# THE ROLE OF NATIONAL LEADERSHIP AND TELECOMMUNICATION TECHNOLOGY IN FINANCE-GROWTH NEXUS: EVIDENCE FROM DEVELOPING COUNTRIES

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# THE ROLE OF NATIONAL LEADERSHIP AND TELECOMMUNICATION TECHNOLOGY IN FINANCE-GROWTH NEXUS: EVIDENCE FROM DEVELOPING COUNTRIES

by

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# ACKNOWLEDGEMENT

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# LIST OF ABBREVIATIONS

| | |
|---|---|
| 2SLS | Two Stages Least Square Method |
| ANOVA | Analysis of Variance |
| CC | Control of Corruption |
| DCB | Domestic Credit by Banks to Private Sector |
| DCP | Domestic Credit to Private Sector |
| EG | Economic Growth |
| FD | Financial Development |
| FDI | Foreign Direct Investment |
| FMOLS | Fully Modified Ordinary Least Square |
| GCC | Gulf Cooperation Council Countries |
| GDP | Gross Domestic Products |
| GMM | Generalized Method of Moments |
| GNI | Gross Net Income |
| ICRG | International Country Risks Guide |
| ICT | Information and Communication Technology |
| IMF | International Monetary Fund |
| LSDV | Least Square Dummy Variable |
| MENA | Middle East and North African countries |
| OECD | Organization for Economic Cooperation and Development |
| OIC | Organization of Islamic Conference Countries |
| OLS | Ordinary Least Square Method |
| OPEC | Organization of Petroleum Exporting Countries |
| POL | Political Stability |
| QL | Quality of Leadership |
| SADC | Southern African Development Community Countries |
| SDGs | Sustainable Development Goals |
| TR | Trade Openness |
| WDI | World Development Indicators |
| WGI | World Governance Indicators |

# LIST OF APPENDICES

# PERANAN KEPIMPINAN NASIONAL DAN TEKNOLOGI TELEKOMUNIKASI TERHADAP HUBUNGAN KEWANGAN-PERTUMBUHAN EKONOMI: BUKTI DARI NEGARA-NEGARA SEDANG MEMBANGUN

## ABSTRAK

Kian banyak literatur mengenai pertumbuhan ekonomi menyarankan akan peri pentingnya pembangunan kewangan dititiberatkan bagi merancakkan proses pertumbuhan ekonomi. Kajian ini menyiasat kesan kepimpinan nasional dan teknologi telekomunikasi ke atas hubungan pembangunan kewangan-pertumbuhan ekonomi dengan menggunakan set data panel seimbang dari 50 negara untuk tempoh 1997-2017. Kajian ini mengaplikasi set panel data tak pegun (*non-stationary panel data*), yakni, ujian panel kointegrasi dan penganggar *Group Mean Fully Modified OLS* (GM-FMOLS) bagi menyiasat koefisien dan hubungan jangka panjang di antara pembolehubah-pembolehubah tumpuan. Dapatan kajian menunjukkan bahawa terdapat hubungan jangka panjang antara pembolehubah berkaitan di mana pembangunan kewangan, ICT dan kualiti kepimpinan nasional didapati mempunyai impak yang positif lagi ketara terhadap pertumbuhan ekonomi di negara membangun. Ia juga mengisyaratkan bahawa pembangunan kewangan, teknologi telekomunikasi dan kualiti kepimpinan nasional merupakan faktor-faktor penting dalam menggalakkan pertumbuhan ekonomi. Tambahan pula, dapatan kajian menggalurkan bahawa kesan pembangunan kewangan ke atas pertumbuhan ekonomi adalah bergantung kepada kualiti kepimpinan nasional serta kecanggihan teknologi telekomunikasi di negara membangun. Kedua-dua terma interaksi dan kesan sut yang dihitung adalah positif dan ketara pada semua tahap ICT dan kualiti kepimpinan

nasional. Ini bermakna kualiti kepimpinan nasional dan teknologi telekomunikasi mempunyai impak positif langsung dan tidak langsung terhadap pertumbuhan ekonomi di negara sedang membangun dan bahawa pembangunan kewangan menyumbang kepada pertumbuhan ekonomi secara ketara dan teguh apabila teknologi telekomunikasi sedia canggih dan kepimpinan nasional berkualiti tinggi. Oleh kerana kedua-dua kualiti kepemimpinan nasional dan kecanggihan pengubal telekomunikasi mempunyai kesan positif langsung dan tidak langsung yang signifikan terhadap pertumbuhan ekonomi di negara-negara yang dikaji, inisiatif untuk mempromosikan penggunaan dan penggunaan ICT harus diutamakan. Walau bangaimanapun, pengubal dasar harus berusaha untuk meningkatkan kualiti kepemimpinan nasional untuk menyokong dan mempercepat pertumbuhan ekonomi.

# THE ROLE OF NATIONAL LEADERSHIP AND TELECOMMUNICATION TECHNOLOGY IN FINANCE-GROWTH NEXUS:
# EVIDENCE FROM DEVELOPING COUNTRIES

## ABSTRACT

A growing body of economic growth literature suggest that it is essential to emphasise financial development in order to accelerate the process of economic growth. This research investigates the effects of national leadership and telecommunication technology on the finance-growth nexus using balanced panel data from 50 developing countries for the 1997-2017 period. The study employs a set of non-stationary panel data, namely, panel cointegration, and panel cointegrating estimator – Group Mean Fully Modified OLS (GM-FMOLS) to investigate the coefficients and long-run relationships between the variables of interest. The findings show that there is a long-term relationship between the variables wherein financial development, ICT, and quality of national leadership were found to have significant positive impact on economic growth in developing countries. This implies that financial development, telecommunication technology, and the quality of national leadership are important factors for promoting growth. Moreover, the results suggest that the effects of financial development on economic growth is contingent on the quality of national leadership and the sophistication of telecommunication technology in developing countries. The interaction term and marginal effects computed are positive and significant at all levels of ICT as well as on the quality of national leadership. This means that both the quality of national leadership and telecommunication technology have large direct and indirect positive impacts on

economic growth in developing countries, and that financial development contributes more significantly and robustly to economic growth when telecommunication technology is sophisticated and national leadership is of high quality. Since both quality of national leadership and the sophistication of the telecommunication architecture had a significant direct and indirect positive impacts on economic growth in the countries studied, initiatives to promote ICT adoption and uses should be prioritised. However, policymakers should endeavour to enhance the quality of national leadership to support and accelerate economic growth.

