Journal of Sustainable Development in Africa (Volume 16, No.7, 2014)
ISSN: 1520-5509
Clarion University of Pennsylvania, Clarion, Pennsylvania

EXPORT- INCOME, ECONOMIC GROWTH AND POVERTY REDUCTION IN CAMEROON

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ABSTRACT

Empirical findings show that most countries of Sub-Saharan Africa remain incredibly vulnerable to slow economic growth and development. This study analyzed the relationship among export-income, economic growth and human development index considered as a proxy for poverty in Cameroon. Time series data on the variables in Cameroon from 1965 to 2010 were exploited using the Toda-Yamamoto Granger Causality Tests. No bi-directional causality but only a one-way causality existed from human development index to export-income. Therefore exports, economic growth and poverty/human development should be boosted with sound policies by policy-makers in order to harvest the fruits of the empirical causal relationships in this country with abundant resources. All of this will guarantee economic growth sustainability and sustainable development.

Keywords: Export-income, Economic Growth, Poverty, Poverty Reduction, Sustainable, Development, Toda-Yamamoto Causality Tests, Cameroon.

INTRODUCTION

The most disturbing and widely discussed issue of the entire world today is poverty. Poverty is widely discussed because of its multifarious causes, forms and consequences .Poverty is the most excited word at the corridors of every country, region, and international organisations, both in the developed and less developed world. Indeed, the overarching economic policy objective of nearly all countries is to eradicate poverty in its multidimensional forms. The endeavour is to understand its spectrum in order to measure it, mitigate its impact and/or eradicate it entirely. All sustainable development efforts at both local and international levels are urged towards this poverty measurement and the poverty reduction issue. This is evident by the plethora of formal poverty measurement, poverty reduction and sustainability literature in the world today. The new approach to poverty definition and measurement is multidimensional, and it is meant to capture poverty explicitly. This new approach is contrary to the former approach that was based solely on income (Njong, 2008).

According to Jeffrey D. Sachs et al.., (2004), and Patrick Guillaumont (2006), Africa has been stuck in a poverty trap and remains the continent with serious vulnerability to internal shocks like environmental degradation, droughts and large fluctuations in prices of agricultural production that are recurrent amidst external shocks . External shocks like fall in demand, fluctuating exchange rates, financial crisis and other forms of export growth instabilities are frequent coupled with world prices rippled effects. All of these have some direct and indirect effects on poverty reduction and sustainable development measures that are put in place at any one time by African governments and their supporting foreign partners.

The poverty situation in Cameroon as well as other countries of the Central African Economic and monetary Community (CEMAC) is most complex and most serious. Despite Cameroon endowment with abundant resources, extreme situations of poverty exist in the country. This has attracted much attention and focus on who are the poor, where the poor are, what are the causes of poverty and how other economic variables are connected to explain poverty. Cameroon being a developing country experiences Low Human Development, high population growth rates, low income, low literacy, low life expectancy and other problems as indicated by the Economic Reports on Africa (1999 and 2008).

Concerning poverty reduction and sustainable economic growth measures in Cameroon, several attempts and strategies have been pursued. Given its geographical position which captures almost all the features of the African continent, Cameroon from independence and up to the 1970s depended on the promotion and development of agriculture and trade. From the 1970s, Cameroon discovered oil and took oil exploitation as a priority to promote growth and development paying less attention to agriculture to an extent. This is evidenced from the negligence of its development plans that had agriculture as a core sub-sector for economic growth. The consequences were very serious and were translated into general economic crisis that rocked the country up to the mid-eighties.

Faced with the economic crisis, Cameroon resorted to the lobbying and encouragement of foreign aids, foreign investment and export oriented production as panacea for sustainable economic growth that could be trickled down to poverty reduction. Many macroeconomic measures and institutional reforms became fashionable and with the assistance of the World Bank, the Structural Adjustment Programme (SAP) was adopted and ushered into the economic growth and sustainable development agendas of Cameroon.

Alongside the above measures, and integrating the 1980s globalisation, the Heavily Indebted Poor Countries (HIPC) conditions as required by the World Bank, took the central stage for economic authorities and policy-makers in Cameroon. These aspects were thought of as better options to promote economic progress which could eventually be translated into better living conditions and the reduction of general poverty in the country most presented by head-count or spatial poverty (Njong, 2008).

Given the poor level of economic performance in Cameroon, the big questions are what should be done to reverse the situation? To what extent can Cameroon make use of the economic and other potentials to successfully achieve sustainable economic growth and reduce poverty to some extent? What are some of the particular situations/sectors or refined relations between the economic variables concerned that could be streamlined for in-depth research so as to exploit the economic opportunities therein for sustainable economic growth and poverty reduction? These are not easy questions to have straightforward answers due to the volatility of some of the variables under question and of the multidimensionality of causes of poverty in particular and the various remedial measures taken at one time and space to address the issue of poverty reduction.

Therefore, the core of this study requires understanding the dimension of the relationship between export-revenue, economic growth and poverty reduction. This analysis and understanding will allow us to master the forms, dimensions and establish relationships among export income, economic growth and poverty.

Poverty could be monetary or non-monetary, thus indicating a situation of lacking basic needs. According to the World Bank (2000), poverty is the lack of power to command resources. Its multidimensional phenomenon makes the poor face multiple deprivations due to the interaction of economic, political and social processes. Beyond the lack of income or monetary poverty, the multidimensional concept of poverty refers to disadvantages that those afflicted are subjected to when struggling to access productive resources such as land, credit and services, to vulnerability of all nature and powerlessness as well as social exclusion. This multidimensional poverty situation prevails in Cameroon.

However, as concern the relationships among export-income, economic growth and poverty, many studies have analysed the relationship between export and economic growth; export and poverty reduction; and economic growth and poverty reduction to arrive at different conclusions. Some have concluded with positive relationships among the variables while others with negative relations or even no relations using time series analysis that have tested for stationary and non-stationary conditions. This paper has attempted to investigate the relationship with the intention to throw more light in the context of Cameroon for appropriate policy orientation for sustainable economic growth, economic development and poverty reduction.

STATEMENT OF THE PROBLEM

In Cameroon, trade is a major source of revenue and especially export revenue. The revenue from export is not an end in itself but should be used judiciously for growth imperatives. Yet, revenues from exports fluctuate almost permanently. Growth rates in Cameroon and neighbouring countries are low. The low economic growth rates reflect poverty. Poverty on its part cannot encourage proper investment in the export sector and eventually growth. Therefore it is necessary to study and

understand the relationship between economic growth and exports including other variables that have a greater say in the trend of economic progress and development in Cameroon. Without this understanding, it becomes difficult to exploit the advantages that come with increased exports and how income from exports can be used to impact growth positively. At the same time the understanding of the relationship between exports and growth will allow for a mastering of likely challenges and possible remedies for them.

