DETERMINANTS OF DOMESTIC CREDIT TO PRIVATE SECTOR

IN ETHIOPIA

By

HAILU ADUGNA AYANO

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfilment of the requirements

for the degree of

MASTER OF DEVELOPMENT POLICY

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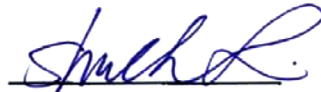
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ABSTRACT

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The study aimed at investigating and analysing factors that determine the growth of domestic credit to private sector in Ethiopia using a 31 years' time series data. To this end, variables such as domestic credit to private sector (dependent variable), and other regress variables such as real GDP per capita, international trade to GDP(proxy for economic openness), real lending interest rate, and gross domestic saving are considered. All variables under consideration are integrated of order one I (1) and also co-integrated. Hence, a causality test is done using Granger causality technique. The result shows absence of causality running from explanatory variables to dependent variable, but support reverse causality running from domestic private credit to international trade. Besides, Vector Error Correction Model/VECM/ results show significant positive effect of GDP per capita on domestic private credit in the short run. Similarly, the long run model shows a significant positive effect of gross domestic saving on domestic private credit; while real leading interest rate and international trade have significant negative effect. The unexpected negative effect of international trade to GDP could be due to lack of financial deepening in the country despite some positive move in opening up the economy. Hence, promoting domestic saving, encouraging financial deepening along with economic openness, maintaining real lending interest rate at reasonable level, and creating income generating opportunities for people are essential policy consideration to ensure the growth of domestic credit to private sector in Ethiopia.

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Last but not least, I would like to express my sincere gratitude to my families and friends, who have valuably contributed towards the successful accomplishment of this research, work in one way or another.

Table of contents

LIST OF TABLES

LIST OF GRAPHS

LIST OF ABBREVIATIONS/ACRONYMS

ADF   Augmented Ducky Fuller

AfDB   African Development Bank

AIC   Akaike's Information Criteria

ARLD   Autoregressive Distributed Lag Bound

ECM   Error Correction Model

EU   European Union

FPE   Final Prediction Error

GDP   Gross Domestic Product

GMM   Generalized Method of Moment

HQIC   Hannan-Quinn's Information Criteria

IMF   International Monetary Fund

KDI   Korean Development Institute

LDCs   Less Developed Countries

MoFED   Ministry of Finance and Economic Development

NBE: National Bank of Ethiopia

SMEs   Small and Micro Enterprises

SVAR   Structural Vector Autoregressive Approach

VAR   Vector Autoregressive Model

VECM   Vector Error Correction Model

WB   World Bank

1. INTRODUCTION

Ethiopia is the second most populous country in Africa (next to Nigeria) with ninety (90) million populations. The economy of the country is predominantly agriculture based, which contributes around 41% of GDP, over 80% employment and around 75% foreign exchange earnings. The service sector contributes around 46% of GDP, while the industry sector takes the remaining 13%.The economy of the country has registered high growth rate (around 11% according to official reports) over the last eight (8) years starting from 2004. And, currently, comprehensive effort is being made to transform the economy from agriculture led to industry led, and thereby realize a vision of middle income country by 2025(FoFED 2013).

Despite enormous potential of the country, there are ranges of socio-economic problems such as lack of good governance, weak institutional setting, rampant corruption and rent seeking behaviour, and restrictive policy frameworks(especially on some investment areas) among others. The financial sector is one of the areas badly suffering from such restrictive policies and institutional constraints. For instance, activities such as banking and insurance services are exclusively reserved for domestic investors alone; and stock/security/ market of any sort is virtually missing. And, the existing financial institutions such as banks and insurance companies are so infant with very limited capacity. Thus, they could not fulfil the ever growing demand for credit facilities by private sector. Consequently, the growth and contribution of private sector is being undermined due to scarcity of such essential financial services.

1.1 Statement of the Problem and Objective of the Study

Various scholars have noted the indispensable role of credit facilities in the modern economic scene. According to these scholars, business from Micro and Small Enterprise (SMEs) to big

conglomerates highly depend on credit facilities (such as loan, borrowing by issuing non-equity securities, and trade credit etc) to perform their daily exchanges and production activities, as well as to undertake their long run investments. For instance, Sutto and Jenkins (2007) indicated the vitality of financial services such as banking, saving, and debt and equity financing for economic growth and development. Likewise, Ahiawodsi and Adade(2012), in their study on access to credit and growth of SMEs in Ghana, mentioned the importance of credit facilities in the growth of SMEs in the country . Besides, Krshnankutty(2011), in his study on role of bank credit in economic growth, has noted the essential role of credit market in promoting economic growth in developing countries.

Likewise, various studies have been carried out on the determinants of the growth of private credit (see section 2.2.2).However, the studies done so far tends to focus on regional economic contexts than individual country socio economic and political settings. Besides, findings in this regard are very much inconsistent and inconclusive, making generalization very difficult. Thus, country specific studies are so crucial as the growth of private credit can be affected differently under different contexts. Yet, by and large, such contextualized studies are very scant especially in the case of developing countries like Ethiopia. Hence, the main purpose of this paper is to investigate and explain factors that determine the growth of domestic credit to private sector in Ethiopia, and thereby contribute its level best in this regard.

1.2. Research Questions

In line with the aforementioned purpose/objective of the study, the following research questions will be addressed:

- ✓ What factors determine the availability of domestic private credit in Ethiopia?

✓ Is there any significant causal relationship between domestic credit to private sector and other macroeconomic variables such as real GDP per capital, international trade to GDP, real lending interest rate, and gross domestic saving in the context of Ethiopia?

✓ How does domestic credit to private sector would responds whenever shocks happen to such macroeconomic variables?

1.3. Significance of the Study

The study is expected to contribute to the existing body of knowledge on the area. Besides, it is expected to support policy making and action taking endeavors in connection with promotion of the growth of domestic credit to private investors. Furthermore, it may also provide some baseline information for further research on the related area.

1.4. Approach and Findings

The study is carried out using a time series data (1981-2011) in the case of Ethiopia. To this end, estimation techniques such as Johnson co-integration test, Granger Causality test and Vector Error Correction Model (VECM) are applied taking into account the nature of the data series under consideration.

Our result shows absence of any evidence of causality running from international trade to GDP(*lintrdgdp*), real GDP per capita(*rgdppc*) and gross domestic saving to GDP(*lgdsgdp*)- to domestic credit to private sector(*lcpsgdp*), though real lending interest(*rlir*) seem to weakly cause credit to private sector. On the other hand, strong reverse causality running form credit to private sector (*lcpsgdp*)-to international trade to GDP *(lintrdgdp)* is evidenced. And, the co-integration result suggests presence of long run co-integration relationship among the variables under consideration (though it tends to be weak).

The short run dynamics in the VECM shows that, only real GDP per capital (*dlrgdppc*) has significant short run effect on credit to private sector (*dlcpsgdp*) after one lag, while other variables do not have any significant effect. On the other hand, the long run model shows that gross domestic saving has significant positive effect on the growth of domestic credit to private sector. But, real GDP per capita has insignificant positive effect in the long run. On the other hand, both real lending interest rate and international trade to GDP (proxy for economic openness) have significant negative effect on the growth of domestic credit to private sector. The effect of real lending interest rate is infact in line with the expectation of the researcher. However, the significant negative effect of international trade to GDP was not expected. Yet, theories suggest that this might happen whenever economic openness is not accompanied with financial deepening, which seem the case in Ethiopia.

The rest of the paper is organized under three sections. Accordingly, review of related literature including the profile of financial sector development in Ethiopia is presented in section two. In section three, model specification and data is presented, while resulted and discussion is presented in section four. Finally, conclusion and policy recommendation is presented under section five.

2. REVIEW OF RELATED LITERATURE

2.1. Theoretical Conceptions

Theoretically, there are contrasting views about the role of finance in economic development. For instance, Schumpeter (1911) cited in King and Levine (1993), underscored that financial intermediaries such as banks plays crucial role in connecting parties with surplus fund and those who lack it. In the process, they encourage saving, create risk sharing arrangements, evaluate the viability of investment projects, and monitor managers. According to Schumpeter, such activities by financial intermediaries facilitate the smooth flow of transactions in an economy; promote technological innovation, and thereby contribute to economic development.

Schumpeter's view is upheld by many others like McKinnon (1973) and Shaw (1973), who argued that government intervention in the financial sector undermine the role of financial intermediaries in economic development. The implication of their arguments is that financial intermediaries can better contribute to economic growth in the absence of government intervention (such as setting interest rate ceilings, putting minimum reserve requirement, and in interference in their credit program). Similarly, Levine (1997) cited in Hassan, Sanchezm and Jung-Suk Yu (2010) argued that services by financial intermediaries are essential in efficiently allocating scare resources, and thereby trigger economic development.

According to Hubbard (1995), individuals and institutions may be willing to pay for/accept a higher/lower compensation for financial resources depending on their prevailing needs for it at a given point in time. Such time difference for money demand between savers and borrowers create a trading opportunities. It is because of this trading opportunity on the one hand; and also due to ability of creating information, system of risk sharing, liquidity

transfer between lenders and borrowers that financial intermediaries can play a crucial role in enhancing the production capacity of economies (Danthine & Donaldson, 2005; Hubbard, 1995).

Likewise, Danthine and Donaldson (2005) noted that financial market and institutions play crucial role in exchange of contracts and provision of services. According to them, a well developed financial system can enhance better allocation of financial resources for development by aligning the varying needs of savers and borrowers. They do this by synchronizing the mismatch between incomes and spending needs of individuals and institutions; and also by reducing risks associated with future time through contractual arrangements.

2.2. **Review of Empirical Studies**

Under this section, empirical evidences are reviewed and presented focusing on the nexus between financial development and economic growth; and also on the determinants of the growth of domestic credit to private sector.

2.2.1: Financial Development and Economic Growth

A number of empirical studies show that financial development has positive effect on economic growth. For instance, Papaioannou(2007) conducted a cross country study using a growth accounting framework, and found that financial development significantly contribute to economic growth. He noted that financial development promote economic growth through lowering cost of finance (in the case of developing and emerging economies), and through productivity improvement (in the case of developed countries).

Likewise, Odedokun (1994), in his study on effect of financial intermediation on economic growth has used annual data of 71-less developed countries (LDCs) over a period of 20 years(1960-1980) and found that financial intermediation causes economic growth in 85% of the cases. Besides, Demetriades and Hussein (1996), in their time series study of 16-countries, found a bi-directional causal relationship between financial development and economic growth in most of the cases.

With respect to private credit, Levine and Renelt(1992) cited in Aghion and Durlauf(2005) used a Generalized Method of Moment(GMM)-panel, and instrumental variable(IV) approach together in their cross-country study and found a significant and positive relationship between private credit and economic growth. Similarly, Loayza and Ranciere (2002) cited in Aghion and Durlauf(2005), applied OLS-cross country and GMM-panel methods, and found that private credit (proxy for financial intermediary development) has positive long run correlation with economic growth. Besides, Abdullahi and Adamu(2013) have studied the nexus between private credit and economic growth in Nigeria using 30-years' time series data with Autoregressive Distributed Lag Bound(ARLD) approach, and found the existence of long run equilibrium relationship between private credit and economic growth. However, the result of their study did not show existence of any significant causal relationship between the two variables.

On the other hand, there are also scholars who argue that finance do not cause economic growth/development; but simply follows it. According to this view, when economies grow, it results in increased transactions, which trigger increased demand for money. And such growth in the demand for money causes the financial development in an economy. Some of the proponents of this view include Lucas (1988) and Robinson, (1952) both cited in

Aghion & Durlauf(2005); and Gurley & Shaw(1967), Goldsmith,(1969) and Jung (1986) all cited in Hassan et.al(2010).

2.2.2: Determinants of Credit to Private Sector

The importance of credit to private sector has long received the attention of many scholars who have tried to establish factors that determine its growth. For instance, Elekdag and Han (2012) studied factors affecting the growth of credit in emerging Asia using cross-country using Structural Vector Autoregressive (SVAR) approach, and found that domestic factors such as monetary policy and exchange rate flexibility are more important in deriving domestic credit growth. A similar study by Backe and Zumer(2005) in the case of Central and Eastern EU member states shows that, by and large, financial deepening played considerable role in the growth of credit especially in the case of new EU member states(which are characterized by underdeveloped financial sector). According to them, reforms such as macroeconomic stabilization, financial sector reform(including privatization), legal reform(like contract enforcement and seizure of collateral),and introduction of market institutions have created conducive environment for financial deepening that intern triggered credit growth to private sector and to households. They also noted that, in the long run, such credit growth could be attained through robust GDP growth and convergence in per capita income.

Likewise, Gozgor(2013) used dynamic panel data estimation method to investigate determinants of domestic credit in 24 emerging market over the period 2000 to 2011, and found that the level of domestic credit in emerging markets is systematically and positively affected by loose domestic monetary policy, lending interest rate difference between domestic and global market, and real trade openness. He also indicated that, level of domestic credit is negatively affected by unfavourable global financial market outlook. Another study by Djankov, Mcliesh and Shleiter(2007) on private credit in the case of 129 countries shows that strong legal system and

effective system of information sharing is associated with higher proportion of private credit to GDP.

On the other hand, a time series study (ARDL approach) by Imran and Nishat(2012) in the case of Pakistan shows that foreign liability, domestic deposit, real GDP growth, exchange rate and monetary conditions have significant impact on growth of bank credit to private sectors. They however found that inflation rate and market interest rates are not important, while domestic deposit also do not have any short run effect.

However, a cross-country panel and time series study on determinant of bank credit by Sharma and Gounder(2013) in the case of 6 small open economies of South Asia only partially support the empirical result of Imran and Nishat(2012).Their empirical result shows that that GDP growth and bank deposit and asset size positively affect bank credit; while higher lending interest rate and higher inflation rate deter it. A somewhat consistent finding is reported by Iossifov and Khamis(2009), which indicates that low nominal interest rate, robust real economic growth, increased bank capacity, favourable liquidity condition, and bank profitability and capitalization have contributed to bank credit growth in the case of Sub-Saharan Africa.

2.3. Financial Sector Development in Ethiopia

Historically, Ethiopia has undergone considerable socio-economic and political changes over the past couple of decades. It has gone through ideological shifts i.e. from a somewhat liberalized economy (till 1974) to a controlled one (1974-1989/90), and again back to a liberalized one after (1991), and to developmental state ideology since recently. According to Geda(2006), such ideological shifts have adversely affected the development of financial institutions in the country. For instance, though a number of private commercial banks (do-

mestic and foreign), insurance companies, and other financial intermediaries were functioning in the country before 1974, all of them, however, were nationalized in 1975 following ideological shift to socialism. Consequently, government owed financial institutions (such as banks and insurances) had remained in absolute control of the financial sector up until 1991.

Following the demise of socialism and fall of military regime in the country at around 1991, the government has taken comprehensive socio-economic and political reforms in line with free market ideals. This has created a window of opportunity for the rebirth of private financial institutions such as banks, insurance companies, micro-finance institutions, and other financial intermediaries in the country. Consequently, a number of private financial institutions have been established following proclamation No. 84/1994, which provide for private ownership in the sector (but exclusively by nationals). Presently, about nineteen (19) Commercial Banks, fifteen (15) insurance companies, and nineteen(19) microfinance institutions, and other financial intermediaries are operating in the country, some of which are government owned. Yet, virtually all of them have serious capacity limitation, and hence could not play a vibrant role in the economy (see annex 1, 2 and 3).

Many scholars such as Goldsmith (1969), McKonnon(1973), Shaw (1973), and King & Levine (1993), all cited Demetriades & Hussein (1996) have long argued that government intervention in the financial sector is counterproductive. However, according to Kiyota et.al (2007), the financial sector in Ethiopia is not liberalized yet, and hence is characterized by very low level of financial deepening. The government of Ethiopia has opted for gradual opening of the sector, which is due to the fear that foreign banks could dominate the financial sector, and may not focus on reaching out to the rural areas as needed(Kiyota et.al,2007; Geda,2006).

Hence, as indicated by African Development Bank (AfDB) Group (2011), the financial institutions in Ethiopia are concerted in few centers, where Addis Ababa (the capital city of the country) alone takes as much as 40% of all commercial bank branches in the country. Being closed to foreign investors, the sector is characterized by limited competition, low level of capital injection, and limited technical skills. Besides, due to low level of financial deepening, information asymmetry and transaction costs are still high, and mobilizing saving and managing risk is very difficult. Consequently, the financial service coverage is very low, where only about 10% of households can access formal financial credit. This has continued to hinder the development of Small and Micro Enterprises (SMEs) and other vibrant private sector companies in the country (Ibid).

3. MODEL SPECIFICATION AND DATA

3.1. Data, Definition of Variables and Expected Outcomes

The study used a time series data over a period of 31 years (i.e. from 1981-2011). The data is obtained from World Bank data base. To normalize the data, most of the variables are expressed as a percentage of GDP. The dependent variable of the study is domestic private credit to GDP (***cpsgdp***), which is proxy for the development of financial sector. The explanatory variables are real per capita GDP (***rgdppc***), international trade to GDP (***intrdgdp***) /proxy for macroeconomic openness), real lending interest rate (***rlir***), and gross domestic saving to GDP (***gdsgdp***). The variables *cpsgdp, intrdgdp, rgdppc* and *gdsgdp* are transformed to log form so as to reduce the scale difference between data sets; while *rlir*(which may assume a zero or negative value at times) is used in its linear form.

It is expected that variables such as *lgdsgdp, lrgdppc* and *lintrdgdp would have* positive effect on the growth of domestic credit to private sector. For instance, the gross in do-

mestic saving to GDP is expected to play instrumental role in boosting the growth of domestic credit to private sector. This, is because, more saving (private and government saving) could improve availability of loan funds in the economy. Likewise, the growth of real GDP per capita may positively affect the growth of domestic credit to private sector as it enhance the demand and supply conditions in the market. However, given the slow growth in real GDP per capita of the country over the study period, the effect may not be so influential.

And, international trade to GDP (proxy for economic openness) may favorably affect the growth of credit to private sector. However, theories also indicate that trade openness may not necessarily guarantee financial sector development. Similarly, real lending interest rate (*rlir)* seems to have mixed effect. On the one hand, lower *rlir* may undermine private saving, though it could boost private sectors demand for loan; while higher *rlir* may have the opposite effect. Yet, the resultant long run effect is expected to be negative.

3.2. Model Specification

It is common for macroeconomic variables to be affected by their historical patterns/values. Under such condition, Vector Autoregressive (VAR) model is more suitable as it helps to estimate current values of a given variable based on its own lagged values and the lagged values of other variables in the model. It also has an added benefit of establishing short run and long run causality at a time, and also addresses the problem of endogeneity (Verbeek, 2000; Aug & McKibbin, 2005).

However, when all variables of interest are non stationary at level, but stationary at their first differenced form i.e. integrated of order one I(1), and are also co-integrated(have long run relationship), then a restricted form of VAR model known as Vector Error Correc-

tion Model (VECM) is more suitable. According to Engle and Granger (1987), and Ang and McKibbin(2005),VECM is more appropriate under such condition as it enable to capture both the short run dynamics and the long run tendencies of the co-integrated time series equations at a time by reintroducing information lost in the differencing process. That is, it helps to incorporate an error correction representation in the co-integrated variables into the model. Besides, it also helps to capture the problem of endogeneity through systems of simultaneous equations used to determine the short run and long run models (Ibid). Hence, a VECM is used in this study.

According to Ang and McKibbin(2005), a Vector Error Correction Model (VECM) can generally be set as:

$$\Delta Y_t = \delta_0 + \theta Y_{t-1} + \delta_1 \Delta Y_{t-1} + \delta_2 \Delta Y_{t-2} + \ldots + \delta_{P-1} \Delta Y_{t-P+1} + \varepsilon_t \quad \text{.....................................(1)}$$

where, Δ is difference operator; Y_t is a ($1 \times n$) vector of endogenous variables; and $\delta_1 \ldots \delta_{P-1}$ are ($n \times n$) matrices of coefficients, while ε_t is a vector of normally and independently distributed error term. And, θ can be decomposed in to $\alpha\beta$', where α is ($n \times r$) and stands for the speed at which short term deviations will be adjusted to long term equilibrium (larger α indicating faster rate of adjustment); while β' denotes ($n \times r$)' matrix of co integrating vector, which capture long run coefficients in Vector Error Correction Model(VECM). This implies that there are two sources of causation i.e. the error correction term (ECT), and the lagged dynamic terms (Ang & McKibbin, 2005).

Hence, assuming one error correction representation, the VCEM model with five endogenous variables (i.e lcpsgdp, lintrdgdp, lrgdppc, rlir and lgdsgdp) can be expressed as follows.

$$\Delta lcpsgdp_t = A_1 + \lambda_{11}ECT_{t-1} + \gamma_{11}\Delta lcpsgdp_{t-1} + ... + \gamma_{1p}\Delta lcpsgdp_{t-p} + \omega_{11}\Delta lintrdgdp_{t-1} + ...$$
$$\omega_{1q}\Delta lintrdgpd_{t-q} + \eta_{11}\Delta rgdppc_{t-1} + ... + \eta_{1m}\Delta lrgdppc_{t-m} + \theta_{11}\Delta rlir_{t-1} + ... + \theta_{1v}\Delta rlir_{t-v} +$$
$$\psi_{11}\Delta lgdsgdp_{t-1} + ... + \psi_{1r}\Delta lgdsgdp_{t-r} + \varepsilon_{1t} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.1)$$

$$\Delta lintrdgdp_t = A_2 + \lambda_{21}ECT_{t-1} + \gamma_{21}\Delta lcpsgdp_{t-1} + ... + \gamma_{2p}\Delta lcpsgdp_{t-p} + \omega_{21}\Delta lintrdgdp_{t-1}$$
$$+ ... \omega_{2q}\Delta lintrdgpd_{t-q} + \eta_{21}\Delta rgdppc_{t-1} + ... + \eta_{2m}\Delta lrgdppc_{t-m} + \theta_{21}\Delta rlir_{t-1} + ... + \theta_{2v}\Delta rlir_{t-v} +$$
$$\psi_{21}\Delta lgdsgdp_{t-1} + ... + \psi_{2r}\Delta lgdsgdp_{t-r} + \varepsilon_{2t} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.2)$$

$$\Delta lrgdppc_t = A_3 + \lambda_{31}ECT_{t-1} + \gamma_{31}\Delta lcpsgdp_{t-1} + ... + \gamma_{3p}\Delta lcpsgdp_{t-p} + \omega_{31}\Delta lintrdgdp_{t-1}$$
$$+ ... \omega_{3q}\Delta lintrdgpd_{t-q} + \eta_{31}\Delta rgdppc_{t-1} + ... + \eta_{3m}\Delta lrgdppc_{t-m} + \theta_{31}\Delta rlir_{t-1} + ... + \theta_{3v}\Delta rlir_{t-v} +$$
$$\psi_{31}\Delta lgdsgdp_{t-1} + ... + \psi_{3r}\Delta lgdsgdp_{t-r} + \varepsilon_{3t} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.3)$$

$$\Delta rlir_t = A_4 + \lambda_{41}ECT_{t-1} + \gamma_{41}\Delta lcpsgdp_{t-1} + ... + \gamma_{4p}\Delta lcpsgdp_{t-p} + \omega_{41}\Delta lintrdgdp_{t-1}$$
$$+ ... \omega_{4q}\Delta lintrdgpd_{t-q} + \eta_{41}\Delta rgdppc_{t-1} + ... + \eta_{4m}\Delta lrgdppc_{t-m} + \theta_{41}\Delta rlir_{t-1} + ... + \theta_{4v}\Delta rlir_{t-v} +$$
$$\psi_{41}\Delta lgdsgdp_{t-1} + ... + \psi_{4r}\Delta lgdsgdp_{t-r} + \varepsilon_{4t} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.4)$$

$$\Delta lgdsgdp_t = A_5 + \lambda_{51}ECT_{t-1} + \gamma_{51}\Delta lcpsgdp_{t-1} + ... + \gamma_{5p}\Delta lcpsgdp_{t-p} + \omega_{51}\Delta lintrdgdp_{t-1}$$
$$+ ... \omega_{5q}\Delta lintrdgpd_{t-q} + \eta_{51}\Delta rgdppc_{t-1} + ... + \eta_{5m}\Delta lrgdppc_{t-m} + \theta_{51}\Delta rlir_{t-1} + ... + \theta_{5v}\Delta rlir_{t-v} +$$
$$\psi_{51}\Delta lgdsgdp_{t-1 +} .... + \psi_{5r}\Delta lgdsgdp_{t-r} + \varepsilon_{5t} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2.5)$$

where, the expression on the left hand side represents differenced value of independent variable; the A_i stands for constant term, and the $\lambda_{ij}ECT_{t-1}$ terms stands for the error correction term. And, the remaining expressions (other than the error term ε_{it}) stand for lagged short run dynamic values.

4. EMPERICAL RESULTS AND DISCUSSION

Under this section, a summary result of unit root test, co-integration, granger causality test, and Vector Error Correction Model (VECM) results are presented. Besides, results on dynam-

ic forecast and impulse-response function, and other post estimation tests (like model stability test, autocorrelation test, and normality tests) are presented. And, each section is followed by brief discussions/explanations.

4.1. Unit Root Test & Lag Length Selection

The test for co-integration is preceded by necessary steps such as test of unit root and selection of appropriate lag length. Any sequence that contain one or more characteristic roots that are equal to one is known as a unit root process, the simplest model for unit-root being the Autoregressive of Order One AR(1). And, it takes the form of $Y_t = \gamma Y_{t-1} + \epsilon_t$ or integrated of order 1[I (1)], where ϵ_t denotes a serially uncorrelated white noise error term with a mean of zero and a constant variance. In the AR (1) equation, when $\gamma = 1$, the data series is said to be non-stationary, while if $\gamma < 1$, it is said to be stationary. The hypothesis for stationarity can be developed by manipulating the AR (1) equation as follows.

$Y_t - Y_{t-1} = \gamma Y_{t\_1} - Y_{t-1} + \epsilon_t,$

$Y_t - Y_{t\_-1} = (\gamma-1)Y_{t-1} + \epsilon_t,$

$\Delta Y_t = \delta Y_{t-1} + \epsilon_t;$

where $\delta = (\gamma-1)$, and Δ is the difference operator. Hence, from this, the null hypothesis takes the form of $H_o: \delta = 0$ (i. e the data series is non stationary since $\gamma=1$); vs the alternative hypotheses $H_1: \delta < 0$ (i.e. the data series is stationary since $\gamma<1$). Thus, a stationarity test is carried out using Augmented Dickey-Fuller Unit Root Test technique, the summary result of which is presented in table 1

Table-1: Summary of Unit Root Test –Augmented Ducky Fuller (ADF) Techniques)

Variables at level(all are non sta-tionary)	Augmented Ducky Fuller(ADF) Unit Root Test		Critical Values		
	Variables at first difference /all are I(1)/	t –statistics	at 1%	at 5%	at 10%

lcpsgdp	dlcpsgdp **	-3.151	-3.730	-2.992	-2.626
lintrdgdp	dintrdgdp *	-2.823	-3.730	-2.992	-2.626
lrgdppc	dlrgdppc ***	-3.771	-3.730	-2.992	-2.626
rlir	drlir***	-6.085	-3.730	-2.992	-2.626
lgdsgdp	dlgdsgdp***	-4.119	-3.730	-2.992	-2.626
*** Stationary at 1%		**** Stationary at 5%**		*** Stationary at 10%**	

Besides the stationarity test, selection of an appropriate lag length to be used in the VECM is done before running Johensen co-integration test. The lag selection is made using various criteria (see table-2).

Tabel-2: Maximum Lag Selection

```
varsoc lcpsgdp  lintrdgdp lrgdppc rlir lgdsgdp, maxlag(2)

 Selection-order criteria
 Sample:  1983 - 2011                          Number of obs      =        29

 lag      LL       LR      df     p      FPE       AIC       HQIC      SBIC

  0    -104.149                         .001279   7.52749   7.60132   7.76323
  1    -11.1071  186.08   25   0.000   .000012*  2.83497*  3.27796*  4.24942*
  2     8.61463  39.443*  25   0.033   .000021   3.19899   4.01113   5.79214

 Endogenous:  lcpsgdp lintrdgdp lrgdppc rlir lgdsgdp
  Exogenous:   _cons
```

As shown in table-2, the likelihood ratio (LR) criteria suggest two (2) lags while all other lag selection criteria i.e. the Final Prediction Error(FPE), the Akaike's Information Criteria (AIC), Quinn's Information Criteria (HQIC) and Schwarz's Bayesian Information Criteria (SBIC)/ all suggested one (1) lag. Hence, one lag is chosen in making Johansson co-integration test, and also in setting Vector Error Correction Model (VECM).

4.2. Co-integration Test

The term co-integration refers to the case where two or more time series data share an equilibrium relationship with an error-correction mechanism, with stochastic trends that are correlated with one another. Two or more series are co-integrated if each has a long run component, but these components cancel out between the series (i.e. share stochastic trends and long term equilibrium relationship), and hence never expected to drift too far away from each other. According to Verbeek(2000), two variables Y_t and X_t are said to be co-integrated when both of them are integrated of order one i.e. I(1), and if $Z_t = Y_t - \beta X_t$ is I(0) with β being a co-integrating vector. Under such circumstances, deviations from long run equilibrium relationship as a result of short run shocks will be corrected over time with error correction factor.

Table-3: Johansen Co-integration Result

Maximum Rank (r^1)	Parameters	LL		Trace Statistics(λ_{max})	5% Critical Value		Max. eigenvalue Statistics(λ_{trace})	5% Critical Value
r = 0	5	-56.999304		92.3832	68.52		43.5308	33.46
r <= 1	14	-35.233913		48.8524	47.21		25.2113*	27.07
r <= 2	21	-22.628261		23.6411*	29.68		14.5993	20.97
r<= 3	26	-15.328603		9.0418	15.41		7.9662	14.07
r<= 4	29	-11.345509		1.0756	3.76		1.0756	3.76
r<= 5	30	-10.807715		-	-		-	-

A co-integration test could be done using different methods such as Engle and Granger (1987), and Johansen (1988) methods. According to Kramers et al., (1992) cited in Demetriades and Hussein (1996) indicated that the Augmented Ducky Fuller Statistics (ADF) on which the Engle and Granger co-integration technique is based, may not give us good result in the case of small sample size.

---

[1] *Indicates number of co-integrating relationships in the model*

On the other hand, the Johansen technique (though it relies on asymptotic properties and sensitive to parameterization problem) is still better as it has desirable statistical properties. Hence, Johansen co-integration technique is used in this study. The result in table 3 shows the Johansen test of co-integration. The trace statistics indicates that there is two co-integrating equations in the model, while the maximum eigenvalue statistics shows existence of maximum of one co-integrating vector. Hence, to be on the safest side, the Vector Error Correction Model (VECM) is set assuming one co-integration equation in the model.

4.3. Granger Causality Test

Often, macroeconomic policy decisions deals with set of interrelated issues that are quite difficult to know the way they interplay. Hence, policy makers are often concerned about the possible consequences of their actions; and want to predict the likely outcomes beforehand. Thus, causality test is essential in verifying whether a given data series/variable/ cause another data series/variable/. And, causality tests can be carried out using various techniques (the commonly used technique being Grange Causality Test).

In fact, Granger causality has various components. The first component assumes the case where only past values(not future values) of one variable cause another variable; while the second components is based on argument that a given variable(say X) is said to be exogenous of another variable (say Y) if X fails to granger-cause Y. Likewise, the third components say that two variables (say X & Y) are said to be independent of each other if they fail to cause each other. According to Granger (1969), the simple causal model between two stationary time series (say X_t and Y_t) with two uncorrelated white noise series ε_t and η_t can be set as:

$$X_t = \sum_{j=1}^{m} a_j x_{t-j} + \sum_{j=1}^{m} b_j Y_{t-j} + \varepsilon_t,$$

$$Y_t = \sum_{j=1}^{m} c_j X_{t-j} + \sum_{j=1}^{m} d_j Y_{t-j} + \eta_t,$$

Thus, with this theoretical underpinning, a Granger causality test is made in this study to see whether causal relationship exists between dependent variable and other regressor variables. As it can be seen from table 4, there is no causality running from lintrdgdp and lrgdppc to lcpsgdp. Likewise,lgdsgdp do not granger cause lcpsgdp.

Table-4: Granger Causality Wald Test

Causality Running		Chi 2	Df	Prob>Chi2
from	*to*			
lintrdgdp	lcpsgdp	2.1847	1	0.139
lrgdppc	lcpsgdp	.0195	1	0.889
rlir	lcpsgdp	3.1388*	1	0.076
lgdsgdp	lcpsgdp	.60523	1	0.437
lcpsgdp	lintrdgdp	11.033***	1	0.001
lcpsgdp	lrgdppc	2.8607*	1	0.091
*** *significant at 1%*	** *significant at 5%*		* *significant at 10%*	

On the other hand, there is strong reverse causality running from *lcpsgdp* to lintrdgdp. Besides, there is also weak reverse causality running from lcpsgdp to log real GDP per capital lrgdppc, which is somehow in line with the argument that financial development may promote economic growth.

4.4. Vector Error Correction Model (VECM)/Short Run Dynamics/

The result in table-4 shows that, in the short run, real GDP per capita has a significant positive effect on domestic credit to private sector after one lag. However, the coefficient of international trade to GDP and real lending interest rates, though positive, are not significant at

5% level of significant, which seem to indicate that these variables may not affect the growth of domestic credit to private sector in the short run. On the other hand, the coefficient of gross domestic saving to GDP is unexpectedly negative, but insignificant.

Table-4: Vector Error Correction Model (VECM)/Short Run Dynamics/

D_lcpsgdp	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
_ce1 L1.	.1384955*	.0804593	1.72	0.085	-.0192018	.2961927
lcpsgdp LD.	.1112414	.1843737	0.60	0.546	-.2501243	.4726071
lintrdgdp LD.	.643506	.4573567	1.41	0.159	-.2528966	1.539909
lrgdppc LD.	2.132008***	.7967336	2.68	0.007	.5704388	3.693577
rlir LD.	.0037187	.0045852	0.81	0.417	-.005268	.0127055
lgdsgdp LD.	-.031314	.0554017	-0.57	0.572	-.1398993	.0772713
_cons	-.0166277	.035822	-0.46	0.643	-.0868376	.0535822
*** significant at 1%		** significant at 5%			* significant at 10%	

In the context of Ethiopia, in the short run, growth in real GDP per capita seem to play important role in the growth of domestic credit to private sector. In fact, these could happen through improved capacity of financial institutions in supplying credit on one hand, and also due to increasing demand for credit as a result of economic growth.

Likewise, the insignificant short run effect of international trade to GDP (which is a proxy for market openness) may imply the fact that the economy of the country is still closed

by and large, and hence, trade could not contribute much to the growth of domestic credit to private sector in the economy. Similarly, the nominal lending interest rate is basically set by central bank, with a real interest rate usually being near or below zero due to high inflation rate. Hence, in the short run, it may not show and considerable change, and may not make any meaningful effect on the growth of domestic private credit in the country. By the same token, the very slow growth in the gross domestic saving to GDP in the country could be one reason for its insignificant short run effect on the growth of domestic credit to private sector.

Besides, table-4 shows that the long run error correction model is significant at 10%, though it is not significant at 5%. This may imply that the variables in the model have a somewhat weak long run equilibrium relationship, with short run deviations from equilibrium being adjusted very slowly at about 13.85% per annum.

4.5. Long Run Model

The long run model in table 5 shows that domestic saving to GDP *(lgdsgdp)* has a significant positive effect on the growth of domestic credit to private sector *(lcpsgdp)*. That is, a 1% increases in *lgdsgdp* results in about 0.8% increase in *lcpsgdp* in the long run. This finding is in line with the findings by Sharma & Gounder(2013),who reported significant positive effect of bank deposit on bank credit to private sector in their study on six-small South East Asian Countries. Similarly, it is concur with the significant positive effect of domestic deposit, and favourable bank liquidity on credit to private sector reported by Imran&Nishat(2012) (in the case of Pakistan), and Iossifov & Khamis(2009)(in the case of Sub-Saharan Africa) respectively. In Ethiopia, the financial sector is not yet been liberalized, and the existing financial intermediaries are so infant. Hence, the positive and significant effect of domestic saving is quite convincing as it has continued to be the major source liquidity for financial intermediar-

ies in the country. Yet, the effect of GDP per capita (though positive) is found to be insignificant.

Table-5: Long Run Model Result

Identification: beta is exactly identified						
Johansen Normalization restriction imposed						
beta	Coef.	Std.Err.	Z	P>|Z|	[95% Conf. Interval]	
_ce1						
lcpsgdp	1	.	.	.	.	.
lintrdgdp	-3.074821***	.6295443	-4.88	0.000	-4.308705	-1.840936
lrgdppc	.234	.8086663	0.29	0.772	-1.350957	1.818957
rlir	-.087907***	.0179888	-4.89	0.000	-.1231645	-.0526496
lgdsgdp	.8043208***	.2628304	3.06	0.002	.2891826	1.319459
_cons	5.12535	.	.	.	.	.
*** significant at 1%		** significant at 5%			* significant at 10%	

On the other hand, international trade to GDP/*lintrdgdp*/(proxy for economic openness) is found to have significant negative effect on the growth of domestic credit to private sector. The result in table 5 shows that, a 1% increase in international trade to GDP (*intrdgp)* reduces the growth of domestic credit to GDP (*cpsgdp*) by about 3%. This finding is in contrast with prior findings by Gozgor(2013) and others who indicated that trade openness among other variables can systematically and positively cause financial development. However, some empirical studies also suggest that policies that promote market openness may not necessarily guarantee financial sector openness/development. This is basically because; the incumbents might have strong incentives to block financial deepening and arrest competition in the sector. Under such circumstance, trade openness may even worsen the development of financial sys-

tem in general, and the growth of domestic credit to private sector in particular (Braun & Raddatz, 2005). In the case of Ethiopia, though a tendency of gradual economic openness is witnessed over past couple of decades, by and large, the financial sector has remained closed with very low degree of financial deepening, which might be the reason for such un expected result.

The other variable with significant negative effect on domestic credit to private sector (*cpsgdp*) is real lending interest rate (*rlir*). As shown in table 5, a 1% increases in real lending interest rate results in about 0.08% decrease in domestic credit to private sector in the long run. This is in line with the findings by other scholars such as Sharma & Gounder(2013) in the case of six small open countries in South East Asia; Imran& Nishat(2012) in the case of bank credit in Pakistan; and Iossivov & Khamis(2009) in the case of Sub-Saharan Africa. In the context of Ethiopia, the *rlir* usually tends to be lower due to the mismatch between nominal interest rate and inflation rate. Hence, the low coefficient of *rlir* may suggest that borrowers are less responsive to change in *rlir* (since it is already low) and/or perhaps due to limited alternatives source of borrowing/credit facilities/.

4.6. Dynamic Forecast Result

Sine our model has no statistical problem (see post estimation test under section 4.8), we can proceed with model forecasting. The result of our forecast shows that international trade to GDP is expected to increase considerably over the years to come. This seems logical as the country's trade level with the rest of the world is increasing over the past couple of decades. This is partly due to steadily increasing economic openness, and also because of the remarkable economic growth registered over the last couple of years. This is infact is expected to continue in the years to come.

Graph-1: Forecast of Future Trends for Dependent & Independent Variables
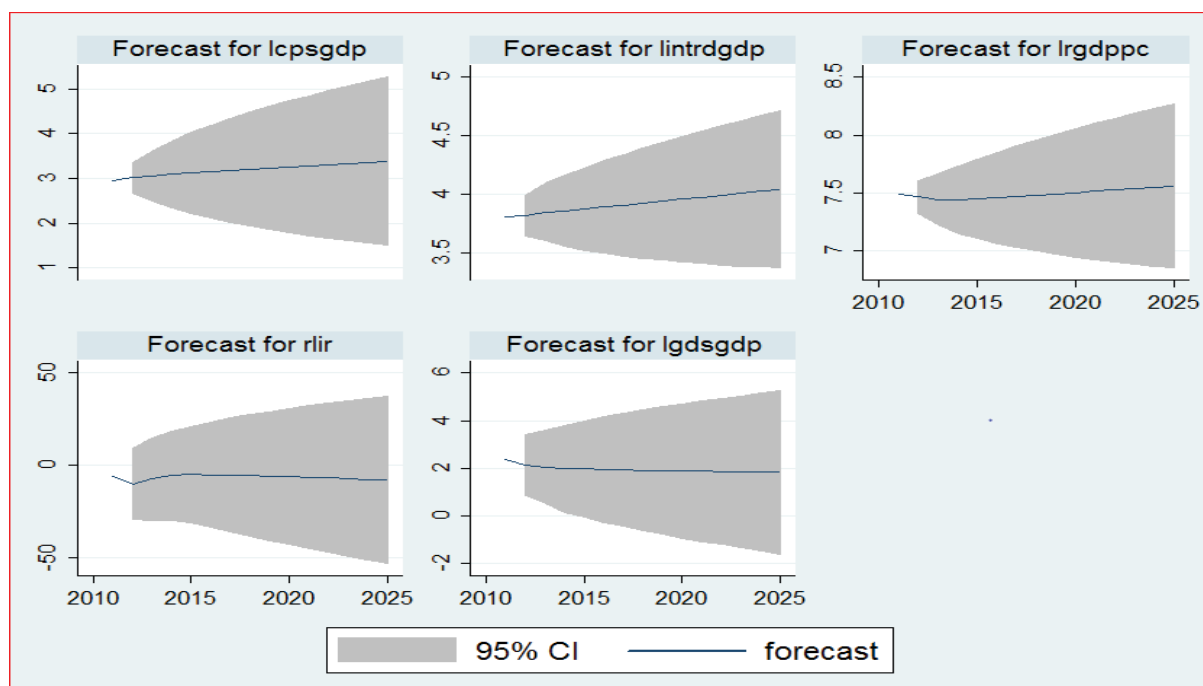
Likewise, the domestic credit to private sector is expected to growth modestly in the years to come, while real GDP per capital is expected to grow at slow rate as the population number is also increasing fast. On the other hand, real lending interest rate and domestic saving to GDP tends to show a constant and/or a somewhat downward trend. As the country has continued to experience inflation rate, which usually surpass the nominal interest rate set by central bank, the future trend of real lending interest rate seems convincing. Likewise, the trend in growth domestic saving to real GDP could be due to slow saving growth rate as compared to GDP growth rate.

4.7. Impulse Response Function Test

The result from impulse response function shown in graph-2 indicates that domestic credit to private sector responds very modestly to a shock that happens to international trade to GDP (*lintrdgdp*) and to real lending interest rate (*rlir*). However, it will not be significantly affected by such shocks. Similarly, it does not significantly respond to shocks that affect real GDP per capita (lrgdppc) and gross domestic saving to GDP (lgdsgdp).

Graph-2: Impulse-Response Function from other Variables to lcpsgdp
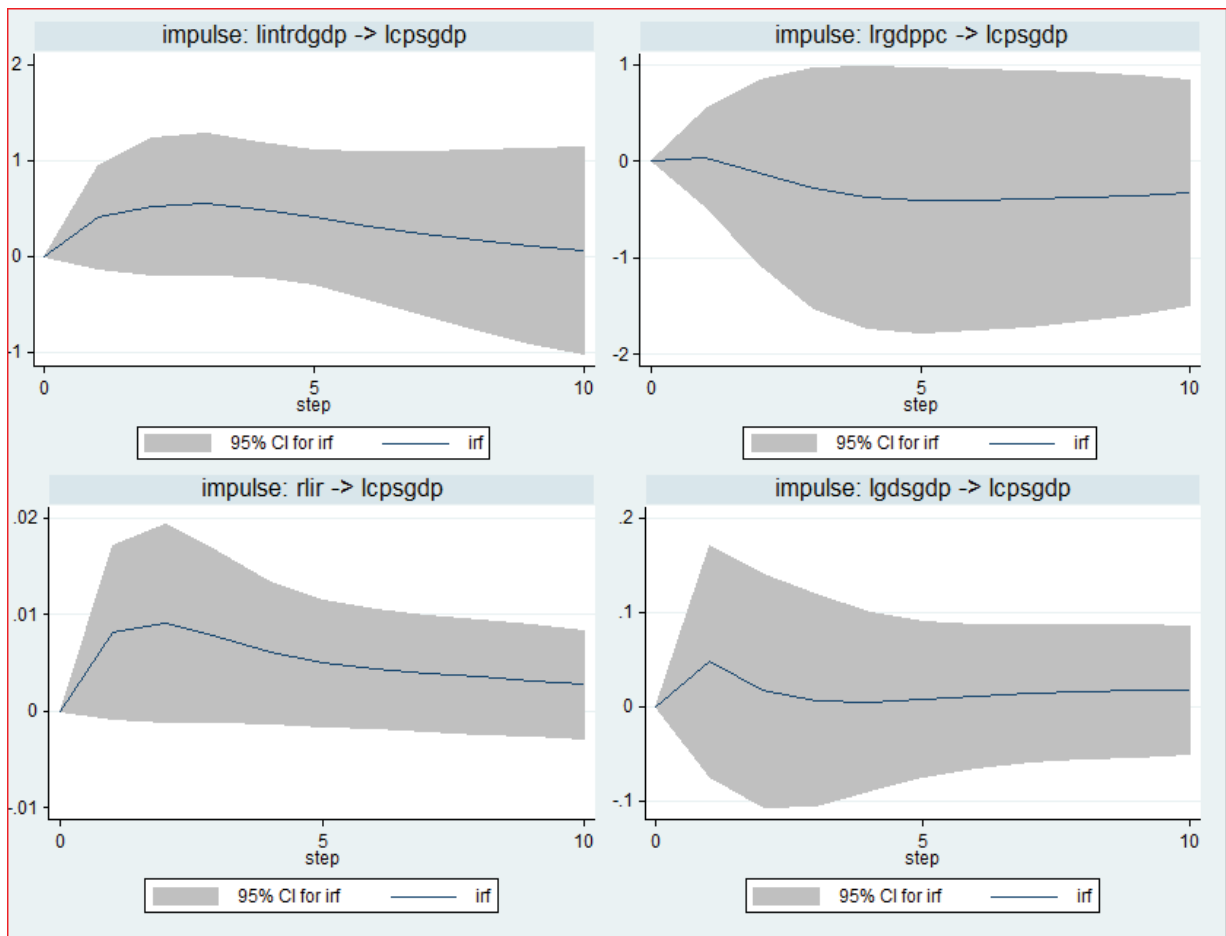
On the other hand, graph-3 shows that international trade to GDP and real GDP per capita seem to be significantly affected by shock that happen to domestic credit to private sector in the very short run, but less responsive in the long run. Yet, real lending interest rate (rlir) and gross domestic saving to GDP (lgdsgdp) do not significantly respond to shocks to affect domestic private credit to GDP (lcpsgdp), both in the short run and in the long run.

Graph-3: Impulse-Response Function from lcpsgdp to other Variables
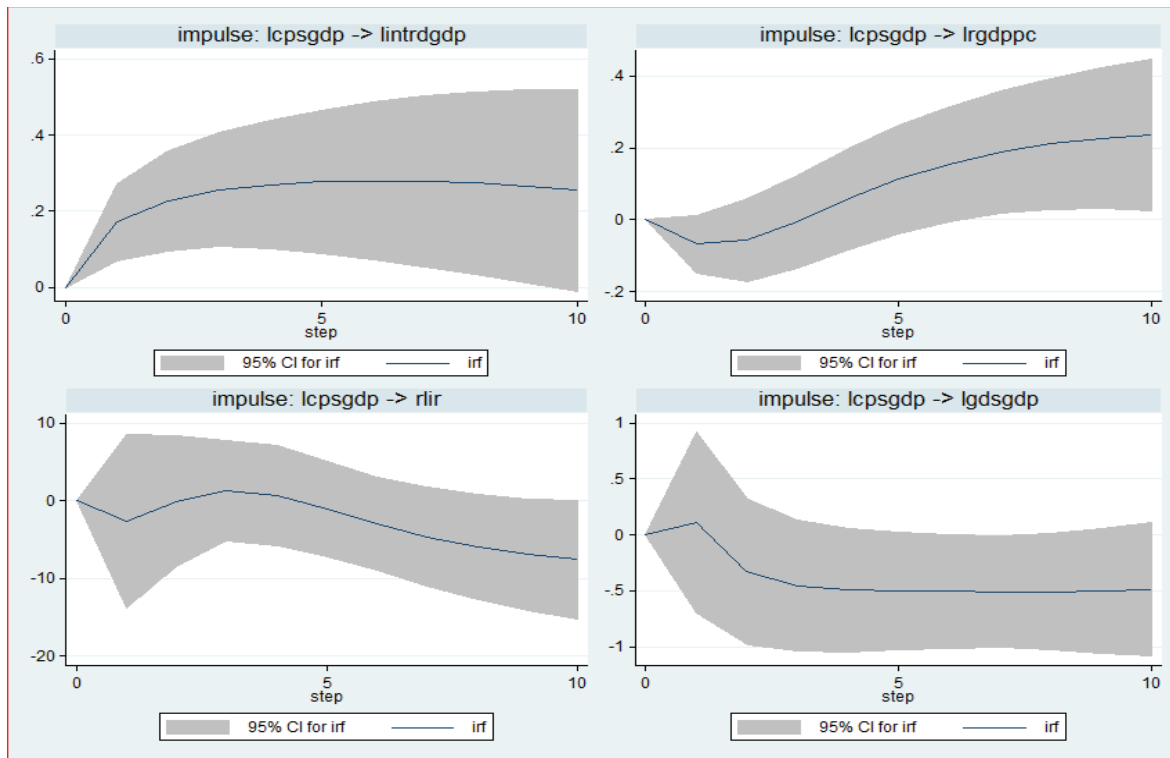
4.8. Post Estimation Tests

Under this sub-section, some important post estimation tests such as model stability, normality test, and autocorrelation tests are made to check for the fitness of the model.

4.8.1. Test for Model Stability

Model stability check is necessary to verify whether the co-integrating equations used in the model are stationary, and also correctly specified. VEC model stability test can be checked using eigenvalue statistics and *k-r* moduli (where *k* is number of endogenous variables and *r* is number of co-integrating equations used in the model). And, when any of eigenvalue (other than the *k-r* moduli) is closer to a value of one (1), it implies that either co-integrating equations in the model are non-stationary, or the rank specified in the model is too high.

Table-6: Model Stability Test

```
.  vecstable

  Eigenvalue stability condition

|              Eigenvalue              |   Modulus   |
|--------------------------------------|-------------|
|                 1                    |      1      |
|                 1                    |      1      |
|                 1                    |      1      |
|                 1                    |      1      |
|            -.6092381                 |   .609238   |
|             .5565374                 |   .556537   |
|            -.418838                  |   .418838   |
|      .07456379  +    .3447366i       |   .352708   |
|      .07456379  -    .3447366i       |   .352708   |
|             .3312184                 |   .331218   |

  The VECM specification imposes 4 unit moduli.
```

With these underling conceptions, the stability condition of our VECM estimates is tested using eigenvalue statistics (see table 6). The result shows that there is no eigenvalue pretty closer to one (1) other than the four *k-r* moduli imposed by the model. This suggests that our VECM estimates are stable.

4.8.2. Autocorrelation Test

According to Becketti(2013), serial correlation or autocorrelation is one of the serious problems in time series data, which can undermine the efficiency of the model and affects hypothesis testing. It happens when a random variable is correlated with its past and future, or when error terms in the regression model is autocorrelated.

Table-7: Autocorrelation test result

```
veclmar, mlag(1)

  Lagrange-multiplier test

|  lag  |    chi2    |  df  |  Prob > chi2  |
|-------|------------|------|---------------|
|   1   |  30.4616   |  25  |    0.20747    |

  H0:  no autocorrelation at lag order
```

With this understanding, post estimation autocorrelation test is made at lag(1) using Lagrangian Multiplier technique based on vector error correction regression result (see table 7). However, as the probability values of 0.20747 is quite greater than 5% and even 10%, the

null hypothesis of no autocorrelation cannot be rejected. Hence, it is concluded that the model has no autocorrelation problem at lag (1), which is suggested by lag selection criteria.

4.8.3. Test for Normality

A normally distributed population error term in a regression would have mean of zero (**0**) and constant variance (δ^2) irrespective of the value of explanatory variable/s/. This happens when the error term is independent of all explanatory variables included in the model. And, if the normality assumption holds, the efficiency of our model increases (Wooldridge (2013).

Table-8: Test of normal distribution of disturbance term

```
. vecnorm, jbera

  Jarque-Bera test

                Equation          chi2    df    Prob > chi2

            D_lcpsgdp            0.450     2      0.79865
          D_lintrdgdp           0.136     2      0.93445
           D_lrgdppc            0.031     2      0.98448
              D_rlir            1.766     2      0.41362
           D_lgdsgdp           3.097     2      0.21253
                  ALL            5.479    10      0.85694
```

Hence, a post estimation normality test is made using Jarque-Bera test statistics to check whether the sample data matches normal distribution or not, with null hypothesis (H_o) claiming normal distribution of error terms (see table 8). And, from the results, we can conclude that disturbances terms are normally distributed in all of the cases, since we cannot reject the null hypothesis in any of the cases as the p-value is far greater than 5%, and even 10%.

5. CONCLUSION AND POLICY RECOMMENDATIONS

5.1. Conclusion

In this study, an attempt is made to investigate factors that determine domestic credit to private sector in Ethiopia using a 31 years' time series data (1981-2011). To this end, domestic

credit to private sector/*lcpsgdp*/) is considered as dependent variable, while others such as international trade to GDP/*lintrdgdp*/, real per capita GDP/*lrgdppc*/, real lending interest rate/*rlir*/, and gross domestic saving to GDP/*lgdsgdp*/ are taken as independent variables. Accordingly, a granger causality test is done followed by Vector Error Correction Model/VECM/.

The result of granger causality test shows that there is no evidence of causality running from *lintrgdp, lrgdppc* and *lgdsgdp* to *lcpsgdp*. However, *rli*r seem to weakly cause *lcpsgdp*. On the other hand, there is strong reverse causality running from *lcpsgdp* to *lintrdgdp*. Besides, weak causality seems to run from lcpsgdp to lrgdppc.

Likewise, VECM result indicates that all variables except real GDP per capital (dlrgdppc) has no significant short run effect on domestic credit to private sector/dlcpsgdp/. And, the evidence on the error correction term also shows presence of long run co-integrating relationships between the variables under consideration at 10% level of significance.

The long run result shows that gross domestic saving to GDP has significant long run effect on the growth of domestic credit to private sector; while real GDP per capital has no significant long run effect(though positive). On the other hand, both real lending interest rate and international trade to GDP have significant long run negative effect on the growth of domestic credit to private sector. The negative effect of real lending interest rate was expected, while that of international trade to GDP (proxy for economic openness) was not expected.

The forecast result shows that the future trend of lcpsgdp, lintrdgdp and lrgdppc tends to continue with steady growth, while rlir and gdsgdp may remain stagnant and/or could

slightly decline. However, this result should be taken cautiously as the forecast is made within a wide confidence interval.

Similarly, the impulse-response result also indicates that *lcpsgdp* is generally less responsive to shocks that may affect other variables considered in this study, except for some slight short run tendencies. Conversely, other variables also tend to respond modestly to shocks to cpsgdp.

5.2. Policy Recommendation

In light of the conclusions drawn above, the following policy recommendations are forwarded.

➡ Since gross domestic saving has significant effect on the growth of domestic credit to private sector in the long run, a necessary attempt has to be made to set appropriate policy and enhance institutional capacity that can facilitate domestic saving. Besides, promote the currently low saving culture of people should be given adequate emphasis.

➡ Economic openness, unless accompanied with financial deepening, may even worsen the availability of domestic credit to private sector. Hence, it is necessary to consider opening the financial sector and promote competition so as to broaden availability of credit facilities to private sector.

➡ Real lending interest rate is like two edge sword as too much of it could affect the demand side (borrowing), and too low of it hamper the supply side (saving). Hence, prudent care should be taken while setting nominal interest rate. Besides, controlling inflation rate at reasonable level is requisite to ensure stable real lending interest rate.

➡ As real GDP per capita seem to promote domestic credit to private sector at least in the short run, attempts should be made to enhance the income of people by creating vari-

ous income generating means, along with developing their saving culture,

- Last, but not least, the growth of domestic credit to private sector can be affected by various qualitative and other quantitative socio economic variables. Hence, the researcher suggests further study on the area to come up with more comprehensive and concrete evidences.

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Annexes

Annex-1: Summary Profile of Commercial Banks in Ethiopia

No.	Name	Year of Establish-ment(G.C)	Ownership	No. of Branches
1	Awash International Bank	1994	Private(Share Company)	80
2	Commercial Bank of Ethiopia	1963	State Owned	644
3	Development Bank of Ethiopia	1901	State Owned	32
4	Construction and Business Bank	1975	State-Owned	32
5	Dashen Bank S.C	1995	Private(Share Company)	55
6	Wegagen Bank S.C.	1997	Private(Share Company)	50
7	Bank of Abyssinia S.C	1996	Private(Share Company)	47
8	United Bank S.C	1998	Private(Share Company)	41
9	Nib International Bank S.C	1999	Private(Share Company)	45
10	Cooperative Bank of Oromia S.C	2004	Private(Share Company)	38
11	Lion International Bank S.C	2006	Private(Share Company)	20
12	Zemen Bank S.C	2008	Private(Share Company)	1
13	Oromia International Bank S.C	2008	Private(Share Company)	25
14	Bunna International Bank S.C	2009	Private(Share Company)	8
15	Berhan International Bank S.C	2009	Private(Share Company)	-
16	Abay Bank S.C	2010	Private(Share Company)	-
17	Addis International Bank S.C	2011	Private(Share Company)	-
18	Debub Global Bank S.C	2012	Private(Share Company)	-
19	Enat Bank S.C	2012	Private(Share Company)	-

Source: NBE, 2014

Annext-2: Summary Profile of Insurance Companies in Ethiopia

No.	Name	Year of Establishment(G.C)	Ownership
1	Africa Insurance Company S.C	1/12/1994	Private(Share Company)
2	Awash Insurance Company S.C	1/10/1994	Private(Share Company)
3	Global Insurance Company S.C.	11/1/1997	Private(Share Company)
4	Lion Insurance Company S.C	1/7/2007	Private(Share Company)
5	NIB Insurance Company	1/5/2002	Private(Share Company)
6	Nile Insurance Company S.C	11/4/1995	Private(Share Company)
7	Nyala Insurance Company S.C	6/1/1995	Private(Share Company)
8	The United Insurance S.C	1/4/1997	Private(Share Company)
9	Ethiopian Insurance Corporation	1975	State Owned
10	Abay Insurance Company	26/07/2010	Private(Share Company)
11	Berhan Insurance S.C.	24/05/2011	Private(Share Company)
12	National Insurance Company of Ethiopia S.C.	23/09/1994	Private(Share Company)
13	Oromia Insurance Company S.C.	26/01/2009	Private(Share Company)
14	Ethio-Life and General Insurance S.C.	23/10/2008	Private(Share Company)
15	Tsehay Insurance S.C.	28/03/2012	Private(Share Company)

Source: NBE, 2014

Annex-3: Profile of Micro Finance Institutions in Ethiopia

No.	Name	Year of Establishment(G.C)	Ownership	No. of Branch-es/Sub-branches
1	Amhara Micro finance S.c.	09/04/97	Regional Government	18/180
2	Dedebit Micro Finance S.c.	28/04/97	Regional Government	22/102
3	Oromia Micro Finance S.c.	04/08/97	Regional Government	194

4	Omo Micro Finance S.c	01/10/97	Regional Government	14/147
5	Specialized Financial Promotional	25/11/97	Private S.C	8/1
6	Gasha Micro Finance S.c.	15/05/98	Private S.C	6/5
7	Wisdom Micro Finance S.c	17/06/98	Private S.C	37/14
8	Sidama Micro Finance S.c.	27/07/98	Private S.C	12/5
9	AVFS	16/11/98	Private S.C	6/4
10	Buusa Gonofa Micro Finance s.c.	-	Private S.C	-
11	PECE Micro Finance	-	Private S.C	-
12	Meket Micro Finance	-	Private S.C	-
13	Addis Micro Finance	-	Private S.C	-
14	Mekit Micro Finance	-	Private S.C	-
15	Eshet Micro Fiance	-	Private S.C	-
16	Wassasa Micro Finance	-	Private S.C	-
17	Benishangul-Gumuz Micro Finance	-	Regional Govern-ment	-
18	Shashemene Micro Finance	-	Private S.C	-
19	Metemamen Micro Finance	-	Private S.C	-

Source: NBE, 2014