# CHAPTER 1

# INTRODUCTION

## 1.1    Background of the Study

Sustainable growth is of prime importance when formulating macroeconomic policies particularly in developing countries since sustainable economic growth is crucial in reducing poverty, unemployment, and inequality (Straubhaar, 2003). In recent years, the financial sector has emerged as an important engine of economic growth. Levine (1997) documented that the financial sector and the sophistication of its development have been repeatedly highlighted as one of the possible determinants of long-term growth. In fact, the association between financial sector development and growth has attracted considerable debate over the question as to whether financial sector does indeed contribute to economic growth. This interest is largely attributable to the intermediary role played by financial institutions when mediating the needs of both savers and investors in an economy and the growth-enhancing impact of financial sector development due to its ability to mobilise savings and allocate financial resources efficiently.

Despite the fact that financial development has been widely recognised as a catalyst for economic growth both theoretically and empirically[1], the impact of developing countries' financial frameworks on economic growth and the factors that determine their efficiency as drivers of that growth have yet to be clearly elucidated. Addressing this gap

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[1] McKinnon (1973); Shaw (1973); King and Levine (1993a); Beck, Levine and Loayza (2000); Hassan et al. (2011); among others, provided theoretical and empirical evidence of finance-led growth hypothesis

constitutes the primary goal of the present study which also seeks to examine the role and relationships of national leadership and telecommunication technology in the nexus of financial sector - economic growth.

### 1.1.1   Economic Growth

Economic growth is broadly defined as the increase in the capacity of the economy to produce goods and services over a given period (Bakang, 2015). As an aggregate measure of total economic activities of a country, economic growth is determined by the increase in the production of goods and services in an economy, such as increments in physical capital, technology, labour, and human capital. Gross national product (GNP) and gross domestic product (GDP) are the main measurement indicators usually used to quantify economic growth. GNP is used to compute the value of goods and services produced by all nationals within and outside the country over a period, whereas GDP, considered to be the broadest indicator of economic growth, is used to measure all economic activities within a country's borders. In contrast, per capita real GDP refers to the ratio of a country's GDP to its population and is often used as a benchmark to distinguish relative prosperity between developed and developing nations.

Economic growth rates differ across countries and eras. Figure 1.1 illustrates that the economic growth rates of low- and middle-income countries (developing countries) were higher than that of high-income countries (developed nations) over the 1990-2017 period.
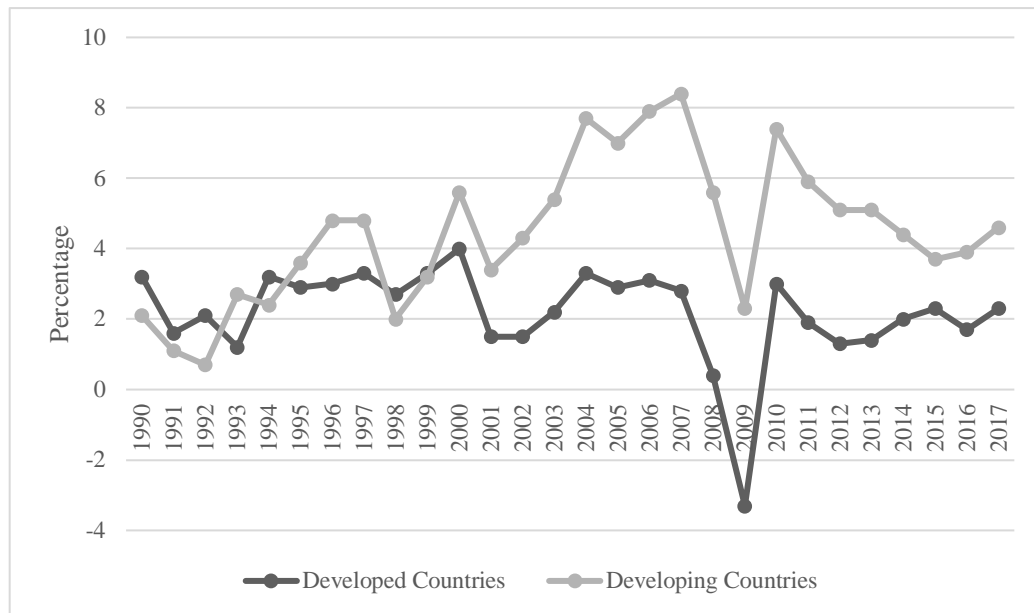
Figure 1.1: GDP Growth Rates in Developed and Developing Countries

Source: *World Bank* (2018), *World Development Indicators*

In terms of growth patterns, the biggest decline in overall GDP growth occurred between 2008 and 2009 due to the global economic crisis wherein negative GDP growth was recorded in developed countries. In contrast, developing countries maintained a positive GDP growth trajectory which then accelerated in 2010 and beyond, Although, positive GDP growth rates was the norm between 2010 and 2017, the global economic growth rate remained below the long-term average recorded prior to 2008.

Despite the impressive GDP growth rates recorded by developing countries, they nevertheless became poorer in relative terms as per capita real GDP remained very low in developing countries relative to that of their developed counterparts as illustrated in Figure 1.2.

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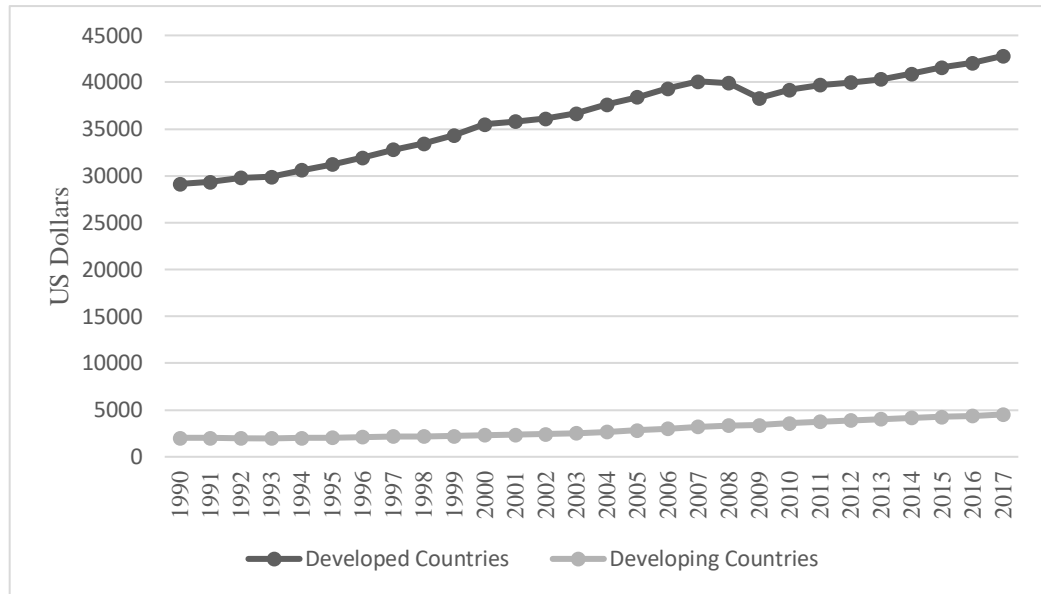
Figure 1.2: Per Capita Real GDP in Developed and Developing Countries

