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NBE ISSUES TRANSPARENCY IN FOREIGN CURRENCY ALLOCATION AND FOREIGN EXCHANGE MANAGEMENT DIRECTIVE

ANALYSIS OF TAX SYSTEM PRODUCTIVITY IN ETHIOPIA:
AN ECONOMETRIC APPROACH

THE LONG RUN LINKAGE BETWEEN NATIONAL SAVING AND INVESTMENT IN ETHIOPIA:
A CO INTEGRATION VECM TEST

በኢትዮጵያ ውስጥ በሥራ ላይ ያሉ ባንክና መድህን ተቋማት
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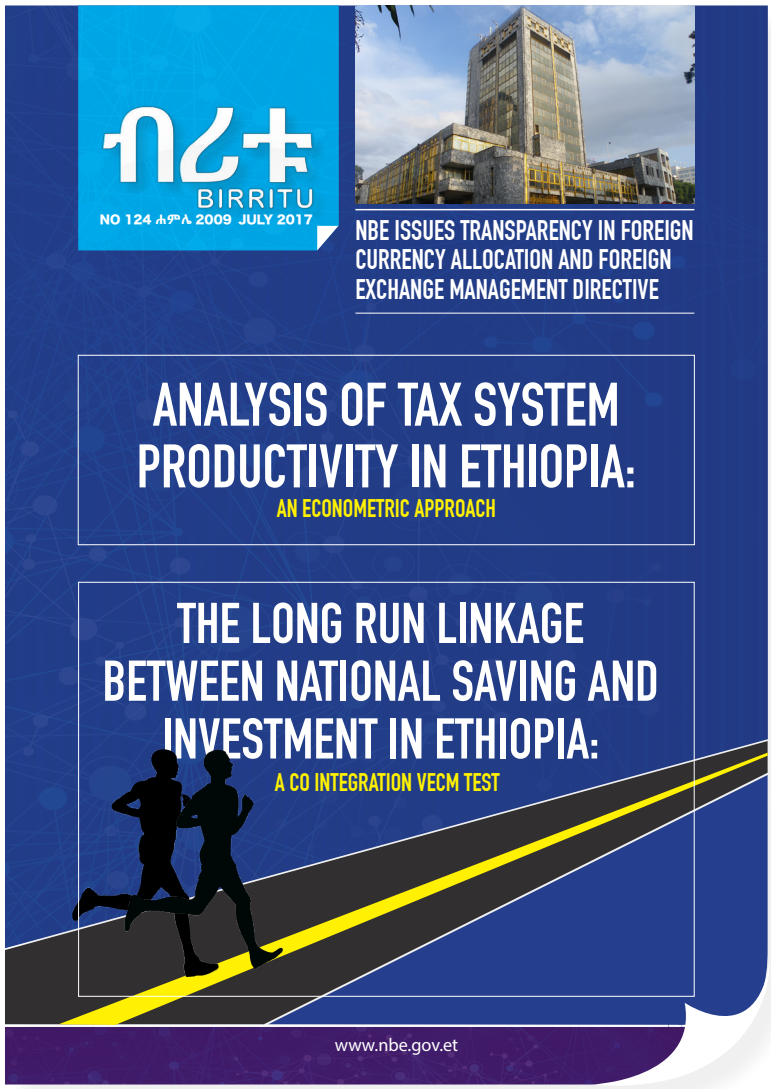

OPINION EXPRESSED IN THE ARTICLE DO NOT NECESSAIRLY REFLECT THE POLICIES AND STRAGIES OF THE NATIONAL BANK OF ETHIOPIA

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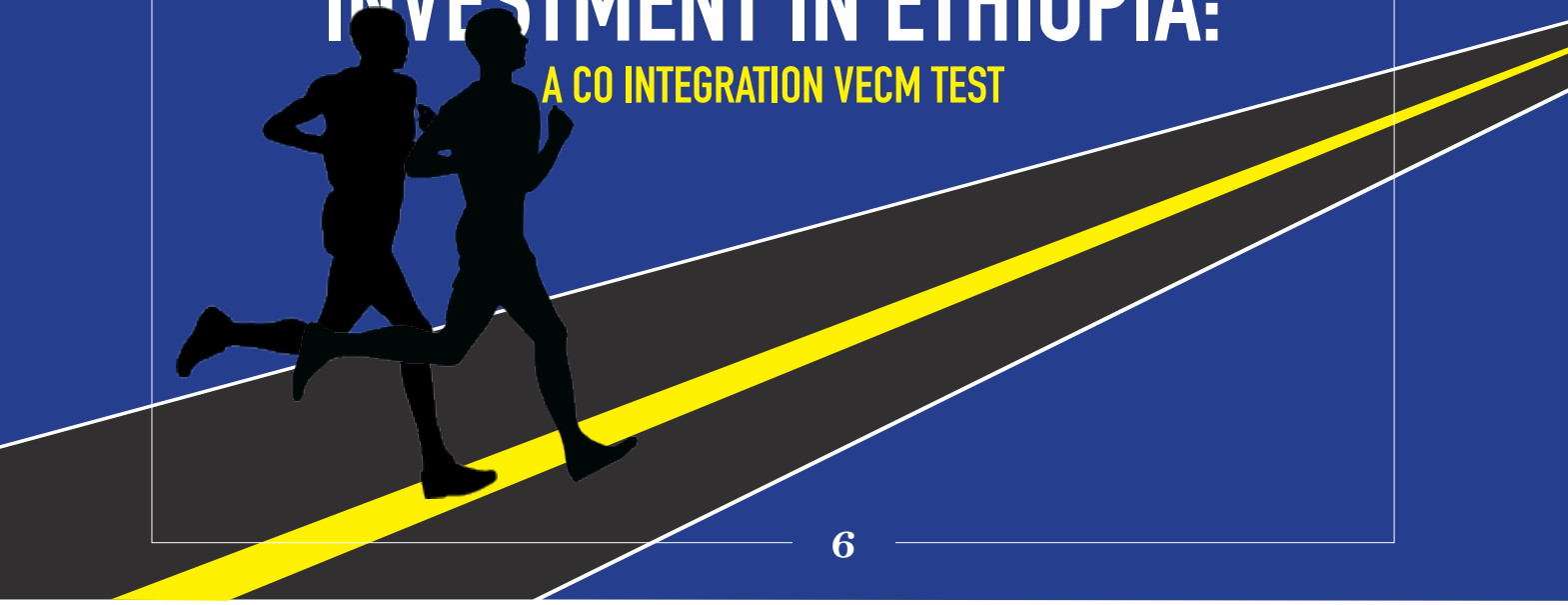
THE LONG RUN LINKAGE BETWEEN NATIONAL SAVING AND INVESTMENT IN ETHIOPIA:

A CO INTEGRATION VECM TEST



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OPINION EXPRESSED IN THE ARTICLE DO NOT NECESSAIRLY REFLECT THE POLICIES AND STRAGIES OF THE NATIONAL BANK OF ETHIOPIA

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Dear esteemed readers, we are happy to meet you with the 124th issue of Birritu which consists of relevant and timely topics.

In the News and Information section, there are two news which deals with the issuance of Foreign Currency Allocation and Foreign Exchange Management Directive and the Endorsement of Financial Inclusion Strategy.

The Topics selected for Research Article are "The Long Run Linkage between saving and Investment in Ethiopia: A Co integration VECM Test" and "Analysis of Tax System Productivity in Ethiopia: An Econometric Approach" The Educational and Informative Article contains two stories, about Illicit Financial Flows and ስኬታማ የሴት መሪዎችን ለማፍራት የሚረዱ መንገዶች. There is also the Miscellany section which contains short story and Poem.

Dear readers, your feedbacks and comments are invaluable for enriching the next issue of Birritu. Please keep forwarding your comments and suggestions.

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COUNCIL ENDORSES FINANCIAL INCLUSION STRATEGY

Consultative meeting held with stakeholders

Ato Tiruneh Mitafa, V/Governor of Financial Institutions Supervision Cluster(NBE) upon a briefing the strategy to managment members of NBE.

by Elias Salah and Tsigabu Motbainor

Ethiopian Federal Democratic Republic Council of Ministers endorsed the National Financial Inclusion Strategy. A consultative meeting with various stakeholders was also conducted on the strategy.

Upon a briefing which was held on March 7/ 2017 E.C to National Bank management members regarding the content and implementation of the strategy, head of the Financial Inclusion Secretariat Ato Temesgen Zeleke disclosed that the objective of the strategy is not only to create new financial institutions but also to modernize the existing financial services in terms of quality and price and make them accessible for low income groups of the society.

To achieve the objective, Ato Temesgen further noted that the strategy has set four actionable strategic pillars: i) Strengthening (Financial and Other) Infrastructure; ii) Ensure the Supply of Adequate Range of Suitable Products, Services and Access Points; iii) Build a Strong Financial Consumer Protection Framework; and iv) Improve Financial Capability. In this context clear targets has been set for the expansion of bank branches, agent banking, ATM machines, point of sales (POS), mobile and internet banking and enhancing innovative products and services such as saving, credit, remittance, insurance and payments, Temesgen added.

The National Financial Inclusion Strategy was crafted based on the second Growth and Transformation Plan (GTP II), and it is expected to expand and increase saving, support investment, create job, and finally reduce poverty.

On top of this, the strategy aims at building swift and modern financial system by developing electronic financial transactions. This will help to cope with the global financial system, it was learnt.

V/Governor of Financial Institutions Supervision Cluster, Ato Tiruneh Mitafa, urged stakeholders to contribute their share for the implementation of the newly endorsed Financial Inclusions Strategy.

Upon consultative meetings which were held on April 17/2009 E.C and April 19/2009 E.C for stakeholders, The V/Governor marked that the National Financial Inclusion Strategy is a countrywide project which requires everybody's participation and devotion for implementation.

The V/Governor further added that in Kenya, financial inclusion stands at 78% while in Ethiopia it is 22%, so maximum effort should be exerted in order to change its coverage.

It was learnt that this strategy was developed together with World Bank and it took a year and half to come up with the final document/strategy.

NBE's Directors, Principals and Chief Officers participated in the briefing session.

NBE ISSUES TRANSPARENCY IN FOREIGN CURRENCY ALLOCATION AND FOREIGN EXCHANGE MANAGEMENT DIRECTIVE

by Elias Salah

The National Bank of Ethiopia recently issued Directive; Transparency in Foreign Currency Allocation and Foreign Exchange Management Directive.

As stated in the preamble, foreign exchange is a scarce resource that should be managed carefully to ensure it's efficient and proper allocation, Directive No FXD 46/2017.

The Directive noted that there is a need to ensure that foreign exchange is allocated in a transparent and sound manner to priority and other economic sectors without opening a room for rent seeking behavior and malpractice.

Hence, it is necessary to require each bank to have transparent and sound foreign currency allocation and foreign exchange management guideline or procedure manual which shows the accountability of each employee of a bank involved in foreign exchange transactions, the Directive added.

Accordingly, Directive No FXD/45/2016 and other circulars and letters are repealed and replaced by Directives No. FXD/46/2017.

The Directives entered into force as of March 20, 2017.

THE LONG RUN LINKAGE BETWEEN NATIONAL SAVING AND INVESTMENT IN ETHIOPIA

A CO INTEGRATION VECM TEST

Fikadu Degife

Chief Research Officer
External Economic Analysis and International Relations Directorate

National saving was just Birr 3.2 billion in 1992, which has increased to Birr 494.9 billion (26.2 percent annual average growth) while capital formation (investment) on the other hand was merely Birr 3.3 billion, increased to Birr 588.7 billion over the same period (26.3 percent annual average growth).

ABSTRACT

Whether saving causes investment or gets caused by investment has been theoretical and empirical debate among economists. This study aimed at examining the causal relationship between national saving and gross investment in Ethiopia. National Account data from 1974-2016 has been employed. All statistical descriptive tests have been carried out prior to testing the causality and long run relationship tests using Vector Error Correction Model (VECM).

According to the Granger causality test, there is bidirectional causality between national saving and gross national investment in Ethiopia. The finding of this study also revealed that there is long run relationship between national saving and investment in Ethiopia. Both the Granger causality and Johansson's coietgration test results disproved the finding of G. Ramakrishna and S.Venkateshwar Rao (2012) that the variables have no both short and long run relationship.

Introduction

Whether saving causes investment or gets caused by investment has been theoretical and empirical debate among economists. According to the classical economic theory, increasing in savings is expected to reduce lending interest rate which in turn induces investors to demand more available fund and hence increase in the level of investment. On the contrary, Keynes defiantly argues that an increase in investment leads to an increase in output and income which, in turn, will increase savings. Saving and investment are normally believed to be very vital macroeconomic variables that are very important for price stability and employment opportunity so as to boost economic growth. The presence of various established theories related to saving-investment causality, however, have not brought consensuses among economists regarding the theories and empirical evidences. Therefore, since the debate has started with the original work by Feldstein and Horoika (1980) various contradicting empirical findings have been disclosed. The finding of these economists revealed that if capital is perfectly mobile, investors care only about the rate of return on their investments and do not be anxious about in which country they are investing, implying domestic saving need not be equal to domestic investment under perfect international capital mobility. Miller (1988) for instance argues that if there exists cointegration between savings and investment, the capital is at least somewhat immobile internationally, while the lack of cointegration suggests perfect capital mobility. Therefore, understanding the causal relationship between savings and investment has become relevant for its policy implications. If the saving causes investment, then promoting domestic savings should be a high priority to boost investment and economic growth. Alternatively, if causality runs from investment to saving, saving-promoting policies are likely to be unsuccessful and may involve economic inefficiencies.

Many empirical works on saving-investment causality are cross sectional where specific country case studies are not sufficient enough. The case of Ethiopia is not different, but there is a study by G. Ramakrishna and S.Venkateshwar Rao in 2012 using time series data ranged from 1974 to 2009. The finding of these researchers revealed that there is no long run cointegration between savings and investment in Ethiopia. Based on various theoretical arguments that savings and investment have close linkage on the one hand and the trends of both variables in Ethiopia on the other hand, one would suspect the indisputably of this finding of no long run relationship between the two main macro variable in Ethiopia. Therefore, this study aimed at re-testing the causality between savings and investment in Ethiopia by expanding the time series data forward at least by seven years to 2016. Unlike the finding of the above researchers, the hypothesis of this study is that savings and investment have long run linkage in Ethiopia.

The finding of this study would add different dimension to the very limited empirical works on the area so that further studies will be carried out while it also would inform policy makers on how to act so as to enhance economic growth and sustainable development to see-off poverty in the medium run using appropriate policies regarding national saving and investment.

This study is organized as follow: first section deals with introduction followed by literature review in section two. Section three deals with the review of savings and investment trends in Ethiopia during the last three decades whereas section four is dedicated for model specification and estimation and finally section five provides concluding remarks.

Literature Review

1.1 Theoretical Review

1.1.1 Classical View

According to the classical economic thought, saving is equal to investment by the mechanism of change in interest rate i.e. any temporary disequilibrium between the two macroeconomic variables is automatically adjusted by the change in interest rate. For a given investment rate, if saving increases, then lending interest rate declines which in turn induces the demand for investment

and so vice versa. This classical view of equality between saving and investment is an especial equilibrium situation as the equality is observed at full employment level of income only via automatic change in the strategic or equilibrating variable, interest rate.

1.1.2 The Keynesian View

Keynes too explained in his General Theory that aggregate investment always equals aggregate saving. He, however, presented a completely different conjecture from that of the classicists in this saving-investment equality issue. He discarded the classical postulate of the rate of interest being a strategic or equilibrating variable in bringing about the equality between investments and saving at full employment level. For Keynes, the saving-investment equality is a condition of equilibrium at any level of employment, and not necessarily always the full employment level. More realistically, it is usually at less than full employment level.

According to Keynes, the level of income is the strategic or equilibrium variable which effectuates saving-investment equality rather than interest rate. He analyzed the saving-investment equality on two counts namely accounting equality and functional equality. According to accounting equality: 1) Income = Consumption plus Saving, 2) Output = Consumption plus Investment, but income = Output

In the national investment income accounts, therefore, saving is numerically identical with investment. Keynes states that "saving" and "investment" are not only equal but also identical. He defined saving as the excess of income over consumption while he defined investment as the growth of capital equipment or in other words, the addition to the stock of real capital, represented by the unconsumed output in a given period.

Since investment causes an increase in capital equipment, which, in other words, is an addition made to the stock of real capital, this addition represents the unconsumed output in a given period. In other words, it is known as current investment. This current investment in money terms therefore is equal to the value of that part of current output which is not consumed. Hence, Keynes concludes that income is equal to the value of current output. In short,

$S = Y - C$ and $Y - C = I$

Since $Y - C$ is common to both sides, therefore, $S = I$.

or, alternatively, $Y = C + I$; $Y = C + S$, but $S = Y - C$

By substituting the value of Y as $C + I$, we get,

$S = (C + I) - C$, $S = C + I - C$, $S = I$.

Keynes' modern economic analysis also conceived the "functional" equality of saving and investment which emphasizes the behavior of the economy as a whole, and thus, saving and investment concepts become dynamic. According to Keynes, in the functional or scheduled sense, there is the saving schedule and investment schedule and the equality between investment and savings is a consequence of changes in the level of income. To him, equality between saving and investment function is an indispensable condition of equilibrium. As national income cannot be sustained without the equality of aggregate saving and aggregate investment, Keynes stressed that income is the functional variable that brings about equality between saving and investment. In his theory of functional equality of saving and investment, savers and investors respond to income variations in such a way that their aspiration to save and to invest is expected to be synchronized in the very process of these responses.

