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Social Spending and Human Development in Selected West African Countries

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Abstract
The fundamental focus of economic development is the development of the human person, and over the years, there has been a common consensus among development economists on the efficacy of social services in achieving this objective. But, as is the case in advanced countries, is social spending capable of ensuring human development in developing countries? This study aims at providing answers to this question using Nigeria, Ghana and Senegal as case studies. The study adopts the fixed effect partial adjustment model and regressed the human development index on health and education spending across these countries estimated using the ordinary least square. Results show that while health spending is significant in explaining human development in these countries both in the short and long runs, education spending is not. Therefore, it is recommended that in order to ensure the continued development of the human capital in these countries, increased funding of the health sector is necessary. Furthermore, ensuring adequate utilization of education sector allocation and enhancing the availability and accessibility of education services especially to the urban poor and rural dwellers will address the disconnect between education spending and human development.

Key Words: human development, social spending, health, education

Introduction
The single most important objective of economic development is the enhancement of the ability and capability of the human person – human development. The traditional economic theories emphasize on sustained increase in gross domestic product (GDP) as a measure of development. But what is growth if it does not lead to the unlocking and utilization of human capabilities? Over the years, there have been several undeniable empirical evidence emanating from developed countries lending credence to a seemingly general conclusion that strong positive link exists between social spending and human development. This argument has led to the acceptance by developing countries the idea that human capital development and accumulation can largely be achieved through massively investing in the social sector (Ehrlich, 2007). Todaro and Smith (2009) note that health is central to well-being and education is essential for a satisfying and rewarding life; both are fundamentals to the broader notion of expanded human capabilities. This undisputable importance of health and education in promoting human development has necessitated the increasing public expenditure in these social sectors by most West Africa countries with a view to stimulating the development of their human capital – their most important economic asset.
But, as is the case in developed countries, has social spending been able to accelerate the rate of human development in West Africa? Considering the fact that social sectors are economically unattractive to ever profiteering private investors, public funding has over the years become the only available alternative for ensuring adequate provision of educational and health services to the people in developing countries. The question to ask then is: as contemporary human capital theory would suggest, is there any positive link between social spending and human development in developing economies? In recent years, convinced by the rise in human development index (HDI) in high income countries which is attributable to increased funding of health and education services, and the crucial need to achieve the first six millennium development goals, the governments of West African countries have resorted to allocating a large portion of their total annual expenditure to social sectors, Baldacci et al (2004). But will the increased funding of these sectors ensure the development of human capital as it did in the advanced countries? In other words, is there any empirical justification for increased expenditure in social services? This study tries to answer this question using Nigeria, Ghana, and Senegal as case studies.

Various empirical investigations so far conducted on this subject in the sampled countries and elsewhere in Africa produced inconsistent and conflicting results. As a result, this study becomes very imperative as it will reconcile those conflicting findings. Furthermore, most previous empirical findings on this subject were deduced using qualitative approaches which are rather partial in nature. On the contrary, this research work will adopt a quantitative method that is more holistic and conforms to internationally acceptable standard. It is only this extensively analytical approach that can provide reliable empirical evidence upon which appropriate policy framework regarding education and health funding in developing countries could be based.

**Review of Literature**

Human capital development refers to the ability and efficiency of people to transform raw material and capital into goods and services, and the consensus is that the skills can be learned through the educational system and sustained through an effective health care delivery system. Thus, human capital development is important for economic development for its intrinsic value as a development goal in its own right, not only because of its instrumental value. According to Schultz (1993), the term human capital has been defined as a key element in improving a country’s assets and citizens in order to increase production as well as sustain competitive advantage in a globalizing world. Human development refers to processes relating to training, education, health care and other professional initiatives designed in order to increase the level of knowledge, skills, abilities, values, and social assets of an individual which will lead to the individual’s satisfaction and performance toward sustainable economic development of the country (Marimuthu, Arokiasamy and Ismail 2009).

Human development is an important input for economies especially for citizens’ continuous improvement mainly on knowledge, skill, life expectancy, and abilities. Thus, the definition of human capital development is referred to as the knowledge, skills, competencies, and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being. The constantly changing global economic environment requires economies to strive for superior competitive advantage via dynamic human development plans which incorporate creativity and innovativeness. This is essentially for their long term sustainable development. Undoubtedly, human
capital development plays a significant role in enhancing economic growth and competitiveness, thereby, making it imperative to understand the contribution of social expenditure in enhancing its development (Barney 2005).

**Theory of Human Development**

Common to the plethora of the recent economic development literature is the idea that the process by which less developed countries can break out of poverty trap and achieve the much desired sustainable development is predicated on persistent production, accumulation and optimal utilization of their human capital. Years of theorizing have produced only few theories to support this argument.

The human capital theory derives its root from the celebrated work of Schultz (1963). Schultz, an agricultural economist developed his idea of human capital in the early 1960s as a way of explaining the economic gains of investing in education and health to improve agricultural output. This argument was logically expanded to show the link between better education and improved productivity as a benefit for the whole economy. Schultz further demonstrated that the yield from human capital in the US economy was larger than that from physical capital such as plant and machinery. This implies that in the absence of human capital, other factors of production would function sub-optimally. Becker (1967) developed this idea further explaining that expenditure on education, training and medical care would ultimately all be considered as investment in human capital. According to Becker, they are called human capital because people cannot be separated from their knowledge, skills, health or values in the same way they can be separated from their financial and physical assets. Endogenous growth theory economists have stressed the fact that improvements in national productivity can be linked to a faster pace of innovation and investment in human capital. The proponents of endogenous growth have stressed the need for government and private sector institutions to invest massively in health and education so as to nurture innovation, and provide incentives for individuals to be inventive. The central theme of the theory is that investment in human capital is an essential ingredient of growth (Amakom, 2010).

