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The Impact of Capital and Financial Flows on Human Welfare in Sub-Saharan Africa

By Maku, Olukayode Emmanuel & Ajike, Emmanuel O.

Babcock University, Nigeria

Abstract- In the last few decades, the world has become more linked owing to the increased intensity of globalisation across regions. Sub-Saharan African (SSA) has become relatively more integrated into global economy most especially in terms of capital and financial flow (foreign direct investment increased from 0.3% in 1980-84 to 2.74% in 2000 - 2012). Over the same period, the quality of life in terms of the proportion of SSA people that have access to basic necessities improved marginally (from 49% in 1980-1990 to 53% in 2000-2012 for water, 61% in 1980-1990 to 62% in 2000-2012 for health care services).

The endogeneous growth theory provided the theoretical framework for this study. Financial flow is captured by the foreign investment while the capital flow is proxied by the Portfolio investment.

Keywords: capital flow, financial flow, foreign direct investment, portfolio investment, human welfare, human development index (HDI).

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The Impact of Capital and Financial Flows on Human Welfare in Sub-Saharan Africa

Maku, Olukayode Emmanuel [α] & Ajike, Emmanuel O. [σ]

Abstract- In the last few decades, the world has become more linked owing to the increased intensity of globalisation across regions. Sub-Saharan African (SSA) has become relatively more integrated into global economy most especially in terms of capital and financial flow (foreign direct investment increased from 0.3% in 1980-84 to 2.74% in 2000 - 2012). Over the same period, the quality of life in terms of the proportion of SSA people that have access to basic necessities improved marginally (from 49% in 1980-1990 to 53% in 2000-2012 for water, 61% in 1980-1990 to 62% in 2000-2012 for health care services).

The endogeneous growth theory provided the theoretical framework for this study. Financial flow is captured by the foreign investment while the capital flow is proxied by the Portfolio investment. The human welfare was proxied by human development index, (HDI-a composite of three indicators: life expectancy at birth, mean year of schooling and income per head), access to basic necessities such as water, sanitation and health services were also used as alternative measure of human welfare while Governance index (GI) was considered as a control variable which stimulates globalisation and human welfare. The feasible Generalised Least Square (GLS) estimator was utilised to estimate the fixed and random effect panel regression models. Hausman test was used to determine the efficient estimator between fixed and random effects. All estimated coefficients were estimated at 1% level of significance. The panel consisted of sixteen countries selected from the four regional groups in SSA.

The results revealed that foreign direct investment significantly increased HDI (0.59), infant mortality rate (-2.19), life expectancy (0.32), mean year of schooling (0.01), access to water (0.68) access to sanitation (0.27), and access to health services (0.54). The Portfolio investment was found to influence HDI access to health services and life expectancy at birth negatively but improved access to water and Sanitation significantly.

Financial and Capital channels of globalisation showed mixed effects on human welfare indicators. Hence, to maximize human welfare status of the SSA Countries via global integration (financial and capital flow), there is need for appropriate guided interaction; institutional reforms and improved quality of governance.

Keywords: capital flow, financial flow, foreign direct investment, portfolio investment, human welfare, human development index (HDI).

Author α: Department of Economics, Olabisi Onabanjo University, Ago-Iwoye, Ogun state, Nigeria. e-mail: kaymarks73@yahoo.co.uk
Author σ: P.hD.Department of Business Administration and Marketing. Babcock University, Ilisan Remo, Ogun State, Nigeria.
e-mail: emmaoghonna@gmail.com

I. Introduction

Over the last few decades, the world has become more linked owing to globalisation across all regions. The scope of this global integration in all its ramifications has turned the world to a global village. Globalisation as a process is not limited to its economic perspective, rather it has also profoundly shaped the socio-political, technological and cultural landscapes of countries and regional groups.

Globalisation has brought a lot of benefits such as helping countries and regions by adopting a number of programmes and policies aimed at deriving immense benefits accruable from the rapid and intensive global interactions and interconnections especially with respect to poverty alleviation and improvement in the well-being of the people. However, globalisation has also brought with it a variety of problems that have worsened human welfare. How the Sub-Saharan African (SSA) countries have fared in this direction remains controversial among social science scholars and policy makers.

The literature on the impact of globalisation on poverty and human welfare points to highly variable outcomes (positive and negative) as well as multiple causalities, channels and mechanisms that link globalisation with human welfare. On the one hand, are those who find that globalisation worsens well-being (Milanovic and Squire, 2005; Ravallion, 2006; Wagle, 2007; Fosu and Mold, 2008). On the other hand, some authors point to evidence of human welfare improvements arising from globalisation (Bhagwati and Srinivasan, 2002; Dollar and Kraay; 2004). Yet, some economists argue that there is no specific link between them (Sylvester, 2005 and Choi, 2006). Thus, there is no general consensus on how the integration of developing economies into the global market affects the welfare of their people.

In spite of the controversies surrounding the impact of globalisation on human welfare, evidence points to a high incidence of poverty in the era of intensive globalisation among the poor nations especially in sub-Saharan Africa. People in sub-Saharan Africa (SSA), as well as those in South Asia, are among the poorest in the world, in terms of real income, well-being status and access to social services. About 48.3 percent of the population of SSA live in poverty with an

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average life expectancy of 47 years (World Bank Report, 2011).

Since the Second World War, SSA has been relatively more integrated into the world economy, with high trade/GDP ratios (World Bank, 2006). In spite of the increasing degree of openness of the region to the global market, most of her social and human welfare indicators have recorded a downward trend (UNDP, 2008). If more openness stimulates growth, as pro-globalisation advocates claim, such integration should have led to greater sustained growth in the SSA region than in Latin America, and South and East Asia. These regions have managed to lift their people out of abject poverty, deteriorating human welfare and high income inequality, which the SSA region to a large extent, has not.

This has been blamed on lack of institutional capacity, poor assets distribution, poor governance, persistence of civil strife and diseases, as well as low technological base. All these tend to make SSA unattractive to both foreign and domestic investors. Despite the rapid changes in world trade in the past few decades, SSA is characterised by low value added exports, especially agricultural commodities and minerals, which it exchanges for manufactured goods. The enclave nature of mineral production in the region, not only accounts for the exposure of the economies to international price fluctuations and adverse effects of technological backwardness, it is also to be blamed for her current status in the global market.

The major goals of the economic reforms in the region since the 1980s have been to reduce structural vulnerability by the integration of trade and capital flows and social contacts into the world economy as well as ensure sustained growth, poverty reduction, and human welfare improvements. Despite the long period of economic reforms in SSA, the majority of the region's population are still living in abject poverty. African countries have introduced reforms in more structural matters such as market deregulation, trade liberalization and public sector restructuring, including privatization, but all have failed to keep human welfare crises in check.

Despite several various programmes and policies put in place in the past four decades such as (Structural Adjustment Programmes, (SAPs); Poverty Reduction Strategies (PRSs), Millennium Development Goals, (MDGs); Social Protection, and Pro-Poor growth programmes), the level of decline in human welfare in SSA remains very high. For example, 46.4 percent of the people in the region were living below the one dollar per day poverty line in 2004 as against 41.6 percent in 1981(Chen and Ravallion, 2004). In 2007, the World Bank poverty database put the proportion at 48 percent. Between 1975 and 2005, Africa recorded an overall decline of about 20 percent in the consumption of goods and services (UNDP Reports, 2006). Between 1980 and 2006, sub-Saharan Africa's private consumption per capita grew at an average of about 1.2 percent (UNDP, 2007). This was the worst in the world, when compared with other regions such as Latin America and the Carribbean–1.6 percent, South Asia–2 percent, East Asia and the Pacific–5.6 percent (World Bank Report, 2007).

Emanating from the above, this study aims at evaluating the impact of financial and capital flow dimension of globalisation on human welfare in the Sub-Saharan Africa between 1980 - 2012.

a) Sub-Saharan Africa and the Global Economy

The region's integration into the global market in the last half of a century has been assessed with mixed reactions. The oil crises in the early 1970s sharply reduced SSA's trade openness (measured by sum of export and imports divided by total GDP). This was probably largely as a result of policies that restrict trade and more widespread use of foreign exchange controls. Countries in the region have varied degree of factor endowments. Their socio-economic and political structures also differ as a result of the differences in their legacy of colonialism and natural resources endowment. Generally, SSA countries are richly endowed with land and labour which make both subsistence and export crop farming major sources of income. To some extent, the region has been more integrated into the global economy in the last three decades (Table 2.1 and 2.2a).

Table 2.1 compares SSA with other global regions in terms of trade openness (market integration) between 1980 and 2012, a period which marks the era of intensive globalisation, not only in SSA countries but globally. The table provides trade openness data covering the period when many SSA countries embarked on economic reforms and programmes. The table shows the general trend towards greater openness over the past three decades across all global regions (1980-2012) based on GDP weights. The trend is not uniform, either across regions or over time, and this is an important feature. At first sight, openness in SSA is higher than most other regions in almost all years shown, but this is potentially misleading because of region-specific factors (IMF, 2005). Average trade intensity has increased in Africa in line with the overall global increase, but not as rapidly as almost all other low-and middle-income regions.

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Table 2.1: Global Comparison of Trade Openness: (X+M/GDP) (US $ estimate)

	1980-84	1985-89	1990-94	1995-99	2000-12
Sub Saharan Africa	*55.4*	*53.0*	*54.8*	*60.1*	*65.3*
Latin America and Caribbean	27.3	29.2	32.0	39.3	43.4
South Asia	19.2	17.8	22.4	27.5	32.6
East Asia	29.2	36.6	50.7	59.8	73.9
East Europe and Central Asia	Na	na	59.1	67.3	73.9
Middle East and North Africa	57.6	41.5	59.7	54.0	56.9
World Total	*37.9*	*36.6*	*38.8*	*43.9*	*48.5*

Note na = not available

Source: World Bank (2013).

In spite of the increase in trade intensity, Africa's share of total world trade has fallen over the last three decades (see table 2.2b). This confirms the assertion that, relying solely on trade intensity as an indicator of trade liberalization is problematic and it is a misleading measure of globalisation because there are many factors that may influence the ratio besides liberalization policies.

Since trade openness as a measure of globalisation has shortcomings, there is the need to look at indicators such as foreign direct investment (FDI). The relative increase in growth of FDI has sometimes been used as another indicator of globalisation (Geda and Shimeless, 2005). Since the early 1990s, many developing countries have enhanced their efforts to attract foreign direct investment (FDI), and the most successful have been those engaged in exporting fuels and mining products as fast-growing exporters of manufactures (UNCTAD, 2005). Within Africa, as in any of the global regions, there is considerable variance across countries in this regard.

Table 2.2a shows at the regional level, the estimate of FDI flows (inflow and outflow combined) expressed relative to GDP and net inflow as share of total FDI received by developing countries. Since FDI is a relatively volatile measure, the table shows the estimates smoothed as five-year averages, except in 2000-2012.

