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SOURCES OF ECONOMIC GROWTH IN SUB-SAHARAN AFRICAN COUNTRIES

BY

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INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

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ABSTRACT

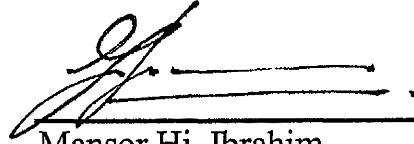
The economic performance of third world countries has been unsatisfactory and inconsistent for the past two decades. This study provides empirical evidence of economic performance of Sub-Saharan African countries, particularly the sources of economic growth. Using a panel data estimations and sample data of 30 Sub-Saharan African countries during 1961-1997, a number of variables has been found to be robust to various empirical specification and thus are relevant to the long-term performance of the economies of this region. The result indicates that investment rate, population growth, human capital development, inflation and political instability affect per capita growth significantly. An increase in the rate of investment and human capital development has significant positive impact on per capita growth while an increase in population growth and inflation rate have negative and significant impact on the capita per growth. We also find that degree of political freedom to be a significant contributor to per capita growth. The impact of political instability on per capita growth is negative and highly significant. The evidence reinforces the critical role played by stable political system in the growth process. Due to multidimentional effect of political instability on factors of production, investment rate, saving rate, and institutional change and ownership, we view it as a dominant factor that can render all other variables insignificant. The study finds per capita income convergence after controlling for investment rate, human capital, population growth and other macroeconomic policies. There is no evidence to suggest that trade openness, government consumption, real exchange rate shocks, higher pace of financial development and external financing strongly influence per capita growth in Sub-Saharan African countries.

ملخص البحث

كان الأداء الاقتصادي لدول العالم الثالث غير مقبول وغير ثابت خلال العقدين الماضيين. في هذه الدراسة، نقدم دليلا عمليا للأداء الاقتصادي لدول جنوب صحراء إفريقيا. ونقدم بالأخص، دليلا تطبيقيا لمصادر النمو الاقتصادي لهذه الدول. باستخدام تقديرات بيانات بانل "Panel" وعينة لثلاثين دولة من جنوب صحراء إفريقيا خلال ١٩٦١ – ١٩٩٧ م، وجدنا أن عددا من المتغيرات متين في تعيينات تطبيقية متنوعة. لذلك فإن هذه المتغيرات ذات معنى بالغ في أداء الأجل الطويل لاقتصاديات هذه المنطقة. نتيجة هذا البحث تشير إلى أن معدل الاستثمار، والنمو السكاني، وتنمية الموارد البشرية، والتضخم، وعدم الاستقرار السياسي، تأثر بصورة لها دلالتها البالغة على نمو دخل الفرد في المتوسط. الزيادة في معدل الاستثمار، وتنمية الموارد البشرية تؤدي إلى تأثير إيجابي فعال على نمو دخل الفرد في المتوسط. لكن الزيادة في معدل النمو السكاني، والتضخم تأثر سلبيا على نمو دخل الفرد في المتوسط. ووجدنا أيضا أن درجة الحرية السياسية عاملة ذات دلالة بالغة في نمو دخل الفرد. فعدم الاستقرار السياسي يأثر سلبيا وبشكل فعال على نمو دخل الفرد في المتوسط. هذا الدليل يؤكد لنا الدور الذي يلعبه الاستقرار السياسي في عملية النمو. ولكن نظرا لتعددية تأثير عدم الاستقرار السياسي على عوامل الإنتاج، و معدل الاستثمار، والتغير المؤسسي والملكي، فإننا نحسب عدم الاستقرار السياسي عاملا رئيسيا الذي قد يجعل باقي المتغيرات الأخرى تفقد الصلاحية. وأوجدت دراستنا أن هناك ميولا لتلاقي دخل الفرد في المتوسط عندما نضبط معدل الإستثمار، والرأسمال البشري، والنمو السكاني، وتدبيرات الاقتصادي الكلي الأخرى. ولكن الدراسة لم تجد أية إشارة إلى أن الانفتاح التجاري، و استهلاك الحكومة، والتغيرات الصدمية في معدل الصرف الحقيقي، والسرعة الهائلة في التنمية المالية، والتمويل الخارجي، لها تأثير ذي معنى على نمو دخل الفرد في المتوسط لدول جنوب صحراء إفريقيا.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a research paper for the degree of Master of Economics.



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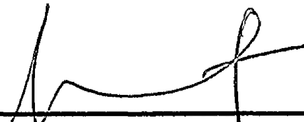

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DECLARATION

I hereby declare that this research is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by footnotes giving explicit references and a bibliography is appended.