The big problem in Cameroon is that there are several export potentials which could be exploited for sustainable growth and development, yet you find the country with almost stagnant growth rate that would hardly go beyond 7 %. It is expected that exports, above all agricultural and petroleum products should play a fundamental role in promoting growth. This paper assumes that it is because of the lack of understanding of the relationship among the variables that the problem lays. If the stakeholders are aware of directions and implications of the relationship, then they will be able to logically enact sustainable growth policies that can bring into the export sub-sector measures that will be beneficiary. The benefits would be fine-tuned for growth and the benefits from growth would equally be geared for poverty reduction endeavours.

THE OBJECTIVE

This paper stipulates to examine the relationship among export income, economic growth and poverty in Cameroon for a proper or an improved sustainable policy orientation. But for clarity and specification, it intends

. To look at the relationship between exports and economic growth in Cameroon

. To identify the effects of exports on poverty (here the human development index is calculated and taken as proxy for poverty measure)

. Examine the effect of economic growth on poverty and finally

. To find out the implications for the above relationships in Cameroon for the period 1965 to 2010 in terms of poverty reduction to enhance sustainable growth and development.

EVOLUTION OF EXPORT-INCOME, ECONOMIC GROWTH AND POVERTY IN CAMEROON

Using the gross domestic product as an accepted indicator, we can understand the growth performance of Cameroon through its macroeconomic policy, political and institutional setting, and its social and cultural environmental aspects.

From independence in the sixties, the growth performance of the Cameroonian economy has been pivoted on the leading role and policy changes of the state in relation to its economic activities. Cameroon at the dawn of independence opted for state's intervention in economic activities partly as her obligatory attachment to the Central Africa Franc Zone under the auspices of *Banque des Etats de l'Afrique Centrale* (BEAC). In this situation, its fiscal and wage policies have been the only vital macroeconomic policy instruments to directly influence economic activities in both the public and private sectors of production. Therefore, the state exercised the leading role in production through its five years economic, social and cultural

development plans in which the state stipulated and manipulated the rules and regulations governing all intended growth paths and sustainable development intentions. These five year development plans with elaborated investment codes to attract foreign partners from 1961 (Amin, 2002) proved so rewarding in terms of growth. The upwards trend in turn attended its apex of exceptional growth between the mid-seventies, a period that coincided with oil discovery of the mid-eighties. With the dominant role of the government in direct production via public enterprises/corporations, private initiatives and entrepreneurial ship were hindered and scarified for public intervention that dictated the paths of economic and social arrangements.

The status quo of government domineering, subvention and protectionism setting in production resulted to no competitive spirit among the public productive units in the country. This uncompetitive status-quo among state corporations or generally state productive enterprises eventually led to unproductive ventures trickled-down in the form of white elephant projects. Such projects were accompanied with low returns on capital investments that became the talk of the day within the implementation of the development plans (World Bank, 1995). This situation ushered into the Cameroonian economy a deteriorating sphere amidst serious internal and external debts. With this poor economic performance that attracted serious local and international concern, leading to the intention of remedying the situation, the Cameroon government quickly accepted the World Bank/*Caisse Francaise Cooperative* suggested macroeconomic and social structural adjustment policy of 1986.

The structural adjustment macroeconomic policy was not a panacea maybe due to its setting or its improper perception and implementation as things do not improve to a great deal. Terms of trade continue to worsen; cash crop and oil prices fell faster than ever before resulting to negative balance of payments (BOP) and recurrent budget deficits that became obvious. To overhaul and reverse this state of affairs of the economy in terms of exports, the CFAF was devalued at 100% in 1994 and the economy liberalised in an effort to salvage the country's export sector and inherent earnings vis-à-vis external competition.

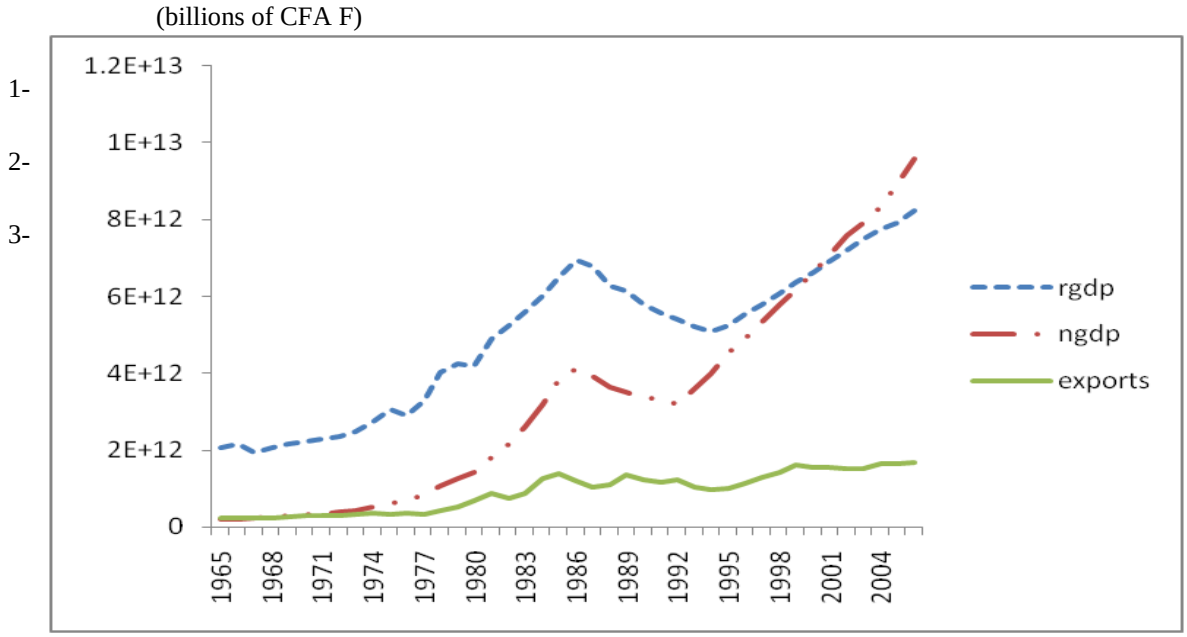
In summary, because of its modest oil resources and favorable agricultural conditions, Cameroon is one of the best-endowed primary commodity economies in the CEMAC zone and Sub-Saharan Africa as a whole. Yet, it faces many of the serious problems confronting other less endowed and underdeveloped countries, such as a top-heavy civil service, lack of budgetary transparency and accountability; and a generally unfavorable climate for local and foreign business enterprises. However, the Cameroon economy experienced an impressive growth performance of about 7% from independence in 1960 up to mid-eighties and this almost was doubled between 1978 and 1986 (DSCN, 1989) placing Cameroon on the average above that of Sub-Saharan Africa. This spectacular performance was attributed to the discovery and exploitation of oil coupled with the enhanced agricultural green revolution policy. During this era, the government tried substantially, subsidising, footing all accrued expenditures for public goods and services amidst encouraging export crop world prices.