The top panel (a) confirms the marked increase in FDI relative to GDP in SSA countries over the 32-year period and especially in the last twelve years. Sub-Saharan Africa in particular has done better than most other regions; increasing from 0.3% in 1980-1984 to 2.74% in 2000-2012. The same ratio based on (equal) country weights suggests a greater increase, reflecting the high ratios in some low-income countries. In terms of the regional share of FDI, the estimates are far less favourable for SSA countries.

Table 2.2 : Global comparison of Foreign Direct Investment

(a). Foreign Direct Investment: FDI (I+0/GDP).

	1980-84	1985-89	1990-94	1995-99	2000-12
Sub Saharan Africa	0.30	0.50	0.72	2.04	2.74
Latin America and Caribbean	0.83	0.75	1.17	3.26	3.16
South Asia	0.07	0.10	0.23	0.68	0.67
East Asia	0.57	0.90	2.99	3.98	3.13
East Europe and Central Asia	0.06	0.07	0.47	2.22	2.81
Middle East and North Africa	0.46	0.47	0.91	0.76	1.08
World Total	0.54	0.77	0.84	2.00	2.64

Notes: I-Inflow and 0-Out flows

Source: World Bank (2013) average annual rates

(b). Foreign Direct Investment: FDI (regional shares of total)

	1980-84	1985-89	1990-94	1995-99	2000-12
Sub Saharan Africa	0.06	0.09	0.04	0.04	0.06
Latin America and Caribbean	0.47	0.42	0.31	0.40	0.34
South Asia	0.01	0.02	0.02	0.02	0.03
East Asia	0.31	0.35	0.51	0.37	0.33
East Europe and Central Asia	0.01	0.02	0.01	0.15	.021
Middle East and North Africa	0.13	0.01	0.04	0.02	0.03

Source: World Bank (2013) average annual ratio.

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The panel (b) shows that around 6 percent of the total net FDI inflow to developing countries accrued to SSA throughout this period. The increase in the share of world FDI received by SSA countries in the 1990s did not significantly impact on Africa: Africa's share fell to 4% of the total during the period (World Bank, 2013).

II. Literature Review

a) Conceptual Review

Precise definitions of globalisation are elusive but it is usually interpreted as an increase in integration and interaction between countries manifested through an increase in the movement of commodities, labour, capital (financial and physical capital), communication, information and technology. Yashin (2002) defines globalisation as an economic revolution of the new millennium in information and communication technology (ICT). Clark (2000), Norris (2000) and Keohane and Nye (2000) define globalisation to be the process of creating networks of connections among actors at multi-continental distances, mediated through a variety of flows including people, information and ideas, capital and goods. According to KOF Swiss Economic Institute (2010), globalisation is conceptualized as a process that erodes national boundaries, integrates national economies, cultures, technologies and governance and produces complex relations of mutual interdependence.

In terms of scope and dimension of globalisation, opinion varies from one scholar to another. Hveen (2002) identifies four processes in the current globalisation which he considers analytically separate but interrelated. The first is the convergence of ideas, norms and values, the second is the propagation of industrial organization, the third is the emergence of one global market while the fourth is the erection of super national institution with a global legitimacy and reach. Musa (2000) in his own perspective, identified three basic forces driving globalisation as technology, preference and public policy while the United Nations Institute for Social Development (UNRISD) lists six key trends of globalisation as the spread of liberal democracy; the dominance of market forces; the integration of global economy; The transformation of the product system and labour market; the speed of technological change and media revolution (UNRISD, 1995).

Poverty and Human welfare are closely related concepts. Poverty is not only blessed with rich vocabulary, it is a multi-dimensional concept that has been subjected to different definitions and interpretations. There is no universally acceptable definition of poverty and there is no objective way of measuring how people are poor (Afonja and Ogwumike, 1999). However, there are three major broad concepts in poverty. These are absolute poverty (lack of resources to buy bundle of goods and services); relative poverty (which compares the welfare of those with lowest amount of resources with others in the society); and subjective poverty (which require individuals including the poor to define what they consider to be decent or minimally adequate standard of living) Afonja and Ogwumike (1999).

World Bank (1990) defines poverty as the inability to attain a minimal standard of living as well as the lack of adequate income to purchase or command the basic goods for subsistence living. Watts (1997) refers to poverty as a lack of command over basic consumption needs, in other words, there is an inadequate level of consumption giving rise to insufficient food, clothing and shelter. Generally, poverty is measured based on income or consumption level. A group of people is considered poor if their consumption or level of income falls below some minimal level necessary to meet basic needs. The minimum level is usually referred to as poverty line. The poverty line has been defined by the Poverty Guidelines and Federal References of the United Nations as the minimum level of income deemed necessary to achieve adequate standard of living.

The dictionary meaning of welfare is "satisfactory state, health and prosperity, well-being, usually of person and society". Welfare is a function of goods and services, changes in the quality and quantity of goods and services, as also how their distribution among individuals in the society, will affect the well-being of the individuals and, through them, aggregate social welfare.

Human welfare on the other hand embraces the performance of social indicators. These indicators may be positive or negative. The negative indicators include degree of hunger and malnutrition as a component of poverty, infant mortality and prevalence of child labour. While positive indicators include life expectancy at birth, access to basic social needs (sanitation, health, water, etc.), and human development index (Todaro and Smith, 2007). Hunger and under-nutrition retard education, human development, productivity and life expectancy. The inability of parents to provide children with their needs make them (the children) susceptible to child labour while infant mortality has been one of nature's cruel mechanism for keeping motherhood in great sorrow and grief. An increase in these negative indicators have the tendency to worsening the incidence of poverty.

Measurement of poverty has not only been difficult, it has equally being controversial. The monetary approach is the most commonly used. It identifies poverty with a shortfall in consumption (or income) from some poverty line. However, the approach faces the problem of how to appropriately determine the basic income level. The capability approach to the

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measurement of poverty, pioneered by Sen (1985, 1999), rejects monetary income as its measure of well-being. Hence, this study adopts the use of Human Development Index (HDI) as proxy for human welfare which is a composite of people's well-being, incidence of poverty, human development, and access to basic necessities of life. This decision is in line with evidence in the literature, e.g. Henrich, (2009).

The HDI is the value for each country's journey covered towards the maximum possible value of 1 and how far it has to go to attain certain goals: an average life span of 85 years, access to education for all decent standard of living, etc. Developed by the United Nations Development Programme (UNDP) as a composite of three dimensions-health, education and standard of living-and four indicators-life expectancy at birth, mean years of schooling, expected years of schooling, and Gross National Income per capita. In the past, the HDI dimensions weight has been seriously questioned and this serves as its short comings. However, the HDI has been reworked and assigned equal weight to all the three dimension indices (HDR, 2010). The choice of HDI in measuring human welfare in a broader scope has also been justified by Noorkbakhsh (1998), Riley (2005), Deceanq and Lungo (2009), and Maddison (2010).

b) The Globalization-Capital Flows-Growth-Human Welfare: Transmission Mechanism

One major avenue through which globalization could affect the welfare of the poor is through financial liberalization, which has increased the growth for capital to flow to developing countries (Harrison, 2006). In theory, openness to capital flows (financial globalization) could enhance human welfare state and alleviate poverty through several channels. If greater financial integration contributes to higher growth by expanding access to capital, expanding access to new technology, stimulate domestic financial sector development, reducing transaction cost, and access to international capital markets should allow countries to smooth consumption shocks, reduce consumption volatility and increase real wages through output and investment growth. Then such growth should enhance human welfare. This channel is illustrated in figure 4.

Prasad et al. (2004) begin by examining the relationship between financial integration and growth. They found that there is no clear relationship between the two. This suggests that the impact of financial integration on human welfare-via possible growth effects- is likely to be small. They also explore another link whether financial integration has smoothed or exacerbated output and consumption volatility. They pointed out that greater macroeconomic volatility probably increases human welfare deterioration, particularly when there are financial crises. Since the poor are likely to be hurt in periods of consumption volatility, real income smoothening made possible by financial integration could be beneficial to the poor.

However, Prasad et. al (2004) argued that if financial globalization is approached with the right set of complementary policies, then it is likely to be growth-promoting and also less likely to lead to higher-consumption volatility. These policies include the use of flexible exchange rate, macroeconomic stabilization policies, good governance and the development of strong institutions.

III. Methodology

The relevant theoretical framework for this study is rooted in the endogenous growth theory developed for accounting for long-term steady growth rate which is exogenously determined. The endogenous growth theory is applicable in overcoming the shortcoming that arises in building macroeconomic models out of microeconomic foundations. The theory suggests that a higher long-run rate of growth of output and improvement in social welfare can result from greater openness. This can occur either through favourable impact of openness on technological change or through expansion in the size of the market for exports thereby raising returns to innovation which enhances the country's specialization. The Solow (1956) endogenous growth model version was adopted in formulating the empirical model for this study as employed by Heinrich (2009), in order to formulate an empirical model for estimating the effects of national symbols and globalisation on the well-being of the people of 88 countries and also by Rao and Vadlamannati (2010) to investigate the precise link between globalization and growth in low-income African countries with extreme deteriorating human welfare.

The Solow (1956) endogenous growth model version was adopted for a number of reasons. Firstly, the Solow model is easy to extend and estimate compared to a variety of endogenous growth models which need complex nonlinear dynamic specifications and estimation of unobservable parameters like the inter-temporal elasticity of consumption substitution and the risk aversion rate etc. Bernanke and Gürkaynak (2002) and Greiner et al. (2004) have formulated such endogenous growth models, to estimate the permanent growth effects of variables like the saving rate and R&D expenditure, etc.

To quantify the impact of financial globalisation on the level of human welfare changes in SSA, the human development index (HDI) is used to proxy the level of human well-being as a composite measure of the poverty index and access to basic necessities of life. The HDI is preferable to per capita GDP as a broader measure of welfare changes because it measures human socio-economic development. This includes the knowledge (education) of the population (H_1), the health

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(life-expectancy) of the population (H_2), and the per capita material condition of the population (Y), as in Clark and McGillivray (2007).