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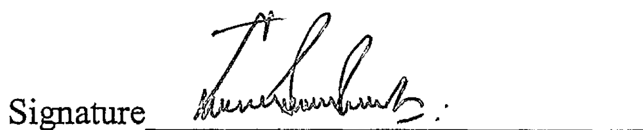
Signature  Date 17TH AUGUST 2001

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TO MY BELOVED PARENTS, WHO WITHOUT THEIR PRAYERS AND SUPPORT I COULD NOT HAVE OBTAINED THIS DEGREE. MAY ALLAH BLESS THEM BOTH.

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CHAPTER 1

INTRODUCTION

Background of the Study

Third world countries are lagging behind and have long been lagging behind the other parts of the world (the first world). As a result, it makes one to worry about the situation and get concerned since this may be a threat to global economy at large. Third world countries comprise three quarter of the world population and are irretrievably mired in poverty and stagnation. While many economists agree that the development image of the Less Developed Countries (LDCs) is devastating, if existing at all, it is not clear the reason as to why such situation happens. Little change has resulted from many efforts that have been spent to change the phenomena. Despite of huge fund flow some believe that the lack of development has been caused by lack of expertise to manage. Others believe that it is mismanagement issue. Some say it is because of technological disadvantage and even some think the reason being inefficient allocation and usage of material and human resources.

With the current ideology of global village and complex trade links and relations, and with advancement in information technology, high level of competition in many spheres of economic activities is evident. Globalization and trade liberalization being almost at climax, regional economic affairs cannot survive alone. Many researches undertaken by recognized institutions, such as IMF, World Bank, OECD etc. report that there has been growth in many developing countries in the recent past. A report by International Monetary Fund (IMF 1995) showed that average growth in Asia was stronger than expected in 1994-1995 at a rate of 7.5%. In Africa it was at three and three quarter percent while that of western hemisphere stood at 2.25% in the same period. Asia, Africa and

Latin America contain most of developing and underdeveloped economies, consequently they also comprise largest share of the world population. To many, the level of growth of Asia seems to be promising, but Africa and Latin America seem to have a long way to go before a change for better in the living standard results. Inflation also remains high in most of these countries and lives of many people seem unchanged. According to the same report (IMF 1995) the flow of external capital to the developing economies and to the third world in general realizes large increase especially to Asian and Latin American countries. Various reasons could explain this, particularly due to higher rate of return to physical capital as well as the widening current account deficit. These countries will pay a huge amount of their income in future to finance interest payments on these borrowings. Interest service has been increasing also from time to time, particularly in 1994 and 1995, reflecting rise in debt–service ratio for repayment of these funds with the principal amount.

Particularly, the economic performance in Sub-Saharan Africa during the past two decades has been poor. Real per capita income continued to decline, thus widening the gap in living standards relative to other developing countries[1]. Virtually all Sub-Saharan African countries are confronted with deep-rooted developmental constraints, including rapid population growth, low human capital development, inadequate economic and social infrastructure, and structural rigidities, which are both causes and consequences of poor economic performance. Similarly political factors have severely worsened or even devastated the economic environment in many countries in the region. Political instability, adverse security conditions and protracted civil wars have held back the economic performance. Despite these formidable constraints, various countries have effectively implemented structural adjustment programmes, institutional reforms and market

[1] See World Economic Outlook (IMF 1995) for analysis of trends in economic performance of Sub-Saharan African Countries.

conforming policies, thus significantly improving their economic fundamentals and investment environment.

With above noted problems, where despite huge flow of external fund to less developed countries, the realization of growth and abilities to service debt is questionable. My research will attempt to examine and assess the sources of economic growth of Sub-Saharan Africa and find out whether the intended aim of improving human life through economic advancement is met. The result of this research will contribute to the existing literature on the economies of this region. It will help policy makers and donors to realize the problem areas and initiate an alternative mechanism that can improve human face in the developing world. The findings also might be generalized to similar countries that face similar problems and belong to the same category on IMF and World Bank records.

Purpose of the Study

The purpose of this study is first, to conduct a survey of the studies that have been done on this subject and make systematic assessment of the evidence realized so far. Secondly, it is the purpose of this study to conduct further empirical investigation using macroeconomic variables, policy variables, political variables and capital flows. This gives weight to my investigation since the impact of variables on the economic growth of this region has yet to be assessed fully. The empirical tests are conducted using annual data from sample of countries from the region for the period between 1961-1997.