These glorious days ended in 1986 and from 1986 to 1994, the story was that of serious economic crisis being ushered into the economy by the deteriorating world market prices. Export earnings mostly from agricultural commodities that constituted the main source of government revenue fell seriously putting the country into difficult and unmanageable budgeting

situations. These economic difficulties were not only from external manoeuvres but were equally seen from mal-perception, framing and implementation of domestic macroeconomic policies. Cameroon from independence placed its public sector at the forefront of production so as to enhance economic growth and development. This positioning of the public sector at the forefront of production however, brought alongside negative repercussions on the economic performance of Cameroon

The issues of protectionism, state subvention and inappropriate allocation of resources either on tribal basis have been associated with poor economic performance (World Bank, 1995).The general economic performance depends on agriculture that occupies 70% of the labour force and contributes 43,5 % followed closely by services with 40,5% to the Gross domestic Product (GDP). It is revealed that GDP-real growth rate in 2006 was 3,2% and has since progressed only by 0,7% to 3,9% in 2008 leaving the Country with a stagnated GDP per capita of 2,300 US dollars in the same period (U.S, CIA World factbooks,2009). From the same source, exports made up of mostly crude oil and petroleum products; lumber, cocoa, coffee and cotton were just 884 billion U.S dollars, above imports at the f.o.b 2008 estimates. All of this will play poorly on poverty and poverty reduction efforts in Cameroon. That is why understanding the above is fundamental to the analysis that link export revenue, economic growth and poverty in this paper. Figure 1 below presents an evolution of real and normal gross domestic product (rgdp and ngdp) for Cameroon from the sixties till 2007.

Figure 1: Evolution of real, nominal Gross Domestic Product and exports for Cameroon



Source; Author's compilation from Africa Development Indicators 2007 CD-ROM

Even though Cameroon's economic growth has trended upwards since the sixties, real economic growth was good before 1986 as it got to its performance apex around 1986. From 1987 it trended downwardly to a trough in 1994 and from 1995, it experienced an upward trend till the present. Nominal gross domestic product (ngdp) from the sixties exhibited almost the same nature of amplitudinal movements but remaining below the real gross domestic product until 2002 when it trended upward and by-passed the real gross domestic. From 2003, the two variables trended upwardly but the real domestic product remained permanently below the normal gross domestic product. This explains how difficult living standards for most Cameroonian households have been on the average since then till today.

For exports, the evolution from the sixties remained almost less spectacular, evolving almost stagnantly until 1977 when it improved a bit up to 1985 and since then has slightly increase in a zig-zag manner till nowadays. This volatile nature of evolution in exports may be explained by the concentration nature and mostly the untransformed agricultural exports that production depends on factors like agricultural policies, climatic conditions and others that the country relies on for its greater part of exports. The export variations and therefore its revenue will not allow for a better planning for growth activities like earmarked investment, production and consumption.

With the above difficulties the popular opinion for economic and political liberalism swept through the entire country leading to serious civil disorder and disobedience. With some external pressure; political reforms and legalisation of political parties, freedom of press and associations were ushered in the nineties (Banock, 1992; Tatah, 2000). But the outcome of democratic

culture has rather reinforced tribalism as political parties are almost on tribal settings and uneven distribution of administrative portfolios and other vices have influenced resource allocation. This then has negative repercussions on productive investment, foreign partners with accompanying businesses and the majority poor at the mercy of the elected parliamentarians with usually short -sightedness in policy frameworks alongside unfulfilled promises (Njong, 2008).

With the above facts about Cameroon, export, economic growth and poverty link could be examined. The Cameroon export activity has been progressive from 1965 to 2010. In 1965 and in 2010, export of goods and services stood respectively at 35,66 and 1799,12 billions (IFS,2011) giving a range of 1763,46 billions. With a moderate annual growth rate of exports, the trend has fluctuated upwardly between 1965 and 2010. This upward growth behaviour of exports, other things being equal is an indication of accompanying foreign earnings for Cameroon during the considered period. Therefore, exports make a greater part of the Cameroon's Gross Domestic Product which on its part has been progressive even though fluctuating. The growth in GDP according Dollar and Kraay in 2002; and the UNCTAD/WTO in 2006 has some direct or indirect positive effects on the Cameroon's poverty process taking into account other development strategies like export promotion policies, equality in income distribution, political stability and the rest.

With other development intentions in consideration, absolute poverty has reduce in Cameroon to 40,2 percent (ECAM II, 2007). This is a step ahead that requires the sustainability of all the contributing policies and participants so that poverty should be kept at a low level to avoid its own spill-over effects on other sectors of the Cameroon economy.

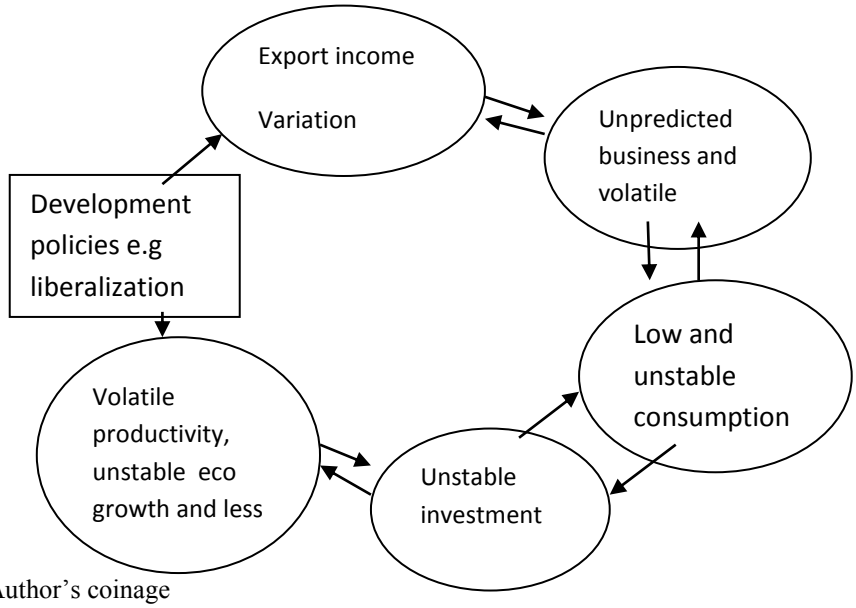
LITERATURE REVIEW

Theoretical literature

Here we envisage a framework of explaining the underlined principles about exports, economic growth and poverty reduction hence facilitating the investigation of the relationship that exist among export (export revenue), economic growth (economic growth instability) and poverty reduction. The general principle seems that export earnings contribute to economic growth and economic growth on its part is poverty reduction enhancing. For example, this relationship has been demonstrated in East Asia (excluding China), which contains one of the world's fastest-growing economies today and has reduced the share of its population living in poverty from 23 percent since 1987 to less than 14 percent (Dollar and Kraay, 2004). But particularly in Cameroon and CEMAC as whole, negative growth of GNP per capita predominated during that period, and the incidence of poverty has hardly changed to a considerable extent.