Source: *World Bank* (2018), *World Development Indicators*

In fact, between 1990 and 2017, the gap between developed and most developing countries in terms of per capita real GDP widened considerably. This economic gap highlights the extreme poverty plaguing most developing countries and implies that developing countries still trail far behind developed countries in terms of per capita income levels despite recording higher GDP growth rates. For instance, the average per capita real GDP in developing countries in 1990, 2000 and 2010 was USD 2,011; USD 2,310 and USD 3,590 respectively compared to USD 29,139, USD 35,500 and USD 39,173 in developed countries.

## 1.1.2 Financial Development

The financial sector refers to firms, institutions and other financial intermediaries such as insurance companies that provide financial services to commercial and retail

customers (Levine, 2005). The operations of this sector are supervised by a regulatory authority, namely the central bank. But, on the other hand, financial development refers to the improvement in the quality, efficiency and effectiveness of various interrelated financial intermediary services and activities (Chung et al., 2016). Financial development is vital for rapid and sustainable economic growth as the sector plays a vital role in financial intermediation activities that facilitates the provision of deposits, loans, capital, etc., for diverse economic actors such as the government, investors, consumers, and retailers (Caporale et al. 2015; Asteriou and Spanos, 2019; Guru et al. 2019).

Economists have long attached different degrees of importance to the extent by which finance stimulates long term growth. Generally, it is widely recognised that a well-developed financial sector can positively affect output growth in both developed and developing economies. This contention has been attested to by various studies (Levine, 2005; Rajan and Zingles, 2003; King and Levine, 1993a; Rioja and Valev, 2004; Beck et al. 2000; Levine et al. 2000).

Overall, the level of financial sector development in developing countries has been rather disappointing and lower than that of developed countries although several developing economies have reformed their financial infrastructure and governance frameworks to improve the efficiency of their financial intermediary services. Comparative analyses of financial development indicators between developed and developing countries are as presented in Figure 1.3 and Figure 1.4 respectively. These results show that though the ratio of domestic credit by banks to GDP in developing countries increased significantly from 1990-2017, it is still far behind that of developed countries. For instance, the domestic credit by banks to GDP in developing countries was

37.5 per cent, 46.6 per cent, and 66.5 per cent compared to 89.7 per cent, 91.4 per cent, and 90.6 per cent in developed countries, respectively in 1990, 2000 and 2010. This indicates that financial intermediary services in developed economies is more growth supportive than in developing ones.
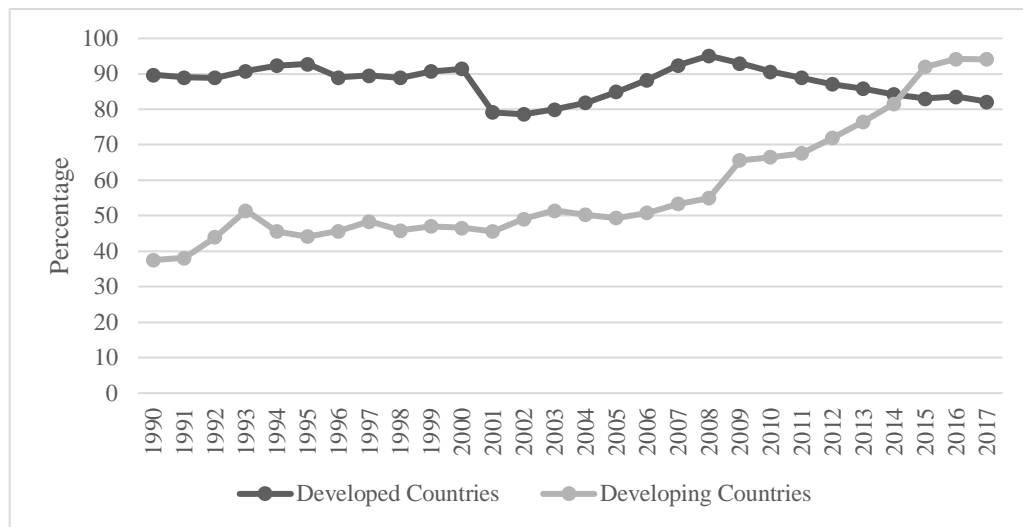


Figure 1.3: Trends in Financial Sector Indicators (Domestic Credit by Banks) in Developed and Developing Countries