Following Heinrich (2009) and Rao and Vadlamannati (2010), based on the work of Myrdal (1968), Blaug (1970), Cohn (1979), Schultz (1981), and Becker (1996), H_1 as one of the components that determine endogenous long-run steady growth rate, and H_2 are elements of the human capital (H) component of the economically-active population (N). Thus, human welfare indexed by N can be stated as

$$\left[N \cdot \ell^{HDI}\right] = \left(H_1 + H_2\right)^{\pi_1} Y^{\pi_2} \tag{1}$$

where $H = H_1 + H_2$

$$\left[N \cdot \ell^{HDI}\right] = H^{\pi_1} Y^{\pi_2} \tag{2}$$

since the key assumption of the endogenous growth model is that human capital development (*H, Y*) is subject to diminishing returns. We then hold that

$$\pi_1 + \pi_2 < 1 \tag{3}$$

in the short run, in that the rate of growth slows as diminishing returns takes effect and human well-being converges to a constant "steady-state" rate of growth that is constant returns. For the long-run steady growth, we then claim that

$$\pi_1 + \pi_2 \leq 1, \tag{4}$$

where π_1 and π_2 are weights. Moreover, Heinrich (2009) argues that basing H on the quality of labour (L) alone overestimates its importance. Also, Solow (1959) postulated that the long-run steady growth rate (alternatively and preferably measured as HDI) is exogenously determined by a set of factors. Therefore, we rather specify,

$$H = f(X) \tag{5}$$

such that we can claim,

$$H = \ell^{\phi \ln q} N \tag{6}$$

where *q* is a vector of globalisation transmission mechanism forces schematically illustrated in the previous section and attributable to N. Now from equation (2), we assume that the material conditions (Y) of growth evolve according to the Cobb-Douglas transformation as modelled by the endogenous growth theorist. This is expressed as

$$Y = (AL)^{\rho} K^{1-\rho} \tag{7}$$

where A= multi-factor productivity or technological progress, L= labour, and K= physical capital, and that L grows exogenously at the rate *n* equal to the rate of growth of output, which is noted in the Solow growth model as

$$L_{(t)} = nL_{(t)} = \ell^{nt} N, \; n \geq 0 \tag{8}$$

Then, substituting (6), (7) and (8) into (2) gives

$$\left[N \cdot \ell^{HDI}\right] = \left[\ell^{\phi \ln q} N\right]^{\pi_1} \left[(AL)^{\rho} K^{1-\rho}\right]^{\pi_2} \tag{9}$$

Simplifying,

$$\left[N \cdot \ell^{HDI}\right] = \left[\ell^{\phi \ln q} N\right]^{\pi_1} \left[\left(A\ell^{nt} N\right)^{\rho} K^{1-\rho}\right]^{\pi_2} \tag{9}$$

$$\left[N \cdot \ell^{HDI}\right] = \left[\ell^{\pi_1 \phi \ln q} N^{\pi_1}\right]\left[\left(A^{\pi_2 \rho} \ell^{\pi_2 \rho nt} N^{\pi_2 \rho}\right) K^{\pi_2 (1-\rho)}\right]$$

$$\left[N \cdot \ell^{HDI}\right] = A^{\pi_2 \rho} K^{\pi_2 (1-\rho)} \ell^{\pi_1 \phi \ln q + \pi_2 \rho nt} N^{\pi_1 + \pi_2 \rho} \tag{10}$$

Set $A^{\pi_2 \rho} = A_0, \;\; \pi_2(1-\rho) = \beta, \;\; \pi_1 \phi = \eta, \;\; \pi_2 \rho = \delta$ and $\pi_1 + \delta = 1$ to intensify the expression for estimation purposes, then

$$\left[N \cdot \ell^{HDI}\right] = A_0 K^{\beta} \ell^{\eta \ln q + \delta nt} \; N \tag{11}$$

Then, dividing equation (11) by N, gives

$$\ell^{HDI} = A_0 K^{\beta} \ell^{\eta \ln q + \delta nt} \tag{12}$$

Equation (12) represents the theoretical model for this study to investigate the effect of globalization on human welfare changes.

a) Model Specification

The model adapted for this study emanates from the theoretical formulated equation (12). From equation (12), *q* is a vector of transmission mechanism sub-channels that explains the globalisation-growth-human welfare nexus (as shown in figure 4) which are exogenously determined. We then consider trade (TRD), portfolio investment (PFI), foreign direct investment (FDI), labour migration (LBM), and information and communication technology (ICT) as trade openness, capital flow, technology and labour mobility transmission channels as noted by Nissanke and Thorbecke (2008; 2010) and used in Heinrich (2009) to proxy national symbols and global interactions. Nissanke and Thorbecke (2006) argued that transfer of

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technology and knowledge (skills and management know-how) are assumed to accompany FDI which is not necessarily automatic or guaranteed in the globalisation-growth-human welfare transmission mechanism cycle (as shown in figure 4).

However, Prasad et al. (2004) and Harrisson (2006) identified good governance as a significant factor that determines the capital flow-growth-human welfare channel. Therefore, on the basis of the foregoing arguments and objectives of this study, each of the transmission channel components, and good governance index (GGI) are taken as one of the vector *q* components that influence human welfare changes. Equation (12) is extended as

$$\ell^{HDI} = A_0 K^{\beta} \ell^{\sum \eta \ \ln(TRD, PFI, FDI, LBM, GGI) + \delta nt} \quad (13)$$

From equation (13), where *t=1, n* is proxied as population growth rate for social welfare, which is equal to the exogenous growth rate of labour, and *K* is taken as the percentage share of fixed capital formation (FCF) from GDP. We then have,

$$\ell^{HDI} = A_0 FCF^{\beta} \ell^{\sum \eta \ \ln(TRD, PFI, FDI, LBM, ICT, GGI) + \delta n} \quad (14)$$

Therefore, equation (14) forms the exponential growth model for analyzing the impact of globalisation on human welfare in SSA.

For estimation, Equation (14) is linearly specified in a panel model form to capture the cross-country and time observation by taking the natural logarithm of both sides and this leads to

$$HDI_{it} = a_{i,0} + \beta \ln FCF_{it} + \eta_1 \ln TRD_{it} + \eta_2 \ln PFI_{it} + \eta_3 \ln FDI_{it} + \eta_4 \ln LBM_{it} + \eta_5 \ln ICT_{it} + \eta_6 \ln GGI_{it} + \delta n_{it} + u_{1t} \quad (15)$$

where $a_0 = \ln A_0 = \pi_2 \rho \ln A$

b) Result Presentation and Interpretation

The fixed and random effects methods were employed in estimating the panel regression models that examine the impact of capital and financial dimensions of globalization on human welfare, other welfare measures and access to basic necessities. The estimated coefficients between the fixed and random effect models were compared using the Hausman test with the null hypothesis "random effects are uncorrelated with the explanatory variables".

The Hausman test result presented in Table 5.2 revealed that we should reject the null hypotheses for all the considered models at different (1%, 5% and 10%) significance level based on the calculated Chi-Square values. The fixed effect model was found more consistent and efficient for the purpose of this study. Also, two forms of estimated panel regression models were reported. First, the augmented theoretical model [1] that incorporates human welfare development effects of fixed capital stock (CFC), trade openness (TRD), portfolio investment (PFI), foreign direct investment (FDI), net labour migration (LBM),

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Table 5.2 : Fixed Effects Regression of Human Welfare and Transmission Channel of Capital and Financial Globalization

	Human Welfare		Other Welfare Measures						Access to Basic Necessities					
	HDI		LEI		IMR		MYS		WAT		SAN		HCS	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Constant	-7.286 (-6.79*)	-28.24 (-28.3*)	71.177 (87.58*)	61.77 (77.6*)	139.647 (47.12*)	161.36 (70.8*)	-1.112 (-54.61*)	-1.065 (-61.4*)	-76.888 (-48.65*)	-88.71 (-67.7*)	-67.229 (-62.84*)	-78.96 (-81.2*)	63.717 (46.31*)	39.91 (28.8*)
CFC	0.131 (16.51*)	0.205 (29.6*)	0.090 (16.05*)	0.155 (30.9*)	-0.826 (-28.38*)	-1.064 (-48.1*)	0.005 (27.84*)	0.005 (37.9*)	0.222 (17.25*)	0.315 (25.9*)	0.150 (27.23*)	0.080 (18.9*)	0.165 (19.36*)	0.276 (34.1*)
TRD	0.044 (15.18*)		0.043 (22.94*)		-0.099 (-11.00*)		-0.001 (-11.47*)		0.082 (16.50*)		-0.051 (-20.71*)		0.068 (22.00*)	
PFI	-0.006 (-2.01**)	-0.013 (-2.65*)	-0.014 (-8.22*)	-0.020 (-4.85*)	-0.013 (-1.39)	-0.013 (-1.475)	0.0004 (5.74*)	0.0002 (3.073*)	0.029 (4.54*)	0.026 (4.17*)	0.015 (2.57**)	0.010 (1.9***)	-0.010 (-3.84*)	-0.018 (-3.18*)
FDI	0.586 (41.99*)	0.637 (41.9*)	0.316 (31.03*)	0.348 (33.5*)	-2.192 (-41.52*)	-2.034 (-41.0*)	0.011 (28.15*)	0.007 (20.9*)	0.676 (26.83*)	0.662 (22.6*)	0.268 (22.19*)	0.273 (21.31*)	0.540 (35.35*)	0.655 (38.3*)
LBM	0.041 (4.54*)		0.009 (1.151)		0.184 (4.99*)		-0.0003 (-1.7***)		-0.056 (-5.63*)		0.123 (10.58*)		0.067 (5.62*)	
GGI	-0.037 (-33.08*)		0.004 (5.26*)		0.075 (24.68*)		-0.001 (-46.56*)		-0.088 (-48.08*)		-0.015 (-19.49*)		-0.022 (-18.01*)	
TEL	0.044 (42.35*)		0.022 (35.55*)		-0.033 (-10.66*)		0.0001 (6.252*)		0.019 (9.22*)		0.028 (15.89*)		0.045 (43.963*)	
n	0.738 (36.142*)	1.191 (63.5*)	-0.435 (-27.61*)	-0.225 (-15.0*)	-0.554 (-9.750*)	-1.052 (-24.5*)	0.028 (71.95*)	0.027 (83.8*)	2.332 (76.96*)	2.669 (110.1*)	1.824 (88.93*)	2.028 (110.8*)	-0.437 (-16.51*)	0.074 (2.86*)
Adj. R2	0.957	0.936	0.952	0.880	0.926	0.933	0.937	0.940	0.927	0.924	0.982	0.983	0.952	0.887
S.E of Reg.	3.562	3.944	3.580	3.743	14.758	15.78	0.102	0.121	7.417	8.360	4.529	4.671	5.108	5.433
F-Statistic	8112.6*	6478.9	7261.4*	3262.1	4574.4*	6223.5	5483.0*	6950.6	4673.4*	5412.9	20596.9*	25859.0	7331.7*	3498.9
Hausman Test	25.653*	8.64***	56.741*	66.09*	32.187*	20.79*	16.333**	4.673	17.683**	7.92***	22.675*	4.633	42.870*	29.37*
Obs	528	528	528	528	528	528	528	528	528	528	528	528	528	528
Cross-Section	16	16	16	16	16	16	16	16	16	16	16	16	16	16

*Note: [1]. Model 1 is the augmented theoretical model with control variables; [2]. Model 2 is the theoretical baseline model. [3]. * denotes significant at 1%; ** denotes significant at 5%.; *** denotes significant at 10%.. [4]. Absolute t-statistics are in parentheses. [5]. All regressions use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected) [6]. Hausman test is based on Chi-Square Statistic*

good governance index (GGI), telephone access (TEL), and working population growth rate (*n*). The second model [2] is the main theoretical baseline model that captures the effect of portfolio investment (PFI) and foreign direct investment (FDI) on human welfare development indicators while controlling for incorporated theoretical factors such as fixed capital stock (CFC) and economic active population growth rate (*n*).

