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SHOULD HIGHER EDUCATION INSTITUTIONS (HEIS) SERVE NATIONAL ECONOMIC NEEDS? WHY AND WHY NOT?

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Abstract

The role of education as a mechanism for developing human capital for national development cannot be underestimated. It has been suggested that improving tertiary education may be important in promoting faster technological catch-up and improving a country's ability to maximize its economic output. Empirical studies have also established a link between higher education and economic productivity and countries' ability to compete in the global knowledge economy. But what is the purpose of education? Psychologists such as William James and John Dewey, and other scholars such as Aristotle and John Locke have given their own views on the basic purpose of education. What is, however, common among these views is their insistence that education develops people so that they can meaningfully participate in their society and its activities? Other scholars have suggested that the aim of an educational system at every age and in every society is to improve man as man. This is to say that it is to uplift humanity above our animal nature; education, therefore, deals with the development of the intellectual powers of humanity. Aristotle and Locke even put it better: the creation or attainment of sound mind in a sound body. However, many of the social partners (labour and employers) believe that education should train people to get jobs. This paper seeks to resolve this controversy in higher education (as to whose needs they should serve) by reflecting on the following questions: Who determines or should determine the national economic needs of a country: the state or the private sector? Should the national economic needs be identified in terms of skills or knowledge? Who funds or should fund education and research in those areas identified as national economic needs? Do we respond to the identified economic needs in terms of vocationalization of degree courses or equipping graduates with universal skills or both?

Key words: Education, Higher Education Institutions, Education and National Interests, Economic Growth

1.0 Introduction

Higher education offering tied to national economic needs arguably is one of the key drivers for national development. Evidence now exists to support a positive relationship between higher education and economic growth. For example, Bloom, Canning, and Chan (September 2005) have suggested that promoting tertiary education will be key to speeding the pace of bridging the technological gap and improving a country's ability to maximize its economic output. In a speech, former UN Secretary General, Kofi Annan (2000, cited in Bloom et al September 2005), has argued that African countries can only achieve their dream of accelerated national development if they are able to transform their universities into the primary tool for national development in the 21th century. Similarly, the World Bank (2002) has also linked higher education to economic productivity and to countries' ability to compete in the global knowledge economy. In examining the contribution of higher education in national development, Addo (2010) has outlined that higher education can be leveraged to enhance capacity-building and human capital development, economic growth, equal rights and opportunities,

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research and national planning. Thompson (2008) has also explored the relationship between higher education and development and has documented favourable evidence about the role of higher education in economic development. Writing about regional development in Ghana, Songsore (2011) has also suggested that:

education is the quickest route to upward mobility in human well-being, social inclusion and national integration. It has been investment in human capital formation that has been one of the outstanding features the East Asian Tigers and not rich natural resource base which Ghana is counting on (pp.257).

Indeed, "education is the best known route to development" (Asenso-Okyere, 2008: 3). In sum, the link between higher education and economic growth is no longer in doubt at all. In the context of this paper, higher education institutions comprise polytechnics and universities. Polytechnics are included here because their lecturers are also required to publish and some have been empowered to offer undergraduate programmes.

Based on extant literature, Bloom et al (September 2005) have proposed a conceptual framework that links higher education to economic growth (See Figure 1). Bloom et al's (September 2005) conceptual framework shows that higher education drives economic growth through both private and public channels. The private benefits for individuals are well understood and include such things as better employment prospects, higher salaries, and a greater ability to save and invest. These benefits in turn may give rise to better health and improved quality of life. However, the possible public benefits are less well understood and recognized. Indeed, according to Bloom et al (September 2005), this explains the lower public investments in tertiary education by many governments. Notwithstanding, individual gains can also benefit society as a whole such that higher earnings for well-educated individuals increases income tax for governments and ease demands on state social support. The conceptual framework further shows that higher education leads to improved research and development (R&D) outputs, attracts foreign direct investments (FDIs), good governance, as well as accelerate social development which ultimately lead to economic growth and poverty reduction.

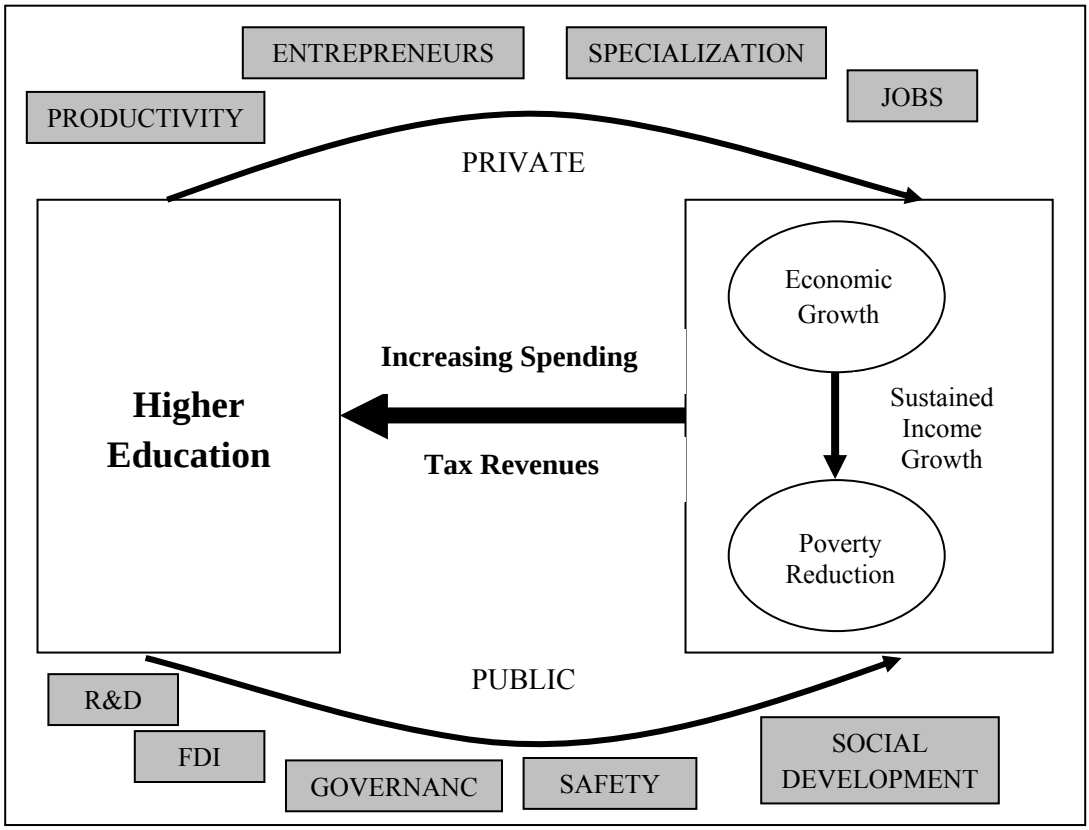

Figure 1: Bloom et al's (September 2005) Conceptual Framework Linking Higher Education to

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Source: Bloom, D., Canning, D., & Chan, K. (September 2005: 17).

