CHAPTER – VIII

CONCLUSION AND SUGGESTIONS

In this chapter we bring together the summary of the findings of the preceding seven chapters and set out the research conclusions and policy suggestions of this thesis. This chapter is presented in four sections. Section 8.1 discusses the major findings of the study and Section 8.2 concludes key developments in the banking sector during the reform period and on the impact of bank credit on economic growth of Ethiopia as well as the direction of causality between the two variables. Section 8.3 provides possible feedbacks/suggestions based on the findings of this thesis. Last but not the least Section 8.4 highlights areas of future research on the link between bank credit and economic growth in Ethiopia.

8.1. Major Findings of the Study

This thesis examines the impact of bank credit on economic growth in Ethiopia. It also identifies the mechanism through which bank credit affects economic growth in Ethiopia using the multivariate Johansen cointegration approach. Moreover, the direction of causality between bank credit and economic growth is investigated via Granger causality test. The role of bank credit is analysed through its effect on domestic capital accumulation and total factor productivity. Prior to the examination of the impact of bank credit on economic growth and direction of causality, we have examined the financial depth, deposit mobilization and credit allocation of the banking system in pre-reform and reform period. The study uses a time series data for Ethiopia over the period 1971-72 to 2010-11, which represents 20 years prior and post financial reform date.
Financial deepening in Ethiopia

This study uses three indexes of financial deepening, which are used to examine the impact of the financial sector reform on the portfolio choices of individual economic entities. These are: (a) currency outside the banking sector as a proportion of gross domestic product (CUR/GDP), (b) the narrow money as a ratio of GDP (M1/GDP) and (c) the traditional broad money expressed as a percentage of gross domestic products (M2/GDP). Mainly, the ratio of M2 to GDP is used as a proxy for the degree of financial deepening or to measure the size of the financial market or in order to capture the extent and the degree of financial intermediation in Ethiopia.

The findings of the study indicate that throughout the process of development, the three financial indices have a tendency to rise as access to banking and alternative instruments of store of value (investment and savings) spread. Compared to the pre-reform period (1971-72 to 1990-91), the three financial deepening indicators have shown improvement during the reform period (1991-92 to 2010-11).

For instance, the ratio of M2/GDP increased by more than 15 percentage margin from an average of 16.38 per cent in pre-reform period to 31.96 per cent during the reform period. The ratio of currency outside banks to GDP (COB/GDP) has increased marginally by nearly 2 percentage points, i.e., increased from 6.63 per cent to 8.81 per cent during the same period. Relative to currency outside the banks, narrow money (M1) to GDP ratio has increased by 8.09 percentage points from 11.03 per cent to 19.12 per cent due to high increase in demand deposits to GDP ratio during the reform period. The analysis of the statistical significance of the changes in the broad money ratio to GDP (M2/GDP) during the reform period reveals that there is statistical significance.
improvement ($t = 10.1814$) in the ratio of M2 to GDP ratio during the reform period at 1 per cent significance level.

**Money liquidity ratio (M1/M2)**

The development in this ratio indicates a greater accessibility and ease of use of non-currency forms of transaction medium and a higher diversification of financial institutions. Money liquidity ratio (M1/M2) has fallen as financial innovation has progressed in Ethiopia since 1992. Ethiopia has by far the lowest mean of M1/M2 in reform period (60.08 per cent) compared to the pre-reform period (67.06 per cent). The mean difference analysis indicates that the decline in the ratio of M1/M2 by 6.98 during reform period is statistically significant at 1 per cent significance level ($t = -3.9902$).

**Deposit mobilization in Ethiopia**

A major hypothesis of the study is the expected positive impact of financial sector reform on deposit mobilization and credit allocation to the private sector. The extent to which financial institutions intermediate between the business community and depositors, in terms of raising financial resources for credit allocation, has been measured in terms of demand deposit/GDP, long-term deposits (quasi money)/GDP, and total deposits/GDP ratio.

The findings of this study indicate that the ratio of total deposits to GDP increased drastically during the past four decades but at a decreasing rate between 1971-72 and 2000-01. The ratio of total deposits to GDP has increased from an average of 6.59 per cent during the first decade (1971-72 to 1980-81) to 13.31 per cent in the second decade.
(1981-82 to 1990-91), and to 19.01 per cent by the third decade of the study (1991-92 to 2000-01). However, there has been a major increase during the fourth decade (2001-02 to 2010-11) when it increased to 27.29 per cent.