Thus, if saving exceeds investment (that is to say, when investment decreases), saving remaining constant (because the saving schedule is a stable function of income), income will fall and, therefore, saving will also contract. Income will continue to fall until the saving out of the lower income is equal to the reduced investment. Likewise, if investment surges, saving remaining constant (thus, investment exceeding saving), income will go up until the saving out of the higher income is equal to the increased investment. It should be noted that when investment exceeds saving, that is, when investment increases, a new equilibrium between saving, and investment will materialize at a higher level of income; and when saving exceeds investment, that is,

when investment decreases, the new equilibrium of saving and investment will be at a lower income level.

Hence, Keynes considered shifting equilibrium in his income analysis in terms of saving and investment equality as against the traditional analysis of full employment equilibrium in which investment can be and normally are equal to each other at the point of less than full employment.

1.2 Empirical Review

Like theoretical literature, the empirical concerning the link between savings and investment is quit extensive. Cyril Ayetuoma Ogbokor and Oscar Andiya Musilika (2014) investigated the causal relationship between aggregate saving and investment for Namibia. Their result revealed that, there is no long run equilibrium relationship between saving and investment, which the researchers related to high capital mobility in the country. They further found that there is a unidirectional causality running from saving to investment. The study by Angelique Nindi and Nicholas M. Odhiambo (2014) for the case of Malawi on the contrary witnessed that there is a long run unidirectional Granger Causality running from investment to saving. The researcher recommended that the policy makers should avoid any short run impediments to both saving and investment, but in the long run pro investment enhancing policies need to be in place to facilitate economic growth of the country. Similarly, the study by Lira P. Sekantsi and Kalebe M. Kalebe (2015) for Lesotho on the causal relationship between saving, growth and investment witnessed the existence of short -term and long - term Granger causality from saving to investment (unidirectional causality running from saving to investment).

A cointegration and causality test for UEMOA[1] countries by Loesse Jacques Esso and Yaya Keho (2010) show that domestic saving plays an active role in financing investment in only three countries(Benin, Côte d'Ivoire and Niger). For the other four countries, the domestic savings rate and investment rate are not related.

Olugbenga A. Onafowara et.al (2010) on the other hand investigated the case of advanced EU countries. They employed the Autoregressive Distributed Lag (ARDL) bounds testing approach to cointegration, an unrestricted error correction model (UECM) of the ARDL, and a VAR analysis of forecast error variance decompositions. They find evidence of co integration between saving and investment in six countries. In the Netherland and United Kingdom, they also found the evidence of long run causality running from saving to investment and a reverse causality in Denmark, Germany, and Luxemburg while bidirectional causality prevailed in Belgium, and neutrality case was observed in France and Italy.

Mohsen Mehrara and Maysam Musai (2010) carried out study on 40[2] Asian countries concerning the causal relationship between saving and investment using data from Asian Development Bank and World Development Indicator (WDI) of the World Bank by employing panel unit root tests and panel cointegration analysis for the period 1970-2010. Surprisingly, the result indicated no long run relationship as well as no causalities between these two variables in these countries.

Kevin Greenidge and Chris Milner (2010) examined the causal chain between savings, investment and growth in Latin America and Caribbean countries (1960-2007) employing the Johansen maximum likelihood estimation and autoregressive distributed lag framework to explore long - and short - run causalities. They found that causality links between the variables various across countries, but the existence of a long - run stationary relationship between savings and investment, with causality running from saving to investment is a fairly consistent finding.

Christopher Tsoukis and Ahmed Alyousha (2001) employed Granger causality tests to measure capital mobility using quarterly data for a sample of 7[3] industrialized economies for a) the post-war period;

[1] Benin, Burkina Faso, Côte d'Ivoire, Mali, Niger, Senegal and Togo.

[2] Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Pakistan, Tajikistan, Turkmenistan, Uzbekistan, China People's Rep. of, Hong Kong; China, Korea Rep., Mongolia, Bangladesh, Bhutan, India, Maldives, Nepal, Sri Lanka, Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Singapore, Thailand, Viet Nam, Fiji Islands, Kiribati, Marshall Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu, Australia, Japan, New Zealand

[3] Australia, Canada, Germany, UK, Japan, USA and Netherlands

and b) the 1980s and 1990s. For the cointegrated saving and investment ratios in the entire sample, causality goes from saving to investment. For the single (German) cointegrated pair of the 1980s and 1990s, causality runs in the opposite direction.

I. Investment-Saving Trends in Ethiopia

During the last 26 years, both national saving and investment have remarkably increased on absolute basis. National saving was just Birr 3.2 billion in 1992, which has increased to Birr 494.9 billion (26.2 percent average growth over the period). Capital formation (investment) on the other hand was only Birr 3.3 billion, increased to Birr 588.7 billion Birr over the same period (26.3 percent average growth). As a share of GDP, national saving was just 12.6 percent in 1992 (increased to 32.4 percent in 2015) i.e. 24.8 percent average over the period. Investment share as of GDP was 12.9 percent, which has increased to 38.5 percent in 2015 (26.8 percent average share over the period). Though the share of both national saving and investment has increased over the period, the gap between the saving and investment as a share of GDP has increased. Saving-investment gap was 0.3 percent of GDP in 1992, which has increased to about 6.1 percent in 2016. From this saving-investment gap, one can see that national saving in Ethiopia has becoming less and less to support huge growth in investment recently. Widening saving-investment gap implies that national saving mobilization is not sufficient to finance investment and fully financing investment depends on foreign borrowing (Table 1).

Looking at trends of national saving and investment trends from figure 1, the two main macroeconomic variables moves together i.e. investment and national saving increase and decrease together. From this trend analysis, though there are other variables that affect investment besides saving, we can see that national saving affects investment in Ethiopia i.e. saving determines investment maintaining other things fixed.

Figure 1: Growth Rates In National Saving Capital Formation

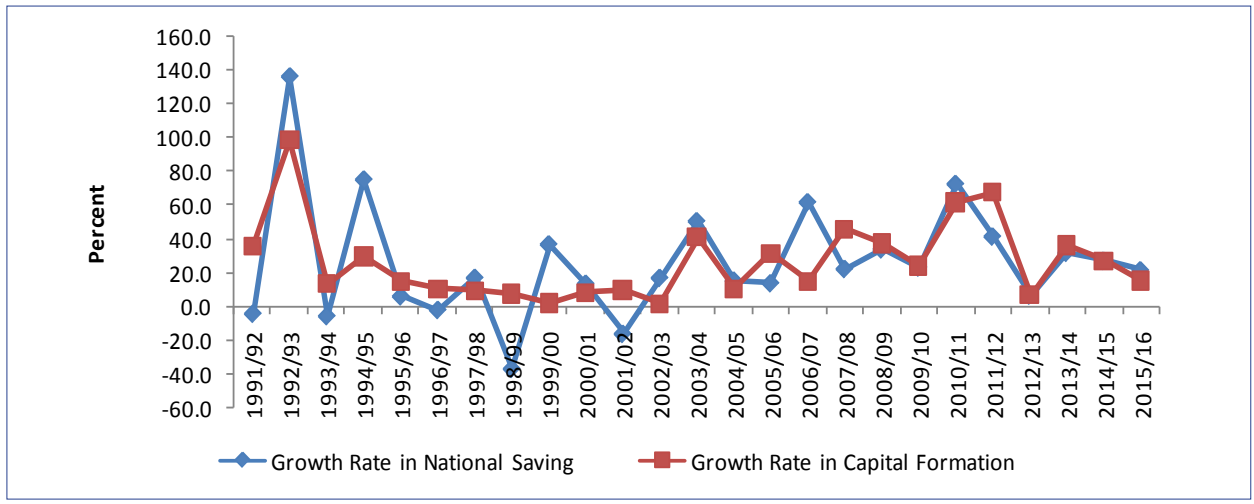


Table 1: National Saving and Capital Formation (million Birr)

Year	National Saving (NS)	Capital formation[1] (I)	NS/GDP (ratio in %)	I/GDP (ratio in %)	dNS (in %)	dI (in %)	S-I Gap/GDP (ratio in %)
1991/92	3,239.7	3,319.8	12.6	12.9	-4.27	35.6	-0.3
1992/93	7,643.3	6,587.4	23.1	19.9	135.9	98.4	3.2
1993/94	7,207.2	7,458.8	20.5	21.2	(5.7)	13.2	-0.7
1994/95	12,612.1	9,674.1	30.0	23.0	75.0	29.7	7.0
1995/96	13,366.1	11,125.3	28.4	23.6	6.0	15.0	4.8
1996/97	13,089.8	12,245.3	25.4	23.8	(2.1)	10.1	1.6
1997/98	15,302.8	13,359.7	27.5	24.0	16.9	9.1	3.5
1998/99	9,664.2	14,362.8	16.0	23.7	(36.8)	7.5	-7.8
1999/00	13,209.0	14,647.2	20.0	22.2	36.7	2.0	-2.2
2000/01	14,980.0	15,870.7	22.2	23.6	13.4	8.4	-1.3
2001/02	12,555.0	17,395.1	19.1	26.4	(16.2)	9.6	-7.3
2002/03	14,672.0	17,669.2	20.2	24.3	16.9	1.6	-4.1
2003/04	22,062.0	24,901.6	25.7	29.0	50.4	40.9	-3.3
2004/05	25,441.0	27,409.2	24.1	26.0	15.3	10.1	-1.9
2005/06	28,934.0	35,951.8	22.2	27.6	13.7	31.2	-5.4
2006/07	46,748.0	41,227.1	27.5	24.2	61.6	14.7	3.2
2007/08	57,103.0	60,156.7	23.2	24.5	22.2	45.9	-1.2
2008/09	76,376.0	82,559.3	23.0	24.9	33.8	37.2	-1.9
2009/10	93,973.0	102,403.5	24.8	27.0	23.0	24.0	-2.2
2010/11	161,984.0	165,379.7	31.4	32.1	72.4	61.5	-0.7
2011/12	228,935.8	277,243.0	30.6	37.1	41.3	67.6	-6.5
2012/13	243,795.2	295,456.4	28.1	34.1	6.5	6.6	-6.0
2013/14	321,169.0	402,922.0	30.3	38.0	31.7	36.4	-7.7
2014/15	407,884.0	511,618.0	31.4	39.4	27.0	27.0	-8.0
2015/16	494,999.0	588,705.0	32.4	38.5	21.4	15.1	-6.1
Average			**24.8**	**26.8**	**26.2**	**26.3**	**-2.0**

Source: MOFEc

'd' denotes real annual change

Model Specification and Estimation

4.1 Vector Error Correction Model (VECM)

When the variables employed are not stationary at level but become stationary after first difference and are

When the variables employed are not stationary at level but become stationary after first difference and are co-integrated, employing VECM rather than VAR is appropriate in a causality analysis (Powell and Sephoko (2006). Accordingly, the following bi-variable Granger Causality VEC model is specified.

$$\Delta logns_t = \sum_{i=1}^{n-i} \lambda_t \Delta logi_{t-i} + \sum_{i=1}^{n-i} \Upsilon_t \Delta logns_{t-i} + \Theta_1 \Sigma_{t1} + \epsilon_{1t} \quad (1)$$

$$\Delta logi_t = \sum_{i=1}^{n-i} \psi_t \Delta logns_{t-i} + \sum_{i=1}^{n-i} \beta_t \Delta logi_{t-i} + \Theta_2 \Sigma_{t2} + \epsilon_{2t} \quad (2)$$

where **ns** and **i** are change in real national saving and real capital formation, Σ_{t1} and Σ_{t2} are adjustment coefficients in national saving and investment equations, respectively. In this specification, θ_1 and θ_2 are elements of the adjustment vector. Under this specification, there are two sources of causality. Equation (1) and (2) demonstrate unidirectional causality from investment to national saving if $\lambda_t \neq 0$ and $\theta_1 \neq 0$ and national saving to investment if $\psi_t \neq 0$ and $\theta_2 \neq 0$ or statistically significant. No causality in either direction occurs if $\lambda_t = 0$, $\psi_t = 0$ and $\theta_1 = 0$ and $\theta_2 = 0$ or we failed to reject the null hypothesis (H_0) that there is no causality between the variables (Saltez Ira 1999).

4.2 Unit Root Test

We use the commonly known Augmented Dickey-Fuller (ADF) test for conducting unit root test. The ADF tests for autoregressive unit root test of the null hypothesis H_0: $\beta = 0$ against the one sided alternative H_1: $\beta < 0$ is given in equation (3) below.

$$\Delta x_t = \delta_0 + \beta x_{t-1} + \lambda_1 \Delta x_{t-1} \ldots + \lambda_n \Delta x_{t-n} + \mu_t \quad (3)$$

Under the null hypothesis, $\beta = 0$ implies that X_t has unit root whereas under the alternative, X_t is stationary.

4.3 Data

The data used in this regression is obtained from MOFED. National Saving (NS) is a summation of domestic saving and foreign saving expressed in billion Birr. Capital formation (I) is used as a proxy for total national investment running from 1975-2016 and the gross value is given in billion Birr. Both nominal variables are converted to real variable using the GDP deflator.

Table 1: Descriptive Statistics

Variables	Observation	Mean	sta. dev.	Maximum	Minimum
NS	41	6.1	0.83	8.0	5.0
I	41	7.3	0.25	7.8	6.6

Source: Eview's 8 test output

During the sample period (1975-2016), real national saving growth was about 6.1 percent on average while real capital formation growth was about 7.3 percent on average witnessing the fact that growth in capital formation was higher than that of national saving over the sample period. *Citrus paribus*, this may indicate that investment in Ethiopia has not been matched by the growth in national saving and other sources like foreign loans, grants and FDI have been very important in nurturing domestic investment in Ethiopia.

Table 2: ADF Unit Root Test Result

Variable		ADF Test	5 % CV	probability		ADF Test	5 % CV	probability
lns	**without trend**	3.3101	-2.935	1.0000	**with trend**	-0.2334	-3.521	0.9901
li		-1.6425	-2.9332	0.4525		-2.9865	-3.521	0.1479
Δlns		--8.798	-2.939	0.0000*		-8.686	-3.529	0.0000*
Δli		-7.952	-2.939	0.0000*		-8.359	-3.529	0.0000*

Notes: variable **lns** and **li** are the logarithm of real national saving and the logarithm of real capital formation, respectively. **Δ** denotes first difference and CV represents critical values at 5% significance level. * Significant at 1%

4.4 Co-integration Test

Using Johnson co integration test technique, we examined the long run relationship between real investment and real national saving. As there are only two variables involved, the possible number of con-integrating vector is one.

Table 3 Co-integration Rank Trace and Maximal Eigen Value Tests

VAR Elements	**Null (H_0)**	**Alternative (H_1)**	**Tests**	
			Trace (λ_{Trace}) statistics	5% Critical Value
ns and i	r= 0	r≤ ***1***	32.2*	15.5
ns and i	r= 0	r=1	Max- Eigen value (λ_{Max}) Statistics	5% Critical Value
			27.0*	14.3

Note: r indicates the number of co integrating vectors, ns is log of real national saving and i is log of real national saving. Rejection of null hypothesis at 5 % critical value*

As Johansen Co integration Test reveals, the λ_{Trace} Statistics of 32.2 is higher than the 5 percent critical value of 15.5 percent significance level and hence we reject the hypothesis that r=0. That means that the null hypothesis of no co-integration between national saving and capital formation, investment is rejected at conventional level of significance (5 percent) and that there is a long run relationship between the variables. The λ_{Max} test also witnessed the existence of long run relationship between national saving and capital formation, investment in Ethiopia.

4.5 Test Result of VECM (t-values in Parentheses)

Prior to estimating the VEC model, we must choose the optimal number of lags to be included in the model. Burnham and Anderson (2004) argue that AIC has theoretical as well as practical advantage because it is derived from principles of information criteria. Thus, optimal lag length is chosen by AIC as indicated in Table 4 below.

Table 4: Lag Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
1	0.0091278	NA	0.00423	0.211282	0.385436	0.272679
2	7.353417	12.95408*	0.003556	0.034950	0.383257*	0.157745*
3	11.75756	7.379910	0.003493	**0.013105***	0.535565	0.197297

$$\Delta ns_t = 0.02 + 0.41\Delta i_{t-1} + 1.2\Delta i_{t-2} + 0.75\Delta ni_{t-3} + 0.40\Delta ns_{t-1} - 0.15\Delta ns_{t-2} - 0.2\Delta ns_{t-3} - 0.51\Sigma_{t-1} \quad (4)$$

[-0.44] [1.2] [2.6] [2.0] [0.9] [-0.4] [-0.8] [-4.3]

$R^2 = 0.78$ Adjusted $R^2 = 0.73$ F-statistics = 14.41101

$$\Delta i_t = -0.02 - 0.9\Delta s_{t-1} + 0.18\Delta s_{t-2} - 0.2\Delta s_{t-3} + 1.9\Delta i_{t-1} + 0.5\Delta i_{t-2} + 0.13\Delta i_{t-3} - 0.33\Sigma_{t-1} \quad (5)$$

[-0.05] [-3.9] [-0.57] [-0.13] [3.9] [2.1] [0.78] [-4.2]

$R^2 = 0.74$ Adjusted $R^2 = 0.68$ F-statistics = 11.61038

From national saving equation, the lags of change in real investment are positive and statistically significant to predict change in current real national saving in the short run. Over the short run, change in current real national saving is not predicted by its own lags change. The error term in national saving equation also witnessed that national saving does help in reducing the disequilibrium in investment over the long run. In the investment equation, the coefficients of the lags of change in real national saving, lag 1 is statistically significant to predict changes in current investment in the short run. The error term in equation (5) also revealed that long run disequilibrium in national saving can be reduced by real investment. The F-statistic in both investment and national saving equations also indicated the fact that we can reject the null hypothesis that the coefficients of all lags of change in investment and national saving are equal to zero.