According to Ehrlich and Murphy (2007), the concept of human capital as an intangible asset is perhaps best defined as a stock of embodied and disembodied knowledge, comprising education, information, health, entrepreneurship, and productive and innovative skills that are formed through investment in schooling, job training, and health as well as through research and development projects, and informal knowledge transfer.

From the perspective of classical economic theory, human capital considers labour as a commodity that can be traded in terms of purchase and sale. This classical theory very much focuses on the exploitation of labour by capital. However, unlike the meaning traditionally associated with the term “labour”, human capital development refers to the knowledge, expertise, skill, and health one accumulates through education, training and health care. Emphasizing the social and economic importance of human capital development, Becker (1993) noted that the most valuable of all investment is that made on human being. Becker considers education, training and health care to be the most important investment in human capital.

Human development is the ultimate objective of economic development. It is also arguably the best means available for promoting development. Viewed as an end in itself rather than as a means, human development is about enriching human lives. Material enrichment – producing a larger volume of goods and services may contribute to this but
it is not the same thing. Indeed it is by now widely understood that there is no one-to-one correspondence between material enrichment (measured, say, by gross national product per head) and the enrichment of human lives (measured, say, by the human development index). The human development approach thus implies the dethronement of national product as the primary indicator of the level of development. The stock of human capital consists of the knowledge, skills, experience, energy and inventiveness of people. It is acquired in a variety of ways: through training and apprenticeship programs, while on the job through learning by doing, in the formal education system, through informal contacts by word of mouth, through newspapers, radio and the information media generally, in institutions devoted to pure and applied research and through private study and reflection. The stock of human capital, like the stocks of physical and natural capital, will deteriorate if it is not maintained. Hence the importance of pre-natal and maternal care, school feeding and other nutrition programs, the provision of safe drinking water, public health and disease control measures, guaranteed employment schemes and the likes. It is now recognized that human capital plays a central role in the development process and this has heightened interest in the economics of education, health economics, labour economics and related sub-disciplines. It is important to note, however, that human capital is just one component of the stock of total capital (Griffin and McKinley, 1992). In summary, the human capital theories are not without strengths and weaknesses. They derive their strength from the fact that they have successfully established a clear connection between health, education and economic growth as well as human development. Their weaknesses are that they are not well developed yet and possess great complexity in implementation. In line with the postulations of the theories, the governments of Nigeria, Ghana, and Senegal have been investing heavily on education and health sectors of their economies. We now attempt a brief review of these expenditures.

**Social Expenditure in Nigeria**

The Federal Republic of Nigeria operates three stages of education system namely; primary, secondary, and tertiary education. The education system in the country is heavily dependent on the public for source of funding. Nigeria’s education system is based on the National Policy on Education (NPE) drafted in 1977 and revised in 1990. The policy document addresses the issues of imbalance in the provision of education in different parts of the country with regard to access, quality of resources and girls’ education. Education in Nigeria is organized into 6 years of primary education, 3 years of junior secondary school, 3 years of senior secondary education and 4 years of tertiary education.

Total expenditure on education in Nigeria as percentage of GDP dropped from 1.4 percent in 1990 to 0.9 percent in 1995. Following the return of democracy in the country in 1999, education expenditure rose to 2.5 percent in 2000 and has continued to record an upward movement. The education budget in Nigeria remains a huge share of the annual budget, but it is still not sufficient to address existing problems as well as cater for new needs. The implication is that new sources of funding should be sought while the government increases its budgetary allocation to the sector (Moja, 2000).

Over the years, initiatives have been taken by the governments in the funding of education. In 1995, the federal government established the education tax fund (ETF) in which companies with more than 100 employees contribute 2 per cent of their pre-tax
earnings to the fund. Primary education receives 40 per cent of these funds, secondary education receives 10 per cent and higher education receives 50 per cent. Additional funds for primary education are allocated through the National Commission for Nomadic Education.

Federal Government expenditure on education in Nigeria is above 10 percent of its total expenditures. Tertiary education receives between 68 and 80 per cent of the total federal expenditures for education. The average shares for secondary education and primary education have been 14.5 per cent for secondary schooling and 11.5 per cent for primary schooling respectively. Currently, education expenditure averages 6.36 per cent of total government expenditures, (CBN, 2011). State governments are involved in the funding of each level of education, though at different degrees. State governments fund most of secondary and often a significant part of post secondary education. In addition to relatively small amount for primary schooling, local governments essentially fund the salaries of primary school teachers. In addition to the funding of primary teachers' salaries, local governments have also been funding capital expenditures for primary schools in Nigeria (Hinchliffe, 2002).

Fig. 1.0: Education Expenditure in Nigeria, 1980-2009 (=N= Millions)

![Graph showing education expenditure in Nigeria, 1980-2009](image)


From figure 1.0 above, it can be seen that both recurrent and capital expenditure in education were stable at an average of N601 million between 1980 and 1992. Thereafter, both rose steadily to an average of N13191 million in 1998 before moving in a seesaw direction up to 2002. Capital expenditure on education rose from N23342 million in 2000 to N27440 million in 2005 and has continued to rise, climaxing at N63423 million in 2009. Also recurrent expenditure rose from N57956 million in 2000 to N82795 million in 2005 before peaking at N192480 million in 2009 (CBN, 2011). Common observation in the two components of expenditure is their consistent increase over the years.