Hence, export earnings volatility should seemingly create instability in economic growth that should influence poverty reduction. This means that if export income variability creates economic growth instability, it may not result to improving the process of poverty reducing and this may equally influence economic growth and export negatively. This chained process may create a vicious circle that will be difficult to go out of it above all for developing countries that depend mostly on untransformed exports. Nevertheless, the extent of the effects will depend on the threshold between export income and economic growth instability on the one hand and poverty reduction on the other.

Figure 2: The vicious circle of export income variation, economic growth instability, less poverty reduction and the development policies



Source: Author's coinage

ECONOMIC GROWTH AND EXPORT EARNINGS

Economic growth theories are fundamental to modern macroeconomic explanation. The explanation of growth has traditionally been based on the Solow growth ideology of 1956. The growth accounting approach (a sustainability aspect) also known as the neoclassical growth theory predicted two directions of growth in the long-run. On the one hand, economic growth appears as a result of exogenous technological changes and that income per capita of countries would converge. In this direction, determinants of growth are exogenous and it is clear that government policies would not be able to influence growth rates. That is why the classical economists do not pronounced the role of the government in the conventional growth process and models. However, different theories of growth could distinguish the underlying bases for growth.

The neoclassical growth theory states that economic growth emanates from the aggregate production function where production factors (land, labor and capital) are assumed to determine gross national output for a country. Following this understanding or theory, growth from the function comes about in three options if land is fixed. The option where there is increase in the supply of labor, increase in capital stock or capital formation and the increase in current productivity.

From the increased labor supply option, increase labor supply generates large output. This causes real output to rise if more people participate in the country's productive capacity to make use of idle physical and human resources. The physical resources increase output through the enhancement of labor productivity. Productivity can increase through investment in modern techniques of production which in turn enhances the output per hour labor. At the other end, human capital aspects of education, skilled labor, professional training and research according to Solow (1956) are more productive through investment and innovation, thus promoting economic growth than without such human capital investment scenarios. Solow's

major conclusion was that technical progress or total factor productivity was an efficient underlying element that determines economic growth exogenously. The lapses of this model were the lack of a comprehensive explanation as to how and why technical progress was appearing.

To buttress Solow's findings, Arrow in 1962 projected an in-depth analysis of the model structure by incorporating the 'learning by doing' behavior to explain productivity increase due to technological advancement. The two authors turn to agree that technological discoveries spectacularly create situations of spill-overs across the entire economy thus enhancing higher levels of economic growth.

To the above theoretical frame of Solow and Arrow, Romer in 1986 presented an alternative model frame to determine an equilibrium rate of technological progress even though the results of the growth rate were not Pareto optimum. Pareto optimality allows for equal benefits theoretically for parties involved but practically, we may not find such a scenario as the allocation of inputs (export exercise in a competitive world) can not make one party better off without making another worse off according to realistic trading and international negotiating experiences. This tells us that the current world export situation is that of imperfection and that those with more exports may not necessarily be beneficiaries of the situations to enhance their economic growth sustainably.

From all indications as from the above theoretical explanation, the neoclassical economic growth model did not incorporate exports as a fundamental element that determines economic growth. This non inclusion of exports by the neoclassical in the determination of economic growth model has given this study the chance to attempt an investigation on how exports and growth are connected.

Economic growth by virtue increases a nation's total wealth; also it enhances the potential for reducing poverty and solving other social problems. But history offers a number of examples where economic growth was not followed by similar progress in human development. Instead growth was achieved at the cost of greater inequity, higher unemployment, weakened democracy, loss of cultural identity, or overconsumption of resources needed by future generations. As the links between economic growths, social and environmental issues are better understood, development experts including economists tend to agree that this kind of growth is inevitably unsustainable- that is, it cannot continue along the same line for long. Cameroon is prevalence with the above characteristics and consequences.

To be sustainable, economic growth must be constantly nourished by the fruits of human development such as improvements in workers' knowledge and skills along with opportunities for their efficient use: more and better jobs, better conditions for new businesses to grow, and greater participation and democracy at all levels of decision-making to allow for sustainability. How this growth then is linked to export earnings or how do export earnings influence economic growth?

According to Thirlmall A.P (2002) in an open developing economy, one of the major constraints is the lack of foreign exchange to pay for imports. This means that export growth which relaxes a balance of payments constraint on demand becomes a crucial determinant of overall economic growth performance. In this way, demand creates its own supply in a

growth context, rather than the pre-Keynesian view of supply creating its own demand. This is an alternative framework for understanding differential growth performance of a nation or region. Export earnings of a particular country or region therefore have a determining influence on the economic growth of such a country/region (The export-growth-led hypothesis). Equally, the actions of such a country via its internal and external development policies are believed to have a considerable influence on export earnings and therefore the economic growth performance and poverty reduction.

Economic growth implies an increase in real GDP adjusted for inflation. This means the growth rate of real GDP is the percentage change in real GDP from one year (t) to the next year (t+1). To Tatyavara P (2000), GDP growth rates in developing countries are on average higher than those in developed countries. But the problem may be the way the growth outcome is distributed among the citizens of developing countries. Moreover, the difference became even larger in recent years because GNP growth in developed countries slowed from more than 3 percent a year in the 1980s to about 2 percent a year in the first half of the 1990s. Low-income countries, by contrast, appear to have performed much better during this period, with GNP growing by almost 6 percent a year in 1980-95 (Robert J. Barro and Xaxier Sal-i-Martin, 2007). Consider the case of Gabon in recent time that shows a GDP trend above World level. By implication, positive growth rates should indicate positive impacts on poverty reduction. So, can we say that low income countries and /or developing countries with these very high growth rates will soon catch up with the rich nations? Unfortunately, the story may not be true. This is because the economic growth patterns described above do not mean that the World is on its way to "convergence"- that is, to the gradual elimination of the economic or poverty gap between rich and poor countries. Much faster population growth, war, disease, poverty, poor governance, poor development policies and many others in most developing countries such as Cameroon are offsetting comparatively the faster GNP growth, causing GNP per capita growth rates in these countries to be low or even negative.

Many other approaches exist to explain and capture different parameters of economic growth but the growth models with poverty traps as explained by the Solow-Swan model attracts our attention in this paper. The model demonstrates the importance of technology via a Cobb-Douglas production function to show the poverty trap in which most developing countries are trapped thus facing difficulties to experience economic progress. Such a poverty trap in the literature of economic development is a stable steady state with low levels of per capita output and capital stock. This is exactly the situation Cameroon and the rest of CEMAC countries are experiencing. As these countries try to break out of it, internal and external shocks are bound exposing them more to the low-level stable steady state and to economic stagnation. This economic stagnation has nothing much to contribute in as much as poverty reduction and other development aspects are concerned.