As it is advisable to check if the residuals of the model are not authocorrelated, we tested for the serial correlation. If the disturbances are autocorrelated, it means that there are some variables missing or there is misspecification of the VEC model. The null hypothesis in this test is that there is no autocorrelation at lag length k. The LM-statistics given in table 5 witnesses that there is no problem of autocorrelation in the residuals up to a maximum of six lags in the vector error correction model where we cannot reject the null hypothesis at 10 percent significance level.

Table 5: LM Test of Residual Autocorrelation of VEC Model

Lags	LM - Statistics	df	Probability
1	4.38391	4	0.3565
2	4.951616	4	0.2923
3	1.787673	4	0.7742
4	1.517089	4	0.8236
5	7.615432	4	0.1067
6	2.455154	4	0.6527

Note: df is degree of freedom

Furthermore, it is also advisable to recognize if the disturbances in the VEC model are normally distributed

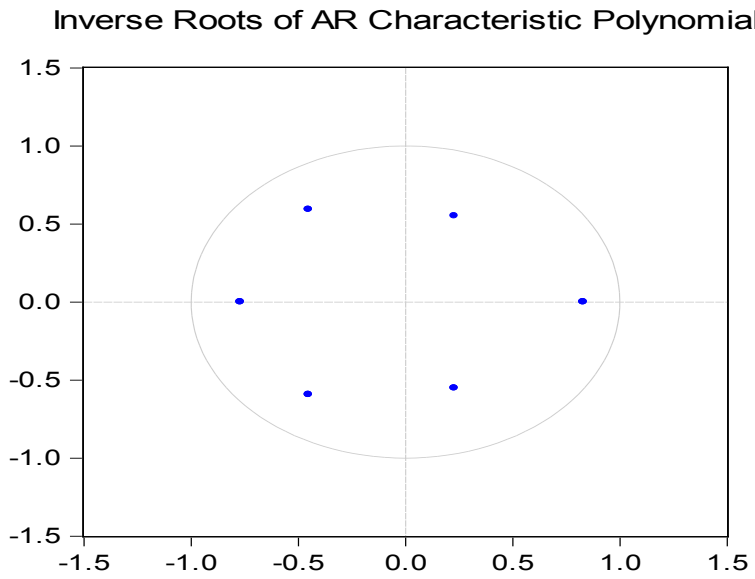
given the sample size is small. We use the skewness and kurtosis test statistics to check the normality of the disturbances. The null hypothesis of this test is that the disturbances in the VEC model are normally distributed. From the results given in table 6 below, we cannot reject the null hypothesis that the disturbances in the VECM are normally distributed i.e. there is no normality problem in the VEC model.

Table 6: Normality Test for VEC Model

Equations	Skewness Test Statistics			Kurtosis Test Statistics		
	(X^2)	df	Probability	(X^2)	df	Probability
Investment	2.208433	1	0.1373	0.592290	1	0.4415
National Saving	2.113003	1	0.1461	0.017303	1	0.8953
Joint	4.321437	2	0.1152	0.609593	2	0.7373

Lastly, the stability conditions of the VEC model estimated is checked using the eigenvalue stability condition. If the VEC is stable, impulse response function and variance error decomposition have known interpretation. From figure 2 below, all eigenvalue is less than one within a unit circle, the estimates of the VEM model does satisfy the eigenvalue stability condition and hence testing for impulse response and variance error decomposition has important implication.

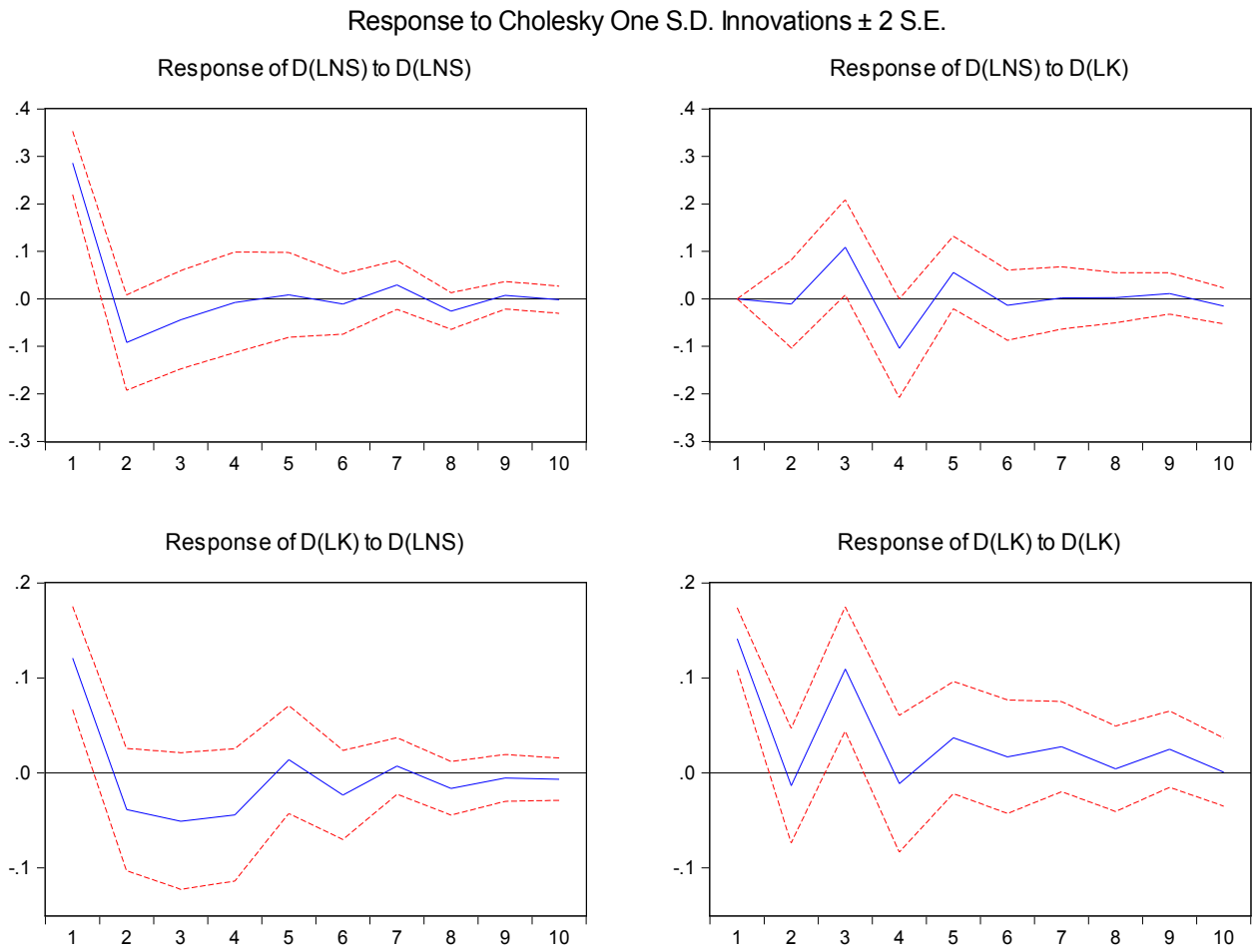
Fig .2 Stability Test



4.6 Impulse Response Function

Impulse response function can be defined as how a shock to a variable in a VAR model affects the VAR system. It deals with how long and in what manner a positive one standard deviation innovation or impulse or shock to the error term affects a variable and the VAR system as a whole assuming that the classical assumptions like normality and serial autocorrelation tests are fulfilled. From figure 3 below, a shock in capital formation's affect on national saving fluctuates over the first six years and dies out then after while a shock in national saving seems positive during the first year and then dropped to negative before it die out after 10 years.

Figure 3: Impulse Response



4.7 Error Variance Decomposition

From the error variance decomposition coefficients in table 7 below, in the short run i.e. in year 3, innovation or shock to investment accounts for 73.76% variation in investment (own shock) while shock to national saving causes about 26.23% fluctuation in investment. In the long run, i.e. year 10, innovation or shock to investment accounts for 39.82% variation in investment (own shock) while shock to national saving causes about 60.18% fluctuation in investment. Therefore, in the short run, innovation in investment dominates fluctuation in investment (own shock dominates fluctuation). In the long run, however, innovation in national saving dominates fluctuation in investment that is national saving has more long run impact on investment in Ethiopia.

Similarly, innovation or shock to national saving accounts for 60.5% variation in national saving (own shock) in the short run i.e. year 3 while innovation in investment causes 39.5% fluctuation in national saving in the short run. In the long run i.e. year 10, innovation in national saving accounts for 57.67% fluctuation in national saving (own shock) while the effect of innovation in investment on national saving increases to 42.41% in the long run. To sum up, both in the short run and the long run, fluctuation in national saving is dominated by own innovation on relative terms while the role of investment increases over longer time.

Table 7: Error Variance Decomposition

Variance Decomposition of LK:

Period	S.E.	LK	LNS
1	0.155426	100.0000	0.000000
2	0.168039	98.54460	1.455404
3	0.214331	73.76578	26.23422
4	0.239061	59.58888	40.41112
5	0.260058	50.98424	49.01576
6	0.275233	46.42489	53.57511
7	0.290451	44.66157	55.33843
8	0.306959	43.49006	56.50994
9	0.327186	41.98039	58.01961
10	0.348500	39.81614	60.18386

Variance Decomposition of LNS:

Period	S.E.	LK	LNS
1	0.228633	38.40237	61.59763
2	0.235672	37.32997	62.67003
3	0.255412	39.49777	60.50223
4	0.262085	42.00723	57.99277
5	0.265656	42.17787	57.82213
6	0.267100	42.79942	57.20058
7	0.268028	42.50457	57.49543
8	0.268902	42.32409	57.67591
9	0.269353	42.40862	57.59138
10	0.269367	42.40529	57.59471

4.8 Granger Causality Test[4]

When two variables are co-integrated in a bivariate VAR or VEC analysis, Granger causality exists at least in one direction. When real national saving is dependent variable, **NS given I**, the Chi-square (X^2) value of 24.10 leads us to reject the null hypotheses that national saving does not Granger cause Investment (Table 7). Similarly, the null hypotheses that investment does not Granger Cause National Saving, **I given NS** also can be rejected as observed from Chi-square (X^2) value of 8.21. Therefore, there is bidirectional causality between national saving and investment in Ethiopia.

Table 7: Granger Causality Test Result

Null Hypothesis	Chi-square (X^2)	Probability
Real Investment does not Granger Cause Real National Saving	8.206974	0.0419**
Real National Saving does not Granger Cause real Investment	24.10231	0.0000*

* Null hypothesis is rejected at 1% ** Null hypothesis rejected at 5%

[4] The notion of Granger causality does not imply 'true causality', but instead indentifies whether one variable precedes another (Granger 1969)

Concluding Remarks

The aim of this study is to examine the causal relationship between national saving and investment in Ethiopia. Its main objective is to re-test the study by G. Ramakrishna and S.Venkateshwar Rao in 2012 using time series data ranged from 1974 to 2009. According to the researchers, investment and saving have no short run and long run relationship in Ethiopia. By extending the sample period by seven year to 2016, we tested the same variables using error correction VAR model (VECM). Unlike the finding of the above researchers, we found that national saving and investment have bidirectional Granger causality and long run relationship in Ethiopia. Therefore, this study met its hypothesis that the finding of the above researchers might not hold true in the Ethiopian case given the trends of investment and saving over times.

Recently, Ethiopia implemented various domestic resource mobilization schemes like improving pension fund policies, introducing housing scheme and issuing long term bond for power generation. In addition, financial sectors especially banks have improved their outreach throughout the country to mobilize sufficient funds. However, as observed from the widening saving-investment gap to GDP ratio from merely 0.3% in 1992 to about 6.1% in 2016, the fast and high economic growth during the last decade relies more and more on foreign loans and grants. Therefore, to make investment sustainable from own resource mobilization, further resource mobilization schemes and export promotion policies must be in place.

From Granger causality, impulse response function and error variance decomposition tests, it is observed that both saving and investment can happen simultaneously that one is not precedes the other while the variables are well predicted by the past history of their own and the other variables past values. From these test results, one can conclude that these variables are complementary and must get equal policy attention.

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- (Footnotes)

[1] National investment (domestic plus foreign)

ANALYSIS OF TAX SYSTEM PRODUCTIVITY IN ETHIOPIA: AN ECONOMETRIC APPROACH

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The empirical findings of this study signify that the tax system in Ethiopia has experienced a low level of productivity in revenue collection relative to the economic growth of the country as a result of the inelastic yield of individual tax elements to their bases.

ABSTRACT

The government of Ethiopia has been introducing a series of comprehensive and intensive tax policy and administration reforms since 1992 to generate adequate revenue for financing of economic growth and poverty programs. This paper attempted to analyze the revenue productivity of tax system in Ethiopia in the period 1981-2016 using the concepts of tax buoyancy and elasticity which measure the responsiveness of a tax system to economic growth with and without discretionary tax measures respectively. Ordinary Least Square (OLS) method is then employed in estimating both elasticity and buoyancy for the tax system and its components including direct taxes, value added and excise taxes and custom duty. Empirical findings revealed that the tax system and its elements were income inelastic; implying that the total tax revenue was increasing at slower pace than the economic growth during the period. However, the tax system and its components except direct taxes are found buoyant in the same period. This suggests that the total tax revenue was increasing in proportion to the economic growth. The relatively higher buoyancy estimate over the corresponding elasticity suggests that the tax reform measures were not only effective in raising additional revenue but also accounted for larger proportion of tax revenue collection than the natural growth of tax revenue. The inelastic yield of the tax system resulted from the low responsiveness of tax elements to their base due to such main factors as tax exemptions and incentives granted based on equity and investment grounds; low level of compliance and weak tax administration; all of which eroded the effective tax bases. Therefore, the tax reform measure should focus on enhancing the efficiency of tax administration in tax assessment, tax law enforcement and control of tax evasion in view of increasing the tax bases and thereby optimize the tax revenue collection relative to the economic growth of the country.

I. Introduction

The role of tax revenue in financing government expenditures on public goods and services remains critical in historical development of a country. However, developing countries particularly African nations lag behind in mobilizing domestic revenues from taxes and are forced to depend on external resources to finance economic growth, despite the fact that this has not led to economic growth in the long run. Therefore, tax reforms in developing countries as a fiscal instrument to reduce dependency on foreign sources by raising adequate tax revenues to finance economic and social projects are the need of the time with a view to achieve sustainable economic growth over the long run. Although the general objective of tax reforms is similar among different countries, particularly among developing countries where tax systems are used to meet multiple objectives such promoting saving and investment; the main focus of tax reform is to raise adequate revenues to finance public expenditures on social goods and services. In most developing countries, the issue has grown in importance in light of fiscal crises which have been proven to be the deriving factor for tax reforms in these countries.

In fact, taxes are the most important element responsive to government policy and in effect the major instrument for mobilizing the increments in national income for investment or public expenditure. The level of tax revenues are said to increase with economic growth based on the assumption that tax bases expand as GDP grows. There are also various administrative and political limitations to the extent to which additional taxation measures, such as expansion of tax base, increasing tax rates, or imposing new taxes, can be resorted to increasing tax revenues. Therefore, the increase in tax revenue is either the result of economic growth (natural growth) or due to change in discretionary tax measures or both.

The literature has identified two measures for revenue productivity of a tax system –*elasticity* and *buoyancy*. The first is in relation to income and measures the change in tax revenue as a result of changes only in income; net of discretionary tax measure changes. In other words, *elasticity* measures the undiluted response of a tax system in terms of revenue generation to changes in national income or *Gross Domestic Products* (*GDP*); excluding the impacts of changes in tax policy such as tax rates and tax bases. The second one measures the responsiveness of a tax system in raising revenue to change in national income as well as due to discretionary changes in tax policy, i.e., it takes into account both increases in income and changes in discretionary tax measures. Therefore, tax *buoyancy* is a measure of soundness of the tax bases and the effectiveness of tax measure changes in terms of revenue collection.

While tax buoyancy is a useful concept for measuring the performance of tax policy and tax administration over time, tax elasticity is a relevant factor for forecasting purposes as it gives an indication to policy makers whether the tax revenue increases at the same pace as the national income. Moreover, an *elastic tax system* (*elasticity coefficient greater than or equal to unity*) is highly desirable, as it provides a government with a sustained fiscal resource base for financing its outlays. In contrast, *an inelastic* (*elasticity coefficient less than unity*) tax system forces the government to continuously take discretionary tax policy changes either in tax bases or in tax rates or both, in order to be able to keep up with increasing public expenditures. However, the elasticity of a tax system is expected to be smaller than its *buoyancy* as the overall effect of discretionary tax measures is assumed to increase the tax revenues. When the elasticity of a tax system remains low despite the tax reforms either due to low tax base, or due to tax evasion or avoidance, additional resources could be raised through discretionary tax measures. Thus, the growth of tax revenues is derived through high buoyancy rather than through elasticity.