Governments in Nigeria, over the years have been making frantic efforts at ensuring that there is an increase in the level of public expenditure on health. Figure 1.1 shows recurrent and capital expenditure for health in Nigeria between 1980 and 2009.
In 1980, recurrent expenditure on health was N155.3 million. This figure fell to N139.1 million in 1984 but rose astronomically to N279.2 in 1986 million. This trend continues as the expenditure rose steadily from N326.6 million in 1989 to N618 million in 1991 and further to N72290 million and N98200 million in 2007 and 2008 respectively. The aforementioned scenario clearly underscores the fact that health care expenditure in Nigeria has been on the increase over the years. The financial commitments of government to the health sector shows both the recurrent and capital expenditure on health has been fluctuating over the years. The capital expenditure of government on health decrease from N147.2 million in 1980 to N136 million in 1983 and further to N69.5 in 1987 before it rose again to N183.2 in 1988. Between 1984 and 1987, capital expenditure on health never exceeded N64 million. This development is occasioned by the fact government was more preoccupied in the business of paying workers salaries with less attention being paid to capital expenditure on social services. By 1991, the statistic dropped to N137 million from N183.2 in 1988 but rose significantly to N1725 in 1995. The figure rose steadily from N20128 million in 2001 to N21625 million and N51171 million in 2005 and 2008 respectively. The pattern of health expenditure at this period is a reflection of both the product of and the disposition of government policy towards health issue, and the determination of the federal government to inject the economy with the windfall of oil revenue, (Bakare and Sanmi, 2011).

Social Expenditure in Ghana
In Ghana, while donor and central government financing of education has increased over the years, the need for additional resources for the sector has caused the government to explore other sources of financing in recent years. According to Thompson and Casely-Hayford (2008), of the USD 1.0 billion that was spent on the education sector in 2006, about 30 percent (US$ 307 million) came from non-donor and non-Government sources, such as the Ghana Education Trust Fund (GETFund), District Assemblies Common Fund (DACF), and Internally Generated Funds (IGF). This contrasts sharply with the situation in 1999, when Government of Ghana and donors accounted for all of the US$ 384.5 million spent on the sector. The diversification of education sources was prompted in part by the erratic disbursement of donor commitments to the Ghana Education Service and the Education Ministry in general. In 2006, for examples donor pledges to the sector amounted to US$ 80.3 million but only US$ 24.5 million was disbursed. Between 1999 and 2006, education sector expenditure as share of GDP rose from 5.0 percent to 5.7 percent, having dipped to an average of 4.6
percent between 2000 and 2001, when a downturn in the economy led to overall reduction in government expenditure.

The changing nature of the component of total Government of Government expenditures on education (for examples, the inclusion of “Pre-School” financing in primary school until 2003, or the introduction of an “HIV-AID” category that same year) renders any share analysis misleading, as the denominators would no longer be comparable over the years of interest. For examples the decline of primary schools share of expenditures from 40.4 percent in 1997 to 26.8 percent in 2006 ignores the fact that by 2006, pre-school expenditure which was part of primary school expenditures in 1997 had been put into a separate category. Once the 3.8 percent pre-school share in 2006 is added to that of primary school the same year to ensure comparability with 1997, the new figure of 30.6 percent shows a less pronounced fall in primary schools shares of expenditures than the disaggregated version does, Thompson and Casely-Hayford (2008).

Figure 1.2: Education Expenditure in Ghana, 1999-2009 (% of GDP).


Figure 1.2 shows that education expenditure (as percentage of GDP) in Ghana has remained relatively stable since 1999. It was 3.1 per cent in 1999, 2000, 2004 and 2005; 3.2 per cent in 2001, 2002, 2006 and 2007; and 3.3 per cent in 2003 and 2008. Overall, however, it does not appear that spending on education in Ghana has kept pace with enrolment rates. In 2005, for example, following two successive years of intra-sectoral growth, per capital spending declined at every level of the educational system, except teacher education. In 2006, this anomaly was addressed and the growth turned positive for every category. In absolute terms, teacher education and the wider tertiary sectors have continued to have the highest per capital expenditures of any category of education.
From figure 1.3, it is clear that the expected years of schooling in Ghana for both males and females was stable at 8 years and 7 years respectively between 1999 and 2004. They were equal at 9 years in 2006. By 2008, years for males increased to 11 years while those for females increased to 10 years.

There are signs of good progress in the education sector and positive developments to record. In 2009, international donors congratulated the Government of Ghana on extending capitation grants to all public schools and making basic education entirely free of fees and levies. This led to a surge in enrolments and a reported increase from 59 per cent to 69 per cent in primary net enrolment rates. In 2008, Ministry data show a further increase of ten percentage points from 69 per cent to 79 per cent. But there are reported to be around a million children of primary school age still not attending school. While accepting the needs of the rest of the sector, these children need to be brought into the education system, and Primary Education needs to be properly resourced, with a balance achieved between the needs of all parts of the education sector. While they (international donors) recognize the increase in absolute terms of expenditure on primary education, there remains an urgent need to reverse the downward trend in primary education's share of the overall education budget. The massive increase in enrolments and expenditures in public tertiary education in recent years cannot continue at the current rate. They therefore welcome the moves to develop a new strategy for the long-term sustainable financing of tertiary education, including the re-launch of the student loan scheme. They also welcome moves to restore the quality of teaching at primary schools, giving a new base from which to measure improvement. But they still have some way to go in the education sector to provide all the young people of Ghana with the quality education they crave and the nation needs (Wetherell, 2010).

In a research report published in 2006, Asante et al (2006) described the mode of budget allocation to the Ghanaian health sector as follows: “The pattern of allocation of the previous year is used as a guide for the current year's allocation. It has little bearing with the health needs of the population. Despite policy commitment to enhance the resource allocation formula to incorporate health needs, poverty and gender issues, only minor changes have been made”.
However, the Government has recently changed its strategy in resource allocation by prioritizing a “pro-poor and needs-based resource allocation in the health sector”. Under this arrangement, the ministry of health (MOH) ring-fences part of the health budget and lodges it with specific Budget and Management Centres (BMCs) to protect critical service areas from the risk of under-funding. The ring-fencing is also used to ensure that resource allocation patterns reflect national poverty alleviation and equity commitments. A “significant portion” of the pro-poor funding strategy goes into ensuring that exemptions are paid for among other things, “maternal deliveries and Guinea Worm eradication in northern Ghana. “However, according to Asante et al (2006), much of these efforts in “resource allocation in the Ghanaian health sector remains inadequately reflected on the health needs of the population, and to date, only few indicators of need are included in the allocation criteria”. The funding of the insurance scheme is based on a system called “cross-subsidization.” In this payment system, “the rich” is supposed to “subsidize the poor”, “the healthy subsidizes the sick” and “the economically active adults pay for children, indigents and the aged” (70 years and above). Through the Social Security and National Insurance Trust (SSNIT), workers contribute 2.5 percent of their salaries. Additional funding comes from a 2.5 per cent value added levy on selected goods and a “minimum premium of 72,000 Cedis (US$ 7.74) per annum from informal workers”. Aside from these payments, other consolidated funds are used to finance the scheme. “Donations, grants, gifts and other voluntary contributions” are also added to fund the scheme (Salusi and Prinz, 2009).