The comparison of the ratio of total deposits liabilities of the banking system to GDP ratio in the pre-reform and reform periods in Ethiopia indicates that there is significant increase during the reform period. The ratio has increased from an average of 9.95 per cent in the pre reform period (1971-72 to 1990-91) to 23.15 per cent during the reform period (1991-92 to 2010-11) indicating a 13.02 percentage point increment in the reform period. This finding also supports the decline in the ratio of M1/M2 during the reform period, which entails improvement in banking habit in the country. The change in the ratio of total deposits to GDP during the reform period is also found to be statistically significant at 1 per cent significance level ($t = 11.0650$).

**Distribution of Outstanding Loans and Advances by borrowers**

The trend of central government deficit financing credit to total outstanding loans and advances showed fluctuation during the study period. It surged from 2.49 per cent in 1971-72 up to 38.51 per cent in 1984-85 and stabilized within 30 per cent band between 1984-85 and 1989-90 and reached 40.32 per cent at the end of 1990-91, the highest level in pre-reform period. During the reform period the share has exhibited a declining trend from 39.1 per cent at the beginning of the reform period (1991-92) to 14.24 per cent in 1998-99. Nevertheless, the share has started to rise since 1999-2000 and reached a peak level of 43.83 per cent in 2003-04. This increase might be attributed to high fiscal deficit,
caused by lower tax revenue collection and high expenditure of the government to
finance the war with Eritrea from 1998 to 2002 and recurring drought of 2002-03.

Public enterprises credit to total outstanding loans and advances, on the other
hand, decreased during the Imperial era from 17.33 per cent in 1971-72 to 10.5 per cent
in 1973-74. However, the coming to power of the Derg and its adherence to socialist
ideology which led to the nationalization of private properties has increased dramatically
the public enterprises credit to total outstanding loans and advances.

On average, public enterprises credit to total outstanding loans and advances
during the pre-reform period accounts for 46.30 per cent compared to only 21 per cent
share of the private sector and 19.30 per cent of central government credit. There was
major reversal in the share of credit to the three sectors during the reform period. The
share of public enterprises credit to total outstanding loans and advances has declined to
16.76 per cent while that of private sector credit and central government credit increased
to 56.52 and 24.92 per cent respectively. Nevertheless, the increase in the share of inter-
bank credit to total outstanding credit by only 0.44 per cent during the reform period
indicated that the underdevelopment of inter-bank credit in Ethiopia.

The change in the distribution of credit to the borrowers during the reform period
indicates that the decline in credit to public enterprises is statistically significant
\( t = -4.6955 \) at 1 per cent significance level. Moreover, the increase in credit to the
private sector is statistically significant \( t = 2.6007 \) at 5 per cent level significance. The
increase in credit to the central government is not found to be statistically significance
\( t = 1.1973 \).
Sector-wise Deployment of Bank Credit to Economic Sectors

The findings of the study reveal that during the pre-reform period (1971-72 to 1991-92), three major sectors viz., agriculture, international trade, and housing and construction received top priority to bank credit. During this period, agriculture alone accounts for about 34.63 per cent of the total loans and advances of the banking system followed by international trade (15.46 per cent). This indicates that, agriculture was the prime beneficiary of bank credit in pre-reform period. The housing and construction sector also accounts for about 9.62 per cent of the total outstanding credit. Thus, all the three sectors put together account about 59.71 per cent of the total credit allocation by the banking sector during the pre-reform period.

However, personal loans, hotel and tourism sector, mining and quarrying, electricity, and water services; and others (miscellaneous) sectors were given the least priority during the pre-reform period. The above four sectors account for about 2.68 per cent of total outstanding credit during the pre-reform period. The vital transportation and communication service sector account for only 4.52 per cent while domestic trade and services 3.78 per cent during the same period. On the other hand, the manufacturing and processing sector accounted for about 8.31 per cent of the total outstanding credit, which is in contrast to the import substitution policy of the command economy the country followed during the pre-reform period.

During the reform period (1990-91 to 2010-11), agriculture, manufacturing and processing, mining and quarrying, electricity, water, building and constructions and transport and communication sectors which are vital to the development of the economy,
received only 47.53 per cent of the total credit allotment. This really poses a threat to the
government policy and strategy.

