The impact of corruption on private domestic sector investment
Case Study: selected developing countries

By

[1]**Karim Shahnazi and** [2]**Saeid Asadi Gharagoz**
[1]MSc. in Economic, Islamic Azad University, Sciences and Research Branch,
West Azerbaijan, Iran,
[2]MSc. in Economic, Islamic Azad University, Sciences and Research Branch,
West Azerbaijan, Iran,

Abstract

Investment in all countries as an important factor in economic growth and development is considered. Investment in most countries carried out by the private sector and public, especially in developing countries. Private domestic investment as a source of growth and job opportunities in the future is considered. Therefore, it is necessary to identifying the variables that affect private investment. Among the factors affecting the private domestic investment, the level of corruption is the most important factor. Many studies and research in economics have suggested corruption as a negative factor affecting investment in countries. Therefore according to the importance of the issue, especially in developing countries where corruption is involved, this study examined the factors affecting the private domestic investment with emphasis on the Corruption Perception Index (CPI), using the panel data of 32 selected developing countries over a eleven-year period (2000-2010) with Generalized Method of Moments (GMM). The results support the positive effect of Corruption Perception Index on private domestic investment.

Keywords: *Corruption Perception Index, Private Domestic Investment, Generalized Method of Moments*

1.   Introduction

Investment as driving force in economic development and growth, is critically important in all the countries through the world. Accumulation of capital and growth rate has been long considered as the most salient index in evaluation of economic policies and one of the most important factors in economic development and growth (Asadi Gharagoz et al., 2013). Study by Joshau and Delano in 2012 on private sector investment in developing countries indicates that Gross Domestic Product (GDP) growth rate decreased to less than one percent in 1981-1989 from 3% in 1971-1979. They count decreased investment growth rate, especially private investment as one of the main reasons in lowered economic growth. Capital and investment are considered from different aspects in the process of economics evolution, in a manner that some economists (Keynesian) view investment as driving force in growth and development of nations (Deyhim, 1998).

Investment, for its limitation, has attracted developed and developing countries attention. It is noteworthy that scarcity of capital is more prominent. Optimized allocation of capital requires exact identification of investment structure and effective long term and short term factors. Private investment as the most effective method in fulfillment of production is of utmost importance. So, the premier issue in this research is to study effective factors on domestic private sector investment emphasizing on corruption.

Investment and accumulation of capital from investment is the key to economic growth in each country. In most countries, especially in developing countries, investment is made by private and public sectors while domestic and international investors have the main role in private sector investment. In Iran, for severe dependency to oil incomes, unstable prices, high investment risk as the result of severe fluctuations in foreign currency and inflation, capital and investment involves many problems as the

result of which investment by private sector has experiences extreme fluctuations (Keshavarzian Peyvasti, 2002).

Private sector investment is not only counted as part of total demand, but more important as the source of growth and job opportunities in future, so identification of variables effective on private investment would be necessary to improve it. Private investment in each country while being influenced by economic variables such as inflation, interest rate and direct foreign investment is impressible by institutional variables (governance indicators, general response, executive quality, …) which are related to investment safety (Asadi Gharagoz et al, 2013).

Rate of governing corruption in the country is an effective factor on domestic private investment which includes prevalence of corruption in the country, developed family-based relationships, using power to the benefit of friends among the cabinet member and other first-rate individuals, as well among the high and mid rank directors. Pernicious effects of political system corruption on deviations in economic and financial sides and government efficiency in turn are increased bureaucracy which pave the road for corruption, prevalence of illegal payments (bribe) among individuals and public companies to facilitate the work, payments to influence the process of law making, general distrust to financial rectitude of policy makers, payments to obtain export and import permits and tax evasion, policy makers usage of public budget and finally illegal payments by weighty individuals and monopolies for losses by other institutions (Asadi Gharagoz, 2013, p.41).

For the importance of the subject, especially in developing country involved with corruption, main research question would be, "Is there significant relationship between corruption and domestic private sector investment?"

To study the effect of corruption on domestic private sector investment, the present research tests given hypothesis using data from 32 selected developing countries over an eleven-year period (2000-2010).

Theoretical foundations

Private sector investment is a variable in macroeconomics considered in the current decades by economists with a different approach. In fact, private sector investment share in gross domestic product in a time period can indicate the economic condition of the country.