The Multiple Indicator Cluster Survey in Ghana has reported that 18 per cent of under-5 children are underweight and 23 per cent are 'stunted' as a result of poor nutrition. This also means that nearly one-quarter of Ghana’s children will be unable to reach their full potential, because this will affect their capacity to learn and to think. Human capital formation begins at conception and investment in early childhood care and nutrition has a very high rate of return. Ghana cannot yet provide the level and standard of health service provision that it desires. It is still unable to train enough doctors and nurses to meet its health needs. Although increased salaries help stop them from leaving the country as soon as they are sufficiently well qualified, it is not simply a matter of paying more, but also of improving the overall efficiency of the use of resources around the provision of medical services throughout the country, especially in the rural areas. The international donor agencies endorsed the calls for a shift in focus from medical services to health promotion and disease prevention, and they welcome the new national health policy, moving the emphasis from curative services and teaching hospitals to public health and primary health care, as well as increased collaboration with other sectors with a view, notably, to improving access to safe water and appropriate sanitation (Wetherell, 2010).
Figure 1.4 shows the trend in the HDI and education expenditure in Ghana. For most of the period, expenditure averaged 2 per cent. It peaked at 6 per cent in 2007 before falling slightly to 5 per cent in 2009. HDI on the other hand was relatively stable around 0.5 for the period.

Social Expenditure in Senegal

The health sector is among the priority sectors for the Government of Senegal (GoS) as stated in its Poverty Reduction Strategy Paper (PRSP) 2002. For the last five years, many countries have increased allocations to priority sectors with little or no impact on outcomes. Senegal belongs to this group. Indeed, the public expenditure reviews conducted by the government in 1998 and 1999 reveal that the budget of the ministry of health (external funding included) has increased at a steady pace, from CFA 29 billion in 1995 to CFA 47 billion in 1999, a 12 per cent annual increase rate. The health budget from the government in 2003 has been voted at 35 billion from 30.5 billion in 2002. Outcomes such as infant or maternal mortality, access to health services, immunization rates, or the rate of deliveries assisted by a qualified medical staff have improved but at a much slower pace during the same period. There is therefore a weak correlation between budgetary allocations at the central level, and outcomes at the grass roots. The circuit followed by flow of funds from the central level to the frontline service provider depends on the nature of the resources, which has also a bearing on the administrative actors involved in the system. To better understand that system, let us first quickly recall the main features the decentralization reforms have introduced into the health sector. The health ministry has organized the supply of health services in a pyramidal way with three distinct levels of provision: primary health care is delivered by the health centers, posts and huts. These facilities are under the formal authority of the district for the Ministry of Health’s administration; secondary health care is provided at the level of departmental and regional hospitals under the authority of the medical region; tertiary health care at the top of the pyramid is provided at national hospitals and hospital with a research component directly under the authority of the Ministry of Health (Santé, 2010).

Investment in people’s health through social spending is a potentially powerful mechanism of building human capital, and generating sustainable growth. Senegal spent about 12.1 per cent of its total expenditure on health in 2008, which is more than the
African median value – 9.1 per cent. Although health expenditure is progressing in Senegal, it is still lower than the Abuja commitment of 15 per cent. The Government of Senegal fully financed the national EPI vaccine programme in 2008, which is an indication of its commitment to the health of children. Basic health indicators in Senegal show that in 2008: Deliveries attended by skilled health workers was 52 percent; 77 percent of one-year old infants were immunized against measles; Infant mortality rate (per 1,000 live births) was 58 percent; Under-5 mortality rate (per 1,000 live births) was 117; 47 percent of children with pneumonia were taken to health provider; Per cent of population with access to safe drinking water was 69; while 51 per cent of the population has access to adequate sanitation facilities. Social protection programmes supplement and augment the efficiency of investments in other sectors such as health and education. Investment in social protection also supports progress in MDGs and contributes to reducing children’s vulnerability to economic shocks and price surge in food items. According to available data, Senegal is among the countries in Africa that apportioned some of their resources to social protection. Senegal spent about 1.9 per cent of its GDP for social protection (The African Child Policy Forum, 2011).

Fig. 1.5: HDI and Health Expenditure in Senegal (% of GDP), 1999-2009.

![Graph showing HDI and Health Expenditure in Senegal](image)


From figure 1.5, it can be read that health expenditure in Senegal (as percentage of GDP) compares favourably with that of Nigeria and Ghana. Besides the year 2007, 2008 and 2009 when it was 5.7 per cent, it averaged 2.3 per cent most of the period. HDI equally remained stable around 0.48 all through the period under review.

The primary school attendance rate in Senegal has improved by 8.29 per cent overall. There is an even more marked improvement in the rate for girls (11.57 per cent). The increase in the rate of primary school attendance from 2001 to 2003 corresponds to the annual average growth rate of 4.06 per cent, which means that the medium-term objective can be attained and surpassed (if the trend holds). The required annual average growth rate is 3.39 per cent. Therefore, by keeping up the pace of the annual increase, Senegal will more than meet the absorption capacity target for school-age children set down in the Poverty Reduction Strategy Paper (PRSP). The primary school enrolment rate rose from 81.72 per cent to 85.10 per cent for 2001-2003, which is an annual average
growth rate of 1.35 percent. Therefore, primary school enrolment improved, but the annual rate of improvement needs to be higher to reach the target of 90 percent by 2015. The literacy rate also increased 2.81 percent in the first two years. Investment in education is critical in many respects, both for individuals and the society at large. For instance, education plays a central role in enabling children to develop to their full potential as well as equips them with the skills necessary to lead a healthy and productive life. According to recent available data, Senegal spent only 4.8 per cent of its GDP for education, which is still lower than the Dakar commitment of 7 per cent. Senegal has shown progress in net enrolment ratio both for girls and boys in 2007 when compared with the year 1999/2000. No disparity was observed between boys and girls in enrolment ratio at primary level in 2007 (The African Child Policy Forum, 2011).