At the onset of the reforms in 1992, the government declared Agricultural
Development Led Industrialisation (ADLI) as the main strategy of the country. In light of
this broad strategy agriculture, manufacturing and processing and export sectors are
treated as the three priority sectors for growth and development. However, in spite of the
fact that the country started market economy since early 1992 and declared ADLI as its
main strategy, the share of bank credit to agricultural sector. Out of the total loan and
advance of the banking system, the share of credit to agricultural sector has declined
drastically from 34.63 per cent during the pre-reform period to only 9.11 per cent during
the reform period. Analysis of the mean difference of the share of agricultural credit in
reform and pre-reform periods indicates that the decline in the share is statistically
significant at 1 per cent significance level ($t = -15.1877$).

The share of bank credit to manufacturing and processing in total outstanding
credit of the banking sector has increased by 5.81 percentage point from 8.31 per cent in
re-reform period to 14.12 per cent during the reform period. This indeed is a major shift
in credit allocation from agriculture to manufacturing and processing sector. This might
be attributed to the priority attached by the government to small and medium scale
industries. The mean difference of manufacturing and processing sector during the reform
and pre-reform periods is statistically significant at 1 per cent significance level
($t = 5.4617$). The analysis of mean difference indicates that the increase in the share of
exports in total loans and advances of the banking system in reform period is statistically
significant at 1 per cent significance level ($t = 3.8064$).
Long-run Multivariate Johansen Cointegration Approach results

The estimated results confirmed that all the variables included in the real GDP per worker and domestic capital models are non-stationary at the level data but found to be stationary at the first differences. Hence, we can infer that the variables are integrated of order one. The results of the multivariate Johansen cointegration tests indicate that there is long-run relationship among the variables included in the growth model and domestic capital model. The major findings of the study with regards to the long-run and short-run impact of bank credit on economic growth and domestic capital accumulation are summarized below.

In the growth and domestic capital accumulation models the long-run elasticity estimates are economically reasonable in terms of expected sign and magnitude. The efficient resource allocation and domestic capital accumulation impacts are captured by the positive and significant impact of bank credit in the real GDP per worker and domestic capital equations.

The coefficients of bank credit to the private sector (ln \( pbc \)) is positive and significant, implying financial sector development is conducive to long-run economic growth in Ethiopia. Further, the result indicates that a 1 per cent increase in bank credit to the private sector increases economic growth significantly by 0.22 per cent. The contribution of banks deposit liabilities to the growth process is positive and substantially higher than (is almost double that of) private sector bank credit. The significance of deposit liabilities implies that banks through their effort of resource mobilization affect economic growth in the long-run.
The study also finds that domestic capital is instrumental in increasing per worker output and hence promoting economic growth in the long-run. However, despite the fact that, the level of investment exerts a positive and statistically significant impact on real GDP per worker in the long run, the relationship between them in term of elasticities remains very weak i.e. a one per cent increase in investment leads to a respective real GDP increase of 0.14 only.

The regression results also suggest that inflation has negative and significant effect on real output per worker growth due to its adverse effect of sending unwanted signals to the producers and result in temporary resource allocation in the short-run and hence curtail long-run economic growth. On the contrary, the role of government consumption expenditure on economic growth remains positive due to its determinate effects on allocation of resources efficiency through improving property right of investors.

The study finds that trade openness enhances domestic capital accumulation significantly. Trade openness is found to promote long-run economic growth through its favorable effect on efficient resource allocation. The Wald test indicates the null hypothesis that the financial variables (bank credit to the private sector and deposit liabilities to GDP ratio) are equal to zero in the growth model and domestic capital model is rejected, implying that they are jointly statistically significant.

**Short-run multivariate cointegration test results**

The results reveals that all the variables included in the dynamic short-run model except the lag of change in real GDP per worker, deposit liabilities, and openness to trade (both the first lag and the level) are statistically in significant in affecting the growth of
real GDP per worker. Moreover, the coefficient of the bank credit in the short-run model (0.007) is very low compared to its 0.22 magnitude in the long-run. In the short-run however, a 1 per cent increase in bank credit to the private sector increases economic growth by only 0.007 per cent. The result from the short-run regression of domestic capital model shows that none of the variables have statistically significant effect on domestic capital accumulation.

The coefficient of determination of the growth model is 0.659 while that of domestic capital model 0.60, implying 66 per cent of the variation in real GDP per worker is explained by the variables included in the short-run growth model and 60 per cent for domestic capital model. All the variables in the short-run model are jointly significant as indicated by the F-test of $F(10,27) = 5.237 [0.000]$ for growth model and $F(7,30) = 6.4371 [0.0001]$ for domestic capital model suggesting the variables included in both models are jointly significant in explaining economic growth and domestic capital accumulation.