The fixed regression results of human welfare, other welfare measures and access to basic necessities models were reported on Table 5.2. The estimated aggregated [1] and disaggregated model [2] indicated that gross fixed capital stock (CFC) (as a measure of domestic capital) and foreign direct investment (FDI) as foreign capital dimension of globalization have positive effect on the human development index (HDI), life expectancy index (LEI), mean year of adult schooling (MYS), access to improved water (WAT), sanitation (SAN), and health care services (HCS), while it exerts negative effect on infant mortality rate (IMR) in Sub-Saharan Africa (SSA) between 1980 and 2012. These effects are in agreement with the theoretical expectations and statistically significant at 1% critical level based on the reported t-statistic values.

In terms of effect size, 10% change in gross fixed capital stock (CFC) as a measure of domestic capital enhanced human development index (HDI), life expectancy index (LEI), reduction in the infant mortality rate (IMR), mean year of adult schooling (MYS), access to improved water (WAT), sanitation (SAN), and health care services (HCS) by 1.31%, 0.9%, -8.26%, 0.05%, 2.22%, 1.50%, and 1.65% for estimated theoretical augmented models [1]; and by 2.05%, 1.55%, -10.6%; 0.05%, 3.15%, 0.80%, and 2.76% for estimated theoretical baseline models [2] respectively. Also a 10% change in foreign direct investment (FDI) as capital channel of globalization improved human development index (HDI), life expectancy index (LEI), reduction in infant mortality rate (IMR), mean year of adult schooling (MYS), access to improved water (WAT), sanitation (SAN), and health care services (HCS) by 5.86%, 3.16%, -21.92%, 0.11%, 6.76%, 2.68%, and 5.40% for estimated theoretical augmented models [1]; and by 6.37%, 3.48%, -20.34%, 0.07%, 6.62%, 2.73%, and 6.55% for estimated theoretical baseline models [2] respectively.

The financial dimension of globalization, proxied by portfolio investment (PFI) was found to exert negative effect on the human development index (HDI), life expectancy index (LEI), infant mortality rate (IMR), and access to improved health care services (HCS) in the SSA sub-region for the aggregated [1] and disaggregated [2] models. These effects with the exception of infant mortality rate (IMR) in terms of signs do not conform with the a priori expectations but were statistically significant at 1% critical level. The value of estimates indicated that a 10% change increase in portfolio investment (PFI), deteriorates human development index (HDI), life expectancy index (LEI), infant mortality rate (IMR), and access to improved health care services (HCS) by 0.06%, 0.14%, 0.13%, and 0.10% for the theoretical augmented models [1]; and by 0.13%, 0.20%, 0.13%, and 0.18% for the theoretical baseline models [2] respectively.

Also, in conformity with the theoretical expected signs, portfolio investment (PFI) as a financial channel of globalization had a positive impact on mean year of adult schooling (MYS), improved access to clean water (WAT), and sanitation (SAN) in the Sub-Saharan Africa (SSA) sub-region between 1980 and 2012. These effects were found to be statistically significant at 1% critical level. In magnitude terms, a 10% change in portfolio investment (PFI) enhanced mean year of adult schooling (MYS), improved access to clean water (WAT), and sanitation (SAN) by 0.004%, 0.29%, and 0.15% for the aggregated models [1]; and by 0.002%, 0.26%, and 0.10% for the disaggregated models [2] respectively.

IV. Discussion of Findings

The positive effects do conform with the apriori expectation. It also supports the empirical findings of earlier studies such as Nlyongabo (2005), Roine, Vlachos, and Waldenstrom (2009), Shahbaz (2012), Atoyebi, Adekunjo, Edun, and Kadiri (2012), Faber and Gerritse (2012), and Kumar and Pacheco (2012). Among these studies, such as Santarelli and Figni (2002) that established that financial openness tends to be positively related to human welfare development in selected developing countries. Also, Hammoris and Kai (2004) reported that financial flow has equalizing effect on income distribution and improves human well-being in the entire SSA region. Also, these outcomes are in consonance with the result of Harrison (2006) using foreign direct investment as a measure of international capital flows of globalization.

Other studies such as Niyongabo (2005) using a panel of 102 countries that constitutes 30 Sub-Saharan Africa (SSA) between 1970 and 2000 indicated that private investment as a proxy for financial globalization has positive effect on real gross domestic product per capita growth rate. A similar finding using the same proxies was reported in a single country analysis in Nigeria by Oduh (2012). Also, from East Africa, Kumar and Pacheco (2012) reported human welfare enhancing effect of foreign direct investment as a component of globalization in Kenya. Likewise, using a long-run analysis in Pakistan, Shahbaz (2012) reported that financial openness has positive effect on real GDP per capita growth. These findings also complement the study of Roine, Vlachos, and

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Waldenstrom (2009) for a sample of 16 developing countries and also Beine, Lodigiani, and Vermeulen (2012) that employed remittance as a measure of remittance funds for welfare development for 66 developing countries.

However, some studies whose empirical outcomes refute the enhancing effect of financial globalization on human welfare development in SSA countries include Obadan and Elizabeth (2009), Yeboah, Naanwaab, Saleem, and Akuffo (2012), and Ahmed (2013). Using a GMM estimator for a panel of 21 SSA countries, Ahmed (2013) reported negative effect of financial openness on economic growth. This divergence in empirical outcomes emanates from the considered proxy for human welfare development. Although, the negative effect of financial development (via portfolio investment) effect on gross domestic product per capita growth rate as a measure of income distribution in a single country study in Nigeria such as Obadan and Elizabeth (2009) and Jalil (2012) in China that employed the Gini coefficient as a measure of income inequality complement our reported findings for Central, East and West Africa.

a) Policy Recommendations

The findings from the study discussed yields various policy implications for policy makers in Sub-Saharan Africa countries, in their attempt to reap the immense benefits emanating from global interactions and thus call for the need to harmonized reforms. This step is anticipated to improve human welfare development and enhance infrastructure accessibility, as the outcome of the empirical analysis revealed that trade openness enhances human well-being in the SSA region but with very small marginal effects in terms of magnitude it was also found to access to basic primary schooling and sanitations.

Therefore, there is need for policy makers in each SSA country to continuously increase the adoption and utilization of inclusive growth oriented trade policy tools such as moderate tariffs and non-tariff barriers to guide trade interactions with the global world especially via exports promotion strategy in order to facilitate development in human wellbeing. Also, harmonization of trade tariffs and reforms among SSA countries will further improve future multilateral trade negotiations, break down structural constraints emanating from open trade regimes and reduce restrictive trade measures such as import duties and taxes in order to enhance the capability of the people through domestic production and reduction in demand for imported goods.

Similarly, infrastructural support by the government is very imperative for globalization via information and technological flows to be effective in enhancing human welfare and improving the access of people to basic necessities. SSA countries could enhance the capability of the people and create a better enabling life for them by investing in infrastructural facilities and services such as water, sanitation, education, electricity, transportation, telecommunications, and health care services. However, for provision and accessibility of these infrastructural facilities to be more enhanced, private sector participation should be welcomed by the governments. Also following the empirical outcomes of this study, more capital inflows and off-shore portfolio investment are required to stimulate human well-being in SSA region. Infrastructural development will not only enhance local production and motivate free trade. It will also stimulate foreign direct investment which has been found to have a positive impact on human welfare development via employment generation and capacity utilization.

References Références Referencias

1. Afonja, B and F.O Ogwumike (1993): Poverty Meaning Measurement and Causes: Integrating poverty Alleviation. Strategies into Plans and Programmes 27-71.
2. Ahmad, F. (2014). Turkey: The quest for identity. Oneworld Publications.
3. Becker, G (1996): Human capital, 3rd edition. University of Chicago Press, Chicago.
4. Bhajwati, J and Srinivasan, T.N. (2002): Trade and Poverty in the poor countries, American Economic Review 92: 180-183.
5. Chen, S. and Ravallion, M. (2004). How Have the World's Poorest Fared Since the Early 1980s? World Bankl Resaerch Observer – WORLD BANK OBSERVER RES OBSERVER, 19(2), pp. 141-169.
6. Choi, C. (2006): Does foreign direct investment affect domestic income inequality? Applied Economic Letters 13: 811-814.
7. Clark, William (2000): Environmental Globalisation, in: Joseph S. Nye and John D. Donahue (eds.), *Governance in a Globalizing World*, Brookings Institution Press, Washington, D.C.: 86-108.
8. Cohen, A. (1971). Cultural strategies in the organization of trading diasporas. The development of indigenous trade and markets in West Africa, pp. 266-81.
9. Cohen, E. (1979): The Economic of Education. Cambridge, Ballinger Publishing Company.
10. Decanq K. and Lugo, M. A. (2009): Weights in Multidimensional Indices of Well-being. OPHI working paper No. 18.
11. Dollar, D and A. Kraay (2004): Trade, Growth and Poverty. Economic Journal 114: 22-49.
12. Faber, B. and Gerntse, I. (2014). "Trade Integration, Market Size, and Industrialization: Evidence from China's National Trunk Highway System". The Review of Economic Studies, rdu010.