Extant literature on the link between higher education and economic growth stemmed from the work of Barro (1991) and Barro and Lee (2001) which uncovered human capital as one of the key determinants of economic growth. Barro (1991) reported that in the period 1960 – 1985 the growth rate in a sample of 98 countries depended positively on the initial level of human capital measured by schooling rates and negatively on the initial level of per capita GNP. In a recent empirical study using data on Pakistan, Chaudhary, Iqbal, and Gillani (2009) documented evidence that indicates that there exists a long-term relationship between economic growth and higher education. However, Chaudhary et al's (2009) econometric study revealed that rather there exists a unidirectional causality running from economic growth to higher education and no other direction of causality was found between these variables. Their findings imply that it is not improved higher education that leads to higher economic growth rather it is higher economic growth that leads to improved higher education. Such findings contradicts Bloom et al's (September 2005) model that emphasizes bi-directional causal relationship in which higher education affects and is affected by economic growth. However, in a more recent study, Katırcıoğlu (2009) reported undirectional causality that runs from higher education growth to economic growth in his study of Northern Cyprus.

Year	No. of University Graduates[1]	No. of Technical and Polytechnic Graduates	Total Higher Education Output (X)	GDP (millions of cedis)[2]
1960	150	600	750	956
1961	160	600	760	1022
1962	177	600	777	1084
1963	222	600	822	1208
1964	228	600	828	1357
1965	481	600	1081	1587
1966	526	600	1126	1644
1967	596	600	1196	1622
1968	665	600	1265	1824
1969	806	600	1406	2056

Table 1: Raw Data extracted from Killick (2010) on Ghana's Higher Education Output and Gross Domestic Product between 1960 and 1969

Summary of results of linear regression performed by the author on the secondary data: $r = 0.975$, *adjusted* $r^2 = 0.944$, $\beta = 0.975$, *S. E = 0.120;* n = 10; $F(1, 8) = 152.640$, $p < 0.0005$; $GDP = 1.483(X) - 48.486$

[1] Data obtained from Table 7.A in Killick (2010: 196); [2] Data obtained from Table 4.C in Killick (2010: 99)

Data on gross domestic product (GDP) and output of higher education institutions in Ghana between 1960 and 1969 provides additional support for the link between higher education and economic growth. Table 1 presents secondary data extracted from Killick (2010) and results of analysis of the data. A linear multiple regression analysis was carried out on the data.

The analysis revealed that, between 1960 and 1969, there was a significant positive relationship between the total higher education output and GDP such that as the number of graduates increased so

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did GDP. It further showed that higher education output accounted for nearly 94% of the variance in GDP at the time. Interestingly, the analysis also revealed that in the absence of any graduate, the economy was likely to lose GHC 48.47 million annually. Overall, the analysis showed that there is a link between higher education and economic growth. Such a significant contribution of higher education may be attributable to improvement in skills and subsequent improvement in productivity as well as the increases in personal income and income tax. However, one cannot rule out that, in the same period, Ghana also saw huge capital injection for massive infrastructural development and creation of new industries. Despite this, that period of Ghana's politico-economic history has been described as a period of "development without growth" (Songsore, 2011). Notwithstanding, it has also been reported that investments were channelled into the whole system of education, from primary to tertiary between 1961 and 1966 (Akyeampong, 2012; Songsore, 2011).

Due to the inclusive evidence about the nature of the relationship between higher education and economic growth, further empirical studies will be needed. However, Bloom et al's (September 2005) conceptual framework (see **Figure 1**) provides a more useful and practical model for understanding the link between higher education and economic development. As a result, a bi-directional relationship may be more likely to reflect reality than a unidirectional relationship (whatever the causal direction may be). This is because in reality we can expect higher education to influence and be influenced by economic development of a given country.

Owing to the growing literature on the role of higher education as a driver of economic growth, some U.S. economists, since the 1990s, have been collaborating in developing a "new theory of growth that puts knowledge — and not the traditional measurements of land or capital or labour or natural resources — at the center of our understanding of the wellspring of economic change and progress" (Shaffer & Wright, March 2010: 3). In support of this emerging theory of economic growth role of higher education in economic growth, Warsh (2010, cited in Shaffer and Wright, March 2010: 3) stated that:
Take a look at any map. The places with universities are the ones that have remained on top or renewed themselves around the world. That knowledge is a powerful factor of production requires no more subtle proof than that.

This suggests that universities should become key participants in the creation of knowledge economy. In this regard, Shaffer and Wright (March 2010) cited a 2006 study by the State Science and Technology Institute for the U.S. Department of Commerce that explored the characteristics of universities that support knowledge economies. Their report revealed, found among other things, that such universities lead research in areas of inquiry relevant to their particular local or regional economy as well as develop the physical infrastructure needed to support such research. This is to say that higher education institutions contribute through knowledge creation, knowledge transfer, and creation of educated population. As a result, it is not possible for universities to play their role if they do not promote quality postgraduate research, particularly doctoral research, which address the local problems. There cannot also be relevant doctoral research without promoting home-grown PhD programmes. In sum, home-grown PhD programmes is an assurance that higher education institutions are serious about knowledge creation, else what knowledge will they be transferring?