The multivariate system diagnostic test of the residuals indicates that the growth and domestic capital accumulation models have the desirable property of OLS estimation. The model stability test of the parameters in real GDP per worker and domestic capital models were examined using one-step recursive residuals graphical plot and the null hypothesis of parameter stability cannot be rejected since the plot bounds within the 95 per cent critical boundaries.
Bivariate Granger Causality test results

The estimated results of the bivariate Granger causality test also confirmed that bank credit has a significant positive impact on economic growth only in the long-run. The estimated coefficients are also small in magnitude in the short-run, suggesting weak relationship between bank credit and economic growth in the short-run. The long-run Granger Causality analysis in the VAR framework suggests that there is a unidirectional causal relationship between bank credit to the private sector’s a ratio of GDP and economic growth with direction run from bank credit to economic growth in Ethiopia. Moreover, bank credit Granger cause long-run domestic capital accumulation significantly. In the short-run, however, neither bank credit Granger cause real GDP growth and domestic capital accumulation nor do they are caused by the short-run increase in bank credit. Despite absence of causation in the short-run, the result indicates that the direction of causation is stronger from bank credit to economic growth and domestic capital accumulation.

8.2. Conclusions

Hypothesis 1: Banking habit in Ethiopia improved significantly during the reform period (1991-92 to 2010-11).

The increase in M2/GDP and its statistical significance during the reform period signifies an expansion in the financial intermediary sector relative to the rest of the economy. In other words, the increase in the ratio of M2 to GDP indicates that financing relies too heavily on the banking system in the course of economic development and thus
the risk concentration is higher than desired. Moreover, the relatively low ratio during the pre-reform period in Ethiopia may reflect the weak access to the banking system.

The highest M1/M2 mean of 67.06 per cent during the pre-reform period implies that currency was a more popular medium of exchange to finance current transactions and that there was limited access to banking services. In addition, the ratio is also high in part because of interest rate restrictions on deposits during the Socialist Government, which in return limited real returns on financial savings. Thus, the decrease in the ratio during the reform period implies that banking habit is improving in Ethiopia.

The relatively low (9.95 per cent) total deposit to GDP ratio during the pre-reform era compared to the reform period average of 23.15 per cent indicates relatively lower financial depth and also indicates that a low proportion of its liquid liabilities are intermediated by banks, the widespread use of cash and the limited access to the domestic banking system. In addition, this low ratio might be explained by the restriction imposed not to accrue interest rate above Ethiopian Birr 100,000 deposit during the Derg regime, which discourages deposit. Therefore, we can infer that there is an improvement in bank deposits and other financial assets outside the banking sector, which are more likely to be used for asset accumulation and therefore economic growth. In other words, we can conclude that the financial reforms undertaken since 1992 boosted deposit mobilization of the banking sector.

Hypothesis 2: The share of credit to the private sector to total loans and advances has shown significant improvement during the reform period.

The decline in credit to public enterprises and increase in credit to the private sector implies significant shift in credit allocation by the banking sector in Ethiopia from that of
public enterprises credit to private sector credit (PDC) during the reform period. One of
the factors that contribute to the shift in credit was the privatization of public enterprises,
which reduced the size of the public sector. Thus, the results are in tune with the
hypothesis.

The decline in the share of credit to agriculture, which contributes for about 46
per cent of GDP, employs nearly 78 per cent of the population, and accounts for 60 per
cent of exports in 2011, will have major impact on long term investment and
transformation of agriculture. Further, banks have their policy and operational constraints
in the process of allotment of funds. Hence, the hypothesis that states the trend of
outstanding bank credit allocation to agricultural sector in Ethiopia is significantly
improved during the reform period is rejected.

However, the trend in outstanding bank credit allocation to manufacturing and
processing sector in Ethiopia which improved significantly during the reform period is in
tune with the hypothesis. Though its contribution to GDP remained low, the implication
of this finding is that the increase in credit by the banking sector to the manufacturing and
processing sector is in line with the government policy of enhancing industrial
development in the country.

Hypothesis 3: The long-run impact of bank credit on economic growth in Ethiopia
is positive and statistically significant.

The findings of the study indicate that the increase in bank credit to the private
sector directly enhances economic growth. Moreover, bank credit also affects domestic
capital accumulation significantly. This implies that on average the effect of bank credit
on economic growth is captured both through efficient financial resource allocation and
capital accumulation. Therefore, the findings indicate that bank credit affects long-run economic growth not only through its effect on efficient resources allocation but also through enhancing capital accumulation.