Cameroon exhibits the above features as explained because of low capital input into the export sector, wrong policy orientations and implementation coupled with economic and political external shocks. Such scenarios will lead to nothing else than the poverty trap that has existed and will most probable continue to exist. This excerpt from Jeffrey D Sachs et al… 2004, in ‘Ending Africa’s poverty trap’ confirms the situation for Cameroon and neighbouring countries.

"*Africa's development crisis is unique. Not only is Africa the poorest region in the world, but it was the only major developing region with negative growth in income per capita during 1980-2000. With low domestic saving and low rates of market-based foreign capital inflows, there is little in Africa's current dynamics that promotes the escape from poverty. Something new is needed*……" What is this new thing? Africa research needs to be concrete and focus on sustainable growth and development.

Ironically and considering the above excerpt, the countries are endowed with abundance natural and human resources. Are these resources a curse or a blessing?

Empirical literature

On the basis of objectives, methodologies and major conclusions in mind, a better empirical literature appreciation will be given to fill the literal gaps left so as to blend this paper to a hallmark. The anchor of this paper on attempting to see how export and equally the export income variability influence economic growth is practically inevitable because the current globalisation which has become fashionable in the 21st century propagates and promotes exports or trade openness as a whole with its accrued advantages. Therefore, a central characteristic of the related works is the emphasis on exports as a major determinant of economic growth though it may be a debatable issue according other authors and their findings.

Abdulai and Philippe Jacquet (2002) analysed the short and long run relationships between economic growth, exports, real investments and labour force in Cote d'Voire using co-integration and error correction techniques to arrive at a long run equilibrium relationship among the concerned variables. Dollar and Kraay (2004) examined the link among trade, growth and poverty to show how trade promotes growth and how the promoted growth enhances poverty alleviation. The African Development Bank (AfDB) and Partners Release African Economic Outlook Report (2008) identified that about 21 percent in the economic growth of Africa in 2006 was contributed by export growth. Oyugi, 2008, found a significance relationship between exports and poverty reduction.

Krueger in 1978 discussed how trade liberalization and therefore export sector liberalization could be achieved by employing sustainable development policies that lower the biases against the export sector. Helpman and Krugman (1985) from a research finding posited that exports can provide foreign exchange that allows for more imports of intermediate goods which in turn raises the capital formation of a country and thus stimulate output growth. Balassa (1990) and Edwards (1993) both postulated that there is some agreement among a large segment of economists to the point that countries that have relied on the outward oriented development policies and strategies have done far more better in terms of sustainable economic growth than the medium and long run ones with inward- oriented options. Therefore, for an agricultural based economy like that of Cameroon, an outward oriented development policy and strategy by implication means sustainable development of the traditional agricultural export sector and its diversification into non-traditional exports of different prices elasticities

Gylfason (1998) sorted out some of the main determinants of exports and economic growth in a cross-sectional data from the world bank data covering 160 countries in the period 1985-1994 using statistical methods in which a link was established between the propensity to export and population, per capita income, agriculture, primary exports and inflation first. Then

secondly, a relationship between economic growth and some of the above determinants of exports as well as investment were examined. He concluded that in the period of investigation, high inflation and an abundance of natural resources tended to be associated with low exports and slow economic growth. His work was biased as current globalisation promoting openness do not capitalise only on developing countries..

Thirlwall (2000) asserts that historically trade and therefore export trade has acted pertinently as an engine of economic growth at different stages of development, by not contributing only to a more efficient allocation of resources within countries but also by transmitting economic growth from one part of the world to another. In this case, there is the existence of static and dynamic gains from trade between countries even though there is nothing to prove for the equality of the gains between the trading partners. Cameroon has promulgated treaties for trade openness but there is nothing to gauge for equal distribution of the gains with its trading partners and even further the total welfare enhancing among them. Recent findings suggest that regional trade agreements reduce growth and investment but generalised trade liberalisation in the form of unilateral tariff reductions or the reduction of non-tariff barriers to trade improves growth performance. Therefore, economic growth relax the balance of payments constraints on demand by providing the foreign exchange to pay for import content of higher levels of consumption, investment and government expenditure. Cameroon is constrained in its economic growth performance by the shortage of foreign exchange and therefore could grow faster with export oriented development policies and strategies. In turn and other things being equal, this faster growth could then reflect a fast means of enhancing the reduction of poverty deprivation in countries with such enhancing export policies.

Export trade brings along other benefits and Romer (1993) advises most LDCs to open their economies to foreign investment that procure advanced technologies. These advanced technologies create the way for registered increases in the rate of innovation and in the rate of growth of the economy. This technological transfer thus will remain as a useful tool for the less privilege for self sustenance and sustainable development to crow-out poverty.

Investigating on the dynamics of export performance, productivity and real effective exchange rate in the manufacturing sector of Cameroon, Soderling (1999) using a sample of 38 manufacturing firms for the period 1980-1995 sorted the relationship between productivity and export performance. In this case, a production function and an export function were estimated so as to study the determinants of total factor productivity (TFP) and export performance. The results from the findings proved a mutually reinforcing relationship between productivity and manufacturing export performance.

Baye and Khan (2004) in the context of Cameroon examined the determinants of real exchange rate (RER), the path of equilibrium RER and the degree of its misalignment to conclude that monitoring RER was vital and very importance for a better enhancement of the global competitiveness of the Cameroonian economy (here in the export sector with accompanying trade policies. Bamou (2002), equally provided a finding to indicate the order of priority of exports by classifying export products according to their world market access prospects. His calculation of the competitiveness and financial capital profitability indexes showed that from the 33 identified non-traditional export products, of which close to three-fourth are industrial, 19 (of which 4 were primary agriculture and 15 being industrial) were competitive and profitable, thus could be promoted in priority within the export diversification promotion setting that the government can put in place. Thus, tariff and

non-tariff barriers should be lightened. This will enhance exports and accompanying revenues for the onward enhancement of sustainable growth and poverty reduction.

By using the aggregate production function as a basic model to examine the main components of the economic growth rates in Cameroon between 1961 and 1997 and the driving force behind the sources of growth in the economy, Amin (2002) concluded that the contribution of the growth of factor inputs was greater than that from total factor productivity. His findings reiterated that capital input played a larger role in the economic growth aspect while the technological factor was not a big contributor to the economic growth in Cameroon, and this could have been due to some constraints on the economy.

Jayme Jr. (2003) bringing into application the Thirwall's balance of payments constraint model to the Brazilian economic growth in the period 1955-1998 used co-integration method and a vector error correction (VEC) expressions to find the dynamic responses of exports to gross domestic product of the country. Results of the findings showed that there was a positive co-integration between the growth in exports and long term economic growth in Brazil, which reveals and supports the fact that external factors constraint the Brazilian economic growth. In this regard and according to Thirwall (1979), MacCombie and Thirwall (1994), differences in long-term economic growth among countries can be explained by a demand induced theory of economic growth. Such demand is backed by the income or to say export income which enhances economic growth from where poverty reduction is equally anchored.

