\alpha_1 < 0, \beta_1 > 0, \beta_2 > 0, \alpha_3 > 0$$

It is an accelerator model as it shows the relationship between the level of net investment and growth rate of output.

In time-series analysis there always remains a suspicion about spurious relationship. As this research is also based on time-series data, that is why before going to estimate the model, the data are tested by ADF Granger and Newhold for auto-correlation. According to them, $R^2 > (d)$ is a good rule of thumb to suspect that the estimated regression is spurious.

The best estimate chosen on the basis of t-statistics and probability (F-statistics) of the parameters, which did not suffer from standard econometric problems such as auto-correlation, multicollinearity etc. and the estimated coefficient are statistically significant with true expected signs and economically plausible. Furthermore, an R-squared value indicates that the current specification of the individual equations explains more than (90) percent of variation.

Investment in ownership of dwellings is analyzed as an activity providing consumption services over a period of time or as demand for consumer durables. The accelerator model is applied for the estimation of equation for private investment in ownership of dwellings.

The function of private investment in Ownership of dwellings sector is as follows:

$$I_{pd} = f(V_{od}, Pop_g, R_m, r_w, ER, D_{ps}) \quad 2.1$$

The corresponding regression/econometric equation of the above given function is given below:

$$I_{pdt} = \gamma_0 + \gamma_1 V_{od} + \gamma_2 Pop_g + \gamma_3 R_m + \gamma_4 r_w + \gamma_5 ER + \gamma_6 D_{ps} + \varepsilon_{pdt} \quad 2.2$$

Where

$$\gamma_1 > 0, \gamma_2 > 0, \gamma_3 > 0, \gamma_4 < 0, \gamma_5 < 0, \gamma_6 > 0$$

It is also possible that ($\gamma_2 < 0$). Since a change in population will on one hand lead to an increase in demand for housing and dwellings and on the other it may be possible that by lowering per-capita income it will lead to decline in demand for ownership of dwellings.

The variables included in the study are

I_{pd} = Private Investment in Ownership of Dwellings

V_{od} = Value-Added in Ownership of Dwellings

Pop_g = Population Growth Rate

R_m = Remittances

r_w = Weighted Rate of Interest

ER = Exchange Rate

D_{ps} = Dummy variable for the political stability and favorable effect of revival of democracy and privatization.

Table 2.1: ADF Test Result for Stationary (Including Intercept and Trend)

Variable	I(0) (Level form)		I(1) (First Difference)		Results
	t-Statistic	Probabilities	t-Statistic	Probabilities	
Ipd	3.4776	0.0698	9.8014	0.0000	I(1)
Vod	3.2123	0.0825	5.828 1	0.0003	I(1)
Popg	2.0997	0.1167	4.8975	0.0043	I(1)
Rm	4.7805	0.0398	6.7654	0.0011	I(1)
Rw	1.8383	0.2309	7.7654	0.0000	I(1)
ER	5.4728	0.0028	5.5471	0.0003	I(1)
Dps	2.3365	0.1773	5.4213	0.0031	I(1)

The ADF results table 2.1 shows that all the variables are stationary at first difference, while some are at level too.

Table: 2.2 Regression Results of Private Investment in ownership of dwellings (IPd) as Dependent Variable are:

<i>Variables</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Prob.</i>
C	5.102337	0.562147	9.801406	0.0000
Vod	0.312936	0.632145	4.860407	0.0000
Popg	0.982987	0.145214	11.74562	0.0000
Rm	0.102654	0.789451	14.98712	0.0000
Rw	-3102.231	0.115609	-3.125461	0.0001
ER	-5862.112	0.209560	-2.325647	0.0002
Dps	4563.217	0.017354	5.562180	0.0000
R-squared	0.987894	F-statistic	2774.424	
Adjusted R-squared	0.977537	Prob(F-statistic)	0.000000	
Durbin-Watson stat	1.950097			

The result shows that overall model is highly significant. The value of R-squared is (0.98) and the value of Durbin-Watson is (1.95) which is closely to the desired values. The coefficient of all the variables in the estimated equation are statistically significant as reported by the value of t-statistics and Prob(F-statistic).

The results shows that Value-Added in Ownership of Dwellings, Population Growth Rate, Remittances and dummy variable for political stability are significant having positive signs whereas Weighted Rate of Interest and Exchange Rate contains negative signs as expected. It means that private investment in ownership of dwellings is positively related to Value-Added in Ownership of Dwellings, Population Growth Rate, Remittances and dummy variable for political stability and privatization. Increase in these variables will have positive effect on private investment in ownership of dwellings. A stable political system boosts the investor confidence and hence the investment level. There is negative effect of real exchange rate and weighted rate of interest on private investment in ownership of dwellings. The rise in exchange rate and the rate of interest cause increase in cost of investment and consequently harm overall investment.

4. Conclusion and Recommendations

The study has been an attempt to identify the factors, which affect fixed domestic capital investment significantly and which can be used as policy variables to get the desired results for capital formation, and in determining the investment behavior in Pakistan. For this purpose the empirical model of investment were analyzed and regressed through Ordinary Least Square (OLS) technique using annual data of the period 1981 to 2014.

The private investment in ownership of dwellings is affected by a number of economic, demographic, social and geo-political factors. Value-Added in Ownership of Dwellings, Population Growth Rate, Remittances, Weighted Rate of Interest, Exchange Rate and political stability seem to be the major determinants of private investment in ownership of dwellings. The result also indicates that there is significant positive impact of government consistent policies and political stability on private investment in this sector.

Investment also seems to have positive relationship with the level and past values of output. To further enhance the investment opportunities, the concerned authorities can create additional demand for manufacturing products by exploring the world market through various export promotion measures. Besides these, government should ensure one desk facilitations service to domestic as well as overseas investors especially in major cities.

Government should reduce the bank borrowing and lending charges. There should be provision of proper physical, technological and financial infrastructure. In order to enhance investment an investor friendly environment like fiscal relief, full repatriation of capital, capital gains and profits generating activities will have to be created.

The government policies (nationalization) which brought the banking system and large-scale manufacturing sector under the government's control also reputed the financial back bone of the economy. the real interest rate which in a free market system p-lays the role of guiding indicator for business community could be serve its objective with the result, that private investment did not positively respond to even low real rate of interest. However weighted rate of interest has found to be a real cost of borrowing.

There are certain constrains on the privatization process that it may also lead to unemployment in the country. So, it is very important that government should adopt a balanced approach and take the regulatory measures, especially a regulatory framework for investment promotion is mandatory. Private investment in infrastructure may be helpful in this scenario.

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