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13. Fosu, A.K and A. Mold (2008): Gains from Trade: Implication for Labour Market Adjustment and Poverty Reduction in Africa, African Development Review/Reme Africaine de Development 20 (1). 20-48.
14. Harrison Ann (2006): Globalization and Poverty. NBER Working Paper No. 12347, June 2006. Retrieved from http://www.nber.org/papers/w12347
15. Haveen, H. (2002): Globalisation, Governance and Development: A political Economy Perspective. European Journal of Development Research 14(1): 219-43, June.
16. Haveen, H. (2002): Globalisation politics: International investments, production and trade.
17. HDR (2010): Human Development Report 2010. Oxford: Oxford University Press
18. Heckscher, E. F., and Ohlin, B.G. (1991). Heckscher-Ohlin trade theory. The MIT Press.
19. Jalil, A. (2012), modelling income inequality and openness in the framework of Kuznets curve: New evidence from China. Economic Modelling, 29(2), pp. 309-315.
20. Jones, R.W. (2000). Globalization and the theory of input trade (Vol. 8). MIT Press.
21. Keohane, Robert O. and Joseph S. Nye, (2000): Introduction, in: Joseph S. Nye and John D. Donahue (eds.), *Governance in a Globalizing World*, Brookings Institution Press, Washington, D.C.: 1-44.
22. Kumar, S. And Pacheco, G. (2012). What determines the long run growth rate in Kenya?. Journal of Policy Modeling, 34(5), pp. 705-718.
23. Maddison, A. (2010): Historical Statistics of World Economy: 1-2008 AD. Paris: Organization for Economic Cooperation and Development.
24. Milnovic, B and L. Squire (2005): Does tariff Liberalization increase wage inequality? Some Empirical Evidence. World Bank Policy Research working Paper No 3571, World Bank Washington, DC.
25. Musa, M. (2000): Factors Driving Global Economic Integration. In: Global Economic Integration: Opportunities and Challenges. Federal Reserve Bank of Kansas City Economic Review 85 (4).
26. Myrdal, G. (1968): Problem of Population Quality in Asian Drama. An inquiry into the poverty of nations Volume 3, chapter 29, pp1531-1551.
27. Nissanke, M. and E. Thorbecke (2006): Channels and Policy Debate in the Globalisation-Inequality-Poverty Nexus. World Development, Vol. 34, No. 8, pp. 1338-1360.
28. Noorkbakhsh H. (1998): The Human Development Index: Some Technical Issues and Alternative Indices. Journal of International Development 10, 589-605
29. Norris, Pippa, (2000): Global Governance and Cosmopolitan Citizens, in: Joseph S. Nye and John D. Donahue (eds.), *Governance in a Globalizing World*, Brookings Institution Press, Washington, D.C.: 155-177.
30. Obadan, M. And Elizabeth, h. (2012). "An Empirical Analysis of the Impact of Trade on Economic Growth." Journal of Economics.
31. Oduh, M. (2012). Trade Openness and Output Variability in Nigeria: Implication for EU-ACP Economic Partnership Agreement, Developing Country Studies, 2(7), pp. 73-84.
32. Prasad S., Kenneth R., Shang-Jin W., and M. A. Kose (2004): Effects of Financial Globalization on Developing Countries: Some Empirical Evidence. In. Harrison Ann (2006): Globalization and Poverty. NBER Working Paper No. 12347, June 2006. Retrieved from http://www.nber.org/papers/w12347
33. Ravallion M. (2006): Looking Beyond Averages in Trade and Poverty Debate, World Development, 34 (8): 1374-92.
34. Riley, J.C (2005): Poverty and Life Expectancy. Cambridge, UK: Cambridge University Press
35. Roine, J.,Vlachos, J. And Waldenstrom, D. (2009). The long-run determinants of inequality: What can we learn from top income data?. Journal of Public Economics, 93(7),pp. 974-988.
36. Schultz, T.W (1981): Investing in People: The Economics of Population Quality. Berkeley: University of California Press.
37. Sen, A. K. (1985): Commodities and Capabilities. Amsterdam, North-Holland.
38. Sen, A. K. (1999): Development as Freedom (DAF). Oxford, Oxford University Press.
39. Shahbaz, M. (2012). Does trade openness affect long run growth? Cointegration, causality and forecast error variance decomposition tests for Pakistan. Economic Modelling, 29(6), pp.2325-2339.
40. Siddiqui, R. And A. R. Kemal (2002): Remittances, Trade Liberalization and Poverty in Pakistan. The Role of excluded Variables in the analysis of poverty changes, DFID Project Paper.
41. Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. The Quarterly Journal of Economics, Vol. 70(1), pp. 65-94.
42. Solow, R. M. (2000). "Toward a Macroeconomics of the Medium Run," Journal of Economic Perspectives, American Economic Association, 14(1), pp. 151-158, Winter.
43. Sylvester, K (2005): Foreign Direct Investment Growth and Income Inequality in Less Developed Countries. International Review of Applied Economic 19: 289-300.
44. Todaro M. P. And S. C. Smith (2003); Economic Development. Pearson Education Inc. New York.
45. UNDP (2007): Human Development Report, New York: Oxford University Press.

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46. UNDP (2008): Human Development Report, New York: Oxford University Press.
47. UNRISD (1995): States of Disarray. The Social Effects of Globalisation. London: UNISRD.
48. Wagle, U.R. (2007): Are Economic Liberalization and Equality Compatible? Evidence from South Asia. World Development 35(11): 1836-1857.
49. Watts, H. W (1997): An Economic Definition of Poverty. In Improving Measures of Economic well being. Academic press, U.S.A
50. World Bank (1990): World Poverty Report, 1990. Washington DC, The World Bank.
51. World Bank (2006): World Development Report, 2006. Washington DC, The World Bank.
52. Yashin, Emmanuel (2002): Globalisation on Subversive to Africa's Development. Trust News Paper, Nigeria.
53. Yeboah, O. A. Naanwaab, C., Saleem, S. And Akuffo, A.S. (2012). Effects of Trade Openness on Economic Growth: The Case of African Countries. In 2012 Annual Meeting, February 4-7, 2012, Birmingham, Alabama (no. 119795). Southern Agricultural Economics Association.

Appendix A

List of Selected Countries in Ssa Regions and Criteria of Selection

CENTRAL AFRICA	
Gabon	The two countries selected in Central Africa sub-region are major oil exporters. They are all members of World Trade Organization (WTO) which means they are committed to multilateral trade liberalization. The selection mix comprises of the strongly globalized in the region (Gabon) with aggregate KOF globalization index of 48.0473 between 1970-2012 which is above the regional average; and also, the least globalized in the region (Central Africa republic) with aggregate KOF globalization index of 27.8089 between 1970-2012 which is below the regional average. The average growth rate of real GDP in the region between 1980-2008 is 2.1% while the average growth rate of the selected countries is 2.5%, in the same period (ADB, 2009).
Central Africa Republic	
Cameroon	
Rwanda	
EAST AFRICA	
Kenya	All the countries selected in the region thrive on tourism and exports of primary products, notably tea, cotton and coffee. The selection mix comprises of the relatively globalized in the region (Kenya) with aggregate KOF globalization index of 36.8172 between 1970-2012 which is above the regional average; and also, the least globalized in the region (Tanzania) with aggregate KOF globalization index of 26.9387 between 1970-2012 which is below the regional average. The selected countries has an average growth rate of real GDP as 3.1 between 1980-2008, which is very close to the average growth rate of the entire region in the four decades. All the countries experience a fiscal deficit of 2.5% to 7.5% of GDP between 1980-2008 (ADB, 2009).
Tanzania	
Mauritius	
Tanzania	
SOUTHERN AFRICA	
South Africa	The selected countries in the region are heavily reliant on exports of non-oil minerals (gold, diamonds, copper, platinum) and agricultural products. The selection mix comprises of the strongly globalized in the region (Mauritius) with aggregate KOF globalization index of 47.2209 between 1970-2012 which is above the regional average; and also, the least globalized in the region (Malawi) with aggregate KOF globalization index of 38.9133 between 1970-2012 which is below the regional average. All selected countries are member of WTO and Southern Africa Development Community (SADC), making the countries relatively open.
Malawi	
Botswana	
Mozambique	
WEST AFRICA	

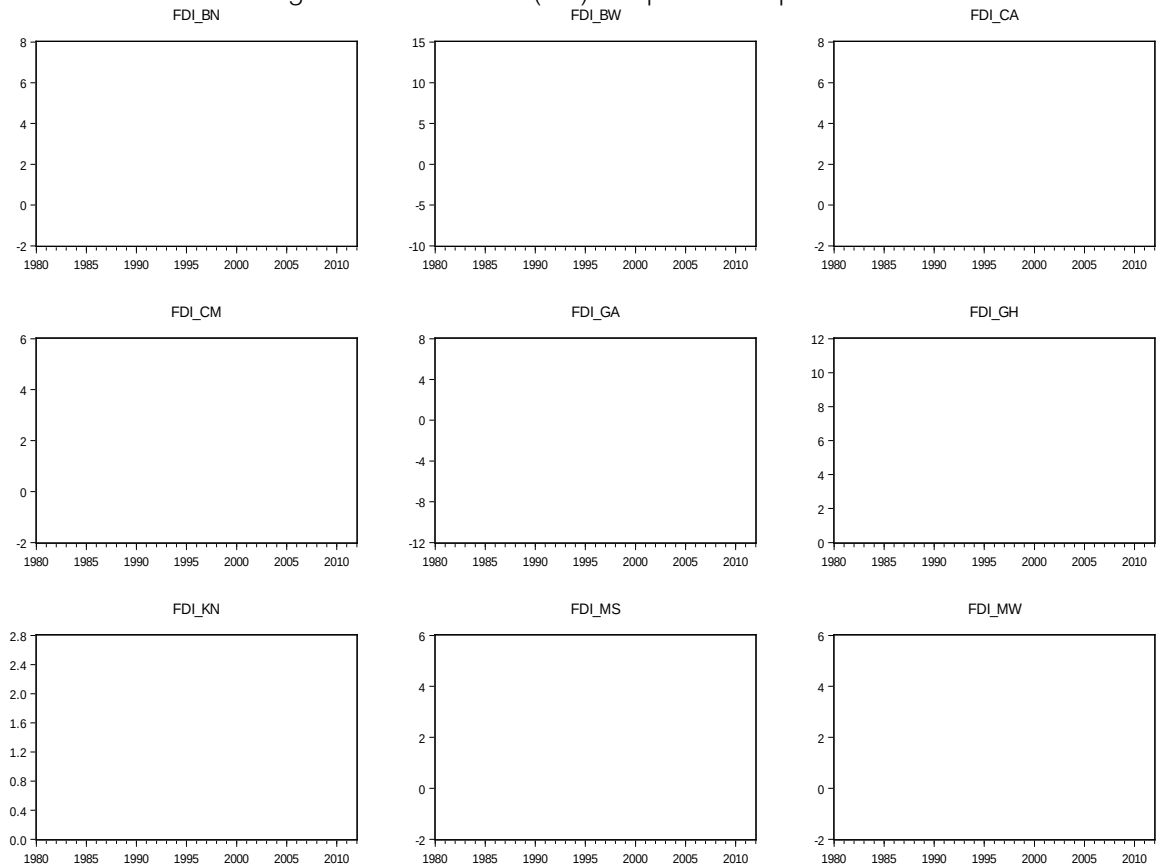
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Nigeria	The selected countries in the region comprise of one CFA countries (Benin) and one non-CFA countries (Nigeria). The selected countries are net oil importers except Nigeria. In all, there is one upper income economy (Nigeria) and one lower income economy (Benin) are selected for the study. The selection mix comprises of the strongly globalized in the region (Nigeria) with aggregate KOF globalization index of 40.7923 between 1970-2012 which is above the regional average; and also, the least globalized in the region (Benin) with aggregate KOF globalization index of 29.0580 between 1970-2012 which is below the regional average. The selected countries are member of ECOWAS, which in principle is committed to the suppression of custom duties and equivalent taxes within the region and the establishment of a common external tariff. The countries selected in the region are relatively open by the continent's (Africa) standard.
Ghana	
Benin	
Niger	

