Sisay Demissew Beyene

EXTERNAL DEBT IN HEAVILY INDEBTED POOR COUNTRIES: DETERMINANTS, SUSTAINABILITY, CHANNELS, AND IMPACTS

Thesis book of the PhD Dissertation

Szeged, 2021

UNIVERSITY OF SZEGED

FUCULTY OF ECONOMICS AND BUSINESS ADMINISTRATION

DOCTORAL SCHOOL IN ECONOMICS

EXTERNAL DEBT IN HEAVILY INDEBTED POOR COUNTRIES: DETERMINANTS, SUSTAINABILITY, CHANNELS, AND IMPACTS

Thesis book of the PhD Dissertation

Supervisors

Dr. Balázs Kotosz

Dr. Izabella Szakálné Kanó

Associate Professor

University of Szeged

Faculty of Economics and Business Administration

Author

Sisay Demissew Beyene

University of Szeged

Faculty of Economics and Business Administration

Doctoral School of Economics

Table of Contents

1. Background of the study

Economists argue that the accumulation of foreign debt is a common phenomenon of developing countries at the early stage of their economic development. Due to limited availabilities of domestic resources compared to required, most developing countries, such as Heavily Indebted Poor Countries (HIPCs[1]) borrow from abroad to finance and fill the resource gaps which are vital for growth and development (Umaru et al. 2013; Siddique et al. 2016). For the past four decades, why HIPCs have accumulated excess and unsustainable external debt, leading to qualified repeated debt cancellations and relief and its solution has been the forefront of international discussion. Commonly, the causes of foreign debt are classified into domestic (Sachs 1989; Osei 1995; Uzun et al. 2012; Berensmann 2019) and external (Cline 1985; Iyoha 2000; Easterly 2002; Berensmann 2019) factors and both are interrelated with each other.

Since the early 1970s, the external debt accumulation of developing countries in general and HIPCs in particular has increased. Beyond the issue of accumulation of external debt, its unsustainability is a headache for most HIPCs. The International Monetary Fund (IMF) (1997, 17) defined external debt sustainability by saying that "A country can be said to achieve external debt sustainability if it can meet its current and future external debt service obligations in full, without recourse to debt rescheduling or the accumulation of arrears and without compromising growth."

Although debt has been substantially reduced after enhanced HIPC debt relief, debt sustainability has not been achieved for an extended period of time. According to IMF estimates, for 27 countries that reached their decision points, the Net Present Value of the external debt-to-exports ratio was 274% before enhanced HIPC relief. Even though the IMF and World Bank (WB) argued that this ratio should not have exceeded 128% at the completion point in 2005, after enhanced HIPC relief, some individual countries are still faced with ratios of debt to export earnings of over 150%, which exceeds the limit for debt sustainability set by the IMF and WB under the HIPC initiative. Furthermore, due to structural deficiencies

[1]Post-completion-point countries: Afghanistan, Benin, Bolivia, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo Democratic Republic, Congo Republic, Côte d'Ivoire, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Nicaragua, Niger, Rwanda, São Tomé & Príncipe, Senegal, Sierra Leone, Tanzania, Togo, Uganda, and Zambia (IMF 2019).

(widespread unemployment, massive and frequent budgeted deficit, and fiscal cliff) in developing countries, several scholars contend that new external debt may be unsustainable in HIPCs (Yang – Nyberg 2008; Beddies et al. 2009; Ellmers – Hulova 2013; Vaggi – Prizzon 2014).

Such type of external debt accumulation and unsustainability condition leads to a low level of foreign direct investment (private investment) and other macroeconomic distortions in the domestic economy, appreciation of the domestic currency, and underdevelopment of the financial sector (Ajayi 1991). Similarly, this day's researchers and policymakers also worry about and predict a continuous growth of external debt, the unsustainability and unmanageability of which will adversely affect the macroeconomic variables that are the bases for growth and development directly and indirectly and lead the HIPCs to the second round debt crisis.

2. Statement of the problem

As explained in the previous section, at the initial stages of a country's development, domestic resources may not be adequate to finance basic growth factors (investment, savings, human capital development (HCD), and total factor productivity (TFP)) which are necessary to ensure the fast and sustained economic growth of developing countries, especially HIPCs. Hence, it becomes essential to look for overseas borrowing to supplement growth factors and then economic growth. However, the issue of external debt as a mechanism to promote economic growth creates a relevant debate among economists (Ayadi 2008). The main concern is whether external borrowing makes economic growth faster in debtor countries directly or indirectly. There are two leading opposing schools of thought on the economic theory of external debt and growth, namely the Keynesian and the Classical (disincentive effect) economists. To the Keynesians, indebtedness does not bring about charges either for future generations or present generations due to the investments that it generates. According to this theory, indebtedness stimulates demand, results in a more proportionate increase in investment through the accelerator effect; this, in turn, leads to a rise in production (Diallo 2009). Their justification is that external debt is one of the sources for financing capital formation and this financing in capital formation contributes to investment; therefore, it promotes economic growth (Oleksandr 2003).

In contrast, classical economists argue a massive amount of external debt can reduce the growth of a country since the future debt will be larger than the repayment capacity of a country, which discourages capital accumulation. In this regard, the "debt overhang theory" is the most common theory which explains the effect of substantial external debt on investment and economic growth. The debt overhang is defined as a situation in which the creditors do not expect to be fully repaid because of the presence of a large stock of debt (Arnone et al. 2005). This theory was first introduced by Krugman (1988) and then Sachs (1989), implying that when external debt grows large, investors fear high and progressively more taxes to repay their debt and they expect lower returns from their investment, which therefore adversely affects growth. Furthermore, the new investment will be discouraged due to the uncertainties regarding what portion of the debt will be repaid with the country's resources, and this, in turn, slows capital accumulation and growth (Agénor – Montiel 1996; Serven 1997; Serieux 2001; Pattillo et al. 2002; Oleksandr 2003; Arnone et al. 2005; Ossemane 2007; Hwang et al. 2010; Sheikh et al. 2014). Similarly, the crowding out effect theory is the one that describes a large number of external obligations can affect investment (both private and public) and then growth. It mainly occurs due to high real interest rates, worse terms of trade (TOT) of borrowed countries and lack of (shut-off) foreign credit markets. Hence, investments are expected to have declined because of a shortage of available resources for financing investment.

In addition to the impact of external debt on growth through investment, there are also other channels (savings, HCD, TFP, interest rate) in which external debt is transmitted to the economy and affect economic growth. Regarding the saving channel, the above-mentioned contradicting schools of thought provided their point of view. The Classicals believe that massive accumulation of external debt adversely affects growth via savings, while the Keynesians argue the reverse. The other channel through which external debt depresses economic growth is by lowering TFP growth. The efficiency of investment and productivity can be affected by a lousy policy environment. Also, a large amount of external debt (the debt overhang) can hinder the incentive for technological advancement or use limited resources efficiently, which leads to slower productivity growth (Pattillo et al. 2002, 2004; Clements et al. 2005; Schclarek 2005; Kumar – Woo 2010; Checherita-Westphal – Rother 2012; Riffat – Munir 2015). Similarly, external debt accumulation can affect economic growth by decreasing human capital accumulation (Pattillo et al. 2004; Haaparanta – Virta 2007; Tabengwa 2014).

Besides the above-described contradicting theories, based on the type of functional model, empirical findings concerning the impact of external debt on economic growth can be broadly categorized into two groups. The first group considers a linear relationship between external debt and growth, while the second group uses a non-linear model to examine the relationship between external debt and economic growth. Even though there are many empirical findings about the linear or non-linear impact of external debt on growth, only Clements et al. (2003), Pattillo et al. (2004), Schclarek (2005), Kumar – Woo (2010), Afonso – Jalles (2011), Checherita-Westphal – Rother (2012), Riffat – Munir (2015), and Silva (2020) examined the channels and impacts of external debt on growth using non-linear models. This implies that, to the best of the writer's knowledge, no study shows the non-linear effect of external debt on growth factors and growth in the case of HIPCs. Also, the channels through which external debt affects growth are not investigated in HIPCs, leading to a literature gap. In addition to differences in the applied models and channels explorations, the previous studies' findings are mixed and inconclusive.

Even though HIPCs need external borrowing for growth and development, once the debt grows more prominent and unmanageable, it becomes a major macroeconomic destabilizing factor and a severe bottleneck to promoting the economy. To keep countries away from the macroeconomic instability caused by excessive external debt, identifying the determinants of external indebtedness in HIPCs needs a precise empirical analysis. Similarly, external debt sustainability has become a necessary condition for sustainable economic growth in open economies. Hence, since HIPCs are suffering from external debt accumulation, examining their debt sustainability condition is crucial for their economic growth and development. Furthermore, this huge amount of external debt of HIPCs can affect both growth factors and growth directly or indirectly. Therefore, exploring the channels and impacts of external debt on growth is vital to understand and develop effective policies for HIPCs.

Therefore, based on all contradictory theories and empirical findings discussed above along with the essentiality of the study, this paper examines the determinants, sustainability, channels and impacts of external debt in HIPCs.

Even though there are some findings which are related to this topic, most of the studies suffer from either one or several of the following issues;

a. Although there are some studies about the determinants of external indebtedness, there is a lack of empirical findings in HIPCs, which leads to a literature (knowledge) gap in the area.
b. Most studies in the case of developing or sub-Saharan Africa (SSA) countries or HIPCs did not pay attention to external debt sustainability, which leads to a literature gap.
c. Non-linear relationship – most empirical findings focus on the linear impact of external debt on growth factors (channels) and economic growth. Currently, however, an essential feature of the research in this area indicates that the impact of external debt on growth factors and growth could be non-linear rather than linear. Although some (few) empirical studies considered the non-linear relationship/impact of external debt on growth factors (channels) and economic growth, there are no empirical findings in the case of HIPCs, which leads to a literature gap.
d. Channels explorations – most empirical findings did not analyze the channels through which external debt affects economic growth. Presently, however, an emerging concern among policymakers is for channels through which a country's external debt is transmitted into the economy and affects economic growth. Regarding this, there is no empirical exploration on the channels and impacts of external debt on economic growth, specifically in HIPCs, which results in a literature gap.
e. Conventional estimation techniques and the problem of the cross-sectional dependence (CD) – most empirical studies (the determinants, sustainability, channels, impacts of external debt) employed either the static models (Pooled OLS, fixed effect, or random effect) or failed to capture the cross-sectional nature of the series and second-generation panel data analysis. However, this study considered the above drawbacks of other studies along with the dynamic panel estimations techniques.
f. Most of the previous works' time scope was outdated compared to the fast and dynamic changes in global microeconomic situations. For example, the latest panel data study on the determinant of external debt is Chiminya – Nicolaidou (2018) and they used the dataset until 2012. Similarly, Llorca's (2017) is the latest study on external debt sustainability and employed the dataset until 2014. However, this study used the dataset until 2017. Likewise, concerning external debt – investment relationship, Turan – Yanıkkaya (2020) is the latest, but they employed the data set until 2014. For external debt and growth relationship, the latest studies are Zaghdoudi (2018) (used non-linear model) and Turan – Yanıkkaya (2020) (used linear model); however, their time scope was until 2016 and 2014, respectively. Moreover, the latest studies focusing on the

impact of external debt on saving or human capital or TFP also employed the data set until 2014, 2015, and 2019, respectively.