Source: *World Bank* (2018), *World Development Indicators*

The shallow financial architecture prevalent in developing economies is reflected in indicators like broad money wherein the ratio of broad money to GDP in developing countries lags far behind that of developed countries. For instance, the ratio of broad money to GDP for the 1990, 2000, and 2010 period in developing countries was 41.8 per cent, 62.7 per cent, and 92.7 per cent, respectively compared to 99 per cent, 110 per cent, and 119.1 per cent in developed countries.
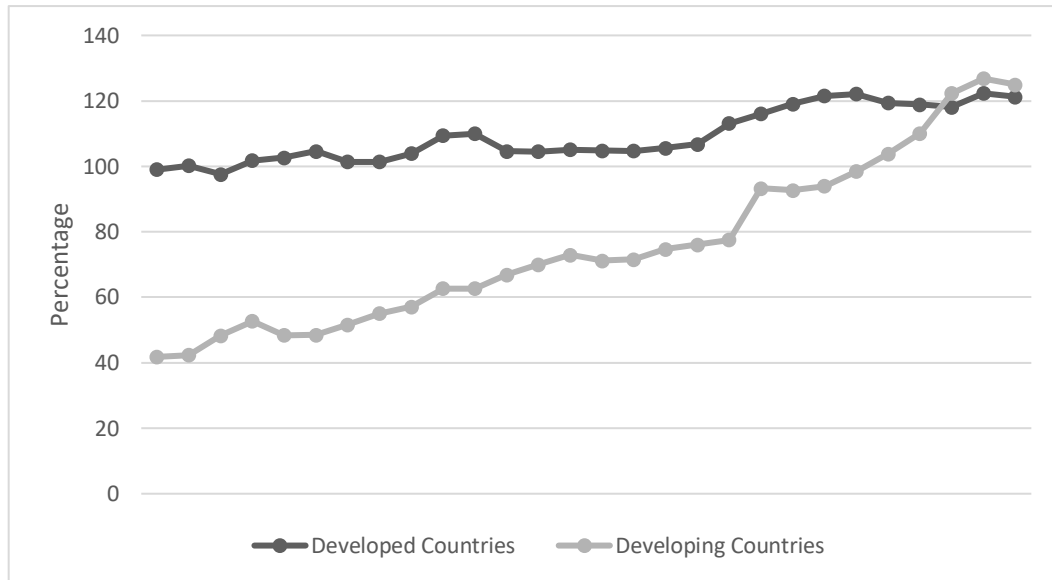
Figure 1.4: Trends in Financial Development Indicators (Broad Money Supply) in Developed and Developing Countries

*Source: World Bank (2018), World Development Indicators*

### 1.1.3 Information and Communication Technology

Information and communication technology (ICT) refer to technologies used to handle information and communication (Agarwal et al. 2018). ICT encompasses the internet, wireless systems, cellular phones, computers, networks, software and hardware tools, satellite systems and related communication technology infrastructure. In recent times, the fast-paced transformation and increased sophistication of telecommunication technology has vastly enhanced productive capacities in both developed and developing nations.

Despite their relatively low-income levels, developing countries have made significant strides in adopting ICT based technologies. According to Andrianaivo and Kpodar (2011), the average number of telephone users, and the number of individuals

using computers and internet services in developing countries has improved significantly since 1990. However, despite rapid progress in embracing ICT tools and frameworks, developing countries still trail their developed peers in ICT utilisation as illustrated in Figure 1.5, Figure 1.6 and Figure 1.7. For instance, the average number of people using internet services in developing countries was 32 people per 100 population for the 2011-2017 period compared to 78 people per 100 population in developed countries over the same period. This implies that ICT penetration and diffusion rates are still extremely low in developing countries.
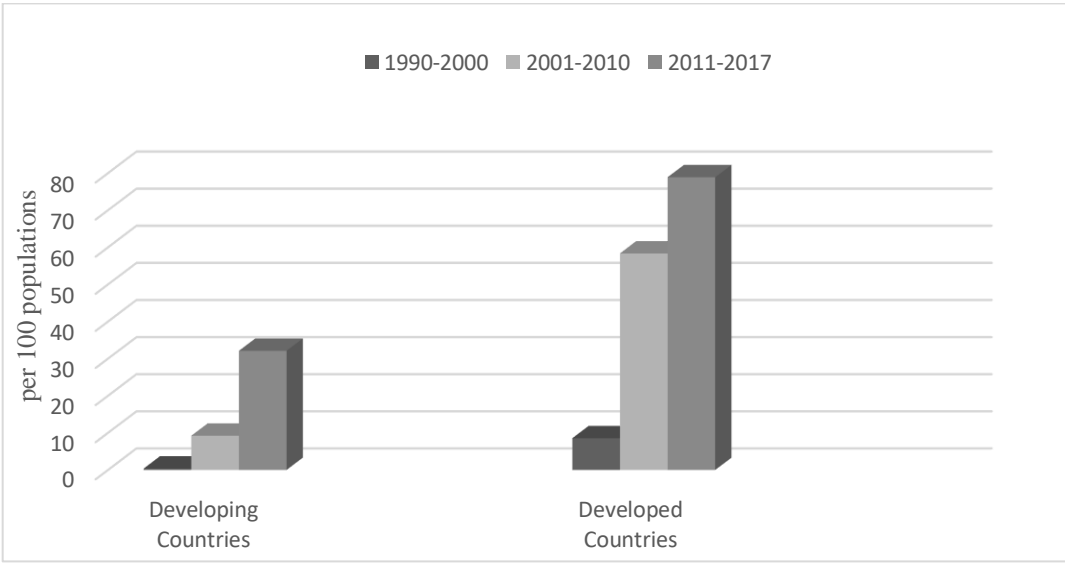


Figure 1.5: Trends in ICT (Internet Use) in Developed and Developing Countries

*Source: World Bank* (2018), *World Development Indicators*

Similarly, mobile phone subscriptions in developing countries are also well below that of developed countries with the ratio of mobile cellular subscribers in developing

countries being 32 per 100 population compared to 86 per 100 population in developed

countries in the 2001-2010 period (Figure 1.6).
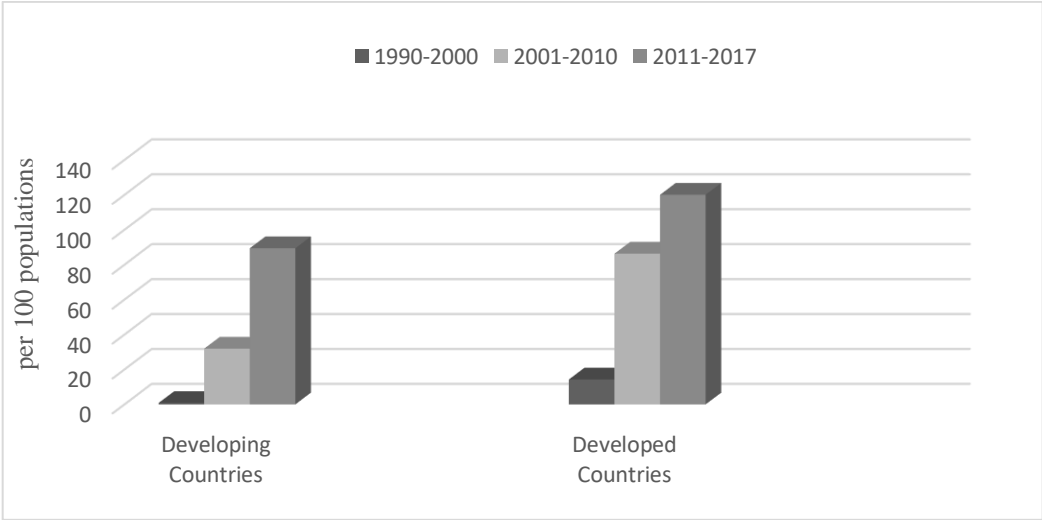