As a result of the link that has been established between improved higher education and economic growth, there have been calls from relevant stakeholders that higher education offering should address national economic needs. These calls appear fairly straightforward. However, such calls also force us to

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reconsider the purpose of education in general and higher education in particular. Notable educational psychologists such as William James and John Dewey, and renowned philosophers such as Aristotle and John Locke have given their own views what on the basic purpose of education should be. The recurring theme is that education should aim at developing people so that they can meaningfully participate in their society and its activities (Aggarwal, 2007).

Indeed, Hutchins' (1991) paper on the purpose of education captures it better: The aim of an educational system at every age and in every society is "to improve man as man" (pp. 12). Put another way, the purpose of education is to uplift humanity above our animal nature. Owing to this, one can reach the conclusion that education should, therefore, deal "with the development of the intellectual powers of men [humanity]" (Hutchins, 1991: 13). Aristotle and Locke even put it better: the creation or attainment of sound mind in a sound body (Aggarwal, 2007). Schwartz's (2011) suggestion that we need to go beyond vocational or professional training in order to have students prepared to learn from experience is also relevant to understanding the purpose of education. Schwartz (2011) argues that life, death, love, beauty, courage, loyalty are issues that are omitted from our modern vocational curricula, and yet when the time comes to sum up our lives, they are the only things that ever really matter.

This paper, therefore, seeks to examine one of the controversial issues in higher education: what should be the purpose of higher education? It does so by reflecting on the purpose of higher education, how national economic needs should be identified, whether or not national economic needs should be determined in terms of skills or knowledge, how the identified national needs should be addressed, as well as how higher education and research should be financed.

2.0 Purpose of Higher Education

What should then be the purpose of higher education? A former vice-chancellor of University of Chicago, Hutchins (1991) holds the view that a liberal education or college education should aim to develop the powers of understanding and judgment. He further refined this as follows:

The object of liberal education [higher education] in youth is not to teach the young all they will ever need to know. It is to give them the habits, ideas, and techniques that they need to continue to educate themselves. Thus, the object of formal institutional liberal education in youth is to prepare the young to educate themselves throughout their lives (pp. 15).

University Rationalization Committee Report (1988, cited in Addo, 2010) has also outlined the under-listed as the objectives of higher education:

i. Instruction in skills suitable to play a part in the general division of labour,
ii. Teaching to promote the general powers of the mind.
iii. The advancement of learning
iv. The transmission of a common culture and common standard of citizenship.

In addition, Schwartz (2011), a former dean of medicine and vice-chancellor of Brunel University, has suggested that higher education offering must prepare graduates for what they will do, but we also have a duty to help them at least to think about what kind of people they want to be. He continues his argument by saying that:

Indeed, these two educational goals are inseparably linked. No one would try to argue that a deep knowledge of philosophy makes surgeons better at removing a prostate. But it might deepen their

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empathy and improve their understanding of what constitutes a good quality of life, both of which could help them to decide whether a prostate should be removed in the first place.

Psychological research on wisdom also provides us with additional insight into what the true purpose of education should be. Drawing on biblical stories on "King Solomon" and works of Greek philosophers, some psychologists have examined what is and what is not wisdom. The Greek philosophers saw wisdom as the ultimate goal of life (Compton, 2005). Kramer (2000), a psychologist, has defined wisdom as the "exceptional breadth and depth of knowledge about the conditions of life and human affairs" (pp.85) while another psychologist, Clayton (1982), has defined it as "the ability that enables the individual to grasp human nature, which operates on the principles of contradiction, paradox, and change" (pp. 316). Clayton (1982) suggested that wisdom is not the inevitable outcome of advanced age; however, it is also true that profound wisdom is more often seen among people who are at least middle-aged. Again, he pointed out that wisdom is not simply intelligence. Based on their empirical studies on predictors of wisdom, Baltes and Staudinger (2000, cited in Compton, 2005) have concluded that wisdom is "meta-heuristic". By "meta-heuristic", they meant that wisdom is a highly organized strategy for searching out relevant information from multiple sources and combining that information into solutions that optimize both knowledge and virtue. Based on the extant psychological literature, Compton (2005) has, therefore, suggested that wisdom is not simply a storehouse of information but implies knowledge that is social, interpersonal and psychological.

There is a parallel between the African oral literature on wisdom and the psychological literature. This parallel may be expected because both traditions are rooted in philosophy and social values. A seasoned Ghanaian philosopher, Emeritus Professor Kwame Gyekye, has also explored the African oral literature (folktales, arts, and maxims) on wisdom. Gyekye (2003) defined it as the:
ability to think out ways of making success in one's personal life – to analyze and solve the practical problems of life – and the ability to pay reflective attention to the fundamental principles underlying human life and experience (pp.137).

After the exploration of the oral literature, Gyekye (2003) also reached a conclusion about the relationship between age and wisdom that is similar to the conclusion drawn in the psychological literature. He concluded that age "has nothing to do with wisdom; an elderly person or a young person can be said to be wise" (pp. 145). His argument was that a young person will be described as wise if he or she demonstrates "the intellectual ability to participate sensibly in discussions, to bring out ideas and argue them persuasively, and so help unravel the intricacies of the subject matter at hand" (pp.144). Gyekye argued that such belief is reflected in the Akan maxim "Wisdom is not in the head of one person".

Another instructive suggestion has also been offered by Labouvie-Vief (1990). His suggestion is that wisdom involves the integration of two forms of knowledge: logos and mythos. Logos is knowledge gained via the use of analytical and propositional structures of logic whiles mythos refers to knowledge embedded in the context of social relationships and social experiences and is gained through speech, narrative, plot, or dialogue. If education is to improve "man as man" (Hutchins, 1991) and by implication make "men" wise, then why should education focus solely on preparing graduates for what they will do but not improving their ability to appreciate the contradictions, paradoxes, and fluid nature of human conditions? Hence, logos alone is incapable of making graduates wise. This is in agreement with Schwartz's (2011) suggestion that, though deep knowledge of philosophy will not make surgeons better at removing a prostate, it will deepen their empathy and improve their understanding of what

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constitutes a good quality of life. In this case, higher education should focus on integrating logos and mythos to create the conditions for promoting wisdom in graduates. This should enable graduates to have an appreciation of issues such as love, ethics, happiness and success, religion and spirituality, and a host of other related topics within their social context. Therefore, the ultimate goal of higher education should be the pursuit of wisdom.