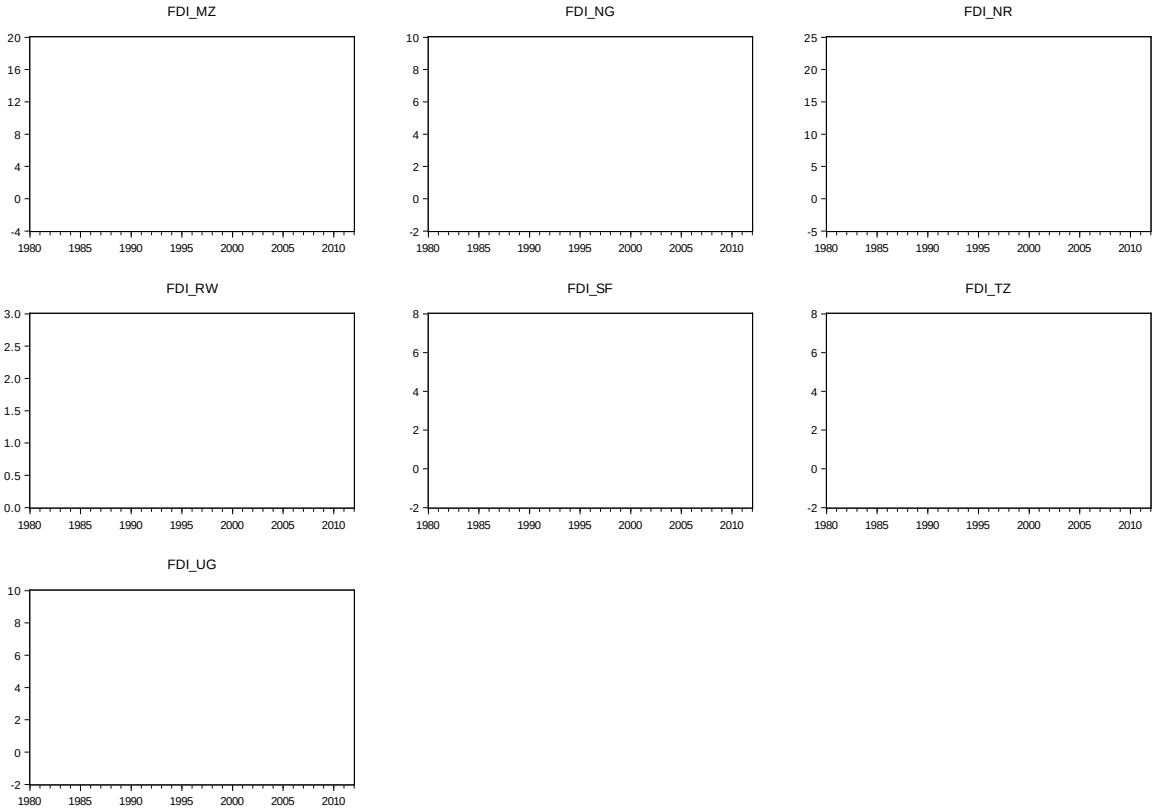
Appendix B

Time Series Plots

Trend of Foreign Direct Investment (FDI) for specific sampled countries in Africa



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Examining the Relationship between Sectoral Stock Market Indices and Sectoral Gross Domestic Product: An Empirical Evidence from India

By Pooja Joshi & A K Giri

Birla Institiute of Science and Technology, India

Abstract- This paper aims to examine the relationship between gross domestic product and Indian stock market from a sectoral perspective by using quarterly time series data from 2003:Q4 to 2014:Q4. Ng-Perron unit root test is utilized to check the order of integration of the variables. The long run relationship is examined by implementing the ARDL bounds testing approach to co-integration. VECM method is used to test the short and long run causality and variance decomposition is used to predict long run exogenous shocks of the variables. The results of the ARDL bounds test confirm the existence of a cointegrating relationship between sectoral GDP and sectoral stock price in India.

Keywords: sectoral indices, sectoral share in GDP, oil price, ARDL, VECM, VDC, india.

GJMBR - B Classification : JEL Code : C23, E44, Q43



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Examining the Relationship between Sectoral Stock Market Indices and Sectoral Gross Domestic Product: An Empirical Evidence from India

Pooja Joshi [α] & A K Giri [σ]

Abstract- This paper aims to examine the relationship between gross domestic product and Indian stock market from a sectoral perspective by using quarterly time series data from 2003:Q4 to 2014:Q4. Ng-Perron unit root test is utilized to check the order of integration of the variables. The long run relationship is examined by implementing the ARDL bounds testing approach to co-integration. VECM method is used to test the short and long run causality and variance decomposition is used to predict long run exogenous shocks of the variables. The results of the ARDL bounds test confirm the existence of a cointegrating relationship between sectoral GDP and sectoral stock price in India. The results from long-run and short-run coefficient reveals that sectoral price indices are significantly influenced by changes in the respective sectoral GDP in the long-run, whereas, crude oil price is an important factor influencing the sectoral prices in the short-run. The granger causality test demonstrates a unidirectional short-run causality running from manufacturing sector GDP to aggregate stock price index of manufacturing sector. Further, the short-run causality running from electricity, gas and water supply sector GDP to respective sector stock price index. However, unidirectional short-run causality is absent in the service sector.

Keywords: sectoral indices, sectoral share in GDP, oil price, ARDL, VECM, VDC, india.

I. Introduction

The claim that macroeconomic variables affect stock market is a well-established fact in the literature of financial economics and has been an area of intense interest among academicians, investors and stock market regulators since 1980s. Especially, in the past two decades, there has been growing efforts made by researchers to empirically estimate this relation. (Chen et al. (1986), Fama (1990, 1991), Mukherjee and Naka (1995), Nasseh and Strauss (2000), Ratanapakorn and Sharma (2007)). These studies conclude that stock prices do respond to the changes in macroeconomic fundamentals. However, a very few studies have been conducted on the relationship of macroeconomic variables and sectoral indices across the globe. Further, none of the study focused on the relationship of sectoral GDP explaining its impact on respective sectoral indices for an emerging economy like India.

It is a proved fact that aggregate GDP affects composite stock market indexes, but sometimes a change in aggregate GDP, for example, an increase in aggregate GDP cause composite index to increase, but an increase in composite index does not mean that all the sectors of the composite index or all the sectoral indices are increasing, a few of the sectors cannot perform well even if the GDP of the economy is increasing, while others can outperform the market. Further, it should also be noticed that, with the change in the GDP of a particular sector, it is not necessary that the stock market changes, but if any of the sector performs extremely well and attains a significant change in GDP than it can give a boost to the composite stock index. All these phenomena can be better understood with the help of sector wise study. Therefore, an attempt has been taken to study the impact of sectoral contribution of GDP in explaining the variation in the sectoral stock market index. Further, apart from sectoral GDP, few other macroeconomic variables are expected to influence the stock prices of a specific sector. Hence, the paper attains to identify the impact of sectoral GDP, along with certain controlled variables, on respective sectoral indices. The study uses three different sectors, viz-a-viz, manufacturing sector index, electricity, gas and water sector index and service sector index of BSE and the respective sectors of GDP are; (1) manufacturing sector share in GDP, (2) electricity, gas and water sector share in GDP and (3) service sector share in GDP. The three sectors have been chosen for the study because these three sectors are the fastest growing sectors in India. The service sector contributes maximum to the India's GDP with 57% share of GDP in 2013-14, up from 15% in 1950-51. Whereas, manufacturing sector contributes about 15.1% of India's GDP and 50% of the India's export, which shows that they are playing a

Author α: Research Scholar, Department of Economics and Finance, Birla Institute of Technology and Science (BITS), Pilani, India.
e-mail: poojajoshibits@gmail.com
Atuhor σ: Associate Professor, Department of Economics and Finance, Birla Institute of Technology and Science (BITS), Pilani, India.
e-mail: akgiri.bits@gmail.com

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significant role in Indian economy. While the electricity, gas and water supply sector is also an important part of the Indian economy from an industrial point of view, as because these are the basic Necessitiies of any of the industry to develop. This sector constitutes a small portion of India's GDP with a 2.5% share of GDP, in 2013-14, up from 0.24% in 1950-51. The three indices (manufacturing index; electricity, gas and water supply index; and service index) are taken according to the sectoral contribution in GDP. It is a general belief that all the indices should be positively affected by the respective GDP, because the increase in the GDP of a particular sector gives confidence to investors which leads to increase in the index of that particular sector.

The prime objective of this paper is to analyze the impact of a predetermined set of macroeconomic factors and sectoral GDP on different sectors of BSE. However, unlike the conventional studies, in this paper, we employ the Auto Regressive Distributed Lag (ARDL) approach to examine the cointegration and long-run stability between the sectoral BSE indices with sectoral contribution in GDP along with other controlled variables. The study also uses VECM based granger causality to check the direction of causal relationships between variables. Variance Decomposition (VDC) is also used to explore the degree of exogeneity of the variables involved in this study. For the purpose of analysis quarterly data starting from the year 2003:Q4 to 2014:Q4 are used.

The rest of the paper is organized as follows: Section 2 presents the review of empirical literature on the relationship between selected sectoral GDP along with controlled variables and sectoral stock indices. Section 3 outlines the data issues and econometric methodology used in the study; section 4 analyses the empirical results of the study, and section 5 presents the concluding remarks.

II. Literature Review

Several empirical studies have been conducted on the relationship between stock market development and economic growth with varying results while some of these studies support the positive relation between stock markets and growth, others reject it. Toda and Yamamoto (1995), Levine and Zervos (1996, 1998), Bencivenga, et al. (1996), Daferighe and Aje (2009) and Hsing (2011) found a positive link between financial development and economic growth. On the contrary, a number of studies also disagree with the view that stock markets promote growth, which includes Ram (1999), Singh (1997), Devereux and Smith (1994).

Adaramola (2011), Arodoye (2012), Fathi et al. (2012), Ray Sarbapriya (2012), Naik and Padhi (2012), Rafique et al. (2013) and Mazuruse Peter (2014) found a significant impact of exchange rate, oil prices, inflation rate, FDI, FII, Trade openness and interest and GDP on stock prices in both the short-run and long-run.

However, the literature examining the relation of macroeconomic variables on individual stock market indices is scarce. Ta and Teo (1985) observed high correlation among six Singapore sector indices in the period 1975 to 1984 and the overall SES market return. Sun and Brannman (1994) similarly found a single long-run relationship among the SES All-S Equities Industrial & Commercial, Finance, Hotel, and Property Index. Maysami et al. (2004) examined the co-movement between sectoral stock indices of the U.S. and Singapore, through examining whether the S&P 500 Electronics (Semiconductor) Price Index leads Stock Exchange of Singapore's Electronics Price Index. The results confirmed the long-term cointegration sectoral relationships. Maysami et al. (2004) examined the long-term equilibrium relationship between macroeconomics variables and the Singapore stock market index, also with the various Singapore Exchange Sector indices as an estimation model. The study showed that the Singapore stock market index and the property index have significant relationships with all macroeconomic variables identified, while the finance index and the hotel index meet significant relationships only with selected variables. Hancocks (2010) determined the effect of selected macroeconomic variables on stock market prices of the All-Share, Financial, Mining and Retail Indices. The results showed that certain macroeconomic variables had differing influences on each sector of the stock market. Impulse Response tests indicated that the selected macroeconomic variables caused a shock to the sectoral indices in the short-run. Chinzara (2011)analyzed how systematic risk emanating from the macro-economy is transmitted into stock market volatility. Aggregate stock market index and the four main sectors (Financial, industrial, mining and general retail) and macroeconomic variables were used for the study. It was found from the study that volatility transmission between the stock market and most of the macroeconomic variables and the stock market is bidirectional. Saeed (2012) examined the impact of macroeconomic variables on sectoral indices. Results revealed that only short term interest rate has a significant impact on returns of various sectors. Sharabati (2013) investigated the relationship between GDP and each stock market sector (Banks, Insurances, Services and Industries) in Amman Stock Exchange. The results suggested that among the four ASE sector only industrial sector showed a strong relationship with GDP.