Figure 1.6: Trends in ICT (Mobile Cellular Subscription) in Developed and Developing
Countries

*Source: World Bank* (2018), *World Development Indicators*

Finally, despite the widespread utilisation of ICT in many countries, telephony

subscription declined across the globe, irrespective of their income levels
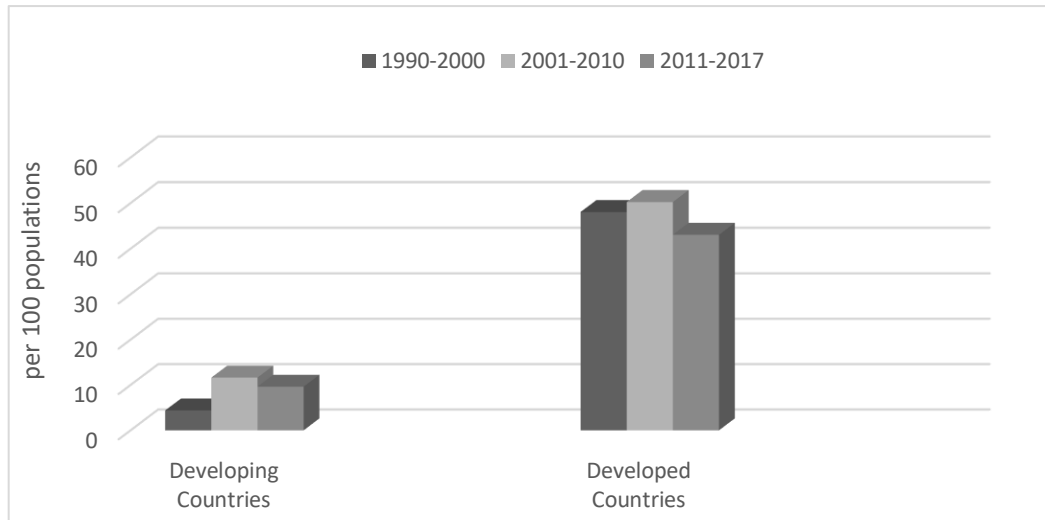
Figure 1.7: Trends in ICT (Telephony Subscription) in Developed and Developing Countries

*Source: World Bank* (2018), *World Development Indicators*

### 1.1.4 Leadership Quality

Leadership refers to establishments that determine how authority is exercised in an organisation or country to administer its economic and political activities (Northouse, 2017). It is, therefore, all about giving direction, guidance and providing solutions for national and regional problems. Leadership is an important factor contributing to the achievement of a common goal in an organisation, a country or region. The way a country exercises its power has direct connection with its leadership and polity's level of engagement which in turn determines economic growth. The quality of leadership comprises of effective performance through the creation of a competent, accountable and transparent administrative framework. Leaders play an important role in charting and attaining a country's collective vison by using each and every positive means at their disposal to achieve the desired national goals of shared prosperity and social harmony.

This is often achieved by visionary leaders astutely harnessing their country's resources to expand the economy while promoting social cohesion through equitable, growth-friendly and progressivist policies (Perkins, Phillips and Pearce, 2013).

National leadership is the collective power exercised by a conclave of politically like-minded leaders to administer a nation to achieve national prosperity and political stability. National leadership quality plays an important role in the management of a country's economic and social resources, particularly in promoting accountability and transparency. The quality of national leadership enhances investment via human and physical capital development. The development of human and physical capital would consequently lead to an increase in output per worker as well as capital per worker growth, respectively. In addition, effective national leadership is usually the cornerstone of a conducive democratic environment and of sound government policies which consequently foster both domestic and foreign investments that subsequently contribute to economic growth.

Ineffective national leadership is usually manifested in dysfunctional features of poor governance such as pervasive corruption, political violence, and other forms of maladministration. In addition, voice and accountability is also directly linked with democracy and transparency. Democracy allows people to choose their leaders by vote, and a higher level of democracy in a country signifies an equally high level of voice and accountability, and this subsequently enhances the quality of national leadership. Samarasinghe (2018) recommends that it is important for developing countries to recognise the critical role of democracy, and good governance in achieving rapid and sustainable economic growth. Government effectiveness, therefore, describe the capacity

of government to conceptualise and implement effective policies for output growth. To surmise, effective national leadership is manifested by low levels of corruption, political stability, democratic accountability and effective administration premised on the best practices of good governance, which are all ingredients for economic growth.

Furthermore, a huge variation exists in the quality of national leadership between developed and developing countries. Table 1.1 illustrated the average data of leadership-related indicators (control of corruption and political stability) from 2010 to 2017. The data comprised six countries both from developed and developing economies. However, the control of corruption and political stability were assigned percentile ranks, scale from 0 to 100 with the higher values indicating better leadership and vice-versa.

Table 1.1: Leadership-Related Indicators in Developed and Developing Countries

| No. | Developing Countries | Control of Corruption | Political Stability |
|-----|----------------------|-----------------------|---------------------|
| 1. | Bangladesh | 18.81 | 7.28 |
| 2. | Egypt | 31.05 | 9.38 |
| 3. | Jamaica | 44.14 | 49 |
| | Developed Countries | | |
| 4. | Australia | 94.56 | 81 |
| 5. | Germany | 93.91 | 71.79 |
| 6. | United States | 88.37 | 63.83 |

Source: *World Bank (2018), World Development Indicators*

The higher value of control of corruption and political stability is higher in developed countries than in their developing counterpart as shown in Table 1.1, implying that advanced countries have better quality of leadership compared to developing economies.

## 1.2 Problem Statement

A growing body of economic growth literature suggests that it is essential to promote financial development to accelerate economic growth (e.g. King and Levine, 1993a; Beck et al. 2000). However, financial development and its attendant frameworks and institutions are relatively deficient in developing countries (World Bank, 2015). This has resulted in the emergence of a low savings, investment, and growth climate that is primarily attributable to misaligned interest rates policies, overly bureaucratic financial controls, and high statutory reserve requirements regimes. Consequently, this has negatively impacted the capacity of financial institutions in developing countries to sustain financial intermediation that in turn has contributed to a diminution of investment opportunities as well as reduced economic activity.