Sala-i Martin (2002) believes that the first response economists inclined to give in response to economic success or failure of a country or region is that determining and key factor in economic growth is the investment rate. Countries with higher growth are those invested significant part of their gross domestic product and failed countries are those without significant investment

Review of investment theory

Increased investment and access to higher economic growth rate is the premier objective by all economic systems and an optimum objective for all endeavors toward adjustment of the communities' economic affairs

Brief review of theories by classic economists such as Adam Smith, Ricardo, Maltos and then those of neoclassic economists like Solow, Clark, Nurkse, Myrdal, Rodan, Romer, Lucas, Grossman, …… indicate us the importance of fixed investment in economic development and growth. Economists like Paul Baran, Maurice Dob, Semiramin consider shortage of capital and non- formation of capital as the main reason of lag in developing economics. In most of growth models, both external and internal, formation of capital and investment have special role, the role is especially more prominent in internal models for considering the positive external effects from accumulation of capital which results in lowering or removal of descending efficiency effect.

Economists have been for years searching to discover the effective factors on investment and growth. Which factors would facilitate investing and growth?

In traditional models of growth, countries and even technologies are considered to be the same. The model searches the origin of differences in investment and growth in different countries by saving rate and production factor growth rate.

Where investment and growth come from in different countries? Which are the obstacles in investment and growth?

Classics have counted saving and investment as a function of interest rate and obtain a flexible interest rate from their equality under full employment condition. They believe that this equilibrium would be automatically created in the economy and that investment is a function of interest rate where increased interest rate decrease investment demand. Keynesians believe that final efficiency of the capital has critical role in investors' decision. In Keynes analysis , real rate of capital efficiency is the rate which equate the adjusted value of net expected incomes from investment in certain project with primary costs of investment in that project. The rate is known as final efficiency of investment. According to Keynes theory, decision to invest depends on two factors: First internal return rate from investment which in fact is the final investment efficiency and second, interest rate which is an index for evaluation of existing resource opportunity costs (Branson, 1389).

Another important theory regarding investment is the accelerator principle, first coined by Clark. In economics, the theory which connects investment with changes in production level of national income is known as Accelerator Principle. In simple analysis of acceleration, demand for capital goods, while depending on rate of changes in national income level, is based on another factor, Capital to Production rate (K/Y) or capital average coefficient. After simple acceleration theory, adjustment of capital asset theory was formed which is an endeavor toward removing shortages and preserving the spirit of acceleration principle. According to capital asset adjustment theory changes in investment rate has direct relationship with national income and inverse relationship with capital volume with first lag.

Neoclassic investment theory identifies investment as a function of capital relative price. In the theory by Jorgenson, investment is positively connected with production level and with rental cost of capital negatively (Branson, p.383-386).

In the second step, economists tried to minimize non-described residue by controlling the model against other factors such as human capital, rate of development in financial sector and nature of macroeconomics policy in different counties. To this end even differences in technology efficiency in different countries and regions were considered, but non-described residue was significant. For instance in the study by Barro, Esterly and Levine, in which a broad spectrum of variables are controlled, scant economic growth in some countries and regions left unexplained.

In the third step, researchers focus their attention on non-economic factors effective on investment and growth. Risk and unconfidence are inserted in the current investment theories. Risk rate can be defined as average unforeseen events cost during the investment period. Each investor by allocating different capital resources to investment, reviews his future loss and profit before other parameters. In this evaluation, he decides to which activities his capital should be allocated to bring him max yield during the project. When investment risk is high additional costs from existing risk as the result of unforeseen events would increase costs per unit of capital and in turn decrease the profit. If damages from unforeseen events are critically high the profit would be negative and may even make the investor bankrupt. Unforeseen events include a broad spectrum of political problems and natural events, changes in price, rates, decisions, regulations and statutes, domestic riots, international transformations, etc. All these elements are included in the realm of risk rate calculation. If unforeseeable events are highly possible in the economy, risk rate

would be high. As the result, investor proceeds to type of investment with very high rate of return in order to compensate costs for unforeseen events from his return rate (Asadi Gharagoz, 2013). Numerous studies were made on the subject by economists and significant results have been obtained regarding the effect of economic security index on private sector investment. Establishment of a good governance referred to as "Key to Development" by International Monetary Fund is one of the most important index in economic security space which refers to subjects such as Voice and Accountability, Political stability (No violence), Control of Corruption, Regulatory Quality, Rule of Law and Government effectiveness.