Beder (2000) quoted John Dewey as also, like Schwartz (2011), supporting a more integrated model:
Instead of trying to split schools into two kinds, one of a trade type for children whom it is assumed are to be employees and one of a liberal type for the children of the well-to-do, it will aim at such a reorganization of existing schools as will give all pupils a genuine respect for useful work, an ability to render service, and a contempt for social parasites whether they are called tramps or leaders of 'society'… (pp. 209)

In effect, it can be confidently concluded that higher education should aim at both improving intellectual powers so that the youth will have the prerequisite social skills and technical skills required to play a part in the general division of labour of a given society.

Despite these broad objectives that have been assigned to higher education, the private sector and other stakeholders have called on higher education institutions to set up relevant programmes and develop in their graduates industry-relevant skills. Nguyen (2000) also captures the concern of students. According to him, instead of making education an interactive environment "where one challenges known assumptions, and probes mysterious realms of thought", it has become a place where the same topics are taught repetitively and has made students unconcerned about real learning. Students, therefore, care much more about getting an "A" and graduating with their degree on time. As a result, the romantic notion of learning for the sake of increasing one's understanding is no longer tenable.

The changing conceptualization of the purpose of higher education seems to suggest that the purpose of education is to train people to get jobs. To such people, Hutchins (1991) has this to say to them:
We hear a great deal today about the dangers that will come upon us through the frustration of educated people who have got educated in the expectation that education will get them a better job, and who then fail to get it. But surely this depends on the representations that are made to the young about what education is. If we allow them to believe that education will get them better jobs and encourage them to get educated with this end in view, they are entitled to a sense of frustration if, when they have got the education they do not get the jobs (pp. 14).

The assumption that the purpose of education should prepare people to get jobs seems to blot out any significant difference between training and education. Beder (2000) argues that a main difference between training and education is that "training is aimed at shaping a person towards a specific end, whereas education is aimed at giving people choices in life" (pp.218). Indeed, there is some overlap between education and training. Beder (2000) further argues that:
… training is about giving a person the skills and knowledge to carry out a particular occupation or type of occupation; education is more about helping people to attain an understanding of the world they live in and their relationship with it…(pp. 218).

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Beder (2000: 85) quoted one school board president in the US as stating in the 1920s that "for a long time all boys were trained to be presidents. Then for a while we trained them all to be professional men. Now we are training them to get jobs."

On the basis of the above, the call by the employers in Ghana and elsewhere could be understood to reflect a trend towards shifting of responsibility for training of employees and its associated cost to higher education institutions and students. It can be construed as part of the general trend towards efficiency through cost reduction. Interestingly, many of those who call for a review of the purpose of higher education are the very people who benefited from an educational system whose focus was not training but "true education".

The ongoing exploration of the true purpose of higher education clearly shows that there appears to be a lack of consensus on what higher education institutions, particularly, universities should seek to achieve. In order to resolve this controversy, this paper adopts the approach used by Hollway's (1991) to trace the history of work psychology and organizational behaviour. She argued that there is no such thing as scientific knowledge in isolation from its conditions of production and reproduction and that scientific knowledge is the historical product of interests and power relations in practice. In accordance with Hollway's (1991) approach, this paper attempts to reflect on the following questions: Who determines or should determine the national economic needs of a country: the state or the private sector? Should the national economic needs be identified in terms of skills or knowledge? Who funds or should fund education and research in those areas identified as national economic needs? Do we respond to the identified economic needs in terms of vocationalization of degree courses or equipping graduates with universal skills or both?

3.0 Determining National Economic Needs

Clearly, the ongoing discussion shows that higher education has twin objectives of making the youth competent socially and in their chosen occupations or professions. However, such a purpose of higher education does not help in identifying who should determine the national economic needs. Current practice considers it a joint process by both the state and the employers. For instance, Hunt, Jr.(1991), the chair of the Task Force on Education for Economic Growth established by the US Education Commission in the 1970s, reported that their task force consisted of leaders from the fields of government, business, education, labour and science. Similarly, Human Resource Development Council [HRDC] (2009) reported that the preparation of the Human Resource Development Strategy for South Africa (2010–2030) involved consultation with social partners; the social partners consisted of communities, business and labour. This means that there is little controversy over the involvement of these stakeholders in the determination of the national economic needs.

However, what needs to be determined is whether or not needs identified by employers are more important than those identified by the state and the higher education institutions themselves. For instance, Ghana Employers' Association [GEA] (2006) identified the critical skills required by the workforce in Ghana as well as the specific roles that government, industry and training institutions ought to play in the development of critical skills. Specifically, GEA (2006) identified the following as the roles that both industry and training institutions should collaborate to fulfill:

- develop a demand-driven curriculum that will produce graduates with skills suitable for industry;
- develop a competency based occupational scheme that will be used by training institutions to review their curricula from time to time;

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- encourage lecturers in training institutions to work in industry from time to time to enable them blend theory and practice in the training of students;
- set up committee for the development and implementation of a comprehensive and integrated industrial attachment/internship program for students in training;
- encourage industry to set up chairs in training institutions to serve as a platform for sharing ideas and the promotion of innovations and creativity;
- make it possible for competent and experience practitioners in industry to serve as adjunct lecturers in training institutions and also serve on subject panels and assessment bodies.

Does this effort by GEA represent an attempt to shift cost to the state and higher education institutions? An examination of these specific roles shows semblance of disinterest in continuing professional development by many of the employers and that Ghanaian employers are not ready to invest in the development of their staff. This is because one cannot tell which specific roles required investment by the private sector. In another forum, at the fifth congregation of Presbyterian University College, Mr Felix Nyarko-Pong, the CEO of Unibank, called for greater collaboration between the universities and industry in identifying "the needs of industry" for incorporation into courses and progammes of study at the universities and colleges (Myjoyonline.com, December 2011). Interestingly, many employers blame unemployment on lack of skills suitable for industry when evidence supports rather a non-expanding economy as a major cause of youth unemployment (Boateng & Ofori-Sarpong, 2002).