Given the low level of financial development (World Bank, 2015), strengthening and deepening the financial sector to effectively stimulate growth remains a very challenging task. Even though efforts have been made in some developing countries to liberate financial markets and implement effective monetary policy, poor national leadership raises many financial and economic impediments which eventually retard the process of financial sector reform and ultimately economic growth. For instance, a mediocre national leadership cabal that formulates dysfunctional economic and social policies often aggravate underlying issues like inequality, corruption and socio-economic marginalisation that will inevitably stoke and trigger political violence and instability which may then deter investment as well as impede the ability of the financial sector to energise economic growth. In addition, despite significant progress in the global ICT arena, developing countries are still lagging developed countries particularly in terms of

internet penetration rates due to the aforementioned socio-economic inequalities and infrastructural deficiencies. According to the World Bank (2018), internet access rates in developing countries is 32 people per 100 population compared to 78 people per 100 population in developed countries for the 2011 to 2017 period. This lack of technological sophistication and a good infrastructural framework will invariably affect financial development and thus curtail its contribution to economic growth (Chinn and Fairlie, 2010).

## 1.3 Research Questions

The above scenario raises several interesting issues. These are rendered as research questions designed to comprehensively explore and elucidate the role of leadership and telecommunication technology in the finance-growth nexus of developing countries. These questions are as outlined below:

(i)     How financial development, telecommunication technology and quality of national leadership affect economic growth in developing countries?

(ii)    Is the impact of financial development on economic growth influenced by the quality of national leadership in developing countries?

(iii)   Is financial development's effect on economic growth contingent upon the sophistication, availability and accessibility of telecommunication technology in developing countries?

## 1.4     Objectives of the Study

The main objective of this study is to investigate the role of national leadership and telecommunication technology in the finance-economic growth nexus of developing countries. The specific objectives of the present study are:

(i)      To analyse the impact of financial development, telecommunication technology and the quality of national leadership on economic growth in developing countries.

(ii)     To investigate whether the effect of financial development on economic growth is associated with the quality of national leadership in developing countries.

(iii)    To examine whether the impact of financial development on economic growth in developing countries is influenced by the state of the telecommunication technology architecture.

## 1.5     Significance of the Study

The present study yields several important contributions to existing literature. First, the study provides empirical evidence concerning the potential role of national leadership and telecommunication technology in influencing financial systems and consequently accelerating the process of growth in developing economies. This problem has not been exhaustively examined in the past as economic growth literature has mainly focused on examining the connection between financial sector development and output growth. In contrast, this study seeks to elucidate how the quality of national leadership

and telecommunication technology influence the way financial development affects output growth. This finding is expected to provide new insights into the complex linkages underpinning finance and growth.

Second, the findings of this study can serve as a guide for effective policy formulation aimed at ensuring sustainable economic growth. For instance, the study would be useful in determining the extent by which national leadership and telecommunication technology interact with and influence financial development to stimulate economic growth. This can provide valuable insights to policymakers regarding the variables that assist the financial sector in promoting/fostering growth and accordingly design policies which optimise the efficacy of such inputs. The present study will also serve as a basis for impending research into emerging issues related to sustainable economic growth.

## 1.6    Scope of the Study

The present study utilised annual data from 50 developing countries between 1997 and 2017. This study only compiled data from 50 developing economies for analysis due to the limited availability of reliable data. In addition, the annual panel data used in this study only encompassed the 1997-2017 period due to the unavailability of complete data for some of the variables of interest.  According to the International Monetary Fund (IMF, 2018), there are 154 developing countries around the globe. Thus, our selected sample of 50 countries covered more than 30 per cent of the developing countries which is sufficiently large to provide valuable insight into the whole developing countries compared to many of the earlier studies in developing countries that used less than 50 countries (e.g., Asghar and Hussain, 2014; Bahrini and Qaffas, 2019).

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## 1.7    Organisation of the Study

This study comprises of five chapters. Chapter 1 contains the introduction, background, problem statement, research questions and objectives of the study. The significance of the study, and its scope and organisation complete this chapter. Chapter 2 presents the literature review, which delves into both the theoretical and empirical aspects of the subject matter. The research methodology that encompasses the study's theoretical framework, the variables involved and data provenance, as well as the econometric methods utilised are delineated in Chapter 3. Chapter 4 outlines the outputs derived as well as their objective analysis and interpretation. Finally, Chapter 5 comprises a summary, concluding remarks, policy recommendations, and limitations of the study as well as suggestions for future research.

# CHAPTER 2

## LITERATURE REVIEW

## 2.1    Introduction

The purpose of this chapter is to present a review of the relevant theoretical and related literature utilised in this study. The chapter starts with a literature review of the finance-growth nexus before proceeding to provide a review of literature pertaining to financial development and growth, leadership and growth, as well as ICT and output growth.

## 2.2    Review of Finance-Growth Theories

The impact of financial sector development on output growth has prompted the interest of different scholars with each attempting to define what constitutes financial sector and the role it plays in a country's economic growth. This study will first focus upon delineating the various perspectives pertaining to the role of financial development in stimulating economic growth.

### 2.2.1   Theory of Financial Intermediation

The conceptualisation of theoretical linkages between financial development and economic growth can be traced back to proponents of economic growth theories, who viewed the relationship from different perspectives. Bagehot (1873), in formulating the theory of financial intermediation, gives a clear description of how money market transactions such as the activities of bankers and brokers in England facilitated the flow

of capital, in the form of savings, from lower centres of productivity to higher zones of productivity where it was critically needed. In his view, money markets allowed capital to flow from less profitable businesses to more lucrative ones in order to maximize returns on capital. According to Bagehot, this flow of capital illustrates succinctly the intermediation function of the financial sector in the mobilisation and distribution of financial resources.

Schumpeter (1911), in supporting the theory of financial intermediation, observed that the services rendered by financial intermediaries can promote overall economic efficiency through capital allocation. He further suggested that financial intermediation promotes innovation and entrepreneurship which are essential components of economic growth. Schumpeter viewed banks as occupying a central position in economic growth as they function as intermediaries between entrepreneurs who were willing to form new businesses, and owners of capital. In short, Schumpeter contended that economic growth was caused by financial development. Hence, he is often considered to be the pioneer of the supply-leading hypothesis of the finance-growth relationship.