Domestic Private Sector Investment and Corruption
During the current year, corruption is not used as a descriptive independent variable from investment but is used as an indirect variable in different economic estimations and political risks. Corruption has been defined in different terms by researchers. The World Bank has in defining the word corruption focused on the meaning of misusing governmental power to obtain individual benefit. Busse et al (1996) define corruption as usage of power by government and quasi-government officials for individual benefits from business. Given this simple but broad definition, corruption is sometimes all-inclusive, taking into account bribes, bureaucratic and institutional inefficiency, and political instability.

The shortage in above definition is that corruption is limited to governmental sector while in many countries private sector has the same role in corruption. Bribery, for example, is prevalent in both private and public sector in such functions as procurement and hiring. Evidences regarding corruption in institutional system in many countries indicate that corruption severely decreases domestic and international investment. If Philippines was able to decrease corruption to the level of Singapore, investment to GDP rate in the country would increase for 6.6%. Many countries suffering from corruption provide significant tax incentives to seduce multinational companies. They can attract the same rate of international investment as from such tax incentives, through controlling the corruption. Corruption results in nonoptimal allocation of the community capacity. Where corruption prevails in the community, skilled human force try to obtain a legal rent or license through bribery and agreement with public authorities instead of using their creativity and innovation, while they could potentially improve the community technically and in turn increase investment efficiency (Mauro, 1997).

So, rent seeking activities by the most intelligent people in the community which is sometimes referred to as Second-Best Solution, deplete the community from its real potentials and human capital damage economic growth upon such nonoptimal allocation. Corruption allow official authorities to obtain personal benefits secretly upon his own desire. They know for more inflexibility imposed, there would be more opportunity for bribery. In this way, public executives not only play the expected role in removing the market obstacles, but they also impose more problems in the markets. Under such conditions where newly established corporations have to bribe in order to register the corporate and start the work, decide not to enter the market, so investment motivation and competition are decreased (Tanzi, 1998).

Direct foreign and domestic private sector investment
Shortage of capital in specified as one of the most important reasons in underdevelopment in economic discussions. In other words, economic development and growth are not possible without accumulation of capital. Many researchers consider shortage of income and saving and insufficient investment as the reason for underdevelopment in many countries.

Capital can drive production sector and by increasing production improve the trade, life and brings economic development and growth. Lack of capital is one of the main reasons making the countries involved in the futile circle of poverty and underdevelopment bringing comprehensive unemployment which in turn lag financial production level and then ends with economic set back. In subjects related to economic development the main solution in developing countries regarding shortage of capital, going out of the futile circle, poverty and underdevelopment to be using accumulated capital in developed countries. In other words, what make the use of foreign investment necessary for developing countries is

the gap between saving and investment in such countries which for insufficient national saving in one hand and underdevelopment of financial market in country on the other hand which is resulted from shortage of capital and inclination to attract foreign investment.

Foreign investment is usually performed in two forms of Foreign Portfolio Investment (FPI) and Foreign Direct Investment (FDI). So foreign investment can be divided in two parts:

Direct investment in which the country directly or in collaboration with domestic investors proceed to invest with foreign investor (FDI) and Indirect investment through buying Stocks and bonds by foreign investor in stock market (FPI).

Foreign direct investment is a form to export capital from the origin to other countries. The phenomenon is done as investment in production and manufacturing goods, extraction of raw materials, establishment and development of financial organizations beyond national borders. Up to the end of 1990, direct foreign investment reached USD 1500 billion while the annual growth rate was 34% in the period between 1985 and 1990.

Direct foreign investment or FDI brings many benefits of which creation of job opportunities and transfer of technology to receiving country is the most important one. Other benefits are accessibility to foreign markets and financial sources, both necessary for the countries. However global direct foreign investment in the world has significantly increased since 1980s, many countries including Iran had limited share in this process.

There are different ideas regarding the effects of foreign investment on the country economy. Review of the ideas indicates that differences are more related to the countries definition of development. There is general agreement that investment can influence some macroeconomic elements such as gross domestic product, investment volume, saving rate, payment rate growth, foreign trade and currency rate but the difference is related to how it works and its , possible damages and costs (Asadi, 2013, p.50).