Table 1.0: Expected Years of Schooling in Senegal for all Levels of Education

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>7</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Female</td>
<td>6</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>


Expected years of schooling showed appreciable improvement between 2006 and 2008. In 2006, expected schooling years for male was 7 years while that of female was 6 years. In 2007, the years were 8 for male and 7 for female; these levels were maintained in 2008 (See table 1.0).

Fig. 1.6: Education Expenditure for Senegal in 2009 (%)


Figure 1.6 shows education expenditure in Senegal for various categories of the education sector for 2009. While secondary and tertiary education sub-sectors received 27 per cent each of total public expenditure, primary education received 46 per cent. This shows that Senegal attaches high priority to basic education.
Review of Empirical Literature
Birdsall, Ross and Sabot (1993) set out to address the following questions: How great have been the costs to Pakistan, in terms of income growth forgone over the last three decades, of relatively low social spending in education, and especially in the education of girls? They used the result of an econometric analysis of the relationship between education and economic growth is a cross-section of countries to compare Pakistan’s actual rate of growth and recent levels of output with what they might have been had Pakistan achieved education enrollment rates observed in three rapidly growing East Asian economics: Indonesia, Republic of Korea and Malaysia. Their analysis suggests that foregone income growth has been large. For example, if female enrollment in primary school has been as high as male enrollment in 1960, i.e. 46 per cent instead of 13 percent, they estimate that Pakistan 1985 per capital income could have been more than 15 percent greater than it was (In 1960, male enrollment rates in primary schools in Indonesia, Korea and Malaysia were 58, 83 and 89 per cents respectively). They recognized that social spending in education has social as well as economic benefits e.g. the lower infant mortality rates of better educated mothers, and that gain in income growth alone are a poor measure of overall development.

Analyzing data for 146 countries over 60 years, Son (2011) finds that there is still a wide gap in human capital development between industrialized and developing countries, with the average working age adult in industrialized countries having 11 years of schooling compared with less than 6 years in South Asia and sub-Saharan Africa. He also find that human capital development has been converging over the past 60 years with human capital accumulation being faster in developing countries than in industrialized countries. However, estimates of time to convergence indicate that it may take decades for poor countries to catch up with the 2010 levels of human capital of rich countries. In South Asia, it will take almost 30 years for the region to catch up with the 2010 levels of human capital in industrialized countries, based on its historical performance between 1950-2010. Moreover, it will take longer for females than males in South Asia to catch up with their counterparts in industrialized countries due to the persistence of gender disparity in the region. Recommendation arising from the study is that education policy thrust must be closely tied with labour and economic policy. The educational system must not exist in a vacuum; rather, decision on priorities, curricula, and budget allocation need to be made in line with medium and long-term development plans.

The importance of education in national development cannot be over-emphasized hence its cardinal position in various objectives of most developing countries. In Nigeria over the years, elements of uncertainty have beclouded this sector both in nominal and in real terms. Incessant strikes, closure of schools and other vices account for poor quality teaching and quality of products. As a result of this, the objective of the study by Omotor (2004) was to examine the profile of educational expenditure in Nigeria (between 1977 and 1998). An education expenditure model was constructed and tested using the ordinary least squares (OLS) technique. The estimates, though not overwhelmingly robust, found that federal government revenue is the singular significant determinant of educational expenditure model. It is the recommendation of the paper that other sources of financing education should be encouraged.

A number of cross-country studies suggest that the Pakistan aggregate human capital investment, measured by educational performance is low relative to other countries of
similar per capital income levels. This stylized fact prompted Sawada (1997) to investigate the implications of micro evidence of social spending on schooling from rural Pakistan for an understanding of the causes of low human capital development. The results of school entrant and dropout regressions using household panel data indicate that the permanent and transitory income movements affect children’s schooling behaviour, indicating credit market imperfections. Hence, the human capital investment in rural Pakistan may be discouraged by poverty, combined with incompletely insured income volatility. Moreover, his analysis points out that there is a distinct gender difference in education.

Bloom, Caning and Sevilla (2001) acknowledged that macroeconomists’ empirical studies restricted the definition of human capital solely in terms of schooling, and tried to extend production function models of economic growth to account for two additional variables that micro economists have identified as fundamental component of human capital: work experience and health. Their results reveal that good health has a positive, sizeable and statistically significant effect on aggregate output and human development. They found little variation across countries in average work experience, thus, differentials in work experience account for little variation in rates of economic growth. Finally they observed that the effect of average schooling on national output are consistent with microeconomic estimates of the effects of individual schooling on earnings, suggesting that education creates no discernible externalities.

Castro-Leal, et al (2000) adopted a benefit incidence approach to examine the impact of public spending on curative health care on the poor in several African countries: Guinea, Ghana, Madagascar, Tanzania, Cote d’ ivorie, South Africa. They found that public spending benefits mostly the rich rather than the poor. Their study concluded that the constraints that prevent the poor from taking advantage of public spending must be addressed if the public health services are to be effective in ensuring human development.

Using annual time series data from 1970 to 2000, Adebiyi (2009) set out to investigate the direction of causality between human capital (i.e. health and education) expenditures and defense spending in Nigeria. His finding is that higher defense spending reduces human capital expenditure, especially on education.