Zaheer et al. (2009) analyzed the impact of macroeconomic variables on the returns of Textile and Banking sector. Observation showed that market index, few macroeconomic variables and individual industrial production played an important role in measuring the

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returns of industry as compared to the firm. Gabriel (2010) measured the impact of macroeconomic indicators on the leasing industry. The result indicated that GDP generally had a positive relationship in all significant cases. Yogaswari et al. (2012) found that the change in interest rate and inflation, giving negative impact to the stock price in the Jakarta Composite Index, agriculture sector, and basic industry sector. Zaighum (2014) studied the impact of a pre-specified set of macroeconomic factors on firm's stock returns for nine nonfinancial sectors listed in Karachi Stock Exchange. The results showed that all studied sectors firm's stock returns have a negative relationship with the consumer price index, money supply and risk free rate, whereas industrial production index and market returns indicates a positive relationship.

From the above studies we can conclude that inconsistent results were obtained with regards to which variables significantly affects Indian stock market behavior. Further, the study finds that there has been no study conducted while taking into account the effects of the sectoral GDP, along with other controlled macroeconomic variables on sectoral indices using the ARDL approach for any of the economy. Most of the past studies investigated the impact of macroeconomic factors on stock returns at the aggregate; therefore, the study attempts to fill this gap by exploring the effects of variations in sectoral GDP and other macroeconomic variables towards sectoral stock price indices in India with the help of quarterly time series data.

III. Methodology and Data Description

a) Model Specification and Data

For the study, three models are framed, in which each of the sectoral stock price indices is placed as dependent variable and Crude Oil Price, REER, T-bill rates, Trade openness and WPI along with respective sectoral GDP worked as independent variables. The models are defined as:

MANI = f (GMAN, CO, REER, TB, TRADE,WPI)…….. Model I;

EGWI = f (GEGW, CO, REER, TB, TRADE, WPI)…… Model II;

SERI = f (GSER, CO, REER, TB, TRADE, WPI)……Model III

Principal component analysis is used in this study to construct the composite index of manufacturing index; electricity, gas and water supply index; and service index. Manufacturing index has been formulated by incorporating automobile index, consumer durables index, capital goods index, metal index and fast moving consumer goods index. Electricity, gas and water supply index has been formulated by incorporating oil and gas index and power sector index. Service index has been formulated by incorporating bank index, health care index, IPO index, information technology index and Telecom, Media, and Telecommunications index. All the three aggregate indexes were formulated following the guidelines of BSE.

The following general specification has been used in this study to empirically examine the effect of sectoral GDP and other controlled macroeconomic factors on respective sectoral indices.

$$Lx = \alpha_0 + \alpha_1 y_1 + \alpha_2 y_2 + \alpha_3 y_3 + \alpha_4 y_4 + \alpha_5 y_5 + \alpha_6 y_6 + \varepsilon_t \quad \ldots\ldots (1)$$

Here, x is considered as the dependent variable (LMANI, LEGWI, and LSERI) and y_1 (LGMAN, LGEGW, LGSER), y_2 (LCO), y_3 (LREER), y_4 (LTB), y_5 (LTRADE) and y_6 (LWPI) as the independent variables.

Where LMANI= Manufacturing index, LGMAN= manufacturing sector share in GDP, LEGWI= Electricity, gas and water index, LGEGW= electricity, gas and water supply sector in GDP, LSERI= Service sector index, LGSER= service sector share in GDP, LCO = Crude oil price, LREER= Real effective exchange rate, LTB= T-bill rates taken as proxy for interest rates, LTRADE= Trade Openness, and LWPI= Wholesale price index as a proxy for inflation variable in the general model specification above. All the indexes are listed on Bombay Stock Exchange (BSE)[i]. All the variables are taken in their natural logarithm.

The Study empirically estimated the effect of sectoral GDP and controlled macroeconomic variables on respective sectoral indices with the help of above described methodology in India. The study uses quarterly data covering the period from 2003:Q4 to 2014:Q4. The data has been taken and compiled from Handbook of Statistics on Indian economy, RBI; Economic Survey, Government of India; World Bank database; Official website of SEBI and BSE India.

b) Co-integration with ARDL

To empirically analyze the dynamic relationship of stock market sectoral indices with respective sectoral GDP and macroeconomic fundamentals, the model specified in 3.1 has been estimated by the Auto Regressive Distributed Lag (ARDL) co-integration procedure developed by Pesaran et al. (2001). The procedure is adopted for four reasons. Firstly, the bounds testing is simple as opposed to other multivariate cointegration technique such as Johansen & Juselius (1990), it allows co-integrating relationship to be estimated by OLS once the lag order is selected. Secondly, the bound test procedure does not require the pre testing of the variables included in the model for unit root unlike other techniques such as Engle and Granger (1987) and Johansen & Juselius (1992). These

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approaches require that all the variables to be integrated of the same order (I(1)). Otherwise the predictive power will be lost (Kim et al., 2004; Perron, 1989, 1997). However ARDL technique is applicable irrespective of whether regressor in the model is I(0) or I(1). The procedure will, however crash in the presence of I(2) series. Thirdly, the test is relatively more efficient in small sample data sizes as is the case of this study. Fourth the error correction method integrates the short-run dynamics with long-run equilibrium without losing long-run information. The unrestricted error correction model (UECM) of ARDL model is used to examine the long-run& the short-run relationship takes the following form:

$$\Delta x = \delta_0 + \delta_1 T + \delta_2 y_{1_{t-1}} + \delta_3 y_{2_{t-1}} + \delta_4 y_{3_{t-1}} + \delta_5 y_{4_{t-1}} + \delta_6 y_{5_{t-1}} + \delta_7 y_{6_{t-1}} + \sum_{i=1}^{q} \alpha_i \Delta x_{t-i} + \sum_{i=1}^{q} \beta_i \Delta y_{1_{t-i}} + \sum_{i=1}^{q} \mu_i \Delta y_{2_{t-i}} + \sum_{i=1}^{q} \sigma_i \Delta y_{3_{t-i}} + \sum_{i=1}^{q} \omega_i \Delta y_{4_{t-i}} + \sum_{i=1}^{q} \partial_i \Delta y_{5_{t-i}} + \sum_{i=1}^{q} \varphi_i \Delta y_{6_{t-i}} + \varepsilon_t \quad \ldots (2)$$

Where the series is as defined earlier and T is time trend and L implies that the variables have been transformed in natural logs. The first part of the equation (2) with δ_2 , δ_3 , δ_4 , δ_5, δ_6 andδ_7 refer to the long-run coefficients and the second part with α, β, μ, σ, ω, ∂ and φ refers to the short-run coefficients. The null hypothesis of no co-integration $H_0: \delta_1 = \delta_2 = \delta_3 = \delta_4 = \delta_5 = \delta_6 = \delta_7 = 0$ and the alternative hypothesis $H_1: \delta_1 \neq \delta_2 \neq \delta_3 \neq \delta_4 \neq \delta_5 \neq \delta_6 \neq \delta_7 \neq 0$ implies co-integration among the series.

c) ARDL Bounds Testing Approach

The first step in the ARDL test is to estimate the equation (2) by OLS in order to test for the existence of a long-run relationship among variables by conducting an Wald test (F- statistics) for the joint significance of the coefficients of the lagged levels of variables i.e. H_0 (Null hypothesis) as against H_1 (Alternative hypothesis) as stated earlier. Then the calculated F-statistics is compared to the tabulated critical values in Pesaran (2001). If the computed F-values fall below the lower bound critical values, the null hypothesis of no cointegration cannot be rejected. Contrary, if the computed F-statistics exceeds the upper bound, then it can be concluded that the variables are co-integrated. Further, if the calculated F-statistics fall in between upper and lower bounds, the inference about co-integrating relationship is not confirmed.

The long-run and short-run dynamic relationship can be estimated on a cointegrating relationship has been established by the bounds test. The long-run co-integrating relationship can be estimated using the following specifications:

$$\Delta x = \alpha_0 + \sum_{i=1}^{q} \delta_1 x_{t-1} + \sum_{i=1}^{q} \delta_2 y_{1_{t-1}} + \sum_{i=1}^{q} \delta_3 y_{2_{t-1}} + \sum_{i=1}^{q} \delta_4 y_{3_{t-1}} + \sum_{i=1}^{q} \delta_5 y_{4_{t-1}} + \sum_{i=1}^{q} \delta_6 y_{5_{t-1}} + \sum_{i=1}^{q} \delta_7 y_{6_{t-1}} + \varepsilon_t \ldots\ldots (3)$$

All the variables used are defined in section 3.1

The third and final step, we obtain the short-run dynamic parameters by estimating an error correction model with the long-run estimates. This is specified as below:

$$\Delta x = \mu + \sum_{i=1}^{q} \alpha_i \Delta x_{t-i} + \sum_{i=1}^{q_1} \beta_i \Delta y_{1_{t-i}} + \sum_{i=1}^{q_2} \mu_i \Delta y_{2_{t-i}} + \sum_{i=1}^{q_3} \sigma_i \Delta y_{3_{t-i}} + \sum_{i=1}^{q_4} \omega_i \Delta y_{4_{t-i}} + \sum_{i=1}^{q_5} \partial_i \Delta y_{5_{t-i}} + \sum_{i=1}^{q_6} \varphi_i \Delta y_{6_{t-i}} + \phi ECM_{t-1} + \varepsilon_t \quad \ldots. (4)$$

Where $\alpha, \beta, \mu, \sigma, \omega, \partial$ and φ are short-run dynamic coefficient to equilibrium and ϕ is the speed adjustment coefficient.