Interest rate and domestic private sector investment
Interest rate variable is one of the most critical tools in policymaking, capital and macroeconomics. As the institute obtain loans from other bodies or use its own fund in the process of investment, borrowing cost is measured by market interest rate (for loan) to be paid by the institute or the institute may refuse to obtain loan (using its own fund) (Asadi, 2013, p.50).

Before 1970, most economists presumed that low interest rate increases investment and raise economic growth. Developing countries started to control interest rate in a level lower than balanced interest rate in order to facilitate production (through increased investment) and started severe financial suppression policy. As banking system act as a financial system in developing countries, real interest rate would be negative and saving decreases. McKinnon and Shaw, were the first economists in 1973 who seriously opposed the ideas of interest rate and investment. They believed that increased interest rate would increase saving and bank financial sources and finally increases the investment. In other words, profit rate increase would change part of assets like gold and currency into bank deposit. As the most important weakness in banking system in attraction of deposit is low nominal interest rate compared with inflation index or in fact real interest rate is negative, determination of interest rate (max interest rate) is critically important.

With such argument by McKinnon and Shaw, most developing countries changed their financial policies according to these ideas. Studies on experimental testing of McKinnon and Shaw theory were approved in some countries while in other countries their argument are not approved regarding liberation.

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Interest rate policies are among the most controversial strategies economic adjustment in developing countries, in a manner that changes in interest rate would influence economic activities in short and long terms. Government intervention in economic problems is highly common in developing countries including Iran. In this regards sources are allocated on the basis of policymaker's discretion and interests (not on the basis of market mechanism). Monetary and capital market is not an exception in this regard. Monetary and financial sector of the economy is controlled and guided by central bank and state macroeconomics objectives are met using monetary policies. Sometimes controls are increased to the extent that financial sector is limited and loses its dynamism, where the condition is called financial suppression (Ehsani, 2012).

Inflation and domestic private sector investment
Reactions by economic units to regular and stable changes are more assured but when changes are irregular and unstable, there would be unsecured condition facing economic decisions with more risk and costs. So, identification of changes in economic variables is critically important in adjustment of their effect on other economic variables. Inflation and its effect on economic performance is of such nature.

Inflation is increase in general level of prices. Inflation rate is the measuring standard for this increase. Inflation rate is the Annual percentage of change in prices index. In more accurate definition of inflation considering the term "Increase in general level of prices" the words "Uncontrollable" and "Continually" are used. Inflation may have different reasons in different conditions, times and communities (Roozbahan, 1999).

Domestic private sector investment and trade
Export influences economic growth directly and indirectly. Direct effects are provision of for importation of capital products required for country economic growth, using encouragement of investment in sectors where the state economy has relative advantage. Indirect effect of export development attract foreign investment to sources related to key exportation. As well, export growth encourages transfer of technology to domestic exporting institutes in order to keep competitive power in international markets (Jalili, 2013).

Previous studies
1. There are much numbers of studies on the effect of corruption on economic growth while limited studies are done on the effect of corruption on private domestic investment (PDI). Al-Sadig (2010) in his study titled "Corruption and Investment" reviewed the effect of corruption on PDI rate. In this study Generalized Method of Moments (GMM) has been used to remove the linear relation between PDI and corruption, the model is estimated based on data for 71 developing countries in the period of 1984-2000. The study results indicate that corruption has negative effect on investment rate by private sector.

2. In the study by O' Toole and Trap (2012) the effect of corruption on investment has considered. World Bank data for 900 developing economies are used in this study which consider if bribery costs may remove the efficient allocation of investment through lowering final return from each unit of investment. The study results indicate that bribery decreases investment return. There is significant inverse relation between bribery and investment return for small and mid size domestic companies but no significant relation for big domestic and foreign companies.

3. Many studies on analysis of corruption effect on investment have common Characteristics as following:

All studies use investment data through the country and measure corruption rate in the country. In the study by Asiedu and Freeman (2008) investment data through the companies and corruption indicators in the country and companies have been used. The study reports that the effect of corruption on investment

varies in different areas. Results indicated that corruption has negative effect on investment growth for companies located in developing countries but it has no significant effect on companies located in Latin American and South African nations. In addition, corruption as a variable in regression (company size, ownership, commercial and industrial orientation, gross domestic product growth, inflation, and trade openness) is the most important obstacle in investment growth in developing countries.

4. Way (2000) used foreign investment data in 12 countries in for the early 90s to study the relationship between corruption and foreign direct investment. He found that the effect of corruption on direct foreign investment through controlling the set of important variables is severely negative. He used two Business International (BI) and Transparency International index. Both gave the same results. However, the effect of corruption on Transparency International index was somehow smaller. In his former study (1997) he considered the effect of unreliability from corruption on FDI. Unreliability from corruption was obtained according to answers given to corruption question in Global Competition report in 1997. He found that the studied relation is significant and negative.

5. Busse et al., (1996) studied the relationship between FDI and investors understanding of corruption. Results indicated that reflection of corruption in the mass media would increase foreign direct investment, for investors believe that the government would apply amendments and adjustments to prevent and control corruption. On the other hand FDI could be decreased by reflection of corruption in the mass media for investors felt that government is unable or not interested to change the governing conditions in order to improve the status quo. This study refers the importance of understanding corruption and the government role. The study argues that the government proceedings would finally create positive understanding by foreign investors.

6. According to the studies, it can be said that corruption has negative effect on foreign direct and domestic direct investment, but there are little experimental evidences regarding the second relation. Mauro (1995) studied the effect of corruption on total domestic investment. Using total investment ratio to GDP (depended variable) in his regression model, he indicated that corruption has negative effect on total domestic investment during 1980-1989.

7. SharifAzadeh (2003), in a paper titled "Effect of private investment in Iran from Economic Security Indexes for the period 1979-2000" refers the significant effect of some governance indexes including Administrative System Quality and Risk of ethnic tensions using OLS method.

8. Hosseinzadeh Bahraini (2004) reviewed the effective factors on investment security in Iran. This descriptive research work was done using the statistics published by International Center for Investment Risk Measurement. The work analyzes the factors making investment unsafe in Iran. Some factors roots in the political structure or culture of the country and others are related to the government economic attitude, transborder factors and economic agents' performance

9. Saadat Mehr (2011) in a paper titled "Study of security on private investment in Iran" concluded with the aid of ARDL mode for the period 1984-2007 that investment security has significant influence on investment in Iran in long and short term.

10. Heydari (2012) in his PhD thesis regarding economic and social factors effective on attraction of foreign direct investment, emphasizing on good governance indexes in MENA and OECD countries with the use of fixed and random effects method in 1996-2007. Results indicate that good governance indexes has significant effect on foreign direct investment attraction.

11. Asali (1998) in a research examined private investment in Iran during 1959-1992 in Two Stage Least Square (TSLS) method. In addition to variables such as capital costs, real income and capital reserve he used two Public Investment and Bank Credits to Private Sector variables were

used as descriptive variable in investment function. Results indicate that real income, capital reserve and public investment have significant effect on private investment.

12. Hajhbarkiani (2002) in a paper titled "The relationship between the public and private sector investment in Iran" concluded using vector autoregressive model that there is positive long-term balanced relationship between private and public investment.

13. KeshavarzianPeyvasti (2002) in a study estimated private sector investment function in Iranian industry. The research covers 1971-1998 and was done in cointegration method. Results indicate that value added variable in industry and awarded facilities to this section have positive effects while revolution and public investment have negative effects on private sector investment in Iranian industry.

14. Hadian (2012) in a paper titled "Permanent inflation and its effect on private sector investment in Iran with the use of Auto-Regressive Distributed Lag (ARDL) method" concluded that increased permanent of inflation in long term would decrease private sector investment.

15. Ehsani (2013) in a paper titled "Effect of interest rate on private investment in Iranian Economy using simultaneous Least Square (3SLS) method" concluded that McKinnon-Shaw hypothesis is proven in Iran, that is increased rate of interest has positive effect on private investment in Iran.

2. Methodology

Generalized Method of Moment (GMM)

In equations where main problem in estimations is invisible effect specific to each country and lag in depended variable in descriptive variables, we use Generalized Method of Moment (GMM) estimation which is based on Panel Dynamic Model. To estimate the model using this method first we should determine variables used in the model. Conformity of GMM estimator depends on the validity of serial non-correlation hypothesis of error terms and instruments which can be tested by the two tests specified by Arellano and Bond (1991) and Arellano and Bover (1995). The first one, Sargan test examines validity of the instruments and the second is M2 which tests second order serial correlation in first order differential error statements. Non rejection of zero hypothesis in both tests indicate serial non-correlation hypothesis and validity of instruments. If there is no second order serial correlation from first order differential equation then GMM estimator would be compatible. GMM method is among suitable econometrics methods for solving or lowering the subjective problem of fundamental indexes and correlation between fundamental variables and other descriptive variables while model estimation using GMM would be dynamic data (Baltagi, 2008).