Yanikkaya (2003) in his findings on trade openness and economic growth came to the conclusion that trade liberalisation does not have a simple and straightforward relationship with growth using a large number of openness measures for a cross section of countries over the last three decades. By using two groups of trade openness measures, the regression results for numerous trade intensity ratios were mostly consistent with the existing literature on the importance of trade for exports. However, contrary to the conventional view on the growth effects of trade barriers, their estimation results showed that trade barriers were positively and in most specific cases significantly associated with growth especially for developing countries and they are consistent with findings of theoretical growth and development literature.

Investigating on the relationship between international trade (export trade) and economic growth, Singh in 2003 asserted that most studies support the gains from trade but this could be conditioned by substantial contributions from world organisations like GATT/WTO that could help encourage free trade, yet GATT/WTO remains surrounded with policies that promote preferential trade agreements. On the one hand, macroeconomic evidence provides a dominant support for the positive and significant effects of trade on output and growth while on the other, microeconomic view lends largely on the exogenous effects of productivity on trade. The strength of the argument for the gains of trade was evaluated in juxtaposition with several methodological and measurement aspects that surrounded the trade-growth nexus. Singh then concluded that most studies focused on partial equilibrium analysis of trade policy, ignoring the general equilibrium aspect but whatever the case trade remains one of the key catalysts of productivity and sustainable growth. This chain of reactions from export trade will promote economic growth and hence poverty alleviation assuming other things remains same.

Using the analytical framework developed by Feder in 1983, Aurangzeb (2006) studied the relationship between economic growth and exports in Pakistan. The author using time series from 1973 to 2005 was out to test the applicability of the

hypothesis that economic growth increased as exports are expanded. Kwa and Bassoume (2007) investigated the linkage between agricultural exports and sustainable growth among different countries that were involved in agricultural exports. To buttress the idea of Kwa and Bassoume, Nadeem (2007) provided an empirical analysis of the dynamic influences of economic reforms and liberalisation of trade policy on the performance of agricultural exports in Mori Kogid and al.., (2010) investigated the factors that stimulate and sustain economic growth in Malaysia from 1970 to 2007 and the main determinants were consumption expenditure, government expenditure, export, exchange rate and foreign direct investment. Using the co-integration analysis and the causality approach by Johansen and Error Correction Model to analyze the relationship between economic growth and the determinant factors, the results showed that there exist long-run co-integration and multiple short-run causal relationships between economic growth and the determinant factors.

According to Eduardo Borensztein, Oliver Jeanne and Damiano Sandri (2009), a substantial number of developing countries heavily depended on the export of a single commodity especially petroleum. To them, reducing export income volatility allows for a smoother consumption path and at the same time improving on the country's ability to borrow against future export income .Stordel, (1990) and Dawe, (1996), looked at the effect of export earnings instability on economic growth but considering investment to be the link between them. To them, export instability affects investment negatively and this is transformed onto economic growth that results to difficult poverty alleviation.

Katrircioglu in 2009 acknowledged that albeit the relationship between international trade, profoundly export trade and economic growth has found a wide application area in the literature over the years that could not be said about tourism and growth. Using the bounds tests for co-integration and Granger causality tests to investigate long-run equilibrium relationship among tourism, trade and real income growth, the direction of causality among themselves for Cyprus was identified. The results of the findings revealed that tourism, trade and real income growth were co-integrated; therefore a long-run equilibrium relationship can be inferred between these three variables. The study of Eduardo Borensztein, Oliver Jeanne and Damiano sandri (2009) has revealed the aspect of export concentration and this was equally discussed by Marion Jansen, ERSD (2004) who pointed out that, small and poor economies, particularly small LDCs are characterised by openness and high concentration on the export side. The export concentration has a positive and significant effect on terms of trade volatility most especially if the commodities are characterised by high external price volatility. By this, empirical growth literature shows that income volatility is bad for economic growth (Easterly and Kraay, 2000; Ramey and Ramey, 1995). From this conclusion, export income volatility is bad for economic growth and should be bad for poverty reduction.

Afzal et al. (2010) carried out a research with the main aim of empirically re-examining the export-led growth hypothesis for Pakistan by testing the causal relationship among exports, economic growth and debt servicing. To investigate the relationship, they exploited the vector error correction models (VECM) and the augmented vector autoregressive (VAR) methods for causality developed by Toda and Yamamoto in 1995 that assumed robustness for the co-integration technique, followed by the econometric tests of unit root (ADF, Phillips Perron) and the co-integration test proposed by Johansen in 1988. Their findings proved that both short-run and long-run steady state exist among the three variables considered in the study; and that there was on the one hand a unidirectional Granger causality between GDP and export that ran from GDP to export supporting the idea of a growth-driven exports hypothesis. On the other hand, a unidirectional Granger causality

equally existed between debt servicing and GDP that ran from debt servicing to gross domestic product. In this manner and considering the above results, if growth implied export growth and debt servicing implied growth, then there is some agreement to our current finding to investigate the relationship among exports, economic growth and poverty reduction. Assuming that exports contribute to growth and that growth on its part can lead to poverty reduction is but obvious as debt servicing is an aspect of making a country richer. If a country can pay its external and internal debts, then that country is considered richer which means its citizens have no burden of future debt payment and this is a sign of poverty reduction in such a country. The debt burden in the context of Cameroon is a big problem.

Considering the above investigations of related literature relevant to this paper on the critical view of objective, methodology and results setting, our study has attempted and has gone beyond this imagination for a more direct analysis between the variables in Cameroon. Thus, the above literature review on the link among exports, economic growth and poverty reduction have emphasised differently as far as determining factors and direction of causality are concerned.

METHODOLOGY

Data description and necessary adjustments

To explore the relationship between export incomes, economic growth instability and human development index considered as proxy for poverty reduction in our analysis, data on the above variables from many secondary sources were used. Exports and growth rate for Cameroon were extracted from the World Bank annual statistics updated to 2010. The Human Development indices were manually calculated following the United Development Program (UNDP) method which combines longitivity (measured by life expectancy at birth), educational attainment and living standards. Openness was calculated using exports and imports for Cameroon from the international financial statistical figures. Lastly, inflation and exchange rates were extracted from the World Bank data base. However, nominal and real gross domestic products were coined from the Africa Development Indicators. Missing data were gotten by extrapolation and interpolation so as to make the series very much complete and befitting for our analysis from 1965 to 2010.

Model Specification

The model used in this analysis is that of Toda–Yamamoto (1995). This model was chosen on the grounds that it is void of problems that go along with long term series and equally, it minimises the risk associated with possible wrong specification of the orders of integration of the series.

Explanation of the model

Empirical research in macroeconomics shows that most studies are based on time series and these economic time series are realisations of stochastic processes. In this regard, two fundamental properties of many economic time series are non-stationarity and time-varying volatility. Non- stationarity time series are the series possessing ‘unit roots’ where the effects of shocks do not tend to zero but rather persist indefinitely. This is contrasted with stationarity time series in which the effects of shocks tend to zero as time passes.

Tests on the direction of causality have been carried out using either the Granger or Sims tests (Granger 1969 and Sims 1972). Nevertheless, as econometric findings have shown, such tests were focused on time precedence rather than causality in the real sense. This means that they are particularly weak for declaring the relation between forward-looking variables but could be used to provide valuable information on time patterns and cross-country comparative frameworks.

Also, the Granger tests are established on the assumption of null hypotheses formulated as zero restrictions on the coefficients of the lags of a subset of the variable in question. By implication, the tests are grounded in asymptotic theory which is valid for only stationary variables. This means if a series is known to be non-stationary,I(1), then such inferences can only be carried out if the VAR is estimated in the first differences and therefore being stationary.

The Toda-Yamamoto model or approach (1995) used in this study for analysing the long run relationship between the dependent and independent variables is as follows:

$$Yt = A_1Yt\text{-}_1 + \text{------} + ApYt\text{-}p + BXt + Ct \qquad (1)$$

Where Yt is a 'k' vector of endogenous (dependent) variables, Xt is a 'd' vector of exogenous (independent) variables. $A_{1,\text{------}}A_p$ and B are matrices of coefficients to be estimated and Ct is a vector of innovations that may be contemporaneously correlated but are uncorrelated with their own lagged values and uncorrelated with all of the right-hand side variables.

Specifically in the case of this study we have expressed the following relations:

$$GWTHt = C_1 + A_1\, GWTHt_{\,t\text{-}i} + B_1\, EXP_{t\text{-}i} + B_2\, HDI_{t\text{-}i} + X_t + C_{1t} \qquad (2)$$

$$EXP_t = C_2 + A_1\, EXP_{t\text{-}i} + B_1\, GWTH_{t\text{-}i} + B_2\, HDI_{t\text{-}i} + X_t + C_{2t} \qquad (3)$$

$$HDI_t = C_3 + A_1\, HDI_{t\text{-}i} + B_1\, GWTHt_{\text{-}i} + B_2\, EXP_{t\text{-}i} + X_t + C_{3t} \qquad (4)$$

Where GWTH is growth, EXP stands for export and HDI represents human development index which is taken in this study as a proxy for the poverty indicator.

All the variables in the above equations could be considered endogenous or exogenous depending on the position the variable assumes at a given time for investigations. This explains the fact that if we have to examine causality, the direction may be to say from variable 'Z' to 'Y' or from 'Y' to 'Z'.

And where C_i represents the constant term, X_t is the set of other exogenous variables which could in our case be inflation rate (INFR), exchange rate (EXR) and openness (OPN); and A_i, B_i are coefficients expected normally to be greater than zero.

C_{it} stands for the error term, which could be correlated or uncorrelated. Generally and practically, the error term does not appear to be independent of one another or even uncorrelated with one another. Rather, the error term of one year in a time series tend to be correlated with the adjacent error terms of other years. The correlation of error terms generally violate the assumptions of the Gauss-Markov theorem and make ordinary least squares (OLS) not to be the best linear unbiased estimator (BLUE). Thus, we need to adjust and find other methods that integrate correlation in the error terms. An error term

then is said to be of first-order auto-regression or to follow a first-order autoregressive process if it obeys the relationship below.

$$Є_t = pЄ_{t-1} + u_t \quad (5)$$

Where 'p' is the autocorrelation coefficient and must be less than one to avoid substantial difficulties when it is equal to one. The reason for expecting 'p' to be less than one is to allow the effect of any shock in one period to be diminished in the next when multiplied by 'p' so that over time it eventually dies out.

If $Є_t = Є_{t-1} + u_t$, then $Є_t$ is a random walk or simply to say that it contains a unit root. This random walk means that there is a failure of the error term to return to the constant value following any shock. This salient explanation is carried out as we have to begin our analysis by verifying for unit root.

u_t in equation (5) is the random variable that is not serially correlated. If the covariance between u_t and u_{t+s} is zero for all $_t$ and $_s$ then we say the errors are auto correlated.

Explanation of the variables

In the system of equations as seen above the major variables (export income, economic growth instability and human development index) alternate as independent variables and at times as dependent variables. If a variable is independent, we want to explain how from the onset it should impact or cause to change the other that is considered dependent. And of course to know what could be the expected sign, in this case negative or positive. Here we assume that export income change, economic growth changes and human development index change are respective proxies for export income volatility, economic growth -instability and poverty reduction.

RESULTS

Estimations for the variables in Cameroon.

The estimations for Cameroon are out to show the parameters within the long run relationship and eventually the interpretation of the parameters of interest of the variables of our system of equations with application in Cameroon. To do the estimations, we present the VAR lag order selection criteria in appendix 1. An Augmented Dickey Fuller Test was carried out to test for stationarity which allowed us to run the regression found in Appendix 2.

Table 1: VAR Granger Causality/Block Exogeneity Wald Tests for export, economic growth and poverty in Cameroon

VAR Granger Causality/Block Exogeneity Wald Tests

Date: 10/21/12 Time: 01:18

Sample: 1965 2010

Included observations: 43

Dependent variable: EXP

Excluded	Chi-sq	df	Prob.
HDI	4.881976	1	0.0271
GWTH	1.376674	1	0.2407
All	6.445262	2	0.0399

Dependent variable: HDI

Excluded	Chi-sq	df	Prob.
EXP	0.327831	1	0.5669
GWTH	0.225953	1	0.6345
All	1.204296	2	0.5476

Dependent variable: GWTH

Excluded	Chi-sq	df	Prob.
EXP	0.452750	1	0.5010
HDI	1.782452	1	0.1818
All	1.804053	2	0.4057

Source : Author configuration using E-Views

The results in table 1 above are interpreted on the basis of the objectives stated in the introductive section on the examination of the relationship among income export, economic growth and poverty or human development index.

For endogeneity or relationship among the right hand variables to explain the dependent variable, the results (Appendix 2) show that with the degree of freedom and the lag of one, the parameters of export lag significantly explain export when export is considered as an independent variable and does not explain HDI and GWTH. This is because the calculated t-statistics for export (4, 59053) is greater than the table t-statistics (0, 12402). The parameter of the growth lag explains growth as 7, 09261 the calculated t-statistic is greater than 0, 12832 the table t-statistc. And equally explains HDI as 0, 47535 is greater than 0, 0012 but does not explain export. For the human development index, its lag parameter does not explain exports and growth but however explains HDI as 4, 97746 the calculated t-statistic is greater than 0, 14948 the table t-statistic. From the results, inflation explains only two of the variables, HDI (0, 24431 greater than 0, 00037) and growth as (1,

05835 is greater than 0, 38915) but does not explain exports. On its part, exchange rate explains human development index and growth but does not explains exports while openness explains only human development index (1.239181 > 0.00032).