In Ethiopia, the tax policy reform was started in the early 1990s as an integral part of the broad economic reforms and a rigorous and comprehensive tax policy and administration reforms have been undertaking since 2003 to address the fiscal challenges facing the country. The main objective of the tax reforms was to generate as much high tax revenue as possible to finance the increasing public expenditure on development programs.

Therefore, the objective of this study is to empirically investigate the revenue productivity of tax system in Ethiopia during 1981-2016 based on the concepts of tax *elasticity* and *buoyancy*. The estimated *elasticity* and *buoyancy* parameters could essentially be used in predicting what additional revenue is capable of being mobilized within the framework of existing tax structure as the national income increases.

The paper is organized as follows. The second section highlights the major tax reforms undertaken since 1992 in Ethiopia and the revenue performance of the tax system. The next section briefly discusses the theoretical concepts of tax elasticity and buoyancy and empirical evidences. Section four illustrates the methodology used and data sources and description. Empirical results and analysis are discussed in section five. The following section summarizes the overall findings of the paper. The last section provides a few policy suggestions.

II. Economic Growth and Tax System Performance in Ethiopia: Overview

2.1 Economic Growth

Starting from 1992, a more liberalized market-based economic policy with significant institutional reforms was introduced in view of reviving and accelerating the country's economy growth. The government adopted a medium term development plan known as "*Agricultural Development-Led Industrialization* (*ADLI*)" strategy in order to stimulate farm output and rural incomes, thereby generating broad-based growth and reducing poverty. The strategy focused on increasing production and productivity of smallholder agriculture through complementary intervention such as promotion of improved agricultural technologies, provision of credit services, development of infrastructure and improvement in primary education and health care services. Moreover, increasing the role of private sector in the economy has been one of the major objectives of the transition towards market based economy since the early 1990s.

Table 2.1: Real GDP Growth and Sectors' Growth & Contribution to GDP (in percent)

Fiscal Year	Real GDP Growth	Agriculture		Industry		Service	
		Growth	Share in GDP	Growth	Share in GDP	Growth	Share in GDP
1980s Average	1.9	1.4	59.8	2.4	10.0	3.6	30.2
1991/92	-3.7	-2.7	65.9	-8.6	7.6	-6.6	26.5
1992/93	12.0	6.1	62.7	27.1	8.6	20.7	28.7
1993/94	1.7	-3.7	60.2	4.9	9.0	7.6	30.8
1994/95	5.4	3.4	59.2	7.9	9.3	7.6	31.5
1995/96	10.6	14.7	60.9	5.6	8.8	7.6	30.4
1996/97	4.7	3.6	59.9	4.4	8.7	8.6	31.3
1997/98	-1.44	-11.1	55.5	3.7	9.4	7.2	35.0
1998/99	5.9	3.8	54.9	7.0	9.6	6.4	35.5
1999/00	5.4	2.2	54.0	1.4	9.4	7.4	36.7
2000/01	8.3	9.6	55.1	5.2	9.2	5.0	35.8
2001/02	-1.5	-1.9	53.6	8.2	9.8	3.3	36.7
2002/03	-2.2	-10.5	49.4	6.0	10.7	5.5	39.9
2003/04	11.5	16.9	51.6	10.8	10.6	5.9	37.8
2004/05	12.6	13.5	51.9	9.3	10.3	12.4	37.5
2005/06	11.7	10.9	51.5	9.9	10.1	13.7	38.0
2006/07	11.5	9.4	50.5	7.8	9.8	15.3	39.3
2007/08	11.6	7.5	48.8	10.7	9.7	16.1	41.0
2008/09	9.8	6.4	47.3	9.8	9.7	13.8	42.6
2009/10	10.3	7.6	46.1	12.7	9.9	12.9	43.7
2010/11	11.4	9.0	44.7	18.6	10.4	17.0	45.5
2011/12	8.7	4.9	43.1	19.6	11.5	9.6	45.9
2012/13	9.7	7.1	42.0	24.1	12.9	9.0	45.5
2013/14	10.3	5.4	40.2	17.0	13.7	13.0	46.6
2014/15	10.2	6.4	38.8	21.7	15.2	10.2	46.6
2015/16	8.0	2.3	36.7	20.6	16.7	8.7	47.3

Source: National Planning Commission (NPC)

The economic performance of the country was improving during the 1990s, relative to the situation in the 1980s (*Table 2.1*). The real GDP grew on average by *5 percent* per annum during 1991/92-2000/01 compared to the *2 percent* average growth in the 1980s. Agricultural output increased slightly from yearly average of *1.4 percent* in the 1980s to *2.6 percent* in the 1991/92-2000/01. Growth in industrial value added averaged at about *6 percent* during 1991/92-2000/01 relative to the *2.4 percent* average growth in the 1980s while service sector accelerated by *7.1 percent* vis-à-vis *3.6 percent*. However, the overall growth during the 1990s was extremely volatile, experienced both contraction and recession mainly due to variability in weather phenomenon and the war with Eritrean government, which started as a border skirmish and intensified into a full-fledge conflict, likely resulted in some slowing in non agricultural activities *(IMF Staff Country Report No. 98/99)*.

The economy started showing sign of recovery since the end of severe drought in 1996/97 that led to *1.5 percent* real GDP decline in 1997/98. The economy rebounded and recorded about *6 percent* growth in 1998/99. Agriculture began a slow recovery from the drought effect and registered *3.8 percent* in 198/99. While the industrial output increased significantly by *7 percent* relative to the preceding year, service sector expanded by *6.4 percent* in the same year. However, the pace of the real GDP growth declined marginally to *5.4 percent* in 1999/00, reflecting the significant poor growth of industrial value added and the slower agricultural outputs growth relative to the previous year.

The economy continued making a steady progress in economic growth since emerging from the border conflict with Eritrea in 2000. The real GDP registered a robust growth of *8.3 percent* in 2000/01 relative to the preceding year. The growth performance was attributed mainly to the sharp increase in agricultural harvest; higher inflows of external aid that helped the country withstand the shortfalls in export earnings and improved its macroeconomic environment–narrow fiscal deficit and slow growth of monetary aggregates. The economic growth in 2000/01 was reflected in the main sectors of the economy. Agricultural output increased strongly by *9.6 percent* vis-à-vis its growth in 1999/00 largely supported by favorable weather condition. Similarly, growth in industrial value added improved to *5.2 percent*, largely supported by the growth in agricultural output through increasing supply of raw materials mainly for food processing industries. It also reflects the success of the government's privatization program that brought some hitherto dormant manufacturing and agro-processing industrial establishments into production (*African Economic Outlook, 2003*).

However, the Ethiopia's economy was hammered by a series of droughts in the subsequent two years. As a result, the pace of real GDP growth sharply fell to *1.5 percent* in 2001/02 from its robust growth in 2000/01, owing to the drought effect that declined the agricultural output by about *2 percent*. However, industrial output accelerated by *8.2 percent* in contrast to the slowdown of growth in service sector to *3.3 percent* relative to the preceding year.

The government's focus on broad-based growth and poverty reduction through enhancing growth and transforming the structure of the economy was underscored in its successive blueprints–*Sustainable Development and Poverty Reduction Program* (*SDPRP*), *Plan for Accelerated and Sustained Development to End Poverty* (*PASDEP*) and the two phase *Growth and Transformation Plan* (*GTP I* and *II*)–implemented since 2002.

The first medium-term strategy –*Sustainable Development for Poverty Reduction Program (SDPRP)* –was implemented during 2002/03-2004/05. The program aimed at building a more market oriented economy, leading to a rapid development, reducing the dependency on food aid, and allowing the poor to benefit more from economic growth. To this end, the real GDP growth was targeted at *7 percent* while *inflation* was to remain within *single digit range* during the program period.

However, the real GDP contracted by *2.2 percent* in 2002/03 as a result of the drought effect on agricultural output, which deteriorated by *10.5 percent* compared to its poor performance in 2001/02. Indeed, the share of agriculture in GDP shrank to *49.4 percent* in 2002/03 from *53.6 percent* the previous year. Even though its pace of growth fell to *6 percent* from *8.2 percent* in 2001/02, the industrial sector's share in GDP improved slightly in 2002/03. In contrary, growth in service sector rose to *5.5 percent* from *3.3 percent* and its share in GDP improved to about *40 percent* from *36.7 percent* in 2001/02.

In 2003/04, the economy made a promising recovery, growing by about *11.5 percent*, largely attributed to the significant growth of agricultural output (*17 percent*) resulting mainly from favorable weather condition. The double-digit growth of agricultural production reflects the rebound from the drought-depressed level in 2002/03. The industrial value added accelerated by *10.8 percent* in 2003/04, despite its GDP share remained nearly unchanged. Although the real output of service sector grew by about 6 percent in 2003/04, its share in GDP declined to *37.8 percent*. Following the unprecedented high real GDP growth in 2003/04, the Ethiopia's economy recorded a more sustainable, though still high, growth of *12.6 percent* in 2004/05; driven by the growth in agriculture (*13.5 percent*), industry (*9.3 percent*) and

services (*12.4 percent*). As a result, the real GDP growth over the *SDPRP* period averaged at *7.3 percent*, compared to 7 *percent* average growth target of the program.

The government also launched the second phase of the *SDPRP–Plan for Accelerated and Sustained Development to End Poverty* (PASDEP) –during 2005/06- 2009/10 in guiding of the poverty-reduction strategic framework of the country. The real GDP growth was set at *10 percent* average target during the plan period, while sustaining the growth of agricultural outputs and productivity (*PASDEP, Vol. I*).

The economy maintained the high growth momentum, registering *11.6 percent* average growth in the first three years (2005/06-2007/08) of the *PASDEP* period. The growth was driven mainly by sustained and rapid expansion of service activities. Following the *10 percent* increase in 2005/06, growth in industrial sector declined to *7.8 percent* in 2006/07, despite accelerated thereafter robustly by *10.7 percent* in 2007/08. In contrary, growth in agricultural output slowed down to 7.*5 percent* from *9.4 percent* over the same period. Although the global economic crises in 2008 has had an effect on the Ethiopian economy through export, remittance and foreign direct investment and food and fuel price hikes, the country could withstand the impacts of the crises and maintained a strong growth of *9.8 percent* in 2008/2009. The economy further accelerated by *10.3 percent* in 2009/10, owing to higher growth in agriculture (*7.6 percent*) and industry (*12.7 percent*). Consequently, the economy during the *PASDEP* period registered about *11 percent* average growth, higher by*1 percentage point* than the *10 percent* average growth target of the plan. The significance of agriculture in total GDP declined steadily from *51.5 percent* in 2005/06 to *46.1 percent* in 2009/10, while service sector's share in GDP increased from *38 percent* to *43.7 percent*.

Underpinning the notable growth track recorded in the past years has been the focus on infrastructure and capacity development, the "*Growth and Transformation Plan* (GTP I)" was implemented during *2010/11-2014/15*. Achieving a rapid and sustainable broad base growth through creating conducive macroeconomic environment was the main policy objective of the plan. While containing the *general inflation rate* within the *single digit range*, the real GDP *growth* was set at *11.2 percent and 14.9 percent* targets under base case and high case scenario respectively during the plan period (*GTP* I *Vol.* I).

The economy continued on the high-growth trajectory of the previous years and recorded *11.4 percent* growth in 2010/11. Growth in industrial sector was registered at *18.6 percent*, service sector*17 percent* and agriculture *9 percent*, indicating the broad base growth of the economy. The significant expansion of mining and, to a lesser extent, manufacturing outputs accounted for the strong growth of industrial sector. Favorable weather conditions in cereal-growing areas, improvement in yields and expansion of cultivated land were the main factors responsible for agricultural output growth (*African Economic Outlook 2012 and 2013*). However, the real GDP growth rate slowed down to *8.7 percent* in 2011/12, in response to slower growth in both agriculture (*about 5 percent*) and service (*9.6 percent*) sectors relative to the previous year. The industrial sector remained the main source of the growth in 2011/12, registering *19.6 percent* growth.

In 2012/13, the economy regained the high growth performance, increased by about *9.7 percent* due to the significant growth of industrial value added (*24.1 percent*) and improved agricultural output (*7.1 percent*). The economy grew further by *10.3 percent* in 2013/14, driven by the expansion of service sector (*13 percent*) mainly in hotels and tourism, financial intermediation, wholesale and retail trade and transport and communications. The industrial sector recorded *17 percent* growth in 2013/14, owing to construction, mining and manufacturing boost. Growth in agricultural output slowed down to *5.4 percent* in the same year. Keeping the growth momentum in 2013/14, the real GDP registered *10.2 percent* growth in 2014/15. Service sector contributed *4.7 percentage points* to the overall growth followed by industry and agriculture, contributing *3* and *2.5 percentage points* respectively.

Over the GTP I period, the real GDP growth averaged *10.1 percent*, nearly *1 percentage point* shortfall from *11 percent* average growth target of the plan period. This was attributed to *6.6 percent* average growth of agriculture and *10.8 percent* and *20.2 percent* in service and industrial sectors respectively. The importance of agriculture in the economy continued shrinking during the GTP I period from *44.4 percent* to *38.5 percent*, implying the increasing share of the other sectors. In fact, the industrial sector gained increasing share in GDP from *10.4 percent* to *15.1 percent* while service sector's share in GDP remained around *45.8 percent* over the GTP I period.

The second *Growth and Transformation Plan (GTP II)* has been launched in view of sustaining the rapid and inclusive economic growth achieved in the last twelve years ending 2014/15. The plan, built on the progress and achievements of GTP I, is aimed at achieving a double-digit average economic growth rate of 11 percent per annum during the plan period (2015/16-2019/20) while maintaining a stable and low annual average inflation rate within single digit. However, the pace of real GDP growth slowed down to *8 percent* in 2015/16, resulting

mainly from lower growth of agricultural output (*2.3 percent*) owing to sever drought caused by El Niño climate conditions.

All in all, the Ethiopian economy has enjoyed a strong and sustained growth during 2003/04–2015/16, growing on average by *10.6 percent* per annum, basically underpinned by public sector-led development strategy that focused on investing heavily in infrastructure development. The expansion in service and agricultural sectors were playing significant role while manufacturing sector was relatively modest in accelerating the economic growth over the period. Moreover, the economy has experienced noticeable structural changes during this period. The significance of agriculture in GDP declined continuously from *51.6 percent* in 2003/04 to *36.7 percent* in 2015/16. On the other hand, service and industry sectors, which accounted for *37.8* and *10.6 percent* of GDP in 2003/04, constituted 47.3 and *16.7 percent* of GDP in 2015/16 respectively, indicating the increasing role of the sectors in the national economic growth over the period.

2.2. Tax Reforms and Revenue Performance

The fiscal imbalance inherited from the past regime in Ethiopia forced the current government to search for foreign source of financing in order to rebuild the nation that was ruined by civil war over a long period of time. The government responded to the fiscal crises starting through implementation of the *Structural Adjustment Program* (*SAP*) during the 1990s sponsored by international financial institutions mainly of the *International Monetary Fund* (*IMF*) and the *World Bank* (*WB*). As an integral part of the general economic reform, the government has been introducing a series of tax policy and administration reforms over the last two decades. In particular, a comprehensive and intensive tax reforms were undertaken since 2003 due to the apparent failure of the tax system to generate adequate revenue required to meet the expanding expenditure needs. The main objective of the overall tax reform wasto generate as much high revenue as possible and improve the tax administration system.

Accordingly, the *Income Tax Proclamation No. 173/1961* used to guide employment income tax before 1992 was amended with modifications in the 1990s to the legislation regulating not only employment tax but also other income taxes. This reform resulted in a schedule for marginal tax rate which is currently being applied to employment income exceeding *Birr 585*, the assumed minimum wage rate. The reform initially reduced the maximum marginal tax rate of *85 percent* to *50 percent* in 1992, again to *40 percent* in 1999 and finally to the *35 percent* in 2002. Employment incomes above *Birr 585* per month are liable to pay income tax at a progressive rate prescribed in Schedule A of the Income Tax Law in order to impose a heavier tax burden on higher employment income.

Likewise, the top rate of *business profit tax* was slashed down three times from 89 percent used before the reform to *45 percent* in 1992, and further to *40 percent* in 1999 and lastly in 2002 to the present rate of 35 percent. The reform also provides exemptions for the first *Birr 7000* business profit, above which a progressive marginal tax rate schedule has been enacted while 35 percent for business profit exceeding *Birr 130,000*. A flat rate of *30 percent* tax has been levied on *profit of corporate enterprises*. Incomes earned from *rental of buildings* have also been liable to pay *30 percent* of the taxable income of bodies (like Share Companies, PLCs) and marginal tax rates have been applied for rental incomes of persons. A progressive marginal tax rate schedule has also been imposed on incomes derived from rent of houses (including manufacturing plants) since 2002 (*Proc. No. 30/1992, 62/1992, 107/1999* and *286/2002*)[1].