d) VECM based Granger Causality Test

The direction of causality between stock market sectoral indices and respective sectoral GDP along with controlled macroeconomic indicators is investigated by applying Vector Error Correction Model (VECM) granger causality approach after confirming the presence of co-integrating relationship among the variables in the study. Granger (1969) argued that VECM is more appropriate to examine the causality between the series at I (1). VECM is restricted form of unrestricted VAR and restriction is levied on the presence of the long - run relationship between the series. The system of error correction model (ECM) uses all the series endogenously. This system allows the predicted values to explain itself both by its own lags and lags of forcing variables as well as the lags of the error correction term and by residual term. The VECM equation is modeled as follows:

$$\begin{pmatrix} \Delta x_t \\ \Delta y_{1_t} \\ \Delta y_{2_t} \\ \Delta y_{3_t} \\ \Delta y_{4_t} \\ \Delta y_{5_t} \\ \Delta y_{6_t} \end{pmatrix} = \begin{pmatrix} C1 \\ C2 \\ C3 \\ C4 \\ C5 \\ C6 \\ C7 \end{pmatrix} + \sum_{i=1}^{p} \begin{bmatrix} \beta_{11i} & \beta_{12i} & \beta_{13i} & \beta_{14i} & \beta_{15i} & \beta_{16i} & \beta_{17i} \\ \beta_{21i} & \beta_{22i} & \beta_{23i} & \beta_{24i} & \beta_{25i} & \beta_{26i} & \beta_{27i} \\ \beta_{31i} & \beta_{32i} & \beta_{33i} & \beta_{34i} & \beta_{35i} & \beta_{36i} & \beta_{37i} \\ \beta_{41i} & \beta_{42i} & \beta_{43i} & \beta_{44i} & \beta_{45i} & \beta_{46i} & \beta_{47i} \\ \beta_{51i} & \beta_{52i} & \beta_{53i} & \beta_{54i} & \beta_{55i} & \beta_{56i} & \beta_{57i} \\ \beta_{61i} & \beta_{62i} & \beta_{63i} & \beta_{64i} & \beta_{65i} & \beta_{66i} & \beta_{67i} \\ \beta_{71i} & \beta_{72i} & \beta_{73i} & \beta_{74i} & \beta_{75i} & \beta_{76i} & \beta_{77i} \end{bmatrix} \begin{pmatrix} \Delta x_{t-i} \\ \Delta y_{1_{t-i}} \\ \Delta y_{2_{t-i}} \\ \Delta y_{3_{t-i}} \\ \Delta y_{4_{t-i}} \\ \Delta y_{5_{t-i}} \\ \Delta y_{6_{t-i}} \end{pmatrix} + \begin{pmatrix} \gamma_1 \\ \gamma_2 \\ \gamma_3 \\ \gamma_4 \\ \gamma_5 \\ \gamma_6 \\ \gamma_7 \end{pmatrix} ECM_{t-1} + \begin{pmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \\ \varepsilon_{3t} \\ \varepsilon_{4t} \\ \varepsilon_{5t} \\ \varepsilon_{6t} \\ \varepsilon_{7t} \end{pmatrix} \ldots. (5)$$

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The C's, β's and γ's are the parameters to be estimated. ECM_{t-1} represents the one period lagged error-term derived from the co-integration vector and the ε's are serially independent with mean zero and finite covariance matrix. From the Equation (5) given the use of a VAR structure, all variables are treated as endogenous variables. The F test is applied here to examine the direction of any causal relationship between the variables. The LGMAN variable does not Granger cause LMANI in the short-run, if and only if all the coefficients of β12i's are not significantly different from zero in Equation (5). There are referred to as the short-run Granger causality test. The coefficients on the ECM represent how fast deviations from the long-run equilibrium are eliminated. Another channel of causality can be studied by testing the significance of ECM's. This test is referred to as the long-run causality test.

IV. Estimation Results

a) Stationarity test and Lag length selection before co-integration

Before we conduct tests for co-integration, we have to make sure that the variables under consideration are not integrated at an order higher than one. Thus, to test the integration properties of the series, we have used Ng-Perron unit root test. The results of the stationarity tests are presented in Table 1. The results show that all the variables are non-stationary at levels. The next step is to difference the variables once in order to perform stationary tests on differenced variables. The results show that after differencing the variables once, all the other variables were confirmed to be stationary. It is, therefore, worth concluding that all the variables used in this study are integrated of order one, i.e. difference stationary I(1), except for LMANI, LGMAN, LGSER and LWPI. Therefore the study uses autoregressive distributed lag (ARDL) approach to co-integration. In addition, it is also important to ascertain that the optimal lag order of the model is chosen appropriately so that the error terms of the equations are not serially correlated. Consequently, the lag order should be high enough so that the conditional ECM is not subject to over parameterization problems (Narayan, 2005; Pesaran 2001). The results of these tests are presented in Table 2. The results of Table 2 suggest that the optimal lag length is one based on SIC.

Table 1 : Unit root test: Ng-Perron Test

Variables	With constant and trend				Stationarity Status
	Mza	MZt	MSB	MPT	
LMANI	0.448	0.296	0.659	30.823	I (1)
ΔLMANI	-19.566	-3.127	0.159	1.252	
LEGWI	-0.719	-0.436	0.606	21.241	I (1)
ΔLEGWI	-20.365	-3.188	0.156	1.212	
LSERI	-0.215	-0.093	0.434	15.519	I (1)
ΔLSERI	-19.607	-3.125	0.159	1.268	
LGMAN	1.130	0.974	0.861	54.734	I (0)
ΔLGMAN	-3.362	-1.280	0.380	7.274	
LGEGW	-1.168	-0.464	0.397	12.057	I (1)
ΔLGEGW	-11.063	-2.339	0.211	2.261	
LGSER	1.757	1.549	0.881	63.651	I (0)
ΔLGSER	-1.128	-0.698	0.619	19.702	
LCO	-1.445	-0.780	0.540	15.364	I (1)
ΔLCO	-57.648	-5.265	0.091	0.669	
LREER	-5.578	-1.616	0.289	4.546	I (1)
ΔLREER	-21.008	-3.240	0.154	1.168	
LTB	-2.450	-0.899	0.367	8.926	I (1)
ΔLTB	-20.297	-3.178	0.156	1.232	
LTRADE	-3.771	-1.172	0.310	6.591	I (1)
ΔLTRADE	-21.423	-3.272	0.152	1.146	
LWPI	0.353	0.198	0.560	23.773	I (0)
ΔLWPI	-11.302	-2.374	0.210	2.179	

Source: Author's own Calculation by using E-views 8.0

Δ denotes the first difference of the series. L implies that the variables have been transformed in natural logs.

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Table 2 : Lag Order Selection Criterion

	Lag	*LogL*	*LR*	*FPE*	*AIC*	*SIC*	*HQ*
Model I	4	802.817	58.391	5.33e-21*	-29.259*	-20.775	-26.169*
Model II	4	851.626	62.032	4.92e-22*	-31.640*	-23.156	-28.550*
Model III	4	839.183	80.389*	9.03e-22*	-31.033*	-22.549	-27.943*

** indicates lag order selected by the criterion*

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

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

After determining the order of integration of all the variables in table 1, the next step is to employ an ARDL approach to co-integration in order to determine the long-run relationship among the variables. By applying, the procedure in OLS regression for the first difference part of the equation (1) and then test for the joint significance of the parameters of the lagged level variables when added to the first regression.

The F-Statistics tests the joint Null hypothesis that the coefficients of lagged level variables in the equation (1) are zero. Table 3, reports the result of the calculated F-Statistics & diagnostic tests of the estimated model. The result shows the calculated F-statistics were 9.4890, 10.3724 and 8.2299 for the model I, model II and model III respectively. Thus the calculated F-statistics turns out to be higher than the upper-bound critical value at the 5 percent level. This suggests that there is a co-integrating relationship among the variables included in the models.

Table 3 : ARDL Bounds test

Panel I: Bound testing to co-integration:

Estimated Equation Model I : *LMANI = F (LGMAN LCO LREER LTB LTRADE LWPI)*

Model II :*LEGWI= F (LGEGW LCO LREER LTB LTRADE LWPI)*

Model III :*LSERI = F (LGSER LCO LREER LTB LTRADE LWPI)*

Indicators	Model I	Model II	Model III
Optimal-lags	01	01	01
F – Statistics	9.4890	10.3724	8.2299

The second step is to estimate the long- and short-run estimates of ARDL test. The long-run results are illustrated in Table 4. The results of the model I show that the rise in LGMAN has a positive effect on LMANI. It is evident from the table that 1% increase LGMAN leads to 0.345% increase in the LMANI. This is due to the fact that with the rise in the manufacturing sector share in GDP, the expectations of investors increases, which gives a motivation to investors to invest in the shares of manufacturing sector. The investment leads to rise in manufacturing index.

The results of the model II show that the rise in LGEGW and LWPI has a positive effect on LEGWI. The coefficient of LGEGW and LWPI are statistically significant and positive at 1% level. It is evident from the table that 1% increase in LGEGW and LWPI leads to 1.043% and 0.771% increase in LEGWI, respectively. The rationale behind this explains the Fisher hypothesis (1911) for inflation. And the rise in the electricity, gas and water supply sector share in GDP gives a boost to investors' confidence to invest in the shares of electricity, gas and water supply sector.

The results of the model III show that the rise in LGSER and LTB has a positive effect on service index. The coefficient of LGSER and LTB are statistically significant and positive at 1% and 10% respectively. It is evident from the table that 1% increase in LGSER and 10% increase in LTB leads to 0.5% and 0.065% increase in the LSERI, respectively. The rationale behind this is the same as mentioned above for the rest two models for the relation of service sector share in GDP and service index.

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Table 3 : Estimated Long-run Coefficients using ARDL Approach

(Dependent variable: LMANI, LEGWI, LSERI)

ARDL(1,0,0,0)

Regressors	Model I		Model II		Model III	
	Coefficient	*t- values*	*Coefficient*	*t- values*	*Coefficient*	*t- values*
LGMAN	0.345*	3.033	-	-	-	-
LGEGW	-	-	1.043*	3.193	-	-
LGSER	-	-	-	-	0.500**	2.164
LCO	-0.032	-0.555	-0.027	-0.340	-0.117	-1.334
LREER	0.052	0.471	0.087	0.515	0.099	0.753
LTB	0.031	1.042	0.052	0.896	0.065***	1.713
LTRADE	0.116	1.606	0.052	0.603	0.134	1.504
LWPI	-0.158	-1.609	0.771*	8.434	-0.431	-1.643
CONS	-0.502	-0.560	3.411	3.538	-1.619	-0.876
Robustness Indicators						
R^2	0.972		0.995		0.974	
Adjusted R^2	0.966		0.993		0.9690	
F Statistics	157.369		636.710		169.075	
D.W. Stat	2.971		-0.802		2.297	
Serial Correlation, F	6.120 [0.190]		9.201 [0.056]		6.067 [0.194]	
Heteroskedasticity, F	0.240 [0.624]		0.008 [0.926]		0.018 [0.891]	
Ramsey reset test, F	11.464 [0.001]		1.315 [0.251]		6.109 [0.013]	

Note: (1) The lag order of the model is based on Schwarz Bayesian Criterion (SBC).

*(2) *, ** and *** indicate significