An evaluation of relationship between public debt and economic growth: A study of Afghanistan

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19 October 2016

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Abstract

Public debt is one of the main macroeconomic indicators, which forms countries' image in international markets. It is one of the inward foreign direct investment flow determinants. A prudent public debt management helps economic growth and stability through mobilizing resources with low borrowing cost and limiting financial risk exposure. The objective of this study was to establish the relationship between public debt and economic growth in Afghanistan. The study used secondary data collected from various sources collected from Ministry of Finance, treasury directorship, debt department, World Bank web page and Da Afghanistan Bank. The study period included 2008-2012 financial periods. The data was collected using data collection sheet which was edited, coded and cleaned. To establish the relationship between public debt and economic development, the study conducted a regression analysis. Domestic debt is characterized by higher interest rates compared with those on external debt, which is contracted mainly on concessional terms, and it is therefore expensive to maintain. Domestic debt reduction could be achieved using proceeds from the privatization program of public corporations, or the use of externally borrowed resources which are mainly on concessional terms to retire more expensive domestic debt. The government should therefore develop a framework for recording and monitoring all contingent liabilities and also formulate and implement a policy for management of the contingent liabilities. The government should therefore continue to implement wider reforms that promote investment in Treasury bonds, and encourage institutional investors such as pension funds and insurance companies to invest in Treasury bonds.

JEL: H0, H3, H6 and H8

Keywords: Afghanistan, Public debt, Economic growth.

1. Introduction:

In every country, government has to finance its expenditure, but with tax, it is impossible for government to finance its all expenditures, so public borrowing bridges the gap between receipts and expenditures. Government debt is one method of funding government operations, but it is not the only method. Governments can also create money to monetize their debts, thereby removing the need to pay interest. This practice shrinks government interest costs rather than truly canceling government debt, but can result in hyperinflation if used unsparingly. Government debt is also called public debt. Government debt is one method of financing government operations, though not the only method as Governments can also create money to monetize their debts, thereby removing the need to pay interest (Martin, 2009).

A debt is an obligation to pay money, deliver goods, or render service under an express or implied agreement. One who owes is a debtor, or debtor: one to whom it is owed, is a debtee, creditor, or lender (Business dictionary). Public debt refers to the total of the nation's debts which covers debts of local and state and national governments indicating how much public spending is financed by borrowing instead of taxation (Makau, 2008).

Public debt that some scholars also named as government debt and national debt is a phenomenon that aroused recently in these centuries. It's common that some governments default to set their expenses according to their revenues so the need to take debts in order to manage their expenses. On the other hand, other developing countries take debt to invest in their infrastructure, (railways, transportation, electricity, education). (Greer, 2013) focus on this point and said that debt may be used by state and local governments to expand the resources available to finance new construction of buildings and other tangible assets.

Whenever any government takes debt, its obvious that spend it for its people welfare and needs, in this case these are the citizens who are obliged to pay back the debts. As (Professor Aba P. Lerner and Professor Domar) declared in their article that a Domestic national debt means merely that citizen as potential taxpayers are indebted to themselves as holders of government debt, or it can, therefore, have little effect upon the economy. It is my purpose to refute this argument [and] to show that, quite apart from any distributional effects, a domestic debt may have far-reaching effects upon incentives to work, save, and to take risks. (Christina et al, 2010).Some other countries need to finance their war or military expenses because of they need finance or debt to manage their expenses. As England did this for the first time and finance its war with France in.

According to duration public debt has two type long-term debt and short-term debt. Government debt duration is until repayment is due. Short term debt is generally considered to be for one year or less, long term is for more than ten years. Medium term debt falls between these two boundaries. Usually as discussed before government take loan for a short period of time to manage their deficits of paying salaries or daily operations but in case of building infrastructure or investment inside country for country's

prosperity governments mostly take long-term loans. It is not exact but in some countries and according to some scholars there is a limit that nobody can cross that beyond that criteria, also it depends on the decision of jurisdiction authorities as described by(Robert Greer, 2013)the amount that a government can take loan depends on the country's ability and income of its citizens. The amount that a government can borrow is restricted by jurisdiction capacity to repay the liability, which depends upon the property and income wealth of the citizens that reside in the jurisdiction. The majority of scholars ignores other types of government debt and just figured out two elements from this category. They categorized public debts internal and external debts. That internal debts are debts that government take loan from public by issuing (securities, government's bond and bills, taking loan from commercial bank and overdraft from the central bank) and the State and local governments issue municipal bonds to finance infrastructure used for a wide range of purposes including education, utilities, public buildings, hospitals, and transportation.(Robert, 2013).

Domestic debts have taken in order to use in development projects to boost economic growth. If the government fails to manage it, or to keep these two aspects equal, (debts and economic growth) so it will have severe implication for the government. In this way, internal debt servicing is more harmful for the economic growth than the stock of internal debt because of the shrinking resources to finance development projects (Abbas and Christensen, 2007). External debt is that a government Take loan from other country, World Bank or IMF.(Klein 1994) and (Ariyo, 1997) noted that reliance on the external resources to complement capital formation in local economy is the essential factor in causing debt to grow up. The increase of deficit on current account, will consequence in a heavy debt burden. For coping with this issue in long run the government should grow up at a rate higher than that of its financial risk exposure. However, where local markets are not developed, external sources provide a huge amount of funding for the resource gap (Charan, 1999).

It is obvious that governments can solve their financial defaults by taking loan internally or externally from other countries but as an economic perspective everything has its own merits and demerits in this world. Government loan is also affected by this perspective. Normally internal debts are not too much considerable because its effect is not too much high in economic performance but external debts are considerable. Public debt has important influence over the economy both in the short- and the long run. The conventional view is that debt (reflecting deficit financing) can stimulate aggregate demand and output in the short run (assuming no non-Keynesian effects), but crowds out capital and reduces output in the long run. (Elmendorf and Mankiw, 1999). There is a key issue relates to the extent to which large public debts are likely to have an adverse effect on capital accumulation, as well as productivity, and reduce economic growth. This can occur through a variety of channels including higher long-term interest rates, possibly higher future distortionary taxation, higher inflation, greater uncertainty and vulnerability to crises. If economic growth is negatively affected, fiscal sustainability issues are likely to be exacerbated, which further increases the premier on early and decisive fiscal adjustment efforts to reduce the debts to

more sustainable levels. Despite the importance of the issue, there is little systematic evidence on the extent to which large debts are likely to reduce potential growth. (Man Mohan. S et al, 2010).

So from this point of view its understood that public debt in short- term is beneficial for a country and can solve a country's financial issues easily but in long-term it has negative effect on the capital accumulation, productivity and it minimize the country's growth. Some scholars pay more attention in the level of risk as they declare like that: if the debt level keeps rising persistently, then it will have negative effects on growth in the long run. On the other hand, if the debt-to-GDP ratio rises temporarily (for instance to help smooth out business cycle actuations), then there are no long-run negative effects on output growth. However, where local markets are not developed, external sources provide a huge amount of funding for the resource gap.(Charan, 1999).

1.1 Background of The Study

Public debt is now a days the solution for any country's financial issues, there are lots of countries that defaults in their financial arrangement. The history belongs to some decades far from now in ancient England, in past decades the perspective of people's were different they always think about invasion on other countries and to build a big territory to govern that and to slave their people. So most of time they just think about war and they usually default in paying back their debt especially royal family. And the traders and merchants have fair and they don't give loan to the royal family or for government financial issues. So William III established the Bank of England as an institution to give loan to the government and he gathered all the merchants and traders of the city to offer for sale and issues government debt. According to the Encyclopedia Britannica, the national debt of England was initiated to finance the British participation in the war of the Grand Alliance with France during 1689-1697. In the United States, the newly-formed federal government assumed the debts of the states incurred during the American Revolution, all of which were pooled into a single debt issue in 1790. Government debt, especially at local levels, was contracted to a smaller extent also for other purposes. According to the same source, government borrowing in its modern form first occurred in medieval Genoa and Venice when the city governments borrowed on a commercial basis from the newly developed banks. The US states incurred substantial debts in the early part of the 19th century, largely for public work improvements. France's debt increased substantially after 1878 as a result of public work expenditures and France's colonial expansion. (Philipp Rother et al, 2010).

1.2 Economic growth and its determinants

Economic growth as defined: increase of the economic resources of a country or community.(Babylon dictionary). It is an increase in capacity of an economy to produce goods and services compared from one period of time to another (Abbas, 2005). Economic growth happens when people take resources and bring some changes by passing some process for the aim of getting more output from that. It deals only with production of goods and services produced, not the way or how they are produced. As (Ayros et al 2006) economic growth measure growth in monetary terms and don't focus or consider other

aspects on development. It is measured by nominal terms that include inflation, or real terms, which are adjusted for inflation. Economic growth has two dimensions it is either positive or negative. The improvement in live style of people and development of a country is considered as positive dimension of economic growth but negative can be said when a fraction comes to economy. Negative economic growth is associated with economic recession and economic depression.

Sometimes GDP gives his place as an alternative to GNP. In order to compare multiple countries, the statistics may be quoted in a single currency, based on either prevailing exchange rates or purchasing power parity. Then, in order to compare countries of different population sizes, the per capita figure is quoted. To compensate for changes in the value of money (inflation or deflation) the GDP or GNP is usually given in "real" or inflation adjusted, terms rather than the actual money figure compiled in a given year, which is called the nominal or current figure (Ayres, Robert, Warr, and Benjamin 2006). There are different economic measures for the different type of country, for developed countries is different with compare to developing countries. Macroeconomic tools analyses the influence of fundamental economic variables on the economic growth and represents it as expenditure approach for calculated gross domestic product.

The fundamental determinants of economic growth includes foreign direct investment, human capital, openness to trade, institutional frame work, political and demographic factors, economic policy and macroeconomics variables, and investment level in a country. Investment is the most fundamental determinant of economic growth identified by both neoclassical and endogenous growth models (Levine and Renelt, 1992). Investment refers to all economic activities which involves the use of resources to produce goods and services. (Mohammad. S, 1999). Investment in infrastructure is a crucial key in development of less developed countries. Because it encourages the producers to bring new technologies and this motivation will accelerate the level of production inside a country. According to World Bank (1989), GDP growth is higher for those countries which have relatively higher investment ratio.

Economic theory suggests that international investment results in a more efficient allocation of world savings, more inter temporal consumption smoothing, and more risk reduction through asset diversification. (Atrayee, 2006). Caves et al, (1996) found that foreign direct investment (FDI) is the form of international investment most likely to drive international technology diffusion. Romer (1993) emphasized FDI's role in diffusing technology and its relationship to economic growth: From all these points of view it is known that foreign direct investment has a strongly positive impact on the economic growth of a country. It is also considered that human capital is another key element of economic growth inside a country As Nakamura (1981) remarks: Historians, from the time that they began to Ply their trade; have tended to feature the human factor as the central and critical instrument for the achievement of progress and the betterment of life. Human capital is another main source of growth in several endogenous growth models as well as one of the key extensions of the neoclassical growth model (Krueger and Lindahl, 2001). Nakamura (1981), for pre-modern Japan, defines human capital broadly as 'labor skills, managerial skills, and entrepreneurial and innovative abilities-plus such physical attributes as health and

strength. Another factor is the Political condition regarded as the fundamental element of economic growth. Political condition means stability and security inside a country. Bad political condition has a negative impact in economic growth. Political condition encourages both internal and FDI investment inside a country. Countries with good political condition are more developed than other countries. Some scholars find this issue out and prove that the political environment plays an important role in economic growth (Lensink, 2001). Some other scholars declared that political regime also has an effect on the economic growth. Lindert (2002) says that average democracy is better for Economic Development rather than average autocracy.

Economic policy and macroeconomic conditions has a strong effect over several economic dimensions like, investment in human capital, infrastructure and improvement of political and legal institutions. An economy's Economic policies and macroeconomic conditions play a key role in the determination of its economic development (Barro and Sala-i-Martin, 1995). Macroeconomic conditions like inflation, fiscal deficit, budget deficit, tax burden and political stability has effect on the growth as well as political instability which has a negative effect on growth, because it reduces investment, production, etc. Chaudhary and Faridi (2010) concluded that education and Trade Openness are beneficial for sustainable economic growth of a country. There are sound theoretical reasons for believing that there is a strong and positive link between openness and growth. Openness affects economic growth through several channels such as exploitation of comparative advantage, technology transfer and diffusion of knowledge, increasing scale economies and exposure to competition (Edwards, 1998).

1.3 Relationship between Public debt and Economic Growth

A shrewd management of public debt creates economic growth and stability through mobilizing resource along with low cost of borrowing and restricts financial risk exposure. Local or internal debts have either positive or negative impact on economy growth. If a government can get a maximum profit from internal debt, it would be good for that government and can help to economic growth, if it can't so it will be too much harmful for that country and it will become the biggest curse for economic growth on that country. When governments borrow domestically, they use up domestic private savings that would otherwise have been available for private sector lending (Ayres and War, 2010). In shallow financial markets there is a direct relationship between domestic debt and the interest due to holding a large amount of debt in short term instruments. In back warded countries governments use public debt as a tool of financing its expenditures in this case interest payment for those public debts consumes a huge part of government's revenue. When governments borrow domestically, they use up domestic private savings that would otherwise have been available for private sector lending (Ayres and Warr, 2010). In turn, the smaller residual pool of loanable funds in the market raises the cost of capital for private borrowers, reducing private investment demand, and hence capital accumulation, growth and welfare (Diamond, 1965).

1.4 Objectives

- To analyze the relationship between public debt and economic growth on Afghanistan
- To suggest policy measures to minimize public debt on Afghanistan

1.5 Research Problem

Public debt is one of the main macroeconomic indicators, which forms countries' image in international markets. It is one of the inward foreign direct investment flow determinants. Moreover, since governments borrow mainly by issuing securities, their term, interest rates and overall costs of debt financing has significant impact on economy, future of the enterprises and social welfare for not only present, but also future generations. According to Karazijienė and Sabonienė (2009), public borrowing is inevitable and not reprehensible phenomenon of economic growth. It is a way to stimulate economic growth by injecting money from foreign investors (external debt) into it as well as distributing assets (internal debt) among those who has more than they can use at the moment and those who lack assets for developing economic initiative or other needs. Since state bonds, treasury bills and loans to governments are considered to be one of the safest financial instruments, the interest rate is much lower than in case of public borrowing. This is beneficial to the economy and generates additional surplus if public debt stream is being controlled efficiently Several scholars have reviewed the relationship between public debt and economic development. Moki (2012) did analyze the relationship between public debt and economic growth in Africa. Study findings indicate public debt has a significant positive relationship on economic growth. Investment however, was not a significant predictor of economic growth. Unfortunately in Afghanistan there is no research system, until now nobody does any research regarding this topic.

1.6 Paper scheme

This paper has been structured into five sections with section one dealing with introduction, back ground of study, economic growth and its determinants, relationship between public debt and economic growth, research objective, research problem, and paper scheme. Section two deals with literature review. Section three defines the research methodology and includes data collection and analyses. And finally section five discusses conclusion and recommendations.

2. Literature review

The theoretical literature on the relationship between public debt and economic growth tends to point to a negative relationship. Growth models augmented with public agents issuing debt to finance consumption or capital goods tend to exhibit a negative relationship between public debt and economic growth, particularly in a neoclassical setting. Meade (1958) was drawing attention to the fact that the removal of the "deadweight debt" would: (i) raise the incentive of households to save (the Pigou-effect) 10; (ii) improve the incentives for work and enterprise; (iii) possibly allow for a decrease in income taxation at a later stage as a result of saving interest payments on the budget (improving even more the incentives for work and enterprise). Modigliani (1961), refining contributions by Buchanan (1958) and Meade (1958),

claimed that the national debt is a burden for next generations, which comes in the form of a condensed flow of income from a minor stock of private capital. Apart from a direct crowding-out effect, he also pointed out to the influence on long-term interest rates, possibly in a non-linear form "if the government operation is of sizable proportions it may significantly drive up [long-term] interest rates since the decrease of private capital will tend to increase its marginal product" (p. 739). Even when the national debt is generated as a counter-cyclical measure and "in spite of the easiest possible monetary policy with the whole structure of interest rates reduced to its lowest feasible level" (p. 753), the debt increase will normally not be costless for future generations even though being beneficial to the current generation. Diamond (1965) develops the effect of taxes on the capital stock and differentiates between public external and internal debt. He concludes that, through the impact of taxes required to finance the interest payments, both types of public debt reduce the available lifetime consumption of taxpayers, as well as their saving, and thus the capital stock. In addition, he opposes that internal debt can produce a further decrease in the capital stock arising from the substitution of government debt for physical capital in individual portfolios. Claessens (1990) for instance, claimed that only the countries that are on the wrong side of the debt laffer curve would benefit from unilateral debt reduction. Studying the position of the highly indebted and sub-Saharan African countries on debt laffer curve, he estimated that very few of those countries are on the wrong side of the laffer curve and therefore, there would not be a gain from unilateral debt reduction. Alshara, Khateeb and Majd (1991) analyzed the size and composition of external public debt and examined its effect on specific economic variables such as private consumption, public consumption, gross investment, gross tax revenues, direct tax revenues, indirect tax revenues, imports, Gross National Product (GNP), and disposable income. They reported that external loans positively affect consumption, investment, imports and GNP. Saint-Paul (1992) and Aizenman et al. (2007) evaluate the impact of fiscal policy, proxies inter alia by the level of public debt, in endogenous growth models and find a negative relation as well. Cohen (1993), aimed defining the correlation between the least develop countries' debt and investment. He concluded that it is not the large debt that lowers investment but instead, actual service of debt. Fry (1997) studies the impact of alternative deficit financing strategies on economic growth for sixty six low-income countries and emerging markets for the period of 1979-1993. The study shows that market based domestic debt issuance is the least cost method of financing the budget deficit as contrasting with external borrowing and seignorage. All of these methods reduce growth, domestic savings and increase inflation. Elbadawi et al. (1997), considered the nonlinear effects ofdebt on growth by estimating growth regressions with fixed and random effects panel data. They included both in linear and quadratic form of debt-to-GDP ratio in the regressions and found the growth maximizing debt to GDP ratio of 97 percent. Charan (1999), investigated the relationship between domestic debt and economic growth for India using the co-integration and Granger causality tests for India for the period 1959-95. Co-integration and Granger causality tests support the Ricardian equivalence hypothesis between domestic debt and economic growth. Ricardian equivalence suggests that it does not matter whether a government finances its spending with debt or a tax increase; the effect on total level of demand in an economy is the same. Kemal (2001) explains the debt accumulation and its implications for growth and

poverty in Pakistan. The study shows that debt accumulation (domestic and external) and debt servicing affects the poor adversely. The findings of the study illustrate that even though debt burden as a percentage of GDP of Pakistan exceeds that of all South Asian countries but it is not still so high as to go for debt write off. This means that Pakistan has the capacity to service the debt. Clements et al. (2003) investigate the same relationship for a panel of 55 low-income countries over the period 1970-1999 and find that the turning point in the net present value of external debt is at around 20-25% of GDP. Other previous empirical studies that find a non-linear effect of external debt on growth include Smyth and Hsing (1995) and Cohen (1997). On the other hand, Schclarek (2004) finds a linear negative impact of external debt on per-capita growth (and no evidence of an inverted U-shape relationship) in a panel of 59 developing countries over the period 1970-2002. Alferedo (2004) explores the relationship between debt and growth for a number of developing and industrial economies. For developing countries, in research it find that lower total external debt levels are associated with higher growth rates, and that this negative relationship is driven by the incidence of public external debt, and not by private external debt. Regarding the channels through which debt accumulation affects growth, it finds that this is mainly driven by the capital accumulation growth. There is only limited evidence on the relationship between external debt and total factor productivity growths. In addition, for private savings rates there are mixed results.

In contrast, a recent study by Reinhart and Rogoff (2010), which analyses (through simple correlation statistics) the developments of public (gross central government) debt and the long-term real GDP growth rate in a sample of 20 developed countries over a period spanning about two centuries (1790 - 2009), finds that: (i) the relationship between government debt and long-term growth is weak for debt/GDP ratios below a threshold of 90% of GDP; (ii) above 90%, the median growth rate falls by one percent and the average by considerably more. A similar change in the behavior of GDP growth in relation to the debt ratio is also found by Kumar and Woo (2010). Adofu and Abula (2010) investigated the relationship between domestic and economic growth in Nigeria for the period 1986-2005. Their findings showed that domestic debt has affected the growth of the Nigerian economy negatively and recommended that it be discouraged. They suggested that the Nigerian economy should instead concentrate on widening the tax revenue base. Checherita and Rother (2010) determine the average impact of government debt on per capita GDP growth for twelve euro area countries over a period of about 40 years from 1970-2009. The channels through which government debt impact the economic growth are private savings, public investment, total factor productivity and real interest rates. The study shows non-linear negative impact of government debt on economic growth. Cechetti, Mohanty and Zampolli (2011) used Hansen's (1999) threshold estimation model for non-dynamic panel data of 18 OECD member states over the 1980-2010 period. They estimated the threshold for government, non-financial corporate and household debt above which debt has an adverse effect on growth. Rabia and Kamran (2012) examined the impact of domestic and external debt on the economic growth of Pakistan. They examined the determinants of economic growth for Pakistan, the impact of domestic debt and external debt on the economic growth of Pakistan separately over period of 1980 to 2010, using Ordinary Least Square (OLS) approach to Cointegration, Unit Root Testing, Serial Correlation Testing, test for checking Heteroskedasticity and CUSUM test of stability.

The findings suggested an inverse relationship between domestic debt and economic growth and also the relationship between external debt and economic growth was found to be inverse. These relationships were found to be significant as well. The results also concluded that external debt amount slows down economic growth more as compared to domestic debt amount. The negative effect of external debt is stronger on the economic growth in comparison to domestic debt.

3. Research Methodology and Data Analysis

3.1 Research design

The study adopted a descriptive research design. Descriptive studies are concerned with the what, where and how of a phenomenon hence more placed to build a profile on that phenomenon (Mugenda and Mugenda, 2003). Descriptive research design is more appropriate because the study seeks to build a profile about the relationship between public debt and economic growth.

3.2 Data Collection

The study used secondary data from the ministry of finance, directory of treasury, department of debts of Islamic Republic of Afghanistan. Data on economic development was collected from the World Bank home page and from international monetary fund website. The data was collected using data collection sheet which was edited, coded and cleaned. The study period included 2009-2012 financial periods. This period was chosen because of the many changes that occurred within the economy that had far reaching implications on the macroeconomic variables in Afghanistan. Some of these changes include changes in country presidency, post-election violence and diminishing grants from donors. The study used annual data because Government Budgets are drawn annually and the deficits and surplus which are key determinants of borrowing are then developed.

3.3 Data Analysis

The study used Statistical Package for Social Sciences Version 21.0 to aid in data analysis. The paired t-test, a non-parametric test of differences developed by Sir Williams Gosset (Mugenda & Mugenda, 2003) will be used in this study as a test of significance. The analysis will be at(0.05) level of significance. In order to determine the relationship between public debt and economic growth in Afghanistan, the researcher conducted a multiple regression analysis. The study was based on Harrod-Domar growth model which gives insights into the dynamics of growth which holds that the level of savings and capital are functions of the level of GDP in an economy. In order for any government to invest its resources in development, it must have met the recurring expenditure. Hence the amount available for long term investment largely depends on amount of income available to the government both form taxes and debt in forms of domestic and external.

The model is based on several studied including: Abbas and Christensen (2007) who studied the impact of domestic debt on economic growth for ninety three low-income countries from the period of

1975-2004 by applying Granger Causality Regression model with variables including different components of domestic debt. Adofu and Abula (2010) also used the components of domestic debt in investigating the relationship between domestic and economic growth in Nigeria for the period 1986-2005. Checherita and Rother (2010) use both domestic and external debt in the determination of the average impact of government debt on per capita GDP growth for twelve Euro area countries over a period of about 40 years from 1970-2009. Rabia and Kamran (2012) used domestic and external debt to examine the impact government debt on the economic growth of Pakistan. The model is listed below:

$$Y= \beta_0+\beta_1+\beta_2 + €$$

Where: Y= Economic growth (Measured by GDP)

€= Error Term

This model was expanded into the following model:

In order to determine the relationship between domestic debt and economic growth in Afghanistan, the following regression model is employed:

$$Y= \beta 0+\beta_1 X_1+\beta_2 X_2+\beta_3 X_3+ €$$

Where: Y= Economic growth (Measured by change in GDP)

X_1= Government Stock

X_2 = Advances from Commercial banks (Measured by total value in Afghani Rupiah.)

X_3= External Debt

In order to test the significance of the model in measuring the relationship between public debt and economic performance, this study employs a test called as Analysis of Variance (ANOVA). The study is tested at 95 per cent confidence level and 5 per cent significant level. If the significance number found is less than the critical value (0.05), then the conclusion will be that the model is significant in explaining the relationship.

3.4 Research Results

In order to how advances from commercial banks , government stock , treasury bills , overdraft at the central bank of Afghanistan and treasury bonds (independent variables) contributes to Economic Growth (dependent variable), multiple linear regression analysis. The study conducted a multiple regression analysis. The findings were as shown in the table 1 below:

Table 3.1: Model summary

Model	R	R Square	Adjusted R	Std. Error of the estimate

			Square	
1	.887	.897	.904	43256.876

a. Predictors: (Constant), (External Debt, Advances from Commercial banks, Government Stock)

b. Results generated by E-Views Version 6.0.

Coefficient of determination explains the percentage of variation in the dependent variable that is explained by the independent variables. It is used to explain the extent to which changes in the dependent variable can be explained by the change in the independent variables.

From the analysis, the independent variables (Advances from commercial banks, government stock, and public debts) in this study contributed to 89.7 per cent of the variation in economic growth as explained by adjusted R^2 of 0.897. The study conducted an Analysis of Variance, in order to test the significance of the model. The findings are as follows:

Table 3.2 Analysis of variance

Model 1	Sum of Square	df	Mean Square	F	Sig
Regression	2.372E31	3	4.765E21	39.765	0.001
Residual	4.654E54	2	1.987E5		
Total	5.321E21	5			

a. Predictors: (Constant), External Debt, Advances from Commercial banks, Government Stock.

b. Dependent Variable: Economic Growth

c. Result obtained by E- views- version 6.

From the ANOVAs results, the probability value of (.001) has been obtained, thus implying that the regression model was significant in predicting the relationship between Economic Growth and the predictor variables as it was less than (α=0.05).

Table 3.3 Regression Result

	B	Std. Error	Beta	T	Sig
Constant	14327.76	18743.65		5.875	.001
Government stock	-41.642	95.056	-.765	-.312	.032
Advance from commercial banks	-21.764	27.986	-.312	-2.985	.214
External debts	-.265	0,341	-.341	-2.842	.086

Source: Result obtained by E- views- version 6.

The result of the regression analysis was to determine the relationship between independent variables (External Debt, Advances from Commercial banks, Government Stock) and Economic Growth (dependent variable). The following regression equation was obtained:

From the regression model obtained above, holding all the other factors constant, the economic growth will be 14327.76. A unit change in government stock holding the other factors constant will change economic growth by -41.642.

A unit change in advances from commercial banks holding the other factors constant will change the economic growth by -21.764 while a unit change in public debts holding the other factors constant will change the economic growth by -.265. This means all the independent variables have negative effect on economic growth. It is further clear that that treasury bonds had external debt has the highest influence on economic growth followed by advances from commercial banks and finally Government Stock.

The obtained regression equation implied that there is inverse relationship between economic growth and, government stocks, advances from commercial banks and external debts.

3.5 Interpretation of Findings

From the findings above, it can be noted that public debt greatly affects economic growth in Afghanistan. According to Manmohan and Jaejoon (2010), public debt has important influence over the economy both in the short- and the long run. The findings as shown in the regression analysis shows that public debt affected economic growth in Afghanistan up to 96.20 per cent These findings are consistent with those of Alshara, Khateeb and Majd (1991) who analyzed the size and composition of external public debt and examined its affect on specific economic variables and established that external loans positively affect consumption, investment, imports and GNP.

Analysis of the individual components of both public and domestic debt with the exception of treasury bills and treasury bonds, all other variables had negative relationship with economic development. These findings are consistent with those of Abbas (2007) and Abbas and Christensen (2010) who analyzed optimal domestic debt levels in low income countries (including 40 Sub-Saharan Africa countries) and emerging markets between 1975 and 2004 and found that moderate levels of marketable domestic debt as a percentage of GDP have significant positive effects on economic growth. The findings in this study also show that domestic debt has moderate effects on economic growth in Afghanistan. These included treasury bills and treasury bonds.

From the findings, it can be noted that domestic debt is important components of economic growth. Governments use these instruments to control several macroeconomic variables including money in circulation through controlling interest rates and controlling inflation. Treasury bonds are normally used to raise funds for specific capital project and are long term in nature. Such capital expenditures are

important components of economic growth as they provide infrastructure necessary to spur economic development. The analysis also reveals a decline in Government stocks while government overdrafts at the Central Bank of Afghanistan increased. Advances from commercial banks also declined while external debt increased.

3.6 Summary of Findings

The objective of this study was to investigating the relationship between public debt and economic growth in Afghanistan. The study combined domestic and external debt to make up public debt using their proxies. The exact variables for domestic debt included treasury bills, treasury bonds, and Government stock, overdrafts from commercial banks and advances from commercial banks. The study used descriptive research design because it sought to build a profile about the relationship between public debt and economic growth. The study used secondary data collected from the Central bank of Afghanistan. In order to establish the relationship between public debt and economic growth the study conducted a regression analysis and used co-efficient of determinations to explain the rates of change in dependent variable following a unit change in each independent variable.

From the findings by employing the regression model obtained above, holding all the other factors constant, the economic growth will be 14327.76. A unit change in government stock holding the other factors constant will change economic growth by -41.642.

A unit change in advances from commercial banks holding the other factors constant will change the economic growth by -21.764 while a unit change in public debts holding the other factors constant will change the economic growth by -.265. This means all the independent variables have negative effect on economic growth. It is further clear that that treasury bonds had external debt has the highest influence on economic growth followed by advances from commercial banks and finally Government Stock.

The obtained regression equation implied that there is inverse relationship between economic growth and, government stocks, advances from commercial banks and external debts.

4. Conclusion and recommendations

From the findings, the study concludes following improved economic performance and robust performance of the revenue in the study period, Afghanistan's domestic debt was reasonably sustainable. However, domestic borrowing consumed a significant proportion of government revenue which poses a risk to fiscal sustainability. Domestic debt is characterized by higher interest rates compared with those on external debt, which is contracted mainly on concessional terms, and it is therefore expensive to maintain. There is therefore urgent need for the government to formulate and implement debt reduction schemes for domestic debt. Such schemes should recognize the fact that outright reductions in domestic debt could increase liquidity in the system which may pose a risk to macroeconomic stability. Domestic debt reduction could be achieved using proceeds from the privatization program of public corporations, or the use of externally borrowed resources which are mainly on concessional terms to retire more expensive

domestic debt. Cape Verde established a donor financed trust fund to finance domestic debt reduction. The foreign exchange from the fund is used to retire domestic debt without injecting liquidity in the system as the foreign exchange transaction absorbs liquidity. This would keep the cost of domestic borrowing at sustainable levels and also provide room for shocks.

Following the significant extension of the maturity profile of domestic debt, and the widening of the investor base to include institutional and other non-bank investors in the domestic debt market, commercials' banks holdings of domestic debt have generally dropped. This contributed to the stability in interest rates during the period. Contingent liabilities represent a potential risk, and burden on the government budget and a risk to domestic debt sustainability. The government should therefore develop a framework for recording and monitoring all contingent liabilities and also formulate and implement a policy for management of the contingent liabilities. Periodic reporting of the outstanding liabilities will also ensure transparency to the public and donor countries on the management of these debts. Although the government made commendable progress in restructuring domestic debt from the short dated Treasury bills to the longer dated Treasury bonds during the period, the need to continue with this process is even higher. Despite the higher domestic debt service costs due to higher yields on longer dated bonds, the market and rollover risks on the debt have reduced significantly. The government should therefore continue to implement wider reforms that promote investment in Treasury bonds, and encourage institutional investors such as pension funds and insurance companies to invest in Treasury bonds. Sound corporate governance for these institutional investors is also necessary for their continued investment in government securities.

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