So who should determine the national economic needs? Ideally, the state should determine the economic needs in consultation with the social partners as has been done in the US and South Africa. However, the state must identify its priorities before it can determine its national human resource needs. Given the fact that modern governments in democratic nations are not expected to engage in business, how can they identify their human resource needs? As a result of the situation that modern governments find themselves in, they should rather work with the existing higher education institutions to identify areas that the states need to pay attention to. In this case, the description of the process of determining the US National Science Policy in 1979 is very instructive. Dr. Press (1978, cited in Holton, 1982), the then director of the US Office of Science and Technology Policy and the science and technology advisor to the then US president, described the science-policy planning that went into the US budget for federal funding of basic research for the fiscal year of 1979 as one that involved different stakeholders including the cabinet. He reported that the Office of Management and Budget, the heads of NASA and National Science Foundation (NSF), leaders in science and engineering from universities, industry, and the government. He described the consultation at the cabinet level as follows:

During the course of our interactions on research with the departments and agencies, the President queries the Cabinet members on what they thought some of the important research questions of national interest were (pp. 12).

In other words, the state must lead the way rather than being led by the private sector as investment in and expenditure on higher education is borne by the state, particularly in the developing nations. It is said that he who pays the piper calls the tune! Governments must understand that the private sector, though interested in national development, is more concerned with minimizing operational costs and maximizing profits. In pursuit of these objectives, the private sector will encourage public investment in human capital development that they may find useful today and which may become obsolete in the future causing structural unemployment (unemployment due to lack of "fit" between skills demanded

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and skills supplied). In the final analysis, it is the state that bears the costs such as agitation for better standard of living, increase in crime wave, adult prostitution, and other social vices.

Besides, with a non-expanding economy, there will be an oversupply of graduates with the so-called industry-relevant skills leading to cyclical unemployment in the more attractive industries, given that it is easy to acquire the requisite skills. Cyclical unemployment is due to oversupply of persons with requisite skills in a given industry which results from inability of the industry to absorb all of them (Borjas, 2005). This is to say that not pursuing the so-called the "hot" subjects is not the cause of unemployment. This is because if by pursuing the "hot" subjects is the solution to structural unemployment, then that same solution will become the cause of cyclical unemployment. An illustration with Ghana's banking sector will suffice. With the influx of foreign direct investment into the banking sector, many universities responded by developing and implementing customer-driven curricula for banking and finance. Once the banking sector reaches its maturity, there will be no or little further investment leading to lack of capacity to absorb new graduates with banking and finance qualification; this will create an oversupply of graduates with such competence and will eventually lead to cyclical unemployment. In fact, this is already happening as the absorption rate of banking and finance students has declined steadily over the past five years. This, therefore, implies that unemployment in Ghana is largely the consequence of a non-expanding economy and pursuing "marketable" courses is only a short-term solution that has long-term negative consequences.

Traditionally, the approach for tackling unemployment has always blamed the supply side of labour (graduates and tertiary institutions), thereby blaming the victims (graduates) for their plight. If unemployment is due to non-expanding economy, then a possible solution may lie in simultaneously stimulating the demand for labour through investor-friendly policies, stimulating local consumption through reduced income tax (leading to increased disposal income), and encouraging regionalization and/or internationalization of Ghanaian organizations. In the case of regionalization, the state should play a facilitative role to secure the interests of Ghanaian firms. Regionalization (increased export to and establishment of subsidiaries or agencies of Ghanaian firms in the sub-region and the whole continent) will help address the excess supply of goods and services. This absorption of the surplus will continue to stimulate local production. This way there will be high demand for goods and services through both domestic and external (but largely African) demand; this will then trigger demand for labour to support increased production to meet the increasing demand. All these benefits presented here will be realized if the given industry is labour-intensive (like mechanized agriculture, assembly line jobs, textile, education and other services, etc.), majority of the firms are Ghanaian-owned, inflation can be controlled, and Ghanaian managers will reinvest profits in retooling and expansion of capacity instead of the unpopular behaviour of saving money with Euro-American banks. What do some of the Ghanaian managers fear? The possibility of political instability and political persecution! This means that the policy package (enactment of investor-friendly policies, promotion of regionalization, and reduced income tax) should go hand-in-hand with democracy and rule of law. Clearly, the policy package shows that solution to unemployment rests with the state and the private sector not with higher education institutions offering "appropriate" programmes.

Besides, evidence from research in labour economics on wage determination should provide further insight into why the state must lead the way. Labour economists have established that wage is determined by supply of labour and demand for labour. Their research also suggest that excess labour leads to low wages for the members of the profession, particularly when they possess non-transferrable competences while shortage of labour leads to high wages when there are no substitutes (Borjas, 2005).

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If the private sector leads the way in national HR needs determination, it is possible that it may lead to oversupply of labour in those sectors they believe they need more employees leading to a situation where such sectors become more attractive. This will draw more young people into those sectors thereby pushing wage levels down and as a result, worsening the quality of life of the worker.

4.0 Identification of Economic Needs: Skills-based versus Knowledge-based Approach

If the state should lead the way in determining the national economic needs, in what form should the state in consultation with the social partners identify the national needs? One gets mixed messages about this. For instance, Mr Felix Nyarko-Pong, the CEO of Unibank, when addressing the fifth congregation of Presbyterian University College appealed to universities and colleges to review their curricula to focus more on the long-term development needs of the country (Myjoyonline.com, December 2011). He said the companies were finding many young graduates inept with the needed skills and had to spend money on retraining. Mr. Nyarko-Pong is reported to have added that such lapses in university education was not healthy and also called for greater collaboration between the higher education institutions and the corporate world in identifying the needs of industry for incorporation into courses and progammes of study at the universities and colleges. In one breath, Mr. Nyarko-Pong complains about lack of skills and in another offers solution in terms of knowledge areas. Clearly, there appears to be some confusion here!

In the Oxford Dictionary of Psychology, Colman (2006) has described skill as expertise and knowledge as what is known or information. Colman (2006) further identified three classes of knowledge: declarative knowledge (knowing that), procedural knowledge (knowing how), and acquaintanceship knowledge (knowing people, places, and things). However, information must deepen understanding of the given social milieu before it becomes knowledge. Similarly, the Oxford Advanced Learner's Dictionary (2001) defines "skill" as ability to do something well and "knowledge' as information or understanding gained through education. This shows that when employers complain about skills they are referring to the inability of graduates to do something well. Yet when they prescribe solutions they talk about knowledge (familiarity of context-specific facts). In other words, if one identifies lapses in the education system in terms of skills then higher education institutions can only respond by enriching the existing curricula without introducing new courses and programmes of study. This implies the existing prrogrammes of study may remain unchanged but the instructional techniques can be modified to create opportunities for graduates to acquire and practise those so-called industry-relevant skills.

Boateng and Ofori-Sarpong (2002)'s analytical study of the labour market for tertiary graduates in Ghana is very instructive here. In their gap analysis in the labour market, they first estimated demand for labour in terms of knowledge (as defined by type of course of study) and secondly, in terms of skills (as defined by those things employers want the graduates to do well). Their findings are captured in Tables 2 and 3.

Table 2: Job Vacancies by Type of Course and Programme as at the end of the Year 2000

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Type of Course	Percent Of Advertised Jobs	Percent Distribution by Type of Program			
		Post-Graduate	Bachelor	Prof/HND & Univ. Diploma	Other or Unspecified
Management	18.9	25.2	44.8	26.9	3.1
Accounting, Finance, Banking &Insurance	15.9	15.0	40.0	37.0	8.0
Economics & Other Social Sciences	11.6	44.1	47.1	5.9	2.9
Computer Science/Informatics	8.1	16.3	55.7	7.5	20.4
Medical & Other Health Sciences	6.9	41.5	22.4	28.1	8.0
Engineering, Technical	15.8	9.1	46.2	33.8	10.9
Agric., Environment, Resource	3.3	29.4	45.8	21.1	3.7
Arts & others	19.6	9.8	13.8	26.5	49.9
TOTAL Percent (Number)	100 (3262)	20.8 (678)	37.7 (1228)	25.4 (829)	16.1 (527)

Source: Boateng and Ofori-Sarpong (2002: 15).

Table 3: Percentage of Advertised Jobs Requiring Specific Skills and Attributes from Prospective Employees by Level of Education (1995-2000)

Type of Skill/Education Level	1995	1997	1999	2000	Average 1995/2000
Jobs Requiring University Degree					
Computer and Analytical Skills	13.4	29.4	32.7	45.7	33.5
Communication Skills	0.4	11.7	21.3	38.6	20.6
Personal Attributes	1.5	18.9	32.8	41.8	27.4
Jobs Requiring Other Tertiary Cert.					
Computer and Analytical Skills	11.5	21.1	16.6	36.3	24.3
Communication Skills	-	9.3	8.5	23.1	11.4
Personal Attributes	1.6	16.7	13.3	29.0	17.2
Jobs Requiring Secondary or Lower					
Computer and Analytical Skills	14.8	26.7	23.2	25.0	23.3
Communication Skills	1.6	16.8	14.9	17.8	12.1
Personal Attributes	3.0	15.9	18.5	30.3	16.3

Source: Boateng and Ofori-Sarpong (2002: 15).

Boateng and Ofori-Sarpong's (2002) study suggests that a more useful way to identify the national human resource needs is to adopt an integrated approach. Such a comprehensive approach should also lead to recommendations that equally pay attention to skill development. Though, Boateng and Ofori-Sarpong (2002) determined demand for labour in terms of both skill and knowledge areas, they carried out the gap analysis in terms of only knowledge areas. Thus, the old mistake of complaining about skills and resolving with introduction of new programmes of study is at play here as well. It is also vital to note that such gap analysis by Boateng and Ofori-Sarpong (2002) is useful but limited. This is because if the state engages in such gap analyses it will only become present-oriented instead of future-oriented. Put another way, the gap analysis should also be based on national aspirations as well as

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future industry needs. For instance, the Graduate School of Nuclear Studies and Allied Science at Ghana Atomic Commission and University of Ghana, Legon, was not set up respond to any industrial need but in pursuant of national aspirations of joining the ranks of nuclear nations.

Another instructive methodology for needs assessment developed by Norman Dalkey and Olaf Helmer (Martinez-Pons, 2003) is the Delphi Procedure. Martinez-Pons (2003: 29) described the Delphi Procedure as a tool "designed to enable the educator to identify positions held by stakeholders regarding the goals of education". Martinez-Pons (2003: 29) described the process as follows:

- Formation of a panel of stakeholders whose positions the investigators will use as the foundation for planning.
- Elicitation of stakeholder opinions, through structured questionnaires or unstructured, open-ended focus-group interviews regarding the issues of interest.
- Development of a more focused questionnaires on the basis of the qualitative information generated Step 2.
- Use of the questionnaire developed in Step 3 to elicit more focused information from the panel.

5.0 Response to National Economic Needs

How should the state and its social partners respond to the national human resource needs that have been determined? Do we respond to the identified economic needs in terms of vocationalization of degree courses or equipping graduates with universal skills or both? Surely, we need to pay equal attention to both the so-called industry-relevant skills and courses of study (using Boateng and Ofori-Sarpong's (2002) approach). As a result of the mixed and confusing messages about what industry wants, there is often a belief that the best approach to meet the identified national human resource needs is through vocationalization of degree courses. Is there any problem with specialization at the undergraduate level? Specialization at the undergraduate level, in itself, is not bad but the dangers are that it may make the individual too narrow-minded and less competitive in a world where employers say they need employees who are multi-skilled. Specializing in computer science is not bad but it becomes a cause for concern when we further fragment the field into subfields to the extent that the subfields overlap. In discussing the shortcomings of the current undergraduate education, Stockton (September 2004) commented that:

…the fragmentation of knowledge due to overspecialization leaves the student with an abundance of information and no clue how to put it all together. He too is confused and disenchanted (pp. 2).

Watson (1987,cited in Beder, 2000) also introduced a new dimension into the debate by saying that:

In Britain, high social status, a public school education ("public" schools being the more prestigious private schools) and a non-technical degree from one of the more prestigious universities – such as Oxford or Cambridge – are better keys to top corporate jobs than a technical education, even at university level, or a postgraduate business qualification (pp. 84).

Indeed, management researchers have reported that top managers need less technical skills (Certo, 2006) rendering vocational education less suitable for preparing graduates for top corporate jobs. Unless we wish to suggest that upward social mobility should be beyond the reach of some graduates, all graduates should be made ready for top management jobs wherever they can find them. Perhaps, those who disagree with the preparation of all graduates for management positions are in agreement with William Wilberforce (1798, cited in Abrams, 1951), an inheritor of a substantial fortune made in trade, the founder of the Church Missionary Society, and an untiring advocate of abolition of slavery.

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In his book, *Practical Views of the System of Christianity*, Wilberforce (1798, cited in Abrams, 1951) argued that:

Christianity reminds the poor that their more lowly path has been allotted them by the hand of God; that it is their part faithfully to discharge its duties and contentedly to bear its inconveniences; that the present state of things is very short; that the objects about which worldly men conflict so eagerly are not worth the contest; that the peace of mind, which Religion offers indiscriminately to all ranks, affords more true satisfaction than all the expensive pleasures which are beyond the poor man's reach; that in this view the poor have the advantage, that, if their superiors enjoy more abundant comforts, they are also exposed to many temptations from which the inferior classes are happily exempted (pp. 24)

Besides, overspecialization of degree leaves graduates with fewer choices. In this case, professional and vocational degrees constitute training as they are aimed at shaping a person towards a specific end and not education because they do not aim at giving the graduates choices in life (Beder, 2000). Buckley and Caple (2004) have also differentiated between training and education. They define training as follows:

A planned and systematic effort to modify or develop knowledge/skill/attitude through learning experience, to achieve effective performance in an activity or range of activities. Its purpose, in the work situation, is to enable an individual to acquire abilities in order that he or she can perform adequately a given task or job (pp. 5).

Buckley and Caple (2004) also defined education as follows:

A process and a series of activities which aim at enabling an individual to assimilate and develop knowledge, skills, values and understanding that are not simply related to a narrow field of activity but allow a broad range of problems to be defined, analysed and solved (pp. 6).

John Dewey (quoted in Beder, 2000) has, therefore, called for a more integrated model that aims at reorganizing existing schools so as to give all students broad-based education whether they are pursuing professional programmes or receiving liberal arts education. In other words, undergraduate education should equip graduates with universal transferrable skills while gaining the specialist knowledge.

6.0 Funding of Higher Education and Research

A discussion of the role of research in knowledge creation will be presented first before a discourse on the funding of higher education and research is presented. As stated earlier, a knowledge-led model of economic development may be more relevant for Africa. However, such a model of economic development will be useful only when the knowledge produced and transferred is contextually relevant. This is to suggest that in order to make African universities partners in national development, they should produce culturally and contextually relevant knowledge. This should, therefore, place research at the centre of the activities of African universities. King and McGrath (2004) have suggested that there is danger inherent in decontextualizing knowledge through careless borrowing from other experiences. King and McGrath (2004: 5) quoted Michael Sadler, a British pioneer in comparative education, as saying that:

We cannot wander at pleasure among the educational systems of the world, like a child strolling through a garden, and pick off a flower from one bush and some leaves from another, and then expect that if we stick what we have gathered into the soil at home, we shall have a living plant.

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Does that mean we cannot borrow from Western sources of knowledge? To this question, Kwame Nkrumah, the first president of Ghana, responded appropriately in an address to the Legislative Assembly two days before the declaration of Ghana's independence:
We must seek an African view to the problems of Africa. This does not mean that western techniques and methods are not applicable to Africa. It does mean, however, that in Ghana we must look at every problem from the African point of view … Our whole educational system must be geared to producing a scientifically-technically minded people... I believe that one of the most important services which Ghana can perform for Africa is to devise a system of education based at its university level on concrete studies of the problems of the tropical world. The University will be the co-ordinating body for education research, ... Only with a population so educated can we hope to face the tremendous problems which confront any country attempting to raise the standard of life in a tropical zone (McWilliam & Kwamena-Poh, 1975:94).

Notwithstanding, the process of Africanizing educational curriculum is a long and difficult one that requires time and funding. Syllabi, teaching and learning materials, and textbooks are time consuming to develop, test, and implement. As a result, they are most appropriate when based on research into the types of conceptions and misconceptions about the socio-cultural milieu of the community. Typically, the most Africanized curricula are found at the primary school level and in non-formal education where the local language and locally relevant materials are used. However, as students move into secondary and higher education, the curricula are less Africanized and often very much like curricula found elsewhere. So whose knowledge is transferred in our higher education institutions? Are our higher education institutions places of information transfer or knowledge transfer? Definitely, information that does not contribute to understanding of our conditions of living and how to improve it is not knowledge in our context.

The inseparable link among locally relevant research, knowledge, and development has implications for higher education institutions in Ghana. It is widely acknowledged that university faculty research and its doctoral graduates constitute its research output; the research output is a useful indicator in the ranking of world universities. If Ghanaian universities produce few doctoral graduates annually and few faculty participate in research on local problems (Bailey, Cloete, & Pillay, 2012), what knowledge have we been transferring all this while? Like Sadler said, we cannot transfer knowledge based on others' experience and expect to get results in our context. This means that Ghanaian universities cannot say that they are engaged in knowledge transfer if they do not produce locally relevant materials. It is, therefore, imperative for Ghanaian universities to actively promote production of contextually-relevant knowledge through faculty and doctoral research and then use them as teaching and learning materials as well as home-grown doctoral programmes that focus on addressing local problems. There can never be a world-class university in Ghana, if none can produce at least 200 doctoral graduates annually.

If higher education research is instrumental to higher education, how do we fund knowledge transfer (higher education delivery) and research? Two principal theories have been advanced to explain the different modes of financing higher education. These are the *neo-liberal ideology of market strategy* (market orientation) and the *human capital approach*. Market orientation posits that higher education should be financed though cost-sharing in which part of the educational cost is shifted from the central government to the individual students and parents. On the other hand, the human capital approach posits that higher education should be financed through government subsidies. Given Ghana's feeble

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economy, it has been found that there has been a steady decline in government spending on higher education (Atuahene, 2006).

It is important that the state decides which approach (including an integrated approach comprising of both cost-sharing and use of government subsidies) to use to finance higher education. With regards to funding the development and implementation of educational curricula, an integrated approach is required. However, the challenge is in financing research in higher education institutions. Clearly, a cost-sharing approach will not work as researchers may not be able to raise funds individually to finance their research. Though it is true that researchers can finance their research with funds from the privates sector, doing so will mean researchers pursuing the interests of the private sector which may not have anything to do with the national interests and aspirations. As a result, there is the need for the Government of Ghana to seriously consider setting up a National Research and Science Foundation (NRSF) that will receive grant applications, screen, coordinate and supervise researches that are approved and financed by the NRSF.

The state cannot depend on foreign support to finance research because the research grants always are meant for specific research interests that may be unrelated to national aspirations and needs. The argument that poverty is still rife in Ghana and as a result funding basic research will be a misplaced priority is not tenable. This is because other emerging economies such as Brazil, China, India, and South Africa have made huge public investments in higher education research despite the poverty of their citizens. It is also proper to acknowledge the current support that government gives to post-graduate education and research through its Government Bursary and scholarship for studies abroad.

It is also important to argue here that if the private sector prefers that higher education institutions should develop graduates with the so-called industry-relevant skills, then they should be ready to support the educational process through direct and indirect financing. However, the private sector of Ghana seems eager to talk about the lapses in university education, yet their recommendations so far fall short of funding major educational projects. Of course, business organizations, through the corporate social responsibility (CSR), build, rehabilitate and furnish university libraries and computer laboratory as well as provide scholarships to individual students thereby engaging in indirect funding. What is required of the private sector, in the emerging economies in general and Ghana's in particular, is going beyond this token support to directly initiating large-scale research similar to the Hawthorne studies initiated and supported by Western Electric in the US from 1924 to 1933 or Ahmedabad Experiment initiated and financed by Calico Mills in India from 1952 to 1954 (Dwivedi, 2010). It is instructive for industry to note there cannot be innovation without research. As a result, they should support research activities. A non-financial mechanism by which industry can support research is easing access to organizational settings. If researchers are to conduct locally relevant research, then they must have access to real people in the organizational setting. Employers should also develop policy for internship to create conditions for skill development (opportunities to apply what has been learnt).

Additionally, they can establish professorial chairs in the public universities to pursue research in areas that are in line with their CSR policies and strategies. For instance, Ghana Commercial Bank (GCB) can establish a professorial chair at University of Ghana Business School and designate it "GCB Professor of Banking" or Cal Bank can establish a similar chair at University of Ghana Psychology Department and call it "Cal Bank Professor of Industrial Psychology and Management". Here, Ghana Employers' Association, Association of Ghana Industries, Ghana Trade Union Congress, and Ghana

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Federation of Labour can jointly and severally initiate research into issues of importance to them that will draw on the expertise of seasoned researchers in the various higher education institutions in the country.

Higher education institutions should also note that research should pay for itself. Shaffer and Wright (March 2010) have argued that there cannot be innovation without research but unless some of the research lead to innovations, the society will not develop the wealth that is needed to support more research. They quoted Dr. Geoffrey Nicholson, the inventor of Post-It™, as describing the relationship between research and innovation as follows:
Research is the transformation of money into knowledge. Innovation is the transformation of knowledge into money (pp.5).

This means that higher education institutions ought to conduct research to create new ideas but must also consider commercializing some of the ideas to make funding of research worthwhile.

7.0 Conclusion

This paper sought to address the question "Should Higher Education Institutions (HEIs) Serve National Economic Needs?" To address this question, Hollway's (1991) approach was adopted; this approach posits that there is no such thing as scientific knowledge in isolation from its conditions of production and reproduction and that scientific knowledge is the historical product of interests and power relations in practice. Accordingly, a number of relevant questions were posed: Who determines or should determine the national economic needs of a country: the state or the private sector? Should the national economic needs be identified in terms of skills or knowledge? Do we respond to the identified economic needs in terms of vocationalization of degree courses or equipping graduates with universal skills or both? Who funds or should fund education and research in those areas identified as national economic needs? The conclusions that can be drawn are as follows:

- The ultimate goal of higher education should be the pursuit of wisdom which requires not only learning the techniques and skills of a given trade but also getting an appreciation of the true nature of life and human conditions.
- The state should lead the way in the determination of national human resource needs in consultation with the social partners.
- The national human resource needs should be determined in terms of both skills and knowledge using the approach employed by Boateng and Ofori-Sarpong (2002). However, attempts should be made to make the process both present- and future-oriented, focusing on the national aspirations of the state. Besides, Delphi method can also be used.
- Higher education institutions should resist pressures from the private sector for further fragmentation of the university education and rather focus on providing broad-based undergraduate education that provides graduates with transferrable skills while pursuing their specializations, if any. There may not be anything wrong with the current higher education offering in Ghana so what may need to be changed will be instructional techniques and teaching and learning materials.
- Higher education should be financed through both cost-sharing and through state support. However, with regards to the financing research, Ghana needs a National Research and Science Foundation with budgetary allocation and outlined research areas that are relevant to pursuing national development and aspirations. Both higher education institutions and industry must note that there cannot be innovation without knowledge creation through research. As a result, the private sector should go beyond the token support to situation where large-scale research

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(comparable to Hawthorne studies in the U.S. and Ahemdadad experiment in India) are initiated and financed by industry, particularly by social partners such as Ghana Employers' Association, Association of Ghana Industries, Ghana Trade Union Congress, and Ghana Federation of Labour. Besides, it is high time the private sector established professorial chairs at the various public universities in Ghana. Higher education institutions should also produce locally relevant knowledge to attract more financial support. It also means that home-grown doctoral programmes that address local and regional problems should be initiated and supported by all the social partners.

Responses to the reflective questions posed above clearly show that the question" Should Higher Education Institutions (HEIs) Serve National Economic Needs?" is not straightforward in any simple sense. As a result, it requires an understanding of the dynamics of the interactions among power relations, interests, knowledge, and practice in the higher education sector as well as the economic development process of the country.

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