In an attempt to explain why the US overtook the UK and other European countries in terms of economic in the 20th century, Ehrlich (2007) adopted endogenous growth model where human capital is the engine of growth and development to study the US emergence as an economic superpower. The results reveal that faster human capital formation was responsible for the ascendancy of the US as an economic superpower.

Do government health and education spending boost consumption (and consequently human development) in China? This question prompted Barnett and Brooks (2010) to investigate whether the sizeable increase in government social spending in recent years lowered precautionary savings and increased consumption. Their main findings are that spending on health, but not education, had an impact on household consumption; the impact, moreover, is large. A one Yuan increase in government health spending is associated with two Yuan increase in urban household consumption. This positive relationship is desirable since calorie intake, to a great extent, stimulates human development.
The work of Granado, Gupta and Hajdenberg (2010) studied the cyclical behaviour of public spending on health and education in 150 countries during 1987-2007. They found that spending on education and health is pro-cyclical in developing countries and acyclical in developed countries; they are pro-cyclical during periods of positive output gap and acyclical during period of negative output gap. Furthermore, the higher the degree of cyclical, the lower the level of human development.

The objectives of the study by Shenggen and Neetha (2003) were to review trends in government expenditures in the developing world, to analyze the causes of change, and to develop an analytical framework for determining the differential impacts of various government expenditures on economic development. Contrary to common belief, it was found that structural programs increased the size of government spending, but not all sectors received equal treatment. The impact of various types of government spending on economic development is mixed. While some spending guarantee development, others do not.

Using panel data for 120 developing countries from 1975-2000, Baldacci et al (2004), explores the direct and indirect channels linking social spending, human capital and growth in a system of equations. The work found that both education and health spending have a positive and significant direct impact on the accumulation of human capital, and thus can lead to higher economic development. The paper also found that other policy interventions can be useful in moving toward achieving the MDGs, as such higher social spending alone is not sufficient for achieving the MDGs.

Van de Walle (1996) surveyed the method most often used to assess the welfare effect of public spending. Two methods were used to assess impacts namely: benefit incidence and behavioural approach. The study pointed to the need to diversify and compare results from other evaluation methods and broaden the definition of well being to see how various facets of living standards are affected by public spending.

Relevant and available literature has been reviewed. One fact is obvious: there seem to be lack of agreement among researchers on the contribution of health and education spending on human development. While some authors found that both health and education are significant, the works of others identify only health as contributing to human development. The findings of this study will identify which among these variables is the ultimate driver of human development in Nigeria, Ghana and Senegal.

**Methodology**

To facilitate comparative analysis, descriptive statistical analysis was carried out on the data. The results are reported in table 1.1 below. The results of the descriptive analysis presented below show that the mean human development index is 0.475 for the three countries, which is slightly higher than that of Senegal and Nigeria but slightly lower than that of Ghana. Its standard deviation is 0.042, indicating relative stability of the mean human development index for the countries over the sample period. Health expenditure has an average value of 1.83 per cent for the entire sample which is lower than that of Senegal and Ghana which 2.22 per cent, 2.10 per cent respectively. Nigeria’s health expenditure over the period averaged 1.20 per cent, which is below group average. These results indicate that Senegal and Ghana spent far more that Nigeria on health services.
Sources of Data and Methods of Data Analysis
The study uses secondary time series data. To ensure uniformity, all data on social expenditures from the three sampled countries are extracted from the World Bank's World Development Indicators' website. HDI values are from the UNDP Human Development Report for various years. The study uses the ordinary least square to estimate the parameters after correcting for heteroscedasticity and autocorrelation using the heteroscedasticity autocorrelation Consistent (HAC) standard errors.

Table 1.1: Presentation of Descriptive Statistics

<table>
<thead>
<tr>
<th>Var.</th>
<th>Mean</th>
<th>Median</th>
<th>Max.</th>
<th>Min.</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Samples:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDI</td>
<td>0.475</td>
<td>0.460</td>
<td>0.567</td>
<td>0.423</td>
<td>0.042</td>
</tr>
<tr>
<td>HEX</td>
<td>1.838</td>
<td>2.100</td>
<td>2.300</td>
<td>1.100</td>
<td>0.496</td>
</tr>
<tr>
<td>EDEX</td>
<td>3.231</td>
<td>3.200</td>
<td>4.000</td>
<td>2.500</td>
<td>0.401</td>
</tr>
<tr>
<td>Nigeria:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDI</td>
<td>0.464</td>
<td>0.458</td>
<td>0.511</td>
<td>0.423</td>
<td>0.032</td>
</tr>
<tr>
<td>HEX</td>
<td>1.210</td>
<td>1.200</td>
<td>1.300</td>
<td>1.100</td>
<td>0.074</td>
</tr>
<tr>
<td>EDEX</td>
<td>2.760</td>
<td>2.800</td>
<td>3.000</td>
<td>2.500</td>
<td>0.196</td>
</tr>
<tr>
<td>Ghana:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDI</td>
<td>0.518</td>
<td>0.519</td>
<td>0.567</td>
<td>0.467</td>
<td>0.031</td>
</tr>
<tr>
<td>HEX</td>
<td>2.100</td>
<td>2.250</td>
<td>2.300</td>
<td>1.400</td>
<td>0.423</td>
</tr>
<tr>
<td>EDEX</td>
<td>3.180</td>
<td>3.200</td>
<td>3.300</td>
<td>3.100</td>
<td>0.079</td>
</tr>
<tr>
<td>Senegal:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDI</td>
<td>0.443</td>
<td>0.444</td>
<td>0.460</td>
<td>0.427</td>
<td>0.012</td>
</tr>
<tr>
<td>HEX</td>
<td>2.220</td>
<td>2.250</td>
<td>2.300</td>
<td>2.100</td>
<td>0.092</td>
</tr>
<tr>
<td>EDEX</td>
<td>3.680</td>
<td>3.600</td>
<td>4.000</td>
<td>3.500</td>
<td>0.204</td>
</tr>
</tbody>
</table>

Mean education expenditure for the entire sample is 3.23 per cent. Senegal has been spending above average at 3.68 per cent, while Nigeria and Ghana have been spending below average at 2.76 per cent and 3.18 per cent respectively. However, Ghana has been more consistent in this aspect of social expenditure as its standard deviation is 0.08, far lower than those of Nigeria and Senegal at 0.2 each. Overall, results indicate that Ghana and Senegal have been spending more than Nigeria on health and education. While Ghana has recorded the largest average human development index of 0.518, Senegal has surprisingly lagged behind 0.464 average values for Nigeria, with its average value of 0.443.

Model Specification
Relying on the postulations of the human capital theory which attributes human development to investments in health and education, the model of this study is developed following the study by Baldacci et al (2004) and Granado, Gupta and Hajdenberg (2010). But human development does not occur until the services provided by the health and education institutions are accessed and utilized by the people. This implies that there is time lag between when spending is made and when the benefits are reaped. Based on this argument, the work adopts a panel autoregressive distributed lag model. Specifically, the study will employ the fixed effect partial adjustment model (PAM). According to this model, the dependent variable (Human Development) adjusts gradually to social expenditure. To start with, consider a fixed effect partial adjustment model of the form:
\[ HD_{it}^e = \delta_0 + \delta_1 D_{1i} + \delta_2 D_{2i} + \delta_3 HEX_{it} + \delta_4 EDEX_{it} + \mu_{it} \quad \cdots \cdots \quad (1) \]

Where \( HD_{it}^e \) = Expected Human Development in any of the sampled countries
\( D_{1i} \) = Dummy for Ghana
\( D_{2i} \) = Dummy for Senegal
\( HEX_{it} \) = Health expenditure for any of the sampled countries
\( EDEX_{it} \) = Education expenditure for any of the sampled countries

Equation 1 states that expected index of human development (\( HD_{it}^e \)) in any given year, say, year \( t \), is a linear function of health expenditure (\( HEX_{it} \)) and education expenditure (\( EDEX_{it} \)) in that same year. The dummy variables \( D_{1i} \) and \( D_{2i} \) allow the (fixed effect) intercept to vary among the three countries using Nigeria as a base or reference country, where \( D_{1i} = 1 \) for Ghana, 0 otherwise; \( D_{2i} = 1 \) for Senegal, 0 otherwise, (Gujarati and Porter, 2010). Since expected \( HD_{it}^e \) is not directly observable, equation (1) can be written as:

\[ HD_{it} - HD_{it-1} = \gamma (HD_{it-1}^e - HD_{it-1}) \quad \cdots \cdots \quad (2) \]

Where \( HD_{it} \) = human development in any of the sampled countries
\( HD_{it-1} \) = human development in any of the sampled countries in previous year
\( HD_{it-1}^e \) = is as defined above

Where \( \gamma \), such that \( 0 < \delta \geq 1 \), is the coefficient of adjustment. Substituting equation (1) into (2) yields:

\[ HD_{it} - HD_{it-1} = \gamma (\delta_0 + \delta_1 D_{1i} + \delta_2 D_{2i} + \delta_3 HEX_{it} + \delta_4 EDEX_{it} + \mu_{it} - HD_{it-1}) \quad \cdots \cdots \quad (3) \]

Solving and re-arranging equation (3) produces equation (4):

\[ HD_{it} = \gamma \delta_0 + \gamma \delta_1 D_{1i} + \gamma \delta_2 D_{2i} + \gamma \delta_3 HEX_{it} + \gamma \delta_4 EDEX_{it} + (1- \gamma) HD_{it-1} + \gamma \mu_{it} \quad \cdots \cdots \quad (4) \]

Equation (4) may be called the short-run impact of social expenditure on human development. Once the short-run function is estimated and the estimated coefficient of adjustment is obtained from the coefficient of \( HD_{it-1} \), the long-run relation can simply be determined by dividing all parameter estimates including the intercept by \( \gamma \) and thereafter dropping the lagged value of the dependent variable, which reduces equation (4) to equation (1).

**Model Estimation Results**

The results from the data analysis are presented below.

**Table 4.3: Summary of Results (Short-run Function)**

<table>
<thead>
<tr>
<th></th>
<th>Constant</th>
<th>HEX</th>
<th>HEX_{it-1}</th>
<th>EDEX</th>
<th>EDEX_{it-1}</th>
<th>D1</th>
<th>D2</th>
<th>HD_{it-1}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coeff.</td>
<td>0.59</td>
<td>0.027</td>
<td>0.031</td>
<td>0.007</td>
<td>-0.035</td>
<td>-0.001</td>
<td>0.0002</td>
<td>0.101</td>
</tr>
<tr>
<td>Se</td>
<td>0.11</td>
<td>0.015</td>
<td>0.016</td>
<td>0.045</td>
<td>0.023</td>
<td>0.01</td>
<td>0.001</td>
<td>0.131</td>
</tr>
<tr>
<td>t</td>
<td>5.21</td>
<td>1.74</td>
<td>1.92</td>
<td>0.16</td>
<td>-1.51</td>
<td>-0.1</td>
<td>0.2</td>
<td>0.77</td>
</tr>
<tr>
<td>R²</td>
<td>0.67</td>
<td>Adj. R² = 0.56</td>
<td>F-Stat = 6.00</td>
<td>D-W = 1.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Long run Function:

<table>
<thead>
<tr>
<th></th>
<th>HEX</th>
<th>HEX_{t-1}</th>
<th>EDEX</th>
<th>EDEX_{t-1}</th>
<th>D1</th>
<th>D2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coeff.</td>
<td>0.663</td>
<td>0.030</td>
<td>0.04</td>
<td>0.008</td>
<td>-0.038</td>
<td>-0.001</td>
</tr>
<tr>
<td>Se</td>
<td>0.11</td>
<td>0.015</td>
<td>0.016</td>
<td>0.045</td>
<td>0.023</td>
<td>0.01</td>
</tr>
<tr>
<td>t</td>
<td>6.03</td>
<td>2.0</td>
<td>2.5</td>
<td>0.18</td>
<td>-1.65</td>
<td>-0.10</td>
</tr>
</tbody>
</table>

$R^2 = 0.67$  \text{ Adj. } R^2 = 0.56  \text{ F-Stat} = 6.00  \text{ D-W} = 1.55$

**Discussion of Findings**

The constant term of the model implies that even when education and health spending and their lagged values are held constant, the index of human development for the three countries will be 0.60 in the short run, while its long run value is 0.66. This value, perhaps, can be attributed to other contributors to human development index, say, per capita income which in the long run, may have significant contribution on human development.

The positive and significant relationship between the health expenditure and human development parameters shows that an increase in health expenditure by 1 per cent in the current year increases human development on the average by 0.03 both in the short and long runs. The short run parameter of the lagged variable does not differ from its current year value. Its long run value is 0.04. This finding is in line with that of Bloom, Caning and Sevilla (2001). This positive result may be attributed to various health programmes that are currently being implemented in these countries, especially on primary health care services.

The parameters of the education expenditure point to the fact that education expenditure is not a significant determinant of human capital development in the countries of study. This is rather surprising as contemporary human capital development theories recognize the efficacy of education in stimulating human development in both developing and developed countries. Equally, this finding negates our a priori expectation. We suspect that the simple explanation for this disappointing finding is inadequate funding of the sector coupled with poor management of the meager budgetary allocation to the education sector, poor remuneration of teachers as well as high incidence of school dropouts in these countries. The individual country intercepts (dummy variables) are statistically insignificant, indicating that there is no difference in the HDI values of our countries of interest. Holding social expenditures constant, all countries’ HDI value tend to rise to an average of 0.60 in the short run and 0.66 in the long run, which is higher than the mean value of 0.48 for the three countries.

Utilizing health and education expenditures together may perhaps, stimulate human development. This finding is predicated on the value of the joint test conducted using the F-statistic which is highly statistically significant (with the value of 6.0 in both the short and long runs), and also consistent with the finding of Baldacci et al (2004). This joint effect is in line with the argument put forward by Todaro and Smith (2009): that education and health are basic objectives of development; they are important ends in themselves. Health is central to well-being, and education is essential for a satisfying and rewarding life; both are fundamental to the broader notion of expanded human capabilities that lie at the heart of the meaning of development. While adequate health services play a key role in the ability of a developing country to absorb modern
technology and to develop the capacity for self-sustaining development, education is a prerequisite for increases in productivity. Both health and education can also be seen as vital components of human development. Thus, the finding that both are jointly significant in ensuring human development supports the need for adequate funding and utilization of both in achieving the Millennium Development Goal (MDGs) and fostering human development.

**Conclusion**
This study was aimed at understanding the role of social expenditure in enhancing human development in Nigeria, Ghana and Senegal. In doing this, relevant and available literature has been reviewed. From the empirical review, one fact is obvious: there seem to be lack of agreement among researchers on the contribution of health and education spending on human development. While some authors found that both health and education are significant, the works of others identify only health as contributing to human development. This study identified health expenditure, but not education expenditure as contributing to human development in the selected countries both in the long and short runs, although the long run impact exceeds its short run value. Thus, it is posited that the countries concerned should articulate health policies that will ensure proper funding and adequate utilization of budgetary allocation to the health sector, especially the primary health care delivery system since this is the system that is grassroot oriented. Also, adequate funding as well as proper utilization of funds in the education system is required to ensure the contribution of the sector to human development.

**Recommendations**
After careful analysis of the data, the following policy implications are pertinent: Policymakers and of course, all stakeholders in the health sectors of the sampled countries should begin to advocate for increased budgetary allocation to the sector. This recommendation is predicated on the fact that increasing health sector funding will lead to the enhancement of the abilities and capabilities of their most important economic asset - human capital. The results support the view that health expenditure can be more effective in African countries in achieving the MDGs. Thus, increases in expenditure suggested by the magnitude of the estimated coefficients would be greatly helpful in moving African countries toward the MDG target for health, although not necessarily sufficient to achieve it in all regions.

Relative to the significant cost of raising expenditure, the strong effects of health expenditure on human development also confirm the important role of reforms aimed at improving the efficiency and targeting of health outlays. If budgetary allocations for primary and secondary healthcare are to boost economic growth and promote the wellbeing of the poor, policymakers in African countries need to pay attention to absolute expenditures within the health sector. Those absolute expenditures – both their size and efficiency – are an important vehicle for promoting equity and furthering human capital development.

The statistical insignificance of education spending is an unnecessary contradiction of our a priori expectation. To this end it is recommended that stakeholders in the education sector of these countries should, as a matter of serious policy concern, identify and eliminate all obstacles that militate against judicious utilization of education sector allocation as well as those that constrain the people from accessing and utilizing
education services. This will ensure that education expenditure plays its fundamental role of raising the welfare of the people of the third world economies.

The finding that education expenditure is insignificant in determining human development also has major implications for international assistance policy for African countries. This is an opportunity for the international community, especially the G-8 countries to fulfill their promise of scaling up aid to African countries in accordance to their commitment for the development of African countries which they had re-affirmed in various fora.

However, African countries unable to match increases in participation with increases in resources will be faced with difficult choices over the adjustment of the educational services provided. With increased participation in education drawing on new client groups, and a wider range of choices concerning what, when, how and where to learn, and with added demographic pressure, existing financing mechanisms may not be adequate. In particular, government resources alone may not suffice to pay both for the expansion of education systems and for improvements in educational quality. These governments would need to forge new partnerships with the providers and beneficiaries of education in order to mobilize the necessary resources, to encourage efficiency and to introduce flexibility in order to permit everyone to pursue the pathways and learning opportunities which best meet their needs. For example, non-public institutions, such as private businesses, can provide resources to educational institutions either through partnership arrangements or through more general support for the education system.
References