Thirdly although there has been a handful of previous studies on the subject matter of economic growth, such as Savvies (1995), Balassa (1990), Otani and Villanueva (1990) Barro (1991), Mankiw *et al.* (1992) and Levy (1988), most of them aimed at testing the economic growth model using sub-set of data, and with different or comparative regions. Due to heterogeneity of factors in different regions as well as policy variations, this study

looks at the economic growth pattern of Sub-Saharan African region which needs to be given attention. To study why we have such a trend of the economic growth in this region, we need to know policy variables, various macroeconomic variables, financial flows aspect and the ability to finance such capital borrowings. Growth is mainly determined by labor (human capital) and material capital. Studying financial flow enhances us to evaluate whether suitable environment is created over the period that can generate the required growth. Reforms of financial sector and economic freedom should be taken to account. Hence the trend of financial flow will give us a directive to determine the achievement and openness in these countries that will lead to long-term growth.

Finally since the foreign indebtness of Less Developing Countries (LDCs) are increasing (which partly call for debt rescheduling in LDCs), a means of improving economic affairs of LDCs (which majority of Sub-Saharan African countries belong to) is in urgent need. One important area that deserves focus is whether the growth rate of these countries is capable to service these debts. Of particular interest is also whether the flow of these funds (debts) enhances the ability to generate the required economic growth.

Problem Statement

Have the Sub-Saharan African countries been experiencing economic growth? What are the sources of long-term economic growth and its determinants in countries of this region? What are the most important variables that have made some countries from developing world to have a higher economic growth than the rest and do we have enough evidence to suggest that there has been continuous capital flow to the region that can boost urgent capital (physical and human) need and investment in projects underway from external sources (foreign capital flows) that enhances economic growth? Of particular interest in this case are also the economic developments (reforms and policies) that have taken place during the period under the study. Do we have the economic and political freedom that can

facilitate economic growth? The empirical results of this study will produce answers to these questions. We will analyze the implication of these questions from point of view of academicians and policy makers.

Organization of the Study

In the course of this investigation, the study is organized as follows. The next chapter discusses the important literature related to the study. In Chapter 3, the empirical methodology as well as the model and data used is discussed. Chapter 4 reports the empirical results of the estimation and testing. We also analyze the important findings reported. Finally, in Chapter 5, Conclusions of the paper are summarized.

CHAPTER 2

BACKGROUND INFORMATION AND LITERATURE REVIEW

Background Information

Capital has been shown to be one of many factors affecting a country's prospects for growth. Handful of early economic growth studies have highlighted on the importance of capital. For example Solow (1956), Cass (1965), Koopmans (1965), Lewis (1965), Morgan (1967) and Lucas (1988) have all given this point serious attention. One can say then that economic growth heavily depends on the rate of increase in the resources at a country's disposal and improvement in the efficiency in which they are managed and used. Resources also called factors of production including land, labor, and capital, and recently knowledge (technology) have been recognized as vital productive factors. But capital has a special relationship with other factors since it provides means of exploiting natural resources, improving productivity of labour and is the major vehicle for the transfer of technology (CED Report 1988). In the process of capital accumulation high domestic saving is required. This can be achieved by strengthening government financial position and mobilizing the private sectors financial resources (Otani and Villanneva 1990). Poor countries can save little since their income is low, hence their rate of investment is low, resulting permanent poverty and economic stagnation. The only way then, to accelerate the economic growth of the Third World is to supplement meager domestic saving by transferring resources from rich (capital surplus countries) to the poor where return on capital is high. In short foreign savings were regarded as the only key to launch developing countries to sustained growth (CED Report 1988). Looking at post independence data (after 1970) the domestic investment and saving ratios in all but poorest developing countries are on average higher than those of the industrialized countries (World Bank 1985). For the period of 1960-1980 the developing countries have

even achieved remarkable success in increasing their saving except for low-income African countries where saving rates actually fall partly due to high population growth and poor government policies (World Bank, 1983)

During 1960s and early 1970s, though domestic saving and investment was low, external investment (in form of Official Assistance and Aid) was overwhelmingly the dominant form in developing countries, but this boost in the level of investment did not result in high GDP growth in low-income countries[2]. This gave a clear indication that less developed countries will lag behind for long time to come. During the 1970s official funds (aid) from Western countries continued to stagnate and dwindle while private capital continued to flow strongly supported by the creditworthiness of developing countries (Singer and Roy 1993). The situation reversed in 1980s where private and portfolio flows reduced dramatically in real terms partially accelerated by debt crisis of 1982 (Riedel 1987). This has been called the lost decade particularly for Sub-Saharan African countries where development was reversed. The average growth rate of per capita real income declined significantly in this period (compared to post war period up to 1970s). This resulted in decline in investment ratio and expenditure on investment exceeded domestic savings (Helleiner 1989a). This caused rapid increase in foreign borrowing and external debts, while external payment position became unsustainable in many developing countries (Otani and Villanueva 1990). As a result, member countries of developing as well as industrialized countries (donors) sought for growth oriented adjustment policies.

Major part of recent external debt problem discussion centered on middle-income countries including studies by Krumm (1985), Lancaster and Williamson (1986) and Feldstein *et al* (1987). But little attention has been paid to external debt problem of Sub-Saharan African countries despite a few papers including Greene (1989), Lancaster (1989)

[2] This could be due to the fact that much of Capital inflows will have to go into physical and social infrastructure.

and Mistry (1989). The external debt of Sub-Saharan African countries has received less attention than of middle-income countries since it is not a threat to international banking system. In his study Greene (1985) finds that more than 75% of the publicly guaranteed external debt of Sub-Saharan countries has been owed to bilateral or multilateral institutions. The aggregate external debt of Sub-Saharan countries has grown from an estimated figure of US$ 6 billion in 1970 to more than US$ 136 billion at the end of 1988 (IMF 1989b). This mounting debt level is surely economically serious and rising debt service level, severely limits the ability of these countries to finance trade balances as well as new sizable development projects.

Various studies tried to explain the effect of external financing on growth theoretically and empirically. Otani and Villanueva (1990) examined the determinant of long-term growth and found negative relationship (through statistically insignificant) between external financing and growth. The fact that high debt service has to be paid, it will only be helpful if the borrower has high level of export to compensate. A similar study by Otani and Villanueva (1989), while using macroeconomic data from different regions and income groups for the period of 1970-1985, investigated the correlation between external debt and growth per capita. He finds that there is negative correlation of per-capita income with external debt accumulation. Alternatively external financing includes aid through official development assistance (ODA) disbursement. Africa has received large share of ODA in 1970s (particularly Sub-Saharan region), but there has been persistent disappointing economic performance. Hence then, there has been serious questions as to the effectiveness of aid in Africa. Levy (1988) using data from 28 Sub-Saharan African countries for the period of 1968-1982 finds that there is positive and significant correlation between aid, investment and economic growth.

The current trend indicates that the external debt of Sub-Saharan African countries in high despite various structural adjustments programmes proposed by international organizations to improve the situation[3]. Table 1 summarizes macroeconomic aggregates and debt indicators for Sub-Saharan African region. As at 1998 the total debts stood roughly at US$ 230.1 billion compared to US$ 176.8 billion at 1990. Though GDP growth seems to have increased (i.e. from 1.1 in 1990 to 4.4 in 1996) the debt stock as a percentage of export remain high though the trend for Foreign Direct Investment (FDI) is improving (i.e. US$ 0.8 billion in 1990 to US$ 4.3 in 1998).

[3] For detail discussion of this, see Mosley *et al.* (1995), Balassa (1988) and also World Bank (1990). For discussion of various structural programmes see Levy (1988) and Rahnama-Moghadam for debt crisis and relevant remedies suggested.

Table 1: Major economic aggregates for Sub-Saharan Africa[4]

Million of U.S dollars, constant 1987 prices

	1980	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Real GDP	218879	241327	249814	258176	260957	262829	263110	266059	272043	282608	294937
Export	63474	60931	64925	69014	71395	71776	72295	75379	76175	81889	88437
Import	80088	60062	65094	66789	65770	67334	69339	70533	72398	80029	86159
Total External Debt	57745	117048	143744	146065	152982	172562	178737	177109	183314	193174	204253
Total External Debt Service	5657	8959	8282	9421	8787	10150	9494	9510	6729	8511	10558

Percentage of GDP

	1980	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Gross Domestic Investment	23	17.7	18.7	18.4	17	17.3	16.8	16	17.6	18.5	17.8
Gross Domestic Savings	26.1	18.2	18.4	18.8	18.8	17	15.5	14.2	15.8	15.5	16.2
Total Consumption	73.9	81.8	81.6	81.2	81.2	83	84.5	85.8	84.2	84.5	83.8
GDP Growth (% A. Change)	3.6	2.1	3.5	3.3	1.1	0.7	0.1	1.1	2.2	3.9	4.4