g. Specific studies on HIPCs that consider all regions (SSA, Latin America, and Asia) are rare. Thus, this research can widen the scope in this area.
h. Simultaneous equations method – most studies independently estimated their models to examine the impact of external debt on growth factors or growth. However, except for chapter 6.2, this study evaluated the equations simultaneously, enhancing the accuracy of the estimated results.

Relative to previous studies, this dissertation is unique in terms of: first, the study focuses on the most concerned countries (HIPCs) in which there are no (limited) studies. Secondly, the study uses a more robust estimation technique that safeguards the regression against cross-sectional dependency, serial correlation, and endogeneity present in a panel dataset. Thirdly, this study employs an indicator, Country Policy and Institutional Assessment (CPIA) policy rating, and an intertemporal approach to the current account in examining external debt sustainability. Fourth, the study follows the non-linear feature relationship between external debt and growth factors (economic growth), recommended by many scholars. Fifth, the study also considers the channels (indirect) through which external debt affects growth rather than the direct impact. Sixth, it employs simultaneous equations estimation technique to analyze the channels and impacts of external debt. Finally, compared to other empirical studies, the time frame for the dataset used in this study is the most recent (until 2017) and fills the time gap. This study's general time scope is broad and holistic. It considers international programs and events (Millennium Development Goals, Sustainable Development Goals, global financial crisis) and regional events (HIPCs initiatives and the economic boom of SSA countries).

3. Objectives of the study

This study's primary objective is to investigate the main determinants of external indebtedness, its sustainability, and whether external debt affects growth mostly through an effect on investment, national saving, HCD, and TFP using panel time-series data for HIPCs.

This study attempts to address the following research questions:

I. What are the trends and components of external debt in HIPCs and how does it look like based on the region?

II. Why are the HIPCs indebted, what are the main determinants and the extent to which the determinants influence their external debt?

III. Is external debt sustainable in HIPCs after the initiatives? Do they need another initiative?

IV. What is the impact of external debt on growth factors and growth in HIPCs? What are the channels through which external debt affects economic growth, what is their impact (linear or non-linear), and how does external debt affect economic growth through its channels?

The study's general objective is to examine the determinants, sustainability, channels, and impacts of external debt in HIPCs. Besides, specifically, the study seeks to:

I. Show the magnitude and components of foreign debt in HIPCs and the regional level (East Africa, West Africa, Central & South Africa, Asia & Latin America).

II. Examine the primary determinants of external indebtedness of HIPCs and select the significant factors that require urgent actions to overcome indebtedness.

III. Investigate the debt sustainability condition of HIPCs after the initiatives.

IV. Explore the channels and impacts of external debt in HIPCs.

- ✓ The impact of external debt on investment and economic growth
- ✓ The impact of external debt on national saving and economic growth
- ✓ The impact of external debt on HCD and economic growth
- ✓ The impact of external debt on TFP and economic growth

V. Provides policy recommendations

4. Hypotheses of the study

This study, in addition to the above research questions and based on different studies conducted in a different part of the world, is fundamentally guided by the following testable hypotheses (H):

- ✓ On the determinant model

  H1: Both internal and external factors determine the level of external debt of HIPCs.

- ✓ On the sustainability model

  H2: External debt is sustainable for HIPCs after their initiatives.

- ✓ On channels and impacts of external debt models

H3: External debt has a direct or indirect impact on investment and economic growth of HIPCs.

H3a: External debt has a significant and non-linear impact on both investment and growth in HIPCs.

H3b: External debt has a significant impact on the growth of HIPCs through the investment channel.

H4: External debt has a direct or indirect impact on the national saving and economic growth of HIPCs.

H4a: External debt has a significant and non-linear impact on both national saving and growth in HIPCs.

H4b: External debt has a significant impact on the growth of HIPCs through the saving channel.

H5: External debt has a direct or indirect impact on human capital development and the economic growth of HIPCs.

H5a: External debt has a significant and non-linear impact on human capital development and growth in HIPC.

H5b: External debt has a significant impact on the growth of HIPCs through the HCD channel.

H6: External debt has a direct or indirect impact on total factor productivity and economic growth of HIPCs.

H6a: External debt has a significant and non-linear impact on both total factor productivity and growth in HIPCs.

H6b: External debt has a significant effect on the growth of HIPCs through the TFP channel.

5. Significance of the study

Developing countries in general and HIPCs in particular experienced external borrowing for an extended period to fill their resource gaps and achieve economic growth. However, excessive external debt beyond the limit can affect (directly or indirectly) growth factors and economic growth adversely. Therefore, detailed knowledge and understanding of the determinants, sustainability, channels, and impact of external debt accumulation of HIPCs is important for government leaders and policymakers to adopt appropriate policies that minimize

macroeconomic imbalances and eliminate economic distortions caused by heavy debt stock and obligation.

Also, this thesis's output will contribute more to the existing literature, time, and methodology gaps of previous studies in this area. Furthermore, this thesis provides direction and guidance for further research related to external debt and other related issues of any country both in the HIPCs and other non-HIPCs suffering from excessive debt accumulations and unsustainability.

Scope of the dissertation

Except for the sustainability model (2000 to 2017), this dissertation's time scope is from 1990 to 2017. The sustainability time frame is relevant for the study because it examines whether the debt is sustainable or not after the second HIPCs initiative, which was applied in 1999. Also, it captures the dawn of most HIPCs, such as SSA countries economic boom since 2000, the Millennium Development Goals in 2000, the global financial crisis in 2007/8, and Sustainable Development Goals since 2015. The time frame (1990 to 2017) for other models is also appropriate since it captures both before and after the decline of most HIPC economies, the two main HIPCs initiatives in 1996 and 1999, and others listed above.

Similarly, depending on the study's availability of data and objective, except for the sustainability (included 32 HIPCs) model, this study's empirical analysis is limited to 15 HIPCs. Furthermore, to represent the dynamic nature, this study used dynamic panel estimation techniques along with simultaneous equations model, recent cross-sectional dependence tests, both first and second-generations panel unit root tests, and accurate panel cointegration tests.

6. Summary of the study

This dissertation began by introducing the general structure of the study in chapter one. It provided the study’s background, statement of the problem, objectives, and hypothesis of the study. Besides, chapter one discussed the significance, scope, and organization of the study. Chapter two provided detailed information about the definitions of external debt, a description of the study area, the debt crisis, and the conditions after the debt crisis in HIPCs. Methodology of the study specifically data type, sources, and data analysis, panel econometrics procedures, and model specification, justifications, and estimation techniques are presented in chapter three.

The empirical studies in the case of HIPCs began in chapter four. Before estimation, all models passed through basic steps in panel data econometrics, such as cross-sectional dependence, panel unit root and panel cointegration tests. All empirical chapters, except for chapter five, examined the period between 1990 and 2017 in the case of 15 HIPCs. Specifically, chapter four investigated the determinants of external debt, while chapter five examined whether the external debt is sustainable in HIPCs after the 1990s initiatives. It employed an indicator-based (from 2000-2018), CPIA policy rating (from 2005-2019) and intertemporal approach to the current account (from 2000-2017). To get robust and assertive results, in the intertemporal approach to the current account, this chapter classified countries into three strata—HIPCs in general, HIPCs in SSA countries and HIPCs in non-SSA. For the indicator-based and CPIA policy rating approaches, it used a sample of 36 HIPCs, while 32 HIPCs for the intertemporal approach to the current account.

Chapter six is broad and investigated the impact of external debt on growth factors and growth in HIPCs, and also covered the examination of the indirect channels through which external debt affects growth. This chapter has four different sub-chapters (studies), and all of them are in the case of 15 HIPCs for the period from 1990 to 2017 and considered the non-linear relationship between the variables. The first sub-chapter (chapter 6.1) examined the impact of external debt on investment and growth, employing the Seemingly unrelated regression (SUR) estimation technique, while chapter 6.2 investigated the impact of external debt on national savings and growth in HIPCs and due to different results in CD test, it employed two estimation techniques: Pooled Mean Group and Panel-Corrected Standard Errors. Besides, chapter 6.3 explored the impact of external debt on HCD and growth in HIPCs by using the SUR estimation technique. Finally, chapter 6.4 examined the impact of external debt on TFP and growth in HIPCs by employing the SUR model.

7. Conclusions of the study

Based on the empirical result in chapter 4, 5, and 6, this study concludes that:

1. The debt service, imports, and growth rate of advanced countries significantly increase external debt, while exports reduce it. Furthermore, foreign direct investment and political stability significantly reduce the external debt of HIPCs.
2. External debt is not sustainable in either HIPCs in general or in sub-regions of HIPCs.

3. External debt significantly reduces both investment and growth, which supports the debt overhang and crowding out effect theories of classical economists. Besides, the relationship between external debt and investment (and growth) is negative and non-linear.
4. There is a positive and non-linear impact of external debt on national saving, and the turning point is at 81.61 % of external debt to GDP. However, the effect of external debt on growth is negative and non-linear with the turning point at 220 % of external debt to GDP.
5. External debt has a negative and significant impact on HCD which supports the debt overhang hypothesis, and also, the relationship between external debt and human capital is non-linear. Besides, the quadratic coefficient of external debt (positive and significant) indicates a non-linear relationship between external debt and growth.
6. External debt negatively and significantly affects both TFP and GDP growth, and also it is observed that there is a non-linear relationship between them.
7. Finally, external debt can indirectly affect the growth of HIPCs through all the channels.

Besides achieving the objectives, the study also evaluated its hypotheses listed in section 3.

I. H1: Both internal and external factors determine the level of external debt of HIPCs.

Chapter four focused on examining this hypothesis and found that debt service, imports, and growth rate of advanced countries significantly increase external debt while exports reduce it. Furthermore, foreign direct investment and political stability significantly reduce the external debt of HIPCs. This implies that compared to external factors, domestic factors played a major role in determining the level of external debt in HIPCs. **Therefore, this study fails to reject the hypothesis that both internal and external factors determine the level of external debt of HIPCs.**

II. H2: External debt is sustainable for HIPCs after the 1990s initiatives.

By employing indicator-based and CPIA policy rating approaches (for 36 HIPCs) and intertemporal approach to the current account (for 32 HIPCs), chapter five evaluated the second hypothesis for the period between 2000/05 and 2017/18/19. All approaches confirmed that external debt is not sustainable; therefore, **this study rejects the hypothesis that external debt is sustainable for HIPCs after the 1990s initiatives.**

III. H3: External debt has a direct or indirect impact on investment and economic growth of HIPCs.

H3a: External debt has a significant and non-linear impact on both investment and growth in HIPCs.

H3b: external debt has a significant impact on growth of HIPCs through investment channel.

Chapter 6.1 examined the impact of external debt on investment and growth in 15 HIPCs using the SUR estimation technique from 1990-2017. Besides, it considered both a non-linear relationship between the variables and the investment channel through which external debt affects growth. The result shows that external debt significantly reduces both investment and growth. Also, the relationship between external debt and investment (and growth) is non-linear. Furthermore, the result confirmed that investment is a channel through which external debt affects the growth of HIPCs. **Hence, this study fails to reject the hypotheses that external debt has (H3) a direct or indirect impact on investment and economic growth of HIPCs, (H3a) a significant and non-linear impact on both investment and growth in HIPCs, (H3b) has a significant effect on the growth of HIPCs through investment channel.**

IV. H4: External debt has a direct or indirect impact on the national saving and economic growth of HIPCs.

H4a: External debt has a significant and non-linear impact on both national saving and growth in HIPCs.

H4b: External debt has a significant impact on growth through saving channel.

Chapter 6.2 shows the reciprocal relationship between external debt and national saving (and growth). To make it clear, the relationship between external debt and national saving is positive and non-linear, but we observed a negative and non-linear relationship between external debt and growth. However, the result also noted that national saving is a channel through which external debt affects growth. **Consequently, the hypothesis of external debt has (H4) a direct or indirect impact on the national saving and economic growth of HIPCs, (H4a) a non-linear impact of external debt on both national saving and growth in HIPCs, (H4b) a significant impact on growth through saving channel fails to reject in this study.**

V. H5: External debt has a direct or indirect impact on human capital development and the economic growth of HIPCs.

H5a: External debt has a significant and non-linear impact on both HCD and growth in HIPCs.

H5b: External debt has a significant impact on growth through the HCD channel.

Similarly to chapter 6.1, chapter 6.3 also employed the same estimation technique, time scope, and sampled countries to examine the above hypothesis. The result confirmed a non-linear relationship between external debt and HCD (and growth) because the coefficient of the quadratic term of external debt is significant. Besides, the result shows that external debt affects the growth of HIPCs indirectly through the HCD channel. Based on this evidence, **this study fails to reject the stated hypotheses (H5, H5a, and H5b).**

VI. H6: External debt has a direct or indirect impact on total factor productivity and economic growth of HIPCs.

H6a: External debt has a significant and non-linear impact on both total factor productivity and growth in HIPCs.

H6b: External debt has a significant impact on growth through the TFP channel.

The final hypothesis of this study examined in chapter 6.4., which explored the impact of external debt on TFP and economic growth along with considering the TFP channel. The chapter also considered a non-linear relationship between the variables and used the SUR estimation technique for 15 HIPCs for the time period ranging from 1990 to 2017. The chapter found that both TFP and GDP growth of HIPCs are negatively and significantly affected by their external debt accumulation. Besides, the relationship between external debt and TFP (and growth) is negative and non-linear. Furthermore, the result confirmed that external debt could affect the growth of HIPCs through the TFP channel; **therefore, this study fails to reject the stated hypothesis (H6, H6a, and H6b).**

8. Contributions to the literature

This dissertation can contribute to the existing literature concerning determinants, sustainability, channels, and impacts of external debt in the case of HIPCs. More specifically, its contributions are presented below:

a. This study contributes to filling the existing literature (knowledge) gaps in the topic. For example, it empirically examined the determinants of external debt, specifically for HIPCs. Besides, it is the only study in analyzing the external debt sustainability condition in the case of HIPCs. Furthermore, this study is the only study that considers

the non-linear relationship between external debt and growth factors (and growth) in HIPCs. In addition to the non-linearity model, it considers the channels through which external debt affects growth.

b. This study also contributes to filling the methodological limitations of previous findings. Therefore, this study employed dynamic models with the latest estimation technique, and also it considered the CD in its empirical models.

c. Concerning the scopes – this study is the latest study on the determinants, sustainability, channels, and impacts of external debt in HIPCs. Furthermore, it is the most specific (for only HIPCs), still holistic (considered all HIPCs regions, such as SSA, Latin America, and Asia).

9. Policy recommendations, limitations, and future studies

Based on the findings (descriptive and empirical) of the studies in chapter 4, 5, and 6 and intuitive knowledge, this study provided the following policy recommendations:

a. Chapter four confirmed that the debt service, imports, and growth rate of advanced countries significantly increase the external debt of HIPCs, while exports reduce it. Furthermore, foreign direct investment and political stability significantly reduce the external debt of HIPCs. Based on the above evidence, this study recommends increasing the export volume and revenue through export diversification, simplifying regulation related to exports, and providing short and long-term credits to the exporters. Also, the international trade communities should keep international standards developed by the International Organization for Standardization for exports of developing countries, which simplify unnecessary regulatory hurdles. For instance, according to World Economic Forum (2016) and United Nations Conference on Trade and Development (2016), due to the difference between the regulations of the European Union and international standards, African exporters of textiles and clothes lost 50% of their potential export revenues. Even though all sampled countries are members of the World Trade Organization (WTO), the trade rules of WTO still unfavorable towards developing countries. Hence, it is better to improve the rules to promote HIPCs exports. Similarly, attracting foreign direct investment by reducing foreign direct investment restrictions, providing open, transparent, and dependable conditions for all kind of firms that assure basic and quality infrastructures, reforming domestic financial markets and political stability of countries, increasing FDI

are essential. Finally, reducing luxury imports by increasing tax on them and the import substitutions are crucial to reduce the external debt stock of HIPCs.

b. The results of chapter five revealed that external debt is not sustainable in either HIPCs or sub-regions of HIPCs. Domestic policy failures, ineffective control of public finances, collapse in primary and semi-finished commodity prices, and rise in some basic imported commodity prices can be potential causes for external debt's unsustainability. Therefore, this study recommends that because HIPCs cannot repay their external debt in the future without raising more debt (e.g., currently, the IMF has approved $ 2.9 billion in loans for Ethiopia) and risk their future development, HIPCs need to strengthen their macroeconomic policies and institutions or implement other initiatives to overcome the problem. Furthermore, since HIPCs external debt is unsustainable, another initiative from creditors can protect the adverse effect of unsustainable external debt on HIPCs macroeconomics.

c. Both chapters 6.1 and 6.4 found that the impact of external debt on investment (and TFP) and growth is negative, supporting the debt overhang and crowding out effect hypothesis. The results show that the relationships between external debt and investment (and TFP) (and growth) are negative and non-linear. However, unlike the above studies, the findings of chapter 6.2 and 6.3 obtained a mixed relationship between the target variables. For example, the relationship between external debt and national savings is positive and non-linear, but there is a negative and non-linear relation between external debt and growth. However, chapter 6.3 found a negative and non-linear relationship between external debt and Human Development Index, but only non-linear relationships were observed between external debt and growth. Nevertheless, all chapters commonly confirmed that external debt affects growth through the channels. From the above evidence, we can conclude that currently external debt has a negative and significant effect on both growth factors and growth, which supports the hypothesis of the Classicals economists. Therefore, even though it is difficult and not applicable to suggest governments in HIPCs to stop or reduce their foreign borrowing directly, this study recommends that HIPCs should adopt strong macroeconomic policies, strengthen institutional performance, appropriate debt management strategies to handle their accumulated external debt and reduce the adverse effect on growth factors and growth. Besides, HIPCs should invest the borrowed funds in projects that are productive and provide foreign exchanges instead of non-productive activities. Moreover, creditors should provide loans to feasible and development projects of HIPCs and also, they have to follow up their implementations. In addition, by examining the status of HIPCs projects, creditors should provide the funds step by step instead of once.

Furthermore, improving the skills and knowledge of HIPCs by providing different short- and long-term trainings concerning resource and debt related issues, such as resource allocation, debt management, and project management.

d. The studies found that investment, national saving, HCD, and TFP significantly increase the growth of HIPCs. Therefore, besides policies that reduce the adverse effect of growth factors, governments should develop strategies that improve the growth factors.

Even though this study tried to fill the existing gaps (scope, methodology, literature) in determinants, sustainability, channels, and impacts of external debt in HIPCs, it also has limitations that will be addressed by future studies. Due to a lack of data on some important variables and to make the study consistent, except for chapter five, the study is constrained to 15 HIPCs.

This study is limited to some macroeconomic factors when examining the determinants and sustainability of external debt in HIPCs. However, due to constrained data, this study does not include other factors such as natural disasters, landlockedness, political stability or instability[2] (fragile and nonfragile states), and other macroeconomic variables though they can determine external debt and sustainability conditions. Hence, taking these into account, future studies can examine the issue further and extend the Llorca (2017) model in their investigation.

This study focused on investment, national saving, HCD, and TFP channels to investigate the indirect effect of external debt on growth. However, interest rate and private saving also some of the channels. Besides, the study used total investment rather than its components (private and public investment). Moreover, this study did not consider the structural breaks in its analysis. Therefore, future studies can extend their investigation by considering interest rate, private saving, the decomposed investments (to capture the accelerator principle), and structural breaks in their models.

[2] For external debt sustainability model.

10. References

Afonso, A. – Jalles, J.T. (2011): Growth and productivity: the role of government debt. Technical University of Lisbon Department of Economics Working Paper No. 13/2011/DE/UECE

Agénor, P-R. – Montiel, P.J. (1996): *Development Macroeconomics*. New Jersey: Princeton University Press.

Ajayi, S.I. (1991): *Macroeconomic approach to external debt: A case of Nigeria*. African Economic Research Consortium Research Paper No. 8, Nairobi: English press Limited.

Arnone, M. – Bandiera, L. – Presbitero, A. F. (2005): External debt sustainability: Theory and empirical evidence. Catholic University of Piacenza Economics Working Paper 33.

Ayadi, F.S. (2008): Econometric Analysis of Capital Flight in Developing Countries: A case of Nigeria. 8th Global Conference on Business & Economics, October 18–19, Florence, Italy.

Beddies, C. – Dömeland, D. – Manchec, M-H. L – Mooney, H. (2009): Debt Sustainability in Low-Income Countries: Recent Experience and Challenges Ahead. *In Debt Relief and Beyond- Lessons Learned and Challenges Ahead.*, edited by Carlos A. Primo Braga and Dorte Domeland, 93-116. Washington, DC: World Bank.

Berensmann, K. (2019): *Why developing countries are facing a renewed debt crisis*. German Development Institute, The Current Column. Available at: https://www.die-gdi.de/en/the-current-column/article/why-developing-countries are-facing-a-renewed-debt-crisis-1/

Checherita-Westphal, C. – Rother, P. (2012): The impact of high government debt on economic growth and its channels: An empirical investigation for the Euro area. *European Economic Review*, 56, 1392 – 1405.

Chiminya, A. – Dunne, J.P. – Nikolaidou, E. (2018): *The determinants of external debt in sub Saharan Africa*. School of Economics Macroeconomic Discussion Paper Series No. 02, School of Economics, University of Cape Town.

Clements, B. – Bhattacharya, R.– Nguyen, T. (2005): *Can Debt Relief Boost Growth in Poor Countries*? International Monetary Fund, Economic Issues. No. 34.

Clements, B. J. – Bhattacharya, R.– Nguyen, T. Q. (2003): External debt, public investment, and growth in low-income countries. Working Paper No. 03/249. Available at http://www.imf.org.

Cline, W.R. (1985): International debt: Analysis, experience and prospects, *Journal of Development Planning*, 16, 25 – 56.

Diallo, B. (2009): External Debt and Financing of Economic Development: A case of Guinea. *Proceedings of the African Economic Conference*, Conakry, Republic of Guinea: Ministry of Economy and Finance.

Easterly, W. (2002): How did heavily indebted poor countries become heavily indebted? Reviewing two decades of debt relief. *World Development*, 30(10), 1677 – 1696.

Ellmers, B. – Hulova. D. (2013): The New Debt Vulnerabilities. 10 reasons why the debt crisis is not over. Eurodad, available at: https://eurodad.org/files/pdf/1546060-the-new-debt-vulnerabilities-10-reasons-why-the-debt-crisis-is-not-over.pdf

Haaparanta, P. – Virta, H. (2007): Do Aid and Debt Help the Poor Countries to Catch Up in Technology? Discussion Paper No. 183, Helsinki Center of Economic Research, Finland.

Hwang, J-T. – Chung, C-P. – Wang, C-H. (2010): Debt overhang, Financial sector Development and Economic Growth. *Hitotsubashi Journal of Economics*, 51(1), 13 – 30.

IMF (1997): Debt Relief for low-Income Countries and the HIPC Initiative. IMF working paper 97/24, Available at: https://www.imf.org/external/pubs/ft/wp/wp9724.pdf

IMF (2019): Debt Relief Under the Heavily Indebted Poor Countries (HIPC) Initiative, available at https://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/16/11/Debt-Relief-Under-the-Heavily-Indebted-Poor-Countries-Initiative

Iyoha, M. (2000): *External debt and capital flights in Sub-Saharan Africa*. S.I. Ajayi, and M. Khan (ed). Washington, DC: IMF.

Krugman, P. (1988): Financing vs. forgiving a debt overhang. *Journal of Development Economics*, 29, 253 – 268.

Kumar, M.S. – Woo, J. (2010): Public Debt and Growth, IMF Working Paper 10/174, International Monetary Fund.

Llorca, M. (2017): External Debt Sustainability and Vulnerabilities: Evidence from a panel of 24 Asian Countries and Prospective Analysis. ADBI Working Paper Series No. 692.

Oleksandr, D. (2003): Nonlinear impact of external debt on economic growth: The Case of Post-Soviet Countries. *Unpublished MA Thesis, National University of Kyiv-Mohyla Academy*.

Osei, B. (1995): *Ghana: The burden of debt service payment under structural adjustment*. AERC Research Paper No. 33. Nairobi: African Economic Research Consortium.

Ossemane, R.P. (2007): The Meaning of External Debt Sustainability Indicators in Mozambique in a Context of High Predominance of Mega-projects, Article submitted for the II IESE Conference – 22/23 April – Maputo.

Pattillo, C.A.– Poirson, H.– Ricci, L.A (2004): What are the Channels Through Which External Debt Affects Growth. IMF Working Paper, No. 04/15.

Pattillo, C.A.– Poirson, H.– Ricci, L.A. (2002): External Debt and Growth, Finance and Development." *A quarterly magazine of the IMF*, 39(2). Available at https://www.imf.org/external/pubs/ft/wp/2002/wp0269.pdf

Riffat, N. – Munir, K. (2015): Exploring the Channels and Impact of Debt on Economic Growth in South Asia, Munich Personal RePEc Archive Paper No. 66830.

Sachs, J. (1989): *The Debt Overhang of Developing Countries.* In G. Calvo, R. Findlay, P. Kouri, & J. Macedo (Eds.). Debt, stabilisation and development: essays in memory of Carlos Diaz Alejandro. Oxford: Basic Blackwell.

Schclarek C. A. (2005): Debt and Economic Growth in Developing and Industrial Countries. (Working Papers, Department of Economics, Lund University; No. 34). Department of Economics, Lund University.

Serieux, J.E. (2001): Debt of the Poorest Countries: Anatomy of a Crisis Kept on Hold. *Canadian Journal of Development Studies*, 22(2), 305 – 342.

Serven, L. – Solimano, A. (1993): Debt Crisis, Adjustment Policies, and Capital Formation in Developing Countries: Where Do We Stand? *World Development*, 21(1), 127 – 140.

Serven, L. (1997): *Uncertainty, Instability and Irreversible Investment: Theory, Evidence and Lesson from Africa*. World Bank Policy Research Working Paper, No. 1722.

Sheikh, M.R.– Abbasi, M.N. – Iqbal, S. –Masood, S. (2014): External Debt Sustainability Analysis: A Case of SAARC Countries. *International Journal of Management Research and Emerging Science*, 4(1), 27 – 46.

Siddique, A.– Selvanathan, E.A.–Selvanathan, S. (2016): The Impact of External Debt on Growth: Evidence from Highly Indebted Poor Countries. *Journal of Policy Modelling*, 38, 874 – 894.

Silva, J. (2020): Impact of public and private sector external debt on economic growth: the case of Portugal. *Eurasian Economic Review*, 1 – 28.

Tabengwa, G.G.K. (2014): Impact of Shocks to Public Debt and Government Expenditure on Human Capital and Growth in Developing Countries, *Journal of Economics and Behavioral Studies*, 6(1), 44 – 67.

Turan T. – Yanıkkaya, H. (2020): External debt, growth and investment for developing countries: some evidence for the debt overhang hypothesis. *Portuguese Economic Journal*, 1-23. Available at: https://link.springer.com/article/10.1007/s10258-020-00183-3

Umaru, A.– Hamidu, A.– Musa, S. (2013): External debt and domestic debt impact on the growth of the Nigerian economy. *International Journal of Educational Research*, 1(2), 70 – 85.

United Nations Conference on Trade and Development (2016): Tackling "non-tariff measures", the new frontier for global trade. Available at: https://unctad.org/es/node/1424

Uzun, A.– Karakoy, C.– Kabadayi, B.– Emsen, O.S. (2012): The impacts of external debt on economic growth in transition economies. *Chinese Business Review*, 11(5), 491 – 499.

Vaggi, G. – Prizzon, A. (2014): On the Sustainability of External Debt: is Debt Relief Enough? *Cambridge Journal of Economics*, 38(5), 1155 – 1169.

World Economic Forum (2016): 5 ways to make global trade work for developing countries. Available at: https://www.weforum.org/agenda/2016/09/global-trade-developing-countries-unctad?platform=hootsuite

Yang, J. – Nyberg, D. (2008): External Debt Sustainability in HIPC Completion Point Countries: an update. IMF Working Paper, 09/128.

Zaghdoudi, K. (2018): Is the relationship between external debt and human development non-linear? A PSTR approach for developing countries. *Economics Bulletin*, 38(4), 2194 – 2216.

11. List of publications

This section presents peer-reviewed publications that are part of this dissertation and other studies related to it and conference proceedings. Besides, most parts of this dissertation and other related studies are under review.

Peer-reviewed journal publications

1. Beyene, S. D. – Kotosz, B. (2020). Testing the environmental Kuznets curve hypothesis: an empirical study for East African countries. *International Journal of Environmental Studies*, *77*(4): 636-654.
2. Beyene, S. D. – Kotosz, B. (2020). Macroeconomic determinants of external indebtedness of Ethiopia: ARDL approach to co-integration. *Society and Economy*, *42*(3): 313-332.
3. Beyene, S. D. – Kotosz, B. (2020). Determinants of External Indebtedness in Heavily Indebted Poor Countries: An Empirical Evidence Using Panel-Corrected Standard Error Regression. *Journal of Applied Economic Sciences*. Volume XV, Spring 1(67): 229-242
4. Beyene, S. D. – Kotosz, B. (2020). Is Fiscal or Monetary Policy More Effective on Economic Growth? An Empirical Evidence in The Case of Ethiopia. *Journal of African Research in Business & Technology*, Vol. 2020 (2020), Article ID 124855, DOI: 10.5171/2020.124855
5. Beyene, S. D. – Kotosz, B. (2020). Testing the Ricardian equivalence hypothesis in the case of Ethiopia: An autoregressive-distributed lag approach. *Hungarian Statistical Review*, *3*(2): 26-49.
6. Beyene, S. D. – Kotosz, B. (2021). Empirical Evidence for the Impact of Environmental Quality on Life Expectancy in African Countries. *Journal of Health and Pollution.* Accepted.

Conference Presentations

1. Beyene, S.D. – Kotosz, B. (2019): The determinants of external indebtedness of Ethiopia, Udvari B. and Voszka É. (eds), Proceedings of the 3rd Central European PhD Workshop on Economic Policy and Crisis Management, University of Szeged, Doctoral School in Economics, Szeged, 90 – 107. https://eco.u-szeged.hu/english/research/conferences-workshops/challenges-in-national-and-internaitonal-economic-policies/challenges-in-national-and-internaitonal-economic-policies

2. Beyene, S.D. – Kotosz, B. (2019): Is the Ricardian Equivalence Hypothesis Valid? An Empirical Study for Ethiopia Udvari B. (ed) 2020: Proceedings of the 4th Central European PhD Workshop on Technological Change and Development. University of Szeged, Doctoral School in Economics, Szeged, pp 397–414. https://eco.u-szeged.hu/english/research/conferences workshops/2019/technological-change-and-development/technological-change and-development
3. Beyene, S.D. – Kotosz, B. (2019): External Debt and Private Investment: The Case of Heavily Indebted Poor Countries (HIPCs) in Sub-Saharan Africa (SSA). 34th IBIMA Conference, Madrid, Spain https://ibima.org/accepted-paper/external-debt-and-private-investment-the-case-of-heavily-indebted-poor-countries-hipcs-in-sub-saharan-africa-ssa/
4. Beyene, S.D. – Kotosz, B. (2019): The Relative Effectiveness of Fiscal and Monetary Policies on Ethiopian Economy: Johansen Cointegration Approach. 34th IBIMA Conference, Madrid, Spain https://ibima.org/accepted-paper/the-relative-effectiveness-of-fiscal-and-monetary-policies-on-ethiopian-economy-johansen-cointegration-approach/