Considering the aspect of correlation, exports, human development index or poverty and growth lags do significantly explain all the variables when they are considered one at a time as dependent variable. This is because of the respective high values of R-squared 0,906236, 0,880765 and 0,792464 for exports, human development index and growth. This means that for a unit variation in the lags of the variables will significantly influence the dependent variable at the time. For instance, a variation in exports will change the dependent variable (exports) by 90,6 percent, a variation in HDI will change its dependent variable by 88,07 percent and growth variation will change growth to the tune of 79,2 percent. By implication, this means that current values of exports, human development index and growth are significantly explained by their past values. This ties with the coefficients A_1---- A_p and the coefficients of the exogenous variables as explained in the model above. On the whole, the results from the VAR estimation show that the coefficient of determination or goodness of fit is significant.

From table 1 above which is the VAR Granger Causality/Block Exogeneity Wald tests, when growth (GWTH) is the dependent variable, the lag of export does not significantly explain growth (with a probability of 0, 5010) while human development equally do not explains growth given that the probability is 0,1818. Taking the lags of exports and human development index together, they do not explain growth as they jointly show a probability of (0,4057) and their Chi-square value is 1,804053.

When human development index (HDI) is the dependent variable of the system of equations, growth does not significantly explain human development index (probability of 0,6345). Equally, export does not explain h significantly at 5 per human development index as demonstrated by the probability of 0, 5669. The joint explanation of human development index by growth and exports remain insignificant as proven by the joint probability of 0, 5476 and a Chi-square value of 1,204296.

Also, when export (EXP) is the dependent variable, the lag of growth does not explain exports significantly (0,2407) whereas human development index explains export significantly at ten percent (0.0271). The overall explanation of export by the lags of growth and human development is significant at 10 percent (0.0399) and has a Chi-square value of 6,445262.

CONCLUSION AND RECOMMENDATIONS

The relationship among export revenue, economic growth and poverty in Cameroon has been analysed using the Toda-Yamamoto model. The general conclusion is that there exist no causality of growth to export and human development index. We find a unidirectional causality from human development index to exports and jointly of human development index and growth to exports. Therefore in Cameroon, we reject the null hypothesis and accept the alternative hypothesis that there exist relationships among export income variation, economic growth instability and poverty reduction. However, the relationship is specified by the causality tests and our findings show just a unidirectional relationship from human development and economic growth to exports among the variables in Cameroon.

Economically, Cameroon experienced some reasonable level of growth above the Sub-Saharan Africa level from the sixties up to the mid-eighties and since then low growth has been the story to narrate for Cameroon. That is why growth cannot

within this period granger cause export and poverty reduction. It is on this ground that the country should be struggling to promote sustainable growth by other better measures like institutional environments, sustainable development plans with concrete projects at regional levels to allow for regional participation. Towards the same objective, the country in 1994 devalued the currency to ease exportation so as to let exports granger cause other economic and development indicators and discourage importation (import substitution measures to have more positive results from the export sector). Currently, Cameroon should embark to an extent on decentralisation to allow for regional autonomy that may guarantee regional initiatives, effectiveness, healthy competition, peace and full economic participation from the stakeholders to guarantee sustainability. If these measures are effectively implemented with other measures to open up the economy to the rest of the world, then there will be some hope in the horizon for the country to experience the actual benefits from exports (timber, banana, petroleum products etc.). These benefits will enhance poverty reduction leading to other spill-over effects onto the economy as a whole that will allow for a better relationship among the variables under consideration in our study.

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Appendices

Appendix 1-VAR Lag Order Selection Criteria

VAR Lag Order Selection Criteria

Endogenous variables: GWTH HDI EXP

Exogenous variables: C INFR EXR OPEN

Date: 08/26/11 Time: 21:51

Sample: 1 44

Included observations: 40

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1243.165	NA	3.62e+23	62.75823	63.26490	62.94143
1	-1121.740	200.3512	1.32e+21	57.13698	58.02364*	57.45757
2	-1109.182	18.83633	1.13e+21	56.95911	58.22576	57.41709
3	-1096.379	17.28359*	9.75e+20	56.76897	58.41563	57.36435*
4	-1085.490	13.06751	9.50e+20*	56.67449*	58.70115	57.40727

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

Appendix 2: Vector Autoregression Estimation for the model/variables in Cameroon

Vector Autoregression Estimates
Date: 10/21/12 Time: 01:11
Sample (adjusted): 1966 2008
Included observations: 43 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	EXP	HDI	GWTH
EXP(-1)	0.569321	8.14E-12	-1.01E-08
	(0.12402)	(1.4E-11)	(1.5E-08)
	[4.59058]	[0.57256]	[-0.67287]
HDI(-1)	2.88E+09	0.744017	210.4911
	(1.3E+09)	(0.14948)	(157.661)
	[2.20952]	[4.97746]	[1.33508]
GWTH(-1)	1244582.	5.78E-05	0.910105
	(1060738)	(0.00012)	(0.12832)
	[1.17332]	[0.47535]	[7.09261]
C	-1.08E+09	0.020559	-32.02363
	(3.3E+08)	(0.03808)	(40.1632)
	[-3.24474]	[0.53991]	[-0.79734]
INFR	1059539.	9.01E-05	0.411853
	(3216877)	(0.00037)	(0.38915)
	[0.32937]	[0.24431]	[1.05835]
EXR	-144345.1	3.03E-05	0.020027
	(209488.)	(2.4E-05)	(0.02534)
	[-0.68904]	[1.26024]	[0.79029]
OPEN	5543654.	0.000397	-0.192917
	(2793415)	(0.00032)	(0.33792)
	[1.98454]	[1.23918]	[-0.57090]

R-squared	0.906236	0.880765	0.792464
Adj. R-squared	0.890608	0.860893	0.757874
Sum sq. resids	6.49E+17	0.008539	9499.498
S.E. equation	1.34E+08	0.015401	16.24423
F-statistic	57.99016	44.32083	22.91062
Log likelihood	-861.9590	122.2587	-177.0669
Akaike AIC	40.41670	-5.360869	8.561253
Schwarz SC	40.70341	-5.074162	8.847960
Mean dependent	3.45E+08	0.258812	195.6419
S.D. dependent	4.06E+08	0.041293	33.01252

Determinant resid covariance (dof adj.)	5.81E+14
Determinant resid covariance	3.41E+14
Log likelihood	-902.4900
Akaike information criterion	42.95302
Schwarz criterion	43.81315

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