Though the impact of bank credit to the private sector on economic growth is positive and statistically significant the coefficient is not robust compared to the long-run effect. Moreover, the short-run impact of bank credit on domestic capital accumulation is not statistically significant. The implication is that bank credit does not have significant impact on short-run economic growth either through TFP or capital accumulation. This is due to the fact sustainable economic growth and capital accumulation require long gestation period in an open economy like Ethiopia.

Therefore, one of the major conclusions of the study is that bank credit affects real GDP per worker through its role of efficient resource allocation. The results of this study are consistent with earlier empirical findings for other countries that bank credit has a positive effect on economic growth. Thus, the hypothesis that states the long-run impact of bank credit on economic growth in Ethiopia is positive and statistically significant is accepted.

Hypothesis 4: There is unidirectional causality between bank credit and long-run economic growth in Ethiopia running from bank credit to growth. In other words, bank credit leads economic growth.

The implication of the finding that private sector credit causes real GDP per worker in the long-run is that bank credit has a direct positive effect on long-run economic growth of Ethiopia. This conclusion is consistent with the ‘finance - led’ growth (or
supply - leading) hypothesis previously observed by many authors for developing countries, particularly in Africa.

8.3. Policy Suggestions

The major policy implication of empirical results of this thesis is that bank credit to the private sector is an important policy variable to accelerate economic growth. Hence, the government should undertake essential measures to strengthen the long-run relationship between bank credit to the private sector and economic growth. These measures include among others:

- The monetary authorities to adopt policies to promote the monetization and financial deepening of the economy while creating more room for private sector activity to leverage the large public investment outlays on infrastructure.
- Attention should be geared towards promoting higher diversification of banking service through expansion of ATM service, introducing mobile banking and greater accessibility and ease of use of non-currency forms of medium transaction such as shopping through ATM cards so as to stimulate deposit mobilization and enhance the banking habit in the country.
- The government should design mechanisms by which rural households dependent on agriculture could have access to bank credit so as to improve productivity in agriculture and ensure food security the country aspires for. These can be achieved through committed effort towards reducing the huge collateral requirement to get bank credit, another one is expansion of rural banks, and designing policies for agricultural credit guarantee schemes.

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➢ Attention should focus on the business climate, particularly regarding private sector access to foreign exchange and credit, to stimulate private investment, and sustain the high economic and export growth of recent years.

➢ Urgent steps to raise nominal interest rates, maintain lower reserve money growth, foster monetary policy independence, and enhance financial sector supervision to ensure financial stability.

➢ Introduction of active liquidity management would also help to achieve positive real interest rates in the short-run, and would support monetization, financial deepening, and the mobilization of domestic savings. Delay in effecting a reversal in demonetization poses risks to financial stability and the ability of the financial sector to support private sector led growth.

➢ Efforts are also needed to strengthen financial sector supervision and regulation, particularly in view of the dominant role of the government-owned Commercial Bank of Ethiopia and given the sharp rise in the number of new private banks.

➢ Minimizing government intervention in the financial systems, increasing the status of financial institutions, and strengthen banking and financial governance. The lack of same not only affects the finance-growth nexus but also overall socio-economic development in the country.

8.4. Future areas of research

The robustness of this thesis, however, is delimited by the inter-play of many other factors such as interest rate, bank branch expansion, treasury-bill market, financial inclusiveness (access to the rural poor and population per branch) and banking sector laws and regulations.
Hence, the scope for further empirical research is to include more variables in the VAR model aiming at examining the relationship between bank credit and economic growth in Ethiopia. More importantly, further study should focus on the transmission mechanism through which bank credit affects long-run economic growth. Moreover, more light should be shed on the comparative analysis of empirical results for the pre-reform and post-reform periods using quarterly data in order to draw lesson how financial reform measures promote rapid and sustainable economic growth in Ethiopia.

In view of data limitations, the present study could not examine the financial inclusiveness. Financial inclusion is integral to the inclusive growth process and sustainable development of the country. It is a policy of involving wider sections of population in the process of deposit mobilisation and credit intermediation. However, available data in Ethiopia indicates that banking services are skewed more in the urban areas implying that access to banking service to as high as 82 per cent of its rural population is very limited. Thus, future studies should also investigate thoroughly the financial inclusiveness, which plays a major role in driving away the poverty and in promoting the welfare of the masses in Ethiopia.