The reform has initiated more new income taxes, including *withholding* tax at *3 percent* on imported goods and 2 percent on the gross amount of the payment made by organizations as a credit against the income tax of the recipients[2], *5 percent* on interest income, *capital gained* though *transfer* (sale or gift of certain investment property), *15percent* for building held for business, factory and office and *30 percent* for shares of companies, *chance wining* (*15percent*), *royalties* (*5 percent*) and tax on non-resident persons offering services in Ethiopia (*10 percent*).

At present, *Value Added Tax* (*VAT*) has become a major tax instrument worldwide and it is an indispensable component of the tax reforms in developing countries. Accordingly, Ethiopia's tax reform program has introduced *VAT* in place of *sales tax* since January 2003. A single rate of *15 percent VAT* has been levied on the value of every taxable transaction and import of goods and services. It is charged on legally registered businesses having a total turnover exceeding or equal to *Birr 500,000* per annum. Unlike the sales tax, *VAT* has been imposed on services in addition to production and the *VAT* law also grants more exemptions than sales tax and zero-rating for exports (*Proc. No.285/2002).*

The reform has also introduced a new *Turnover Tax (TOT)* law since 2003 as an equalization tax imposed on persons not registered for *VAT*. The *TOT* rate is 2 percent for locally

[1]Schedule A and B of Proc. No. 286/2002 prescribes six bands for each employment and business incomes taxes with the minimum rate of 10% and a progressive rates of 15%, 20%, 25%, 30% and 35% .

[2]These include organizations having legal personality, government agencies, private non-profit institutions and NGOs.

sold goods and rendered services and *10 percent* for other services. The law also offers exemptions for certain goods and service from paying turnover tax (*Proc. No. 285/2002* and *308/2002*).

The tax system in Ethiopia also included *Excise Tax* - one of the most well-known form of tax in the country –levied on luxury and basic goods which are demand inelastic i.e. goods that show no change at all in quantity demanded when the price goes up or down. The tax has also been imposed on goods which are considered hazardous to health and that may cause social problems. Excise tax is payable on locally produced or imported goods mentioned under the schedule of *Excise Tax Proclamation*. The rates differ depending on the types of goods produced or imported and ranging from a low of *10 percent* for textile and textile products to a maximum of *100 percent* for alcohol, perfume and automobiles (*Proc. No.307/2002, 570/2008* and *610/2008*).

The government also implemented a series of tariff reforms, focusing on restricting duty exemptions, reforming custom tariff structure, promoting exports and strengthening custom duty administration. Broadly, the custom reform aimed at promoting trade liberalization towards greater openness and increasing foreign direct investment flowing in to the country. Starting from 1993, there has been a gradual reduction in custom tariff rates and number of tariff exempted items. This reform initially reduced the top tariff rate sharply to 80 percent in 1993 from *230 percent* applied before the reform. The maximum tariff rate was repeatedly revised down to *60 percent* and *50 percent* in 1996 and subsequently to *40 percent* in 1998 and *35 percent* in 2003. The marginal custom tariff rates are ranged from zero to *35 percent;* depending on the type of goods imported in to the country.

Before 2008, the tax administration in Ethiopia was under three separate institutions (*Ministry of Revenue, Ethiopian Customs Authority and Federal Inland Revenue Authority*). However, these institutions were inefficient in service delivery due to organizational structure and unnecessary and complicated procedures and lack of efficient system to control tax evasion and contraband trades. The tax reform was intended to address these constraints and established the current single and large institution -*Ethiopian Revenues and Customs Authority* (*ERCA*). The reform measures also included the introduction of improved operational programs, systems and establishment of additional branch offices, training and recruitment of qualified personnel, setting up a taxpayer education program and similar initiatives aimed at implementing the new tax laws and tax identification number, verification and processing of *VAT* refund claims (*Proc. No. 587/2008*).

The total tax revenue in nominal term has been increasing rapidly following the systematic tax reform measures were set in motion. As a percentage of GDP, the tax revenue increased from *6.2 percent* in 1992 to *13.4 percent* in 2015, despite its decline by 1 percentage point to *12.4 percent* in 2016. However, the tax revenue to GDP ratio during 1993-2016 on average, improved marginally to *10.5 percent* when compared to the average of 9.1 percent in the 1975-1991 (*Table 2.2*).

Although the country has implemented a comprehensive tax and administration reforms and achieved high and sustained economic growth since 2003/04, the average tax revenues in proportion to GDP improved marginally by *1.7 percentage point* to *11.4 percent* during 2004-2016 from *9.7 percent* in the period 1993-2003, Moreover, the tax revenue share in the aggregate national income or GDP suffered from frequent fluctuations over the reform period 1993–2016.

Table 2.2: Tax Revenue Performance in Ethiopia (Average in % of GDP)

Major Tax Components	*1975-1991*	*Post Reform Period*		
		1993-2003	*2004-2016*	*1993-2016*
Direct Taxes	***4.0***	***3.6***	***3.6***	***3.7***
Personal Income	*1.1*	*0.9*	*1.1*	*1.0*
Business Profits	*2.1*	*2.1*	*1.7*	*1.9*
Domestic Indirect Taxes	***3.0***	***2.3***	***2.6***	***2.5***
Sales/ VAT and Excise	*2.9*	*2.0*	*2.5*	*2.4*
Foreign Trade Duty and Taxes	***2.2***	***3.9***	***4.8***	***4.4***
Custom Duty	*1.3*	*1.9*	*1.9*	*1.9*
Sales/ VAT and Excise	*0.9*	*1.9*	*2.4*	*2.2*
Total Tax Revenue	***9.1***	***9.7***	***11.4***	***10.5***

Source: Own Computation Using Tax and GDP Data Collected from MoFEC and NPC

The tax system performance by major tax category and individual tax element is also shown in *Table 2.2*. As a proportion of GDP, direct tax revenues constituted 4 percent in 1975-1991while indirect domestic and foreign trade taxes accounted for *3 percent*and*2.2 percent* respectively. However, the trend of direct taxes to GDP ratio fluctuated between *2.2 percent* and *4.8 percent* between 1992 and 2016 and averaged down to 3.7 percent. The average ratio of tax revenue collected from domestic goods and services to GDP declined to *2.3 percent* during 1993-2003 from 3 percent in the 1975-2016, though improved slightly to *2.6 percent* in the period 2004-2016; resulting an average of *2.5 percent* of GDP over the reform period (1993-2016). In contrary, the percentage share of foreign trade tax revenue in GDP increased significantly to 4 percent during 1993-2003 and *4.8 percent* in 2004-2016, averaging at *4.4 percent* in the reform period compared to *2.2 percent* of GDP in 1975-1991.

Likewise, the composition of total tax revenue has been changing since the implementation of tax reform in 1992. The tax system before 1992 was dominated by direct taxes in terms of revenue generation. For instance, the average income tax revenues alone constituted *42 percent* of the total tax revenue in 1975-1991. However, its share declined and averaged at *34.6 percent* per annum over the reform period, likely reflecting the impacts of tax reform measures that sharply reduced the marginal top tax rates of personal income and business profit as well as administration constraint in relation to income tax collection (*Table 2.3)*.

Table 2.3: Tax Revenue Performance in Ethiopia by Major Category (Average in % of Total Tax Revenues)

		Post Reform Period		
Major Tax Components	*1975-1991*	*1993-2003*	*2004-2016*	*1993-2016*
Direct Taxes	***42.0***	***36.7***	***32.6***	***34.6***
Personal Income	*12.0*	*8.9*	*10.3*	*9.7*
Business Profits	*22.1*	*21.8*	*15.1*	*18.3*
Domestic Indirect Taxes	***32.9***	***23.5***	***24.0***	***24.9***
Sales/ VAT and Excise	*31.8*	*21.3*	*22.6*	*22.0*
Foreign Trade Duty and Taxes	***25.1***	***39.5***	***41.1***	***40.4***
Custom Duty	*15.2*	*19.3*	*15.2*	*18.0*
Sales /VAT and Excise	*9.9*	*19.7*	*20.4*	*20.9*

Source: Own Computation Using Tax and GDP Data Collected from MoFEC

The tax reform has also affected the relative share of tax revenue collected from domestic goods and services. The revenue from domestic indirect taxes also become less significant as its average share in the total tax revenue declined to about *25 percent* over the reform period (1993-2016) from about *33 percent* recorded in the 1975-1991. Moreover, the share of domestic indirect taxes exhibited a sharp decline from *33.2 percent* in 1992 to *17 percent* in 2004. Following the introduction of VAT, the share of domestic indirect tax revenue however, increased and accounted for *31.7 percent* in 2015, although fell to *29.4 percent* in 2016 (*Table 2.3*).

In contrast, the revenue raised from foreign trade duty and taxes has showed significant improvement in terms of its share in total tax revenues over the reform period. The significance of international trade tax revenue in total tax revenues increased considerably to *39.5 percent* in 1993-2003 and *41.1 percent* in 2004-2016, averaging at *40.4 percent* in the reform period compared to *25.1 percent* share during 1975-1991. This has been attributed partly to the tax reform measures with respect to VAT introduction in place of sales tax and custom tariff revision and administration reforms *(Table 2.3)*.

In general, the tax system in Ethiopia has not shown significant improvement in tax revenue collection relative to GDP growth (tax revenue to GDP ratio) over the reform period compared to the 1975-1991 period, despite the country launched a comprehensive tax reform measures and sustain economic growth achieved over the period. However, there has been a remarkable shift in the composition of the tax system from the dominance of direct and domestic indirect taxes to foreign trade taxes. Moreover, the tax system has been heavily dependent on foreign trade taxes.

III. Tax Elasticity and Buoyancy: Theoretical Concepts and Evidences

Every country in the process of formulating its budget undertakes revenue projections. When the revenues turn out to be smaller than the budget expenditures, countries end up with deficit financing. Since underdeveloped countries have few possibilities for prolonged external financing of budget deficits, without causing too much disruption in the macroeconomic environment, each country must decide how best to increase its domestic tax revenues to meet its expenditure needs. One way that countries raise additional revenue is by making discretionary tax measure changes. The best outcome expected from such changes is that the tax system will automatically yield corresponding tax revenues as income or GDP grows, on a sustainable basis.

An important property of a tax system is its ability to generate automatic growth in fiscal revenues over time. The adequate rate of growth depends on the expenditure goals of government. A natural benchmark for dynamic performance of a tax system over time is its ability to grow at the same rate as GDP. Tax revenues increase overtime because tax bases grow with the economy, because changes in the tax laws either broaden tax bases or increase tax rates, or because there is better enforcement of an existing tax structure. When only the first effect is present, the ability to grow is measured by the elasticity of the tax system; and when all effects can be present, the ability to grow is measured by its buoyancy.

This means that the question of revenue adequacy also needs to be understood in a dynamic sense. The tax system must be able to collect more as the economy as a whole grows. This is an important feature of any tax system because the demand for public services also is likely to expand with growth. If tax revenues grow automatically with the entire economy, a balanced budget can be maintained without a recurrent need for introducing new taxes or raising the rates of the existing ones.

The concept of tax elasticity is defined to measure percentage increases in tax revenue resulting from the endogenous changes in its base caused by a one percent rise in GDP. It is the product of elasticity of the tax yield to its base and the base to GDP. It is a preferred measure of tax responsiveness as it controls for automatic revenue changes. In other words, it measures the pure response of tax revenue to changes in national income. It reflects only the built-in responsiveness of tax revenue to movement in national income, whether or not changes were made in the tax structure. The most important use of elasticity measure is also to identify which taxes are naturally elastic and hence, it gives government the ability to respond to increases in the demand for public services without having to interfere continuously with the tax system via ad hoc revenue-raising measures. Generally, a high (greater than unity)tax elasticity is said to be a particularly desirable attribute preferably related to development financing through increasing tax revenue without the need for decision to raise taxes. And the government is able to expand the provision of goods and services as the economy grows and even is able to reduce taxes (by lowering tax rates, for example). Conversely, if the elasticity is less than one, the government will struggle to keep up with the services demanded by a larger economy, and to avoid budget deficits it will have to introduce new taxes or increase the existing ones by increasing tax rates, for example[3].

An elastic tax system enables the public sector to appropriate a growing share of the marginal increases in income. Hence, an elastic tax system is desirable in a developing economy because it means that tax receipts will grow automatically with growing income without the need for politically sensitive increases in tax rates. As per capita income increases with economic development, the demand for government goods and services such as transportation, communication, and general government administration services also increases. Add to this increasing government demand for funds to finance development related projects like education and agricultural extension and the benefits of an elastic tax system become evident. Since elasticity is an important element of taxation in a developing economy, it is crucial that policy makers be able to identify those taxes which are elastic and those which are inelastic. Increasing the overall elasticity of the tax system involves utilizing more heavily those taxes which are most elastic. With an inelastic tax system, however, a rising public expenditure is financed either through higher money supply with all the attendant problems of inflation and balance of payment crises, or by annual upward revisions of the existing tax rates.

A correct measure of tax elasticity requires the observation of changes in tax revenue arising exclusively from changes in the tax base. However, the observed changes in tax revenues often are the result of changes in

[3] The estimation of tax elasticity excludes the impact of discretionary policy changes in tax rates and bases. Hence, the historical tax revenue series ought to be adjusted to eliminate the effects on tax revenue of all factors other than GDP. This involves deducting an amount attributable to discretionary fiscal policies from the actual tax collected each year. The selection of appropriate adjustment method depends upon the availability of the data on tax changes and the type and frequency of such changes.

the structure of taxes (such as tax rates or the definition of the tax base) or of changes in the tax administration (such as stricter enforcement of the tax laws). When it is not possible to disentangle all these different effects, the ratio of the proportional change in tax revenue to the proportional change in the tax base of GDP is known as the buoyancy of the tax to differentiate it from the stricter concept of elasticity.

When the elasticity of major tax revenue sources remains low either due to low base or evasion or avoidance, a government may raise additional resources through discretionary tax measures. Then, the growth of tax revenue comes through high buoyancy rather than through elasticity. Thus, tax buoyancy shows the total response, including tax increases due to discretionary fiscal policies and to changes in national income. The tax buoyancy could be greater than the tax elasticity unless no discretionary fiscal policies are pursued and the difference between the two shows the effort made to increase tax revenue through the use of discretionary measures. The buoyancy of a country's tax system may be considerably greater than its elasticity and on its own; this result would suggest that the government's tax effort has been commendable. However, it says nothing about the nature of the discretionary fiscal policies introduced, especially as they affect the efficiency criteria adopted explicitly or implicitly by the government. A large difference between the buoyancy and elasticity of a tax may be obtained by simply raising its rate, with no effort made to expand its base, thereby avoiding politically difficult decisions and so ignoring other equally important efficiency criteria *(Glenn P. Jenkins, Chun-Yan Kuo* and *Gangadhar P. Shukla, 2000)*.

The coefficient of elasticity depends on the level of tax base to changes in income. This makes it possible to break up the value of elasticity into two components - the response of the tax base to a change in income, and the response of the tax yield to a change in the tax base - to identify the underlying factors behind changes in the revenue collected from a given tax. Tax to base elasticity measures the progressiveness of the tax structure while the base to income elasticity measures the responsiveness of tax base to income. The value of base-to-income elasticity does not depend on the progressivity of tax rates; it simply relates the responsiveness of the tax-base to a change in income. The growth of the base depends on the way the structure of the economy changes with economic growth. The tax-to-base elasticity depends on the tax rate; if the rate structure is progressive or if there is an improvement in tax administration; the tax-to-base elasticity will be raised by preventing evasion. The decomposition of elasticity in this manner permits us not only to identify the source of either fast revenue growth or lagging revenue growth but also highlights that component of growth that is amenable to policy manipulation.

As complete information on the legal bases on which taxes are assessed are not usually available, proxy bases are used instead. For example, final private consumption expenditure on goods and service is used as the proxy base for excise and value-added tax; wages and salaries, bonuses, interest, dividend, rents, profits from incorporated businesses for personal income tax; and import of goods for custom duties.

A number of empirical studies have been carried out on the productivity of tax systems in various developing countries. For instance, *Daniel, Abel, Eric and Emmanuel* estimated tax elasticity and buoyancy for *Ghana* during *1970-2007*. They found that the overall tax system in *Ghana* was buoyant and elastic and the value of buoyancy exceeds from that of elasticity. Decomposition of the elasticity coefficients into tax-to-base and base-to-income showed that the former was greater than the latter indicating that there is potential revenue that is untaxed in the economy. The overall tax elasticity was estimated at about 1.03, suggesting that the responsiveness of the tax system to a unit change in GDP was more than unity thereby rejecting the hypothesis that the overall tax system is income inelastic.

Brima and *Festus (2012)* examined the base elasticity of the tax system and its major handles for *Sierra Leone* using annual data covering the period *1977-2009*. The empirical results indicated that the buoyancy estimates were higher than elasticity estimates. Estimation results further showed that discretionary tax measures were effective in mobilizing additional tax revenues during the period.

Desmond, Archibold, Mavesere and *Tichaona(2013)* evaluated the revenue productivity of *Zimbabwe's* overall tax system and of individual taxes on the basis of estimates of tax buoyancy using yearly time series data for the period *1975-2008*. The estimation results demonstrate that the tax system as a whole and the individual taxes, with the exception of customs duty, are both not buoyant. Also most of the buoyancy coefficients are found to be greater than the elasticity coefficients implying that discretionary tax measures were used to generate additional tax revenue during the study period. The study recommends improvements on tax administration, reduction in tax evasion and reducing the number of tax exemptions so as to improve the revenue generation.