Other works which are in line with the Schumpeterian perspective includes that by Gurley and Shaw (1955). They maintained that a healthy financial system is critical for fostering output growth and that weak financial systems hinder economic growth. This, by default, implied that policies which enhance the development of the financial sector will promote economic growth. Mises (1912) postulated that finance plays an important role in financial intermediation by way of resource allocation and thus enhances economic growth. Mises (1912) viewed the banking sector as financial intermediaries whose role is to gather deposits from those with surplus and lend it to those with deficits. According to

him, the banks could either act as financial intermediaries or as creators of credit and money and by doing so influenced the flow and quantity of investments vital for economic growth. He further suggested that effective financial intermediation can overcome market failure as such intermediation can resolve information asymmetry by transforming the risk characteristics of various assets.

Greenwood and Javanovic (1990), in supporting the finance lead growth hypothesis, noted that financial intermediation enhances economic growth by allowing investors to earn a higher percentage of return on their capital. In delineating the operation of the financial sector and its effects on the rate of output growth, Greenwood and Javanovic propounded that while financial sector promotes growth by facilitating more profits to be earned on capital Output growth, on the other hand, offers the framework through which costly financial resources can be deployed. This signalled that financial sector development is contingent upon economic growth. Conversely, financial development enhanced economic growth by improving investment efficiencies.

Pagano (1993) postulated that financial intermediation can positively influence growth through optimised savings rates. In addition, he noted that the portion of savings taken up for investment improved the marginal productivity of investment. Finally, he opined that as the term financial sector development was too wide, the need to identify specific financial markets is important to accurately quantify their actual impact on growth.

Since financial intermediation encourages long-term economic growth as attested by the various aforementioned perspectives theories, this postulation has provided the

basis for evaluating how government policies on savings, capital and investments influence financial development as the government plays a central role in the development of the financial sector as well as output growth. This focus on the importance of formulating policies aimed at growing the financial system to promote economic growth also contributed to the emergence of two opposing theories, namely, the theory of financial liberalisation and theory of financial regulation. To surmise, the preceding rationales suggest that government intervention in the financial sector development has long been deemed vital for economic growth.

### 2.2.2 Theory of Financial Liberalisation

The above arguments of financial intermediation constituted the basis of the McKinnon-Shaw (1973) hypothesis, which provided tools for policy formulation in developing countries via its strong recommendations for high capital accumulation and decentralised financial intermediation. McKinnon and Shaw averred that as the financial framework in developing countries was often subject to government intervention and interference, these countries suffered from poor performance in terms of savings, investment, and economic growth due to excessive financial regulations and bureaucracy. They argued that these stifling interventionist frameworks often contributed to serious distortions in both interest and exchange rates that in turn led to the imposition of interest rates ceilings, the requirement for prohibitively high statutory reserve ratios, the institutionalisation of directed credit programmes, and the misallocation of financial resources. McKinnon and Shaw further noted that while developing countries had

investment potential, they nevertheless, lacked adequate savings due to the aforementioned interest rate distortions.

In order to address these problems, McKinnon and Shaw proposed financial liberalisation, deregulation and privatisation to foster the growth of a high savings and investment framework that would underpin sustainable economic growth. They argued that such liberalisation would result in upward interest rate readjustments on a variety of financial assets that would attract more savings, thus expanding the credit supply which would ultimately energise investment activities.

### 2.2.3  Theory of Financial Regulation

In contrast to the theory of financial liberalisation, the theory of financial regulation extols government intervention in financial markets. Stiglitz (2000) in propounding this theory argued that financial markets were prone to market failures as evidenced by the increased incidence of financial crises closely associated with financial sector liberalisation. He thus argued that government participation, by way of financial system repression can reduce market failures and improve economic growth. Stiglitz (2000) postulated that the lowering of interest rates can raise the average quality of borrowers while directed credit programmes serve to channel resources to sectors which are usually shunned by the market.  Proponents of this theory further expounded that financial regulation can help increase direct central and state government investments in domestic economies thus leading to rapid and sustainable economic growth. Additionally, Mankiw (1986) posited that government intervention in financial markets, such as via the provision of credit subsidies as well as acting as lenders for certain borrowers, can

substantially progress the efficiency and effectiveness of credit allocation, and consequently output growth.

Both the financial intermediation, financial liberalisation and financial regulation theories imply that development in the financial sector can lead to higher and sustainable economic growth. Hence, a number of studies were conducted to examine the finance-growth linkages.

**2.2.4   Solow Growth Theory**

The Solow growth model is an economic model of long-run economic growth set within the framework of neoclassical economics. The model attempts to explain long-run economic growth by looking at capital accumulation, labour, and increases in productivity, commonly referred to as technological progress. Similarly, economic growth is due to the growth in inputs, such as capital and labour, and improvements in technology. At its core is a neoclassical aggregate production function, often specified to be of Cobb-Douglas type, which enables the model to contact macroeconomics. Consequently, when it gets to a point where labour and capital reaches an equilibrium state, then it was the technological advances that impact the economic growth. According to this theory, the long-run level of income per capita depends positively on the saving rate and negatively on the rate of population growth. Economic growth is closely related to saving and population growth and this emphasises the crucial role that savings and capital investment has in country's economic growth. A standard Solow model predicts that in the long-run, economies converge to their steady state equilibrium and that permanent growth is achievable only through technological progress.
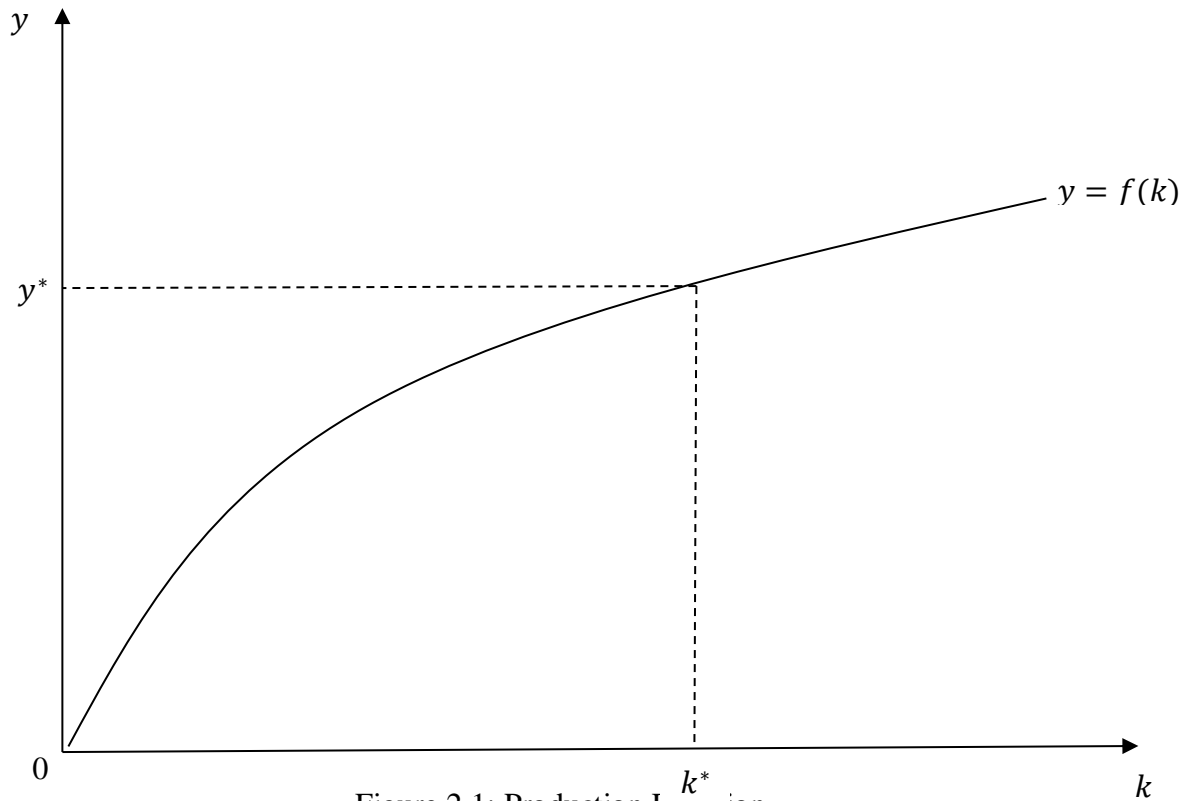
Figure 2.1: Production Function