Debt Indicators

	1980	1989	1990	1991	1992	1993	1994	1995	1996	1997
Total Debt / Export (%)	91.9	238.9	232.2	245.9	242.2	258	270.1	249.7	221.6	201.7
Total Debt / GNP (%)	33.6	69.3	74.7	75.8	73.7	80.5	86.2	82.2	77.8	71.2
Total Debt Service / Export (%)	9.8	18	18	16.6	15.8	15.1	14.5	15.6	14.2	11.5
Interest Payment / Export (%)	6.3	9.5	9.1	8.9	7.8	6.3	5.7	5.4	5.1	4.7
Interest Payment / GNP (%)	2.3	2.8	2.9	2.7	2.4	2	1.8	1.8	1.8	1.7
Reserves / Total Debt (%)	27.3	7	8	9	7.3	7.6	8.1	9	11.8	13.8
Reserves / Import (%)	3	1.8	2.1	2.3	1.8	2	2.2	2.2	2.9	3.2

Source: World Bank, African Development Indicators, various issues.

[4] The following countries are members of Sub-Saharan African Group: Angola, Benin, Botswana, Burkina Faso, Burundi, Cape Verde, Central Africa Republic, Comoros, Cameroon, Chad, Congo Democratic Republic (Zaire), Congo Republic, Cote d'Ivore, Djibouti, Equatorial Guinea, Ethiopia, Eritrea, Guinea, Guinea Bissau, Gabon, The Gambia, Ghana, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Niger, Nigeria, Namibia, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, and Zimbabwe.

Economic Growth

From the classical work of Solow (1956) to the present day, there has been a revival of interest in the determinants of long run economic growth. Various theories have emerged in this process, which include Solow growth model, endogenous growth model and of recent institutional growth model[5], all trying to explain the reasons for various growth processes. These new theories have stimulated research in specifying the factors behind differences in long-run growth rates across countries (Savvides, 1995). Solow (1956) showed, by taking the rate of savings and population growth as exogenous, that these variables determine the steady state level of income per-capita. In his study, Solow (1956), gave a simple testable prediction about how saving, population growth and level of income per capita are related. He concluded that the higher the rate of saving the richer the country, the higher the rate of population growth the poorer the country. Following Solow's (1956) econometric procedure Mankiw *et al* (1992) conducted study using data for 75 countries for the period 1960-1985; he found that differences in saving and population growth account for a large fraction of cross-country variations in income per-capita (as predicted by Solow, 1956). However, the result showed that the estimated impacts of saving and labor force growth are much larger than the model predicts[6]. Hence, the model was not completely successful to explain fully the factor of income growth. Mankiw *et al* (1992) developed augmented Solow growth model by adding human capital in the equation. By doing this, the performance of the model to explain variation of income per-capita improves. He empirically found that by including human capital variable in the Solow's model, the presence of human capital accumulation increases the impact of physical accumulation on income.

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[5] Parkin (1998) discusses various growth theories as well as diagrammatical illustrations in the process. North (1990) also discusses institutional growth theory.

[6] The value of α implied by the coefficient should equal capital's share in income which is roughly one third, but the regression predicted α higher than 1/3, thus the model strongly contradicts the prediction.

Handful of studies have tried to predict the determining factors of growth. Barro (1991) conducted cross-country study for 98 countries for the period of 1960-1985. The estimated result indicates that growth rate of real per-capita GDP is positively related to initial human capital (proxy by school enrollment), political stability and investment, while negatively related to the initial (1960) level of real per-capita GDP.

Easterly et al. (1997) examined the response of economic growth to reforms in Latin America and concluded that because of significant changes in policies achieved in Latin America in 1990s, the region did well to return to its historic rate of growth despite global economic slowdown. Contrary to this was the findings of Durnbusch and Edwards (1995). They concluded in their study of Latin America (and Middle Eastern) reforms that even though structural reforms appear to be a necessary condition for growth rate in per capita, they are not sufficient one. In any economic growth study, two things have been found to be very important, the impact of saving and the population growth.

Looking on regional basis of growth, trend seems to be different and little seems to be common. Hu and khan (1997) analyzed the economic growth in China, using data from state statistical bureau for the period 1952 to 1994, and vying to predict the sources of economic growth. They found that although capital accumulation was a dominant factor in China, productivity improvement have assumed increasingly an important role. Although there was high level of saving, cheap and abundant labor in China, sharp and sustained increase in total factor productivity accounts partly for growth. These productivity gains largely reflect market oriented reforms that it has undertaken. In another paper Singh (1995) has shown that East Asia fast growth was led by high saving and investment rates, national systems that enhanced technological capabilities, macroeconomic stability, greater trade openness and foreign borrowings that were invested in export oriented industries. Hence, allowed these countries to service their foreign debts and achieve