For *Kenya*, *Mary M and Joseph N (2013)* estimated tax buoyancy for the period *1999/2000* to *2010/2011*. Tax buoyancy was computed for income and value added

taxes, excise and import duties and total tax revenues using quarterly data. It also analyzed the tax buoyancy of Pay as You Earn (PAYE), other income tax, as components of income tax and local and import VAT separately. Empirical evidence showed that the total tax revenue was buoyant while the individual taxes were not buoyant except excise duty which was buoyant with respect to the base. Tax bases were found to respond well to economic changes with buoyancy values greater than unity, with an exception of excise duty base to income buoyancy coefficient being less than unity. Finally, the study recommends constant review of the tax system as the economic structure changes. Reasons for tax evasion should also be analyzed to help minimize noncompliance. *Kotur* and *Menjo (2012)* also estimated elasticity and buoyancy of tax components and tax systems in *Kenya* for the period *1986-2009*. The study found that the *Kenyan* tax system was neither income elastic nor buoyant. All major tax components were inelastic while income tax and excise duty had unity buoyancy over the study period. Import duty was the most buoyant tax component while the sales tax was the least buoyant. The study strongly recommend the re-evaluation of tax modernization issues so as to fill the gaps and finally the tax administrative unit should work on the gaps of inefficiency and block the tax evasion amongst tax payers.

Nehemiah E. (1993) examined the revenue productivity implications of tax reform in *Tanzania* during *1969-1990*. The empirical evidences suggested income elasticity of the overall tax system and individual taxes is less than unity. However, the total tax system and all taxes, except company tax and PAYE, had a buoyancy coefficient greater than elasticity coefficient, indicating that discretionary changes were important in raising the tax revenues. The overall tax elasticity generally emphasizes low value of the base-to-income relative to tax-to-base elasticity as key factors in explaining the fairly low elasticity of the tax system. Exemptions have particularly reduced the effective base of income taxes, PAYE and sales tax.

Mohammed Y and *S M Jakaria Huq (2013)* studied the elasticity and buoyancy of major tax categories for *Bangladesh* using on historical time series data for the period *1980-2011*. Exponential smoothing method was employed to address the big policy changes for eliminating the effects of the discretionary tax measures. The study revealed that estimates of elasticity and buoyancy were more than unity for direct tax, sales/ VAT and tax system as a whole while less than unity for custom duty. Further, the estimate of buoyancy was higher than the corresponding elasticity for all taxes, confirming thereof that most of the growth in revenues was raised due to changes in discretionary tax measures instead of automatic growth.

The study conducted by *Fauzia Mukarram* examined the elasticity and buoyancy of major taxes in *Pakistan* over the period *1981-2001*. The result revealed that estimates of elasticity exceeds unity only for direct taxes and is almost unity for sales tax. Buoyancy of all taxes is higher than their elasticity and well above unity for direct and sales taxes. The tax-to-base and base-to-income elasticity are approximately equal to each other for direct and sales taxes. The divergent between tax-to-base and base-to-income elasticity was significant for custom and excise duties. Due to this, the overall tax system of *Pakistan* was inelastic during the review period.

IV. Methodology and Data Sources

Normally, two measures are utilized to assess the revenue productivity of a tax system. These are income-elasticity and buoyancy of a tax system or tax element. Algebraically, tax elasticity is expressed as:

$$E_{tY} = \frac{\%\Delta T}{\%\Delta Y} = \frac{\Delta T}{T_t} x \frac{Y}{\Delta Y} = \frac{\Delta T}{\Delta Y} x \frac{Y}{T} \quad \ldots\ldots (1)$$

Where E_{tY} stands for income elasticity of a tax t, Y denote income or GDP and T_t represents tax revenue.

The elasticity of a tax element can also be disaggregated into its components as shown in *equation (2)*, where the elasticity of any individual tax is decomposed into the product of the elasticity of the tax to its base and the elasticity of the tax base to income.

$$E_{tY} = \left(\frac{\Delta T_k}{\Delta B_k} x \frac{B_k}{T_k}\right)\left(\frac{\Delta B_k}{\Delta Y} x \frac{Y}{B_k}\right) \quad \ldots\ldots (2)$$

Where B_k stands for the base for tax t. The first term, $\left(\frac{\Delta T_k}{\Delta B_k} x \frac{B_k}{T_k}\right)$ represents the elasticity of the tax with respect to the tax base. It is a function of the legal structure and tax compliance and thus, it is a measure of the effectiveness of a tax policy. The second term $\left(\frac{\Delta B_k}{\Delta Y} x \frac{Y}{B_k}\right)$ represents the elasticity of the tax base with respect to income and it is a measure of the effect of economic growth on a particular sector of the economy. All the above mathematical representation can also be used for tax buoyancy algebraic notation provided that E_{tY} is replaced with B_{tY}.

Traditionally, tax elasticity or buoyancy can be obtained through a linear regression equation of the form:

$$T_k = \propto_k Y^{\beta_k} e_k \quad \ldots\ldots (3)$$

Transforming equation *(3)* in to logarithm form

$$log T_k = \alpha_k + \beta_k \, log \, Y + e_k \quad \ldots\ldots (4)$$

Where T_k denote revenue from tax k, Y isnational income or GDP, $\beta_k$is estimated elasticity/buoyancy of tax k,$\alpha_k$is a constant term and e_k is stochastic disturbance term. In estimating the elasticityof tax k (β_k), the actual time series data of tax k (T_k) should be adjusted by eliminating the effects of tax reform measures. Then,β_k is interpreted as the average elasticity of tax k. But, if the actual time series data of tax k (T_k)is used, the estimated coefficient$\beta_k$becomes the buoyancyparameteroftax k. As the overall effect of tax reform measures is assumed to further increase the revenue from taxk, the estimated elasticity of tax k is expected to be smaller than the corresponding buoyancy.

Furthermore, the tax elasticity estimationmethod could be extended to identify the underlying factors behind changes in the revenue collected from a given tax element. This is carried out through decomposition process of the tax-to-income elasticity of tax k in to its tax-to-base and base-to-income elasticity based on the following equations:

$$log T_k = log \, c + \gamma_k \, log \, B_k \quad \ldots\ldots (5)$$

$$log B_k = log \, e + \delta_k log \, Y \quad \ldots\ldots (6)$$

Where B_k denotes the base of taxk. The coefficients $\gamma_k$and $\delta_k$represent the average tax-to-base and base-to-income elasticity/buoyancy of taxk respectively. Ordinary Least Square (OLS) method is used to estimatethecoefficients β_k,$\gamma_k$and$\delta_k$in equation (4), (5) and (6) respectively.

In literature, the most popular methods for separating the effects of discretionary tax measures from the actual time series tax revenue data include *Proportional Adjustment (PA)* and *Constant Rate Structure* (*CRS*). Using the actual time series data for the dependent tax variables, dummy variables representing the discretionary tax measures could also be used to capture the impact of tax policy reforms in generating additional revenues. However, this approach is less useful when the number of discretionary tax measures is large relative to the length of data period as it leads to an excessive reduction in degrees of freedom which affects the efficiency of the estimators (Pronab Sen, 2009).

The *PA* method requires budget estimates of tax yield arising out of discretionary tax measures changes while the *CRS* method relies on disaggregated data on tax bases by rate categories, both of which, however are not readily available in Ethiopia. Given that several tax measures have been implemented in Ethiopia, the dummy variable is also not a suitable approach. Therefore, the *Exponential Smoothing* method is employed for eliminating the effects of tax policy reforms from the actual time series data for tax variables considered in this analysis. This method involves the adjustment of time series data by assigning exponentially larger weights to more recent observations and decreasing weights as the observations get older[4].

The dependent variables considered in the specified equations *(4)* and *(5)* are *income tax, value added and excise taxes, custom duty* and, the *overall tax system*[5]. The *proxy bases* of the dependent variables are reasonable representatives of the component of national wealth of transactions upon which a particular tax element has been assessed (*Table 4.1*).

Table 4.1: Proxy Tax Bases Variables

Dependent Tax Variables (T_k)	Proxy Bases (Independent Variables)
Income (Direct) Taxes	Non-agricultural nominal GDP (B_k)
Value Added and Excise Taxes	Total consumption expenditure on goods and services (B_k)
Custom Duty	Import of goods in c.i.f values (B_k)
Overall Tax System (Total Tax Revenue)	Aggregate Nominal GDP (Y)

The paper utilized annual time series data for the period covering from 1981 to 2016. The data are gathered from Ministry of Finance and Economic Cooperation (MoFEC), National Planning Commission (NPC) and National Bank of Ethiopia (NBE).

[4] Studies on tax responsiveness often focus on tax buoyancy rather than tax elasticity. One problem is obtaining data on discretionary tax revenue changes required in the PA and CRS methods. However, Exponential Smoothing technique can be applied to time series data, either to produce smoothed data for presentation or to make forecasts. It is very popular scheme and commonly applied to economic time series data.

[5]The legal base of business and employment tax are not available. This limits the analysis of elasticity for each of these taxes separately from other direct taxes. Since 2003, VAT has been launched in place of sales tax. The data for sales tax before 2003 and for VAT after 2003 are not available separately but compiled with excise tax in all the sample period. This makes difficult to estimate the elasticity and buoyancy for excise and sales/VAT separately. Thus, excise and VAT together represent excise & sales tax before 2003 and excise & VAT thereafter.

V. Empirical Results and Analysis

The stationary behavior of the time series variables under study are investigated using Augmented Dickey and Fuller (ADF) test where the null hypothesis assumes non-stationary against the alternative stationary. The results of ADF unit root tests indicate that all the variables in level data exhibit unit root or non-stationary. However, the variables are found stationary at first difference, implying that the series are integrated of order one (Table 5.1).

Table 5.1: Unit Root Test Results (ADF Test)

Dependent Tax Variables	ADF Test Statistic	
	In Level	First Difference
lnttr (log of actual total tax revenue)	-0.0138	-5.8729
lnitr (log of actual income or direct tax revenues)	-0.9737	-3.5874
lnvextr (log of actual value added tax and excise tax revenues)	0.3690	-4.9869
lncdr (log of actual custom duty revenue)	-2.1602	-5.1956
alnttr (adjusted log of total tax revenue)	-2.0927	-5.9344
alnitr (adjusted log of income or direct tax revenues)	-2.0321	-4.7427
alnvextr (adjusted log of value added tax and excise tax revenues)	-2.1803	-6.9541
alncdr (adjusted log of custom duty revenue)	-1.1392	-4.8983
Independent Variables (Proxy Bases)	**In Level**	**First Difference**
lngdp (log of national nominal GDP)	0.3369	-4.5826
lnagrgdp (log of nominal non-agricultural GDP)	0.4676	-3.9946
lnm (log of total import of goods in c.i.f values)	-1.3805	-5.9175
lntcon (log of total consumption expenditures on goods and services)	0.3690	-4.9870

Source: Own Computation
Note: All the time series data of the variables are transformed in to logarithm form.
Critical Values: 1% =-5.5806, 5% =-4.2967 and 10% =-3.2124

If a group of variables are individually integrated of the same order, there is at least one linear combination of these variables, then the variables are said to be cointegrated and they never move far apart but are attracted to their long-run or equilibrium trend. This requires the residuals series derived from cointegration regression of the variables are integrated of order zero, 1(0), or stationary at level, confirming the existence of a long-run relationship between the variables. Therefore, the ADF technique is employed for unit root test of the residuals under consideration.

Table 5.2: Residuals Unit Root Test Results

Dependent Tax Variables	Regression Equations	Elasticity	Buoyancy
		ADF Test Statistic	ADF Test Statistic
Income (Direct) Tax	Tax-to-Income (*Equation 4*)	-5.4814	-5.3283
	Tax-to-Base (*Equation 5*)	-5.3076	-5.2740
	Base-to-Income (*Equation6*)	-5.3076	-5.3076
VAT & Excise	Tax-to-Income (*Equation 4*)	-5.4804	-5.3237
	Tax-to-Base (*Equation 5*)	-5.4145	-5.4120
	Base-to-Income (*Equation 6*)	-5.2755	-5.2755
Custom Duty	Tax-to-Income (*Equation 4*)	-5.8967	-5.4546
	Tax-to-Base (*Equation 5*)	-5.1927	-5.3233
	Base-to-Income (*Equation 6*)	-5.3233	-5.3233
Overall Tax System	Tax-to-Income (*Equation 4*)	-5.3089	-5.4567

Source: Own Computation
Critical Values: 1% =-3.64634, 5% = -2.95402 and10% = -2.61582

The ADF unit root test confirmed that the residuals are stationary in level, I(0), indicating a linear long run combination or long run relationship between the variables used in each equation (Table 5.2).

The Ordinary Least Square (OLS) technique assumes that the error terms are independent or uncorrelated to each other. However, the residuals from time series regression appear being correlated with their own lagged values, i.e., the error term in a current period influences the error term in the subsequent period. This is quite common occurrence in time series data because the data are ordered over time. This often violates the basic assumption of no serial correlation of the residual in the standard OLS model. If not treated, the first problem in using OLS estimates in the context of autocorrected errors is the estimators are inefficient in forecasting. Therefore, the lagged dependent variable in the OLS regression is often used as a means of capturing the autocorrelation problem.

In fact, the OLS results in the first experimental regression suggested the problem of residual autocorrelation via digenetic tests results such as Durbin-Watson statistic. Thus, the equations were re-estimated through introducing the first order Autoregressive, AR (1) and/or Moving Average, MA (1) terms in the regression equations to get rid of the autocorrelation disturbances observed in all the regression models[6].

The results of elasticity and buoyancy estimates for the tax system and its components are reported below in Tables 5.3–5.6 where the t-values confirmed that both estimated elasticity and buoyancy parameters are statistically significant, the F test reveals that all the regression equations are statistically significant at 1 percent level, implying the equations are of goodness of fit and the Durbin-Watson statistics indicated no significant serial autocorrelation among the residuals in all estimated equations.

It is a common practice to compare the coefficients of elasticity and buoyancy of a tax system and individual tax as it provides insight into the impact of tax reform measure. For instance, the higher estimate of buoyancy over elasticity of a particular tax element suggests the effectiveness of discretionary tax measures in terms of raising additional revenue. The tax reforms are said to have neutral impact in raising revenues when the two estimates are equal to each other. The decomposition of estimated tax elasticity in to tax-to-base and base-to-income elasticity also helps to identify the relative dynamic and the lagging components of the tax elements.

The elasticity of the tax system is estimated at 0.4412, implying that the tax system yielded about 0.44 percent revenue increase in every 1 percent GDP growth, assuming no changes in tax policy and administration reforms during the period 1981-2016. The tax system was not proportionally responsive to national income growth and hence, inelastic during the review period. This was attributed to highly inelastic yield of the tax components of the tax system (Tables 5.3–5.6).

However, the tax system is just buoyant (1.0524) in response to the national income growth during the same period. The result implies, for every 1 percent GDP growth, the total tax revenue was increasing by about 1.05 percent as a result of both natural growth and the tax reform measures undertaken towards increasing tax revenues.

Table 5.3: Overall Tax System

Regression Equation	***Elasticity Regression Results***					***Buoyancy Regression Results***				
	Cons (a_k)	***Elasticity Coeff*** (β_k)	*Adj R2*	*DW stat*	*F-Stat*	*Cons*	***Buoyancy Coeff*** (β_k)	*Adj R2*	*DW stat*	*F-Stat*
Tax-to-Income	*2.98*	***0.4413***	*0.858*	*2.02*	*65.59*	*-2.80*	***1.0524***	*0.989*	*1.835*	*1586.2*
t-values	*(4.35)*	***(7.21)***				*(-8.52)*	***(35.55)***			

Source: Own Estimation

[6]AR (1) represents the previous value or first lagged value of the dependent variable and some unexplained random error while MA (1) stands for the value of error term in the previous period as well as the current error terms. NeelamTimsina (2007), Joseph Jason Cotton (2012) and Festus and Brima, (2012), among others employed this approach in order to solve the auto-correlation problem in their estimation of elasticity and buoyancy for Nepal, Trinidad & Tobago and Sierra Leone respectively.

The higher buoyancy estimate over the elasticity of tax system indicates that the tax policy changes were effective which alone accounted for 0.61 percent (1.0524% - 0.4412%) –the major proportion of the total tax revenue collected in every 1 percent of GDP growth during the period under consideration. A close scrutiny of elasticity and buoyancy estimates of the tax components provides clear explanation for the corresponding estimates of the tax system.

The elasticity of income tax is found 0.368. This means that the revenue raised from income taxes was increasing only by 0.37 percent in every 1 percent GDP growth. Therefore, the natural growth of income taxes is inelastic with respect to economic growth; wholly owing to the low tax-to-base inelastic yield of the income taxes (0.36). However, the base-to-income elasticity of income tax is just elastic (1.05), signifying the large proportion of taxable incomes that are outside the income tax net (Table 5.4).

Table 5.4: Income Taxes

Regression Equations	Elasticity Regression Results					Buoyancy Regression Results				
	Cons	**Elasticity Coeff**	Adj R2	DW stat	F-Stat	Cons	**Buoyancy Coeff**	Adj R2	DW stat	F-Stat
Tax-to-Income	2.712	**0.3680**	0.806	1.936	45.34	-2.99	**0.9741**	0.988	1.86	927.2
t-values	(3.06)	**(4.66)**				(-4.07)	**(15.13)**			
Tax-to-Base	3.088	**0.3573**	0.815	1.947	48.23	-1.957	**0.9395**	0.992	1.93	1295.1
t-values	(4.01)	**(4.91)**				(-3.86)	**(19.74)**			
Base-to-Income	-1.206	**1.0453**	0.997	1.976	3717.2	-1.21	**1.0453**	0.997	1.98	3717.2
t-values	(-3.38)	**(33.2)**				(-3.38)	**(33.25)**			

Source: Own Estimation

Note: The estimated coefficients represent β_k ,γ_k and δ_k in equation 4, 5 and 6 for tax-to-income, tax-to-base and base-to-income elasticity/ buoyancy respectively

Income tax is nearly buoyant (0.974), reflecting the effectiveness of income tax reform measures in increasing the income tax revenues over the natural growth of the revenu from the taxes In other words, the impacts of income tax reform measures accounted for 0.61 percent (0.974%–0.368%) of the increase in income tax revenues relative to the natural growth of the income tax revenues (0.368 percent) in every 1 percent GDP growth.

Like income tax, the elasticity of VAT and excise taxes is estimated at 0.442, implying the revenue from these taxes increased only by 0.44 percent as GDP grew by 1 percent. Therefore, the taxes are inelastic with respect to the economic growth, reflecting the low tax-to-base elasticity of the taxes. The inelastic tax-to-base yield of the taxes is likely resulted from administration constraint and low level of compliance mainly in relation to VAT revenue collection, numerous tax exemptions and avoidance practices. The low level of tax-to-base elasticity is also witness for the potential to increase the revenu from VAT and excise taxes through expansion of the taxes' bases with GDP growth (Table 5.5).

Table 5.5: VAT and Excise Taxes

Regression Equations	Elasticity Regression Results					Buoyancy Regression Results				
	Cons	**Elasticity Coeff**	Adj R2	DW stat	F-Stat	Cons	**Buoyancy Coeff**	Adj R2	DW stat	F-stat
Tax-to-Income	2.08	**0.4420**	0.841	1.99	61.7	-4.04	**1.086**	0.993	1.98	1570.7
t-values	(2.80)	**(6.71)**				(-10.9)	**(32.8)**			
Tax-to-Base	2.247	**0.4307**	0.849	2.02	90.81	-3.75	**1.070**	0.991	1.98	1215.7
t-values	(3.18)	**(6.80)**				(-8.56)	**(27.14)**			
Base-to-Income	0.029	**0.9895**	0.999	2.3	22513.3	0.03	**0.9895**	0.999	2.3	22513.3
t-values	(0.089)	**(34.57)**				(0.09)	**(34.57)**			

Source: Own Estimation

Note: The estimated coefficients represent β_k ,γ_k and δ_k in equation 4, 5 and 6 for tax-to-income, tax-to-base and base-to-income elasticity/ buoyancy respectively

Nevertheless, the taxes together are buoyant (1.086), suggesting that VAT and excise tax revenues increased by about 1.09 percent in every 1 percent GDP growth. In fact, this includes about 0.65 percent (1.09% - 0.442%) increase in VAT and excise tax revenues as a result of the tax policy changes compared to the natural growth of taxes revenues (0.44 percent) for 1 percent GDP growth.

The empirical investigation also suggests the inelastic yield of custom duty (0.5802), resulting solely from its inelastic tax-to-base yield. This means the revenue from custom duty increased by 0.58 percent in every 1 percent GDP growth, assuming the custom reforms was not undertaken (Table 5.6).

Table 5.6: Custom Duty

Regression Equations	***Elasticity Regression Results***					***Buoyancy Regression Results***				
	Cons	***Elasticity Coeff***	*Adj R2*	*DW stat*	*F-Stat*	*Cons*	***Buoyancy Coeff***	*Adj R2*	*DW stat*	*F-Stat*
Tax-to-Income	*-0.32*	***0.5802***	*0.953*	*1.73*	*307.7*	*-4.11*	***1.0162***	*0.96.8*	*1.97*	*489.7*
t-values	*(-0.28)*	***(5.33)***				*(-3.32)*	***(4.26)***			
Tax-to-Base	*1.6*	***0.4605***	*0.954*	*1.84*	*308.9*	*-1.88*	***0.9586***	*0.976*	*1.86*	*623.3*
t-values	*(1.76)*	***(5.21)***				*(-3.78)*	***(18.36)***			
Base-to-Income	*-2.54*	***1.085***	*0.991*	*2.18*	*1677.3*	*-2.54*	***1.085***	*0.991*	*2.18*	*1677.3*
t-values	*(-1.22)*	***(6.51)***				*(-1.22)*	***(6.51)***			

Source: Own Estimation
Note: The estimated coefficients represent β_k ,γ_k and δ_k in equation 4, 5 and 6 for tax-to-income, tax-to-base and base-to-income elasticity/ buoyancy respectively

However, custom duty is buoyant (1.02), implying the custom revenue rose by 1.02 percent in every 1 percent GDP growth during the same period. Of which, 0.44 percent (1.02% -0.58%) is the contribution of custom reform measures, witnessing the effectiveness of custom reform measures.

The tax-to-base elasticity of custom duty revenue (0.46) is found much lower than the corresponding base-to-income elasticity (1.08). This could likely be due to the duty exemptions offered for import of investment capital goods, raw materials as well as zero duty rate imports. However, the base-to-income elasticity (1.08) apparently reflects the increase in import of goods in association with sustained economic growth of the country.

The most important role of tax policy reforms can also be examined through comparison of elasticity and buoyancy estimates among tax elements. Elasticity of a tax system or tax element is often smaller than that of its buoyancy as it measures the responsiveness of the tax system or tax element only to economic growth; net of discretionary tax policy changes. Thus, the largest difference between buoyancy and elasticity estimates signifies the strong impact of tax policy measures in generating revenue. Accordingly, the impacts of tax reform measures in stimulating revenue were most effective with respect to VAT and excise taxes (0.65 percent) and income taxes (0.61 percent) while the least to custom duty (0.44 percent) in every 1 percent GDP growth.

VI. Conclusion

The government of Ethiopia has been introducing a series of comprehensive and intensive tax policy and administration reforms since 1992 in view of generating as much high revenue as possible to finance the increasing expenditure in economic growth and poverty reduction programs.

This paper attempted to empirically measure the revenue productivity of tax system in Ethiopia during the period 1981-2016 based on the concepts of tax buoyancy and elasticity which measure the responsiveness of a tax system in generating revenue to economic growth with and without discretionary tax policy changes respectively. In estimating the tax elasticity, the Exponential Smoothing technique is used to eliminate part of the tax revenue raised as a result of the tax reform measures from the actual tax revenue collected over the period. Ordinary Least Square (OLS) method is then employed in estimating both elasticity and buoyancy parameters for the tax system and its components including direct taxes, value added and excise taxes and custom duty.

The empirical findings revealed that the tax system and its elements were income inelastic; implying that the total tax revenue was increasing at slower pace than the economic growth during the period. However, the tax system and its components except direct taxes are found buoyant in the same period. This suggests that the total tax revenue was increasing in proportion to the economic growth. The relatively higher buoyancy estimate over the corresponding elasticity suggests that the tax reform measures were not only effective in raising additional revenue but also accounted for larger proportion of tax revenue than the natural growth of tax revenue collected during the period. The inelastic yield of the tax system resulted from the low responsiveness of tax elements to their base due to such main factors as various exemptions and incentives granted based on equity and investment grounds; low level of compliance and weak tax administration; all of which eroded the effective tax base.

VII. Recommendation

The empirical findings of this study signify that the tax system in Ethiopia has experienced a low level of productivity in revenue collection relative to the economic growth of the country as a result of the inelastic tax-to-base yield of individual tax elements. Therefore, the tax reform measures undertaken towards stimulating the tax revenues should focus on strengthening the efficiency of the tax administration in tax assessment, tax laws enforcement and control of tax evasion in view of increasing the tax bases and thereby optimize the tax revenue collection relative to the economic growth of the country.

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ILLICIT FINANCIAL FLOWS

Illicit financial flows (IFFs) are illegal movements of money or capital from one country to another. Global Financial Integrity (GFI) classifies this movement as an illicit flow when the funds are illegally earned, transferred, and/or utilized. Some examples of illicit financial flows might include:

- A drug cartel using trade-based money laundering techniques to mix legal money from the sale of used cars with illegal money from drug sales;
- An importer using trade misinvoicing to evade customs duties, VAT, or income taxes;
- A corrupt public official using an anonymous shell company to transfer dirty money to a bank account in the United States;
- An human trafficker carrying a briefcase of cash across the border and depositing it in a foreign bank; or
- A terrorist wiring money from the Middle East to an operative in Europe.

GFI estimates that in 2013, US$1.1 trillion left developing countries in illicit financial outflows. This estimate is regarded as highly conservative, as it does not pick up movements of bulk cash, the mispricing of services, or many types of money laundering.

What Impact Do Illicit Financial Flows Have on Developing Countries?

US$1.1 trillion is a tremendous amount of money to drain out of developing countries. A 2013 GFI report found that even after you account for all types of financial flows (both legitimate and illegitimate)—including investment, remittances, debt forgiveness, and natural resource exports—Africa is a net creditor to the world:

GFI is currently in the process of applying this analysis of "Net Resource Transfers" to the rest of the developing world.

Beyond the damaging economic impact of the overall capital outflows, illicit financial flows have a terrible, subversive impact on governments, victims of crime, and society. They facilitate transnational organized crime, foster corruption, undermine governance, and decrease tax revenues.

Where Does the Money Go?

Every dollar that leaves one country must end up in another. Very often, this means that illicit financial outflows from developing countries ultimately end up in banks in developed countries like the United States and United Kingdom, as well as in tax havens like Switzerland, the British Virgin Islands, or Singapore. GFI research suggests that about 45% of illicit flows end up in offshore financial centers, and 55% in developed countries.

This does not happen by accident. Many countries and their institutions actively facilitate—and reap enormous profits from—the theft of massive amounts of money from developing countries. GFI believes that developed countries have a responsibility alongside developing countries to curtail the flow of illicit money.

What Can We Do About Illicit Financial Flows?

GFI believes that the most effective way to limit illicit financial flows is to increase financial transparency. GFI believes that we should enact policies to:

- Detect and deter cross-border tax evasion;
- Eliminate anonymous shell companies;
- Strengthen anti-money laundering laws and practices;
- Work to curtail trade misinvoicing; and
- Improve transparency of multinational corporations.

Source:www.gfintegrity.org/issue/illicit-financial-flows/

ስኬታማ የሴት መሪዎችን ለማፍራት የሚረዱ መንገዶች

በአምባወርቅ መኮንን
(የሴቶችና ወጣቶች ጉዳይ ኦፊሰር)

በዓለም አቀፍም ሆነ በሀገራችን በአመራርነት ቦታዎች ላይ የሴቶች ተሳትፎ እጅግ በጣም አነስተኛ ነው። በመሆኑም የሴቶችን ተሳትፎ ለማሳደግ የተለያዩ ርምጃዎች መወሰድ አለባቸው። እነዚህ ርምጃዎች በተቋማቱ ብቻ ሳይሆን ሴቶቹም ራሳቸው በራሳቸው ለአመራርነት ብቁ ለማድረግ የሚወስዷቸው ናቸው። በመሆኑም ይህ ጽሁፍ ሴቶቹ ራሳቸው እና ተቋማቱ ሊወስዷቸው የሚገባቸውን ርምጃዎች የሚዳስስ ነው። ይህ ጽሁፍ የተሻለ ጥንካሬና ይዘት እንዲኖረው በማሰብ ከተለያዩ መፃሕፍት ተሻሽለው የቀረቡ ጽንሰ ሀሳቦችን አካቷል።

የስኬታማ ሴቶች ባህሪያት

ምንም እንኳን ስኬታማ ሴቶች በአብዛኛው የስኬታቸው መሠረት ዕድል እንደሆነ ቢነገርም እውነታው ግን የስኬታቸው መሰረት ጠንክረው መሥራታቸውና ተስፋ አለመቁረጣቸው ነው። የእነዚህ ሴቶች ስኬት የሚመጣው ተግቶ በመሥራትና፣ ሁል ጊዜ አዳዲስ ነገሮችን በመፈለግ ሲሆን በተለይም ጊዜን በአግባቡ መጠቀምን፣ አንዳንድ የሚያግዱ ባህላዊ ድርጊቶችንና ተግዳሮቶችን መወጣትን የሚጠይቅ መሆኑን የተረዱ ሴቶች ናቸው።

በተጨማሪም በዓለም ላይ በጣም ስኬታማ የሆኑ ሴቶች ስንመለከት ያሉ ዕድሎችን መጠቀም የሚችሉ፣ ዕድሎችን ራሳቸው የሚፈጥሩ፣ ለሚሠሩት ሥራ ፍላጎት ያላቸው፣ ራሳቸውን መምራት የሚችሉ፣ ብዙ በመሥራታቸውና ችግሮችን በመቋቋቸው ደስታን የሚያገኙ፣ ከሁኔታዎች ጋር ተለዋዋጭ የሆኑ (ግትር ያልሆኑ) እና ፍርሀቶቻቸውንና ጥርጣሪዎቻቸውን መደበቅና መቆጣጠር የሚችሉ ናቸው። እኛስ ከእነዚህ ክህሎቶች ውስጥ የትኞቹ አሉን? የትኞቹ ይጎሉናል?

በዚህም መሰረት ሴቶች ወደ ስኬት እንዲሸጋገሩ እና ብቁ መሪ እንዲሆኑ የሚያስችሉ የተለያዩ መንገዶች አሉ፤ ከነዚህም ውስጥ፡-

ከመሠረታዊ አውቀት በተጨማሪ በብቃት ለመምራት የሚያስችሉ ሌሎች ክህሎቶችን ማጎልበት፡ በተለይም ከሀገራችን የገጠሪቷ ክፍል ሴቶች ማህበረሰቡ ከሚጠብቅባቸው ባህሪያት መካከል ዓይናፋርነት፣ ብዙ ሀሳብን አለመግለጽ እና አለማውራት ይገኙበታል። ስለሆነም ሴቶች አስተዳደግ በሚያሳድርባቸው ተጽእኖ ሀሳባቸውን መግለጽ የሚያቅታቸው ሆነው ይገኛሉ። ነገር ግን የመደበኛ ሙያቸውን እውቀት ባግባቡ የተካኑ ብዙ ሴቶች እንዳሉ የሚዘነጋ ጉዳይ አይደለም። ይሁን እንጂ እነዚህ ሴቶች መሪ ለመሆን ከሚያስፈልጉ ክህሎቶች መካከል በሰዎች ፊት የመናገር እና የማሳመን፣ የመጻፍ፣ የመደራደር እንዲሁም በቅንጅት የመሥራት ችሎታዎች በአስተዳደጋቸው ምክንያት ሲጎድላቸው እናያለን። አንዳንድ ሰዎች እነዚህ ክህሎቶችን በተፈጥሮ የሚካኑዋቸው ሲሆን አንዳንድ ሰዎች ደግሞ ስልጠናዎችን በመውሰድ እና እነዚህን ክህሎቶች የሚያዳብሩ መጻህፍትን በማንበብ ብቃታቸውን ያሳድጋሉ። በመሆኑም ተቋማት በተቻለ መጠን እነዚህን ክህሎት ማዳበሪያ ስልጠናዎች መርሐ-ግብራቸው ውስጥ በማካተት

ሴቶችን ወደ አመራርነት ለማምጣት ሁኔታዎችን ማመቻቸት አለባቸው። ከስልጠናው በተጨማሪም ሴቶች ራሳቸው ያላቸውን የክህሎት ክፍተት በመለየትና ክፍተቱን ለመሙላት የግላቸውን ጥረት ማድረግ ይጠበቅባቸዋል።

የእችላለሁ መንፈስን ማጎልበት፡ በማንኛውም ሁኔታ ውስጥ ብንሆን አልችለው ይሆን? ይከብደኝ ይሆን? እና የመሳሰሉ አስተሳሰቦችን ከራስ ማላቀቅ ያስፈልጋል፤ በእርግጥ የተጠየቅናቸው እና ልንሠራ የተፈለገባቸው ቦታዎች ላይ ቴክኒካዊና ክህሎታዊ ችሎታዎች ሊያስፈልግ ይችላል፤ እነዚህን ክፍተቶች ለመሙላት ተቋማት የክህሎት ማሳደጊያ የአጭርና ረጅም ጊዜ ስልጠናዎችን በማዘጋጀት ክፍተቶች እንዲሞሉና ሥራዎች በአግባቡ እንዲፈጸሙ ማድረግ ይጠበቅባቸዋል። በመሆኑም በተለያዩ አጋጣሚዎች እንደሚጠቆመው ሴቶች በተለይም የመሪነት ሚና ሲሰጣቸው አልችለው ይሆን? የሚል አስተሳሰብ ወደኋላ እንደሚጎትታቸው ስለሚታወቅ የእችላለሁ፣ አደርገዋለሁ፣ እፈጽመዋለሁ የሚል መንፈስን ማጎልበት ለአመራርነትም ሆነ ውሳኔ ለመስጠት መሰረት መሆኑን መዘንጋት አይኖርባቸውም።