Let assume that an economy has no technological progress. This implies that the autonomous growth factor $A$ is constant, so that the economy reaches the steady state equilibrium. The steady state equilibrium of the economy is the combination of per capita real GDP and per capita real capital stock where the economy will remain constant that is where per capita economic variables are no longer changing. In this regard, the production function $y = f(k)$ presented in Figure 2.1 represent the graphical relationship that shows how much output can be produced by a given quantity of factor input. The production function is just a starting point toward a theory of economic growth.
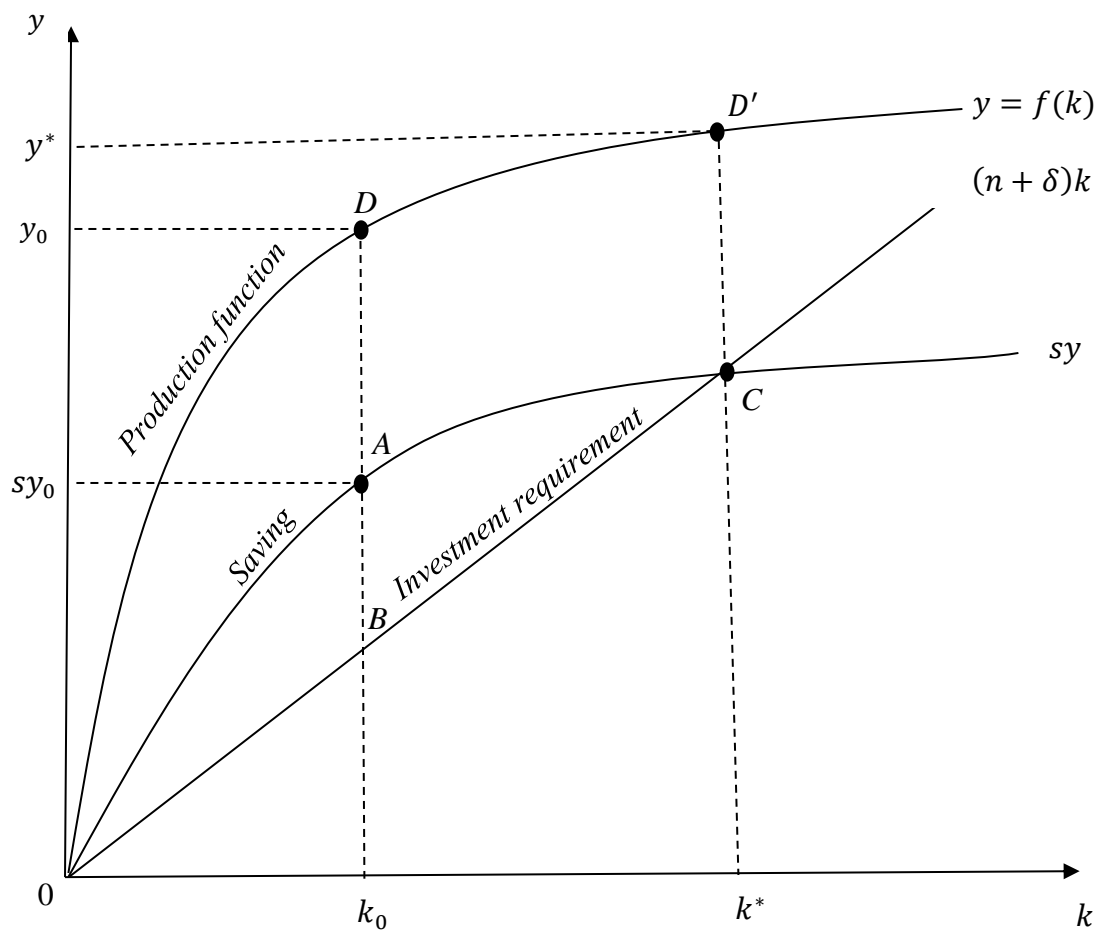
Figure 2.2: Steady State, Savings and Investment Level

Figure 2.1 shows how much per capita real GDP can be produced by different amounts of per capita real capital stock. The slope of the production function is the marginal product of capital, showing the extra amount produced by raising capital, when the amount of labour is held constant. As much as capital rises, output also rises with the marginal product of capital is positive. However, output rises less at high levels of capital than at low levels indicating the diminishing marginal product of capital. Accordingly, an economy would reach a steady state when per capita income as well as capital are constant. Steady state is a situation whereby economy grows at a constant rate. Steady state occurs at the values of $y^*$ and $k^*$ where the investment required to provide capital for new