Benefits of GMM method:
1) Resolves endogenous of institutional variables
2) Lowers or eliminate linearity Correlation in the model
3) Eliminates fixed variables in time
4) Increases variable time dimension

According to the pattern introduced by Al-Sadig (2010), Morrissey (2012) and Agosin-Machado (2005), econometrics model used in the current paper is extended using GMM method in the following manner:

Equ.1

$$CPV_{it} = \alpha + \beta_1 CPV_{it-1} + \beta_2 CPI_{it} + \beta_3 POP_{it} + \beta_4 FDI_{it} + \beta_5 GIH_{it} + \beta_6 INS_{it} + \beta_7 INF_{it} + \beta_8 GDP_{it} + \beta_9 TRADE_{it} + \varepsilon_{it} + \mu_i$$

where
CPV_{it}: Domestic private sector investment for country i in time t
CPI_{it}: Corruption Perceptions Index for country i in time t
POP_{it}: Growth rate for population i in time t

FDI_{it}: Foreign direct investment in country i in time t
GIH_{it}: Geometric average of good governancy index for country i in time t
INS_{it}: Real interest rate for country i in time t
GDP_{it}: Real gross domestic product i in time t
$TRADE_{it}$: Trade openness for country i in time t
ε_{it}: Error terms
μ_{it}: unobserved time-invariant specific for each country
Instrument variables: gdp, inf, ins
Exogenous variables: gih, cpi
Data are collected using library method from official international sources such as World Bank and Transparency International organization.

3. Findings

To examine the effects of corruption on domestic private sector investment in this research, linear pattern and panel data are used. Before estimation of given pattern, we should test the unit root for time series and panel data variables for avoid of false regression problem. Results from variable unit root test obtained from data specifications in this paper and model type are given below according to reliability test (number of countries is bigger than years of study while this research is macroeconomics level with big sample size):

- Im-Pesaran-Shin test
- Fishertype test

Zero hypothesis indicates unit root (variables not valid) and one hypothesis indicates no unit root to exist. According to the above test result, all variables in this research are reliable (no unit root to exist) in width from the origin.

Linear correlation between is known to be collinear. Linearity between two descriptive variables results in their correlation coefficient to increase which increase the estimator variance. Variance increase would in turn widen the parameter assurance gap. On the other hand, as estimator variance increases, coefficients would be meaningless. In this section we make correlation matrix to examine variables linearity. A simple criterion for identification of linearity is to use correlation coefficient between descriptive variables in correlation matrix given in table 1. According to the results form correlation matrix table, descriptive variables have optimum linearity (Sori, 2012).

Table 1. Correlation matrix

	GIH	GDP	TRADE	POP	CPI	INF	INS
GIH	1.000000	-0.198293	-0.225238	0.086126	0.434906	-0.275910	0.111485
GDP	-0.198293	1.000000	0.213372	0.128208	-0.216847	0.087486	-0.146824
TRADE	-0.225238	0.213372	1.000000	-0.497006	-0.077481	0.265667	-0.084779
POP	0.086126	0.128208	-0.497006	1.000000	-0.201123	-0.048911	0.213909
CPI	0.434906	-0.216847	-0.077481	-0.201123	1.000000	-0.008489	-0.007999
INF	-0.275910	0.087486	0.265667	-0.048911	-0.008489	1.000000	-0.450672
INS	0.111485	-0.146824	-0.084779	0.213909	-0.007999	-0.450672	1.000000

Results from estimation of the effects of corruption index on private sector investment in GMM method is given below for about 32 elected developing countries through the world in the period of 2000-2010 using Stata 11 Software according to model 1.

Table 2. Results from estimation in GMM method

Depend Variable	CPV	
Independent Variables	**Coefficients**	**Prob.**
CPV(t-1)	0.3342529	0.000***
GIH	0.5218062	0.537
FDI	0.2170106	0.001***
GDP	0.1346519	0.000***
TRADE	0.0715549	0.000***
POP	0.8660421	0.696
CPI	1.563572	0.047**
INF	-0.0498411	0.000***
INS	-0.0385712	0.059*
C	-4.348763	0.291
SARGAN	15.06849	1.0000
AR(1)	-1.3406	0.1800

*** indicates the parameter to be significant in the level of 99% while ** is that for 95%. Zero hypothesis of Sargan test refer the instruments reliability which can't be rejected according to the results. AR(1) zero hypothesis examines self-correlation in the first lag. According to the above results hypothesis H_0 (lack of self-correlation) can't be rejected in first lag.

4. Results

Results from table 2 indicate that domestic private sector investment lag CPV_{it-1} is significant statistically which shows given method to be dynamic in a manner that private sector investment in the current period develops to the next period.

Corruption Perceptions Index in 95% level has positive and significant effect on domestic private sector investment growth in a manner that one unit increase brings 1.5 unit growth in private sector investment.

Corruption allows official authorities to obtain benefits secretly. So they know that more inflexibility injected by them, gives more opportunities for bribery. In this way public agents would not only play expected role in removing the market defects, but they create more defects in the market. In such an environment new institutes have to bribe in order to be registered and start their operation, so they usually decide not to enter the market which in turn decrease investment motive.

As expected, effect of inflation on private sector investment in the studied model was negative and significant in the level of 99%. In all studied model one unit increase in inflation rate would bring 0.05 unit decrease in private sector investment. Increased inflation decrease the supply of monetary real balance as the result of which interest rate would be increased and finally decreases private sector investment. As well and according to the said literature the interest rate in studied model was 90% with negative and significant effect on private sector investment in a manner that one unit increase in interest rate would decreased private sector investment for 0.038 unit. As defined in the literature, increased interest rate would in short term increase borrowing charges for investment projects and on the other hand decreases current value of future incomes which lowers investment motivation.

As specified in the literature foreign direct investment (FDI) in the studied model has positive and significant effect in 99% level on private direct investment in a manner that in the studied model, one unit

increase in foreign direct investment has 0.2 unit subjectivity effect on domestic private sector investment. FDI current, by introducing new products and methods to the receiving country, using and teaching modern techniques of management increases private sector investment. Most developing countries face shortage of financial sources for economic development plans, so foreign investors would assist domestic investors through participation in capital and investment plans.

Real GDP has positive and significant effect in 99% level on private sector investment in the studied model in a manner that I unit increase in domestic private sector investment would change for 0.13 unit, that is private sector investment increased with production. Trade openness in 99% level has positive and significant effect on private sector investment, therefore one unit increase in private sector investment would increase for 0.07 unit. Exportation of raw materials in traditional methods covers a significant part of GNP. In oil producing companies including Iran, selling refined and non-refined oil products to other countries produce 70% of national income. Other than oil producing and newly industrialized countries (NIGs), most developing countries should rely on exportation of non-mineral products to receive currency incomes. Beside exportation dependency in developing countries, they require importation of raw materials, machinery, capital articles, intermediary articles and consumer products in order to reinforce their industrial system and meet increasing citizen requirements. Developing countries would through opening their economy not only transfer goods, services and financial sources form industrialized nations, they import developing or non-developing effects from transfer of technology and consumption patterns from such nations. Technology transfer and financing the required capital would increase domestic sector investment in this group of countries.

5. Discussion and Conclusion

Economic corruption is one of the critical problems in developing countries. According to the results from this research work it has most influenced domestic private sector investment, than other studied variables. Some believe that there is no solution for this but others say punishment of corruption factors is the only way to confront economic corruption. Economic corruption would not be resolved unless the factors and roots are discovered and eradicated. Fighting with corruption is a serious subject in all growing economics, for quick movement to long term objectives and privileges awarded for involvement of private sector in economic activities create challenges in law-based behavior of economic institutes which are naturally searching for more profit from their activities. It is common in such conditions that fighting with economic corruption of high risk. If fighting with corruption is not taken serious, economic diseases would increasingly grow while unreasonable fight may frighten the investors and disturb investment security system.

Below are policy recommendations toward lowering economic corruption:

1- Fighting with political and legal corruption
2- Fighting with embezzlement and state budget misuse
3- Fighting with extortion and prejudice by civil servants and employees to private sector
4- Fighting with mis-allocation and injustice in distribution of public products and services
5- Fighting with state properties misuse and embezzlement

To meet the above objectives, below method can be recommended:

1- Clarity of information regarding financial activities and distribution of services and products by state affiliated bodies in a manner that people and authorities have equal access to such information
2- Espionage to identify and explore cases of administrative and economic corruption

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