ተሞክሮዎችን መቅሰም፡ በሁሉም ሙያዎች ማለትም አካባቢያዊ የምንላቸውንም ሙያዎች ጭምር የሌሎች አካባቢዎችን በተለይም የሌሎች ሀገሮችን ተሞክሮ መቅሰም ያስፈልጋል። በምን መንገድ ተጉዘው የት ደረሱ? የሚለውን

> ሴቶች በተለያዩ ዘርፎች ያላቸውን የተሳትፎ ዕድሎች በሚገባ መጠቀም ይገባቸዋል

መረጃ ከመሰብሰብ ጀምሮ፤ በተለይም የሌሎች ሀገሮችን ልምዶች መቅሰም የሀገራቱን ባህልና የአስተሳሰብ ደረጃ ለማወቅ ይረዳል። ይህም ሰዎች ሁል ጊዜ ከሚያስቡት አስተሳሰብ ወጣ ብለው እንዲያስቡ፣ ላጋጠሙዋቸው ተግዳሮቶችም መፍትሄዎችን ፈልገው እንዲጠቀሙ ይረዳቸዋል። በዚህም መሰረት ተቋማት ሴቶች የውጭ ተሞክሮዎችን ተሳታፊ እንዲሆኑ የሚረዱ ርምጃዎችን ቢወስዱ ሴቶች እነዚህን ተሞክሮችን የተለያዩ ዌብ ሳይቶችን በመጠቀም ተሞክሮን ቢቀስሙ የመልካም አመራርነት ልምዶችን ማግኘት ይችላሉ።

ተሳትፎን ማሳደግ እና ኃላፊነቶችን መቀበል፡ ሴቶች በተለያዩ ዘርፎች ያላቸውን የተሳትፎ ዕድሎችን በሚገባ መጠቀም ይገባቸዋል፤ ይህም ሃሳብን በነጻ የመግለጽ፣ ለውሳኔ የሚረዱ አቅጣጫዎችን የመጠቆም እና የመሳሰሉ ዕድሎችን ስለሚፈጠር አጋጣሚውን አሟጦ መጠቀም ተገቢ ነው። ከዚህም ጎን ለጎን የሚገኙ ዕድሎችን በኃላፊነት ተቀብሎ ለመሥራትም ረጂ በመሆኑ አብሮ የሚታይ ጉዳይ ይሆናል፤ ተቋማትም በሚረቀቁ ህጎች፣ ፕሮግራሞች ውስጥ የሴቶችን ተሳትፎ ለማሳደግ አቅደው መሥራት ይኖርባቸዋል።

ሴቶች በራሳቸው ላይ ያላቸውን የተዛባ አመለካከትን በመቅረፍ ለችግሮቻቸው በቀዳሚነት የመፍትሄ አካል ሆነው መንቀሳቀስ፡-

የመረጃ ልውውጥን ማሳደግ፡ ዘመኑ በመረጃ ላይ የተመሰረተ መሆኑን በመገንዘብ ወቅታዊና አዳዲስ መረጃዎችን የሚገኙባቸው ሁኔታዎችን ማመቻቸት አስፈላጊ ነው፤ ራስንም ለመጠቀም ማዘጋጀት እንዲሁ ተጠቃሽ ነው። ስለሆነም ማናቸውንም የመገናኛ መረቦችን፣ የህትመትና ኤልክትሮኒክ ውጤቶችን በመጠቀም ራስን በመረጃ ወቅታዊ በማድረግ ክፍተትን ለመሙላት እንዲሁም አዳዲስ አሠራሮችን ለመቅሰምና ሥራ ላይ ለማዋል ይረዳል። ተቋማትም ይህንን በመረዳት አቅርቦቶችን በማሟላት ሠራተኞቻቸውን (በተለይም ሴት ሠራተኞችን) በመረጃ ላይ የተደገፈ ዕውቀት እንዲኖራቸው ጥረት ማድረግ ተገቢ ነው።

የኃላፊነት ውክልናን መቀበልና ማሳደግ፡ በተለያዩ ሰዎች የተያዙ የኃላፊነት ቦታዎች በተለያዩ አጋጣሚዎች የመተካትና ኃላፊነቶችን የመስጠት ሁኔታዎች ሲኖሩ ተተኪ ሴቶችን ማዘጋጀት ያስፈልጋል፤ በዚህም እንዲለማመዱ መንገድ ይፈጥርላቸዋል። ተቋማትም ለተተኪዎች አልመው መሥራት እንደሚገባው የሚያሳይ ነው።

በአጠቃላይ ከላይ የተገለጹት መሠረታዊ ጉዳዮች የሴቶችን የውሳኔ ሰጭነት ሚና ከግለሰቧ አንስቶ ተቋማት በትኩረት ሊያዩት የሚገቡ ነጥቦች ናቸው።

ምንጭ፡ የኢትዮጵያ ሴቶች ልማትና የለውጥ ፓኬጅ መጋቢት 2009 ዓ.ም

An Assessment of factors affecting participation of women in management position in the case of Ethio telecom company 2014.

Rishi was a 10 year old boy. Just like any other boy of his age, he had the usual tantrums with his mother. Sometimes he obeyed what she said and what his father said, and sometimes he would completely ignore them. Since this was very common in kids, Rishi's mom did not worry a lot.

It was an unexpected holiday announced by the school of Rishi and he had 5 holidays. He spent a good time with his mother. She took him for outings, they went to beach and amusement parks, had delicious dining, she cooked his favourite foods and played with him. Three days were left and Rishi's mother wanted to clean the house and she wanted to involve Rishi in cleaning.

She asked him to help her and as a surprise, he also accepted.

Everything was done to perfection. Rishi's mummy was surprised with his act. While she was cooking the dinner meal, Rishi gave her a piece of paper, written by him. Since his mom was busy cooking, she asked him to place the paper on the dining table.

After cooking the meals, she took the paper left by her son and was shocked to see what he wrote!

The piece of paper contained this list:

For cutting grass in the garden – Rs. 300

For Cleaning my Room – Rs. 250

For helping you in the kitchen – Rs. 200

For buying milk and fruits for you – Rs. 50

For taking care of my sister when you were shopping – Rs. 250

For removing the garbage – Rs. 100

Total you owe - Rs. 1150 /-

She was literally shocked!

She didn't speak a word and wrote in a paper and gave it to her son.

She wrote:

For carrying you nine months – No Charge

For getting severely sick when you were growing inside me – No Charge

For sleepless nights taking care of you for several months – No Charge

For soothing you without getting annoyed whenever you troubled – No Charge

For heartfelt prayers and passing through those dreadful days when you met with an accident when you were 3 years – No Charge

Innumerable days spent without calmness and peace of mind thinking about your present and future – No Charge

For taking care of you like a precious gift I never had in my life – No Charge

You Owe: ----

The boy was in tears and rushed to his mom and gave a tight hug that he had never done before.

Rishi, unable to look at her, told, 'Mom I love you! I'm sorry for everything!'

She kissed on his forehead. Rishi crushed the paper he wrote and threw into dustbin.

We don't understand the love of a mother, the unconditional love!

www.kidsworldfun.com/unconditional-love-story.php

ዋዜማ- በዜማ

በቀለ መንግሥቴ(ኢብባ)

በጠዋት ያዛመደን --------- የቃልኪዳን ሀድራ
የፍቅራችን አርብ ---------ጥበብን ሳይሠራ
ችቧችን -ይደምቅ--------- የዘመን ደመራ
ቃላችን ፈረሰ--------- የጥምረት አደራ

ሰኔና-ሰኞዎች --------- ድንገት ገጠሙና
እኛን አለያዩን --------- ከፍቅር መዲና
የህይወቴ አበባ --------- ጠፋች ላምባዲና
ተስፋዬ ጨለመ --------- በሀዘን ደመና

ህመም ላይ ወደቅሁኝ ---------በፍቅር ልክፍት፣
ውሐሽ ሆና --------- መውደድ እመቤት፣
ፈፅሞ ለመርሳት --------- አልተረታም ልቤ
መወሰን አልቻለም--------- እምቢ አለኝ ሀሳቤ።

የልይጅነት ፍቅር --------- የዘመናት እሸት
ጊዜ የማይሸረው --------- የምኞት ቁርኝት
የሕይወት መስተዋት --------- ፀጋና በረከት
ይኖራል በልቤ --------- የመውደድሽ ፅላት።

ፍቅሬ ያይኔ አበባ------ የቃልኪዳን ተስፋ፣
ጠረኗ ናፈቀኝ --------- ትዝታዋ ጠፋ።
መፍትሔ ታጣላት--------- በሽታዬ ጠና፣
ጣዕሙ ጎመዘዘ --------- የመኖሬ ቃና።
ከወዳጅ ከዘመድ--------- ከሰው ተለይቼ
በሀሳብ ህመም --------- አይወስደኝ እንቅልፍ፣
ለመውጣት ተስኖኝ ---------ከፅናት አፋፍ።

አለም በቃኝ ---------ብዬ ሀዘኔን ሳነባ
ብመንን ከገዳም--------- ሱባኤ ብገባ፣
ከዋልድባ ቀዬ ---------ከሼህ ሑሴን አምባ
አልገለፅ አለኝ ---------የመውደዷ አድማስ፣
ጥላ ጥሎብኝ ---------የፍቅሯ መንፈስ።
ምነው ፍቅር ጨከንሽ??------ እየላክሽኝ??(2)
በህሊና ምናብ --------- ልቤ ልቧን ሲያልም፣

አካሌ ሲቃጠል--------- በትዝታ እሳትፍም፣
ጭራሽ ከነአካቴው --------- ያገረሻል ዳግም።

ህይወቴ ሳታልፍ --------- በነፍሴ እንድትደርሺ፣
በቃል ኪዳን አምላክ-------- ነይ ልማፀንሺ።
ሌላው ሲፈወስ --------- እኛን እያመመን፣
ፈጣሪን ለመንኩት --------- ፍቅር እንዲሻለን።

ከቶ ምን ሊሳነው --------- አምላክ አያልቅበት፣
ጊዜ አለው ብሎናል--------- የሰሎሞን ትንቢት፣
ባልታሰበ ጊዜያት---------- አሳየኝ ምልክት፣
ለካስ ፍቅረኛዬ --------- ከልቤ ዋሻ ናት።

ምድር--------- ባህር --------- አየር
መውደድ --------- ህብር--------- ምስጢር
ህይወት ---------ተስፋ--------- ፍቅር
የእምነት -------ፅናት--------- ቀመር!!

በውድቅት ሌሊት --------- ናፍቆቷን ሰንቃ፣
ደመናውን ታግላ --------- ጨለማን ፈንጥቃ፣
መውደድ ሊነጋልኝ --------- ብርሃን ፈንጥቃ፣
ጨረቃዬ ወጣች --------- ተፈጥሮን አድምቃ።

በመስከረም አደይ --------- በአበባ ታጅባ
በማለዳ ጮራ --------- በመውደድ ዘንባባ
በአዲስ ምዕራፍ ንጋት--------- በዘመን ተውባ
በፍቅር ትንሳኤ --------- በሀሴት መዲና
ዓለም ልናይ ይሆን? --------- ደግመን እንደገና።

ትዝታ ናፍቆቴ --------- ፊት ለፊቴ ቆማ፣
በዋሸራ ቅኔ --------- ያሬዳዊ ዜማ፣
ድምጿን ብታሰማኝ--------- የፍቅሯን ዋዜማ፣
በክብሯ ነቃሁኝ --------- በገነት ላይ ማማ።
እውነት ፍቅር ነሽ ወይ??--------- ልቤ ይመንሽ ወይ??(2)

CAPITAL GOODS FINANCE COMPANIES

No	Name Of Company	Address	Phone	Fax
1	Waliya Capital Goods Finance Business S.Co	Bahirdar	058-2206780	
2	Oromia Capital Goods Finance Business S.Co	Addis Ababa	0115-571159	251-0115571152
3	Addis Capital Goods Finance Business S.Co	Addis Ababa	0111-567026	251-0111573124
4	Debub Capital Goods Finance Business S.Co	Hawasa	0462208091	251-0462202052
5	Kaza Capital Goods Finance Business S.Co	Mekelle	0344409306	251-0344406099

Capital Goods Finance Bussiness Licensing and Supervision Team

INFORMATION ON MICRO FINANCE INSTITUTIONS

NBE MFI No. 001
Amhara Credit and Saving Institution S. Co.
058-2201652 / 0918340256
251-058 – 2201733

NBE MFI No. 002
Dedebit Credit and Saving Institution S.C.
034-4409306 / 0914702214
251-034-4406099
251-034-2400208

NBE MFI No. 003
Oromia Credit and Saving Institution S.Co.
0115571158/18/33/ 0911771023 (GM)
251- 011- 1571152

NBE MFI No. 004
Omo Micro Finance Institution S. Co.
096619611 GM
046-2202053/ 0462207384
251-046 – 220-20-52

NBE MFI No. 005
Gasha Micro Financing S. Co.
0118952389/90/91
0911240437

NBE MFI No. 006
Vision Fund Microfinance Institution S. Co.
0116463569
0911211823 (GM)
251-011 – 6293346

NBE MFI No. 007
Sidama Micro Finance Institution S.Co.
046-2200850 / 0462206151
0916836687 (GM)
251-046 – 2204704

NBE MFI No. 008
Africa Village Financial Services S. Co.
0116532052 / 0113204732
0911296401 (GM) 0913113446

NBE MFI No. 009
Buusaa Gonofaa Micro Financing S. Co.
0114162491
0911223679 (GM) / 0912017087 (FM))
251-011 – 4162501

NBE MFI No. 0010
Poverty Eradication & Community Empowerment Micro Financing Institution S. Co.
0116678059 / 0911219506 (GM)
251-011 - 4654088

NBE MFI No. 0011
Addis Credit and Saving Institution S. Co.
0111572720 011111512/13 0911406174 (GM)
251-011 – 1573124

NBE MFI No. 0012
Meklit Micro Finance Institution S. Co.
0113484152 / 0113482183
0911318625 (GM)
251-011 – 5504941

NBE MFI No. 0013
ESHET Micro Finance Institution S.Co.
0113206451/52 0911677434 GM)
251-011 – 3206452

NBE MFI No. 0014
Wasasa Micro Finance Institution S.Co.
0911-67-38-22 / 0113384133
251-0113679024

NBE MFI No. 0015
Benishangul-Gumuz Micro Financing S.Co.
057-7750666 / 057-7752042
0911951484 Gm
251-057 – 7751734
251-057 - 7750060

NBE MFI No. 0016
Shashemene Eddirs Yelimat Agar Micro Financing Institution S.Co.
0461105952/3831/5663
0913252247 (GM)
251-046 – 1101534

NBE MFI No. 0017
Metemamen Micro Financing Institution S. Co.
6615398/6635801/0913460432(GM)
251-011 – 6186140

NBE MFI No. 0018
Dire Micro Finance Institution S. Co.
0251129702/1127072/1119246/47
0911353890 (GM)
251-025 – 1120246

NBE MFI No. 0019
Aggar Micro Finance S.Co.
6183382/3104 0911689457 (GM)
251-011 - 6183383

NBE MFI No. 0020
Letta Micro Finance Institution S. Co.
0911658497 (GM) / 0911169263 (Finance GM) 0911418280 (Aster)

NBE MFI No. 0021
Harbu Micro Financing Institution S. Co.
0116185510 / 0911512633 (GM)
251-011 - 6630294

NBE MFI No. 0022
Digaf Micro Credit Provider S. Co.
0112787390/2782252/0910-27-52-34
0911936785 (GM)

NBE MFI No. 0023
Harar Micro Microfinance Institution S. Co.
025-6663745/025-6664078/0912401911
251-025 - 6661628

NBE MFI No. 0024
Lefayeda Credit and Saving S.Co.
0116296976 / 0118237179

NBE MFI No. 0025
Tesfa Micro Finance Institution S. Co.
0115526205 / 0911831882
251-011 - 5512763

NBE MFI No. 0026
Gambella Micro Financing S. Co.
0475511250/0475512252 / 0917823153
0475511271 / 0475512390

NBE MFI No. 0027
Dynamic Micro Finance S. Co.
(Approved 23/03/09)
01155491585540390 / 0915766908(GM)

NBE MFI No. 0028
Somali Micro finance Institution S.Co.
0257752122257-756976/77
0915768505 (GM)
0257780462

NBE MFI No. 0029
Specialized Financial and Promotional Institution S. Co.
0116622780 0911625576
251-011 - 6614804

NBE MFI No. 0030
Lideta Micro Finance Institution S.C.
0914788554 0344450064/32
0344452829 /0344450383

NBE MFI No. 0031
Nisir Micro Finance Institution S.Co.
0115500700/701 /0912364092
0911059722 / 0911875165
305/1250

NBE MFI No. 0032
Adaday Micro finance Institution S.Co.
0342405095/69 /0914749064
0342405217

NBE MFI No. 0033
Rays Micro Finance Institution S.Co.
0913386180
496/1110

NBE MFI No. 0035
Kendil Micro Financing Institution
0461105952/3831/5663
0913252247

NBE MFI No. 0036
Afar Micro Financing Institution S.C
0911397855
0942062066

NBE MFI No. 0037
Kershi Financing Institution S.C
0118721106/02
0915766908

የኢትዮጵያ ብሔራዊ ባንክ
National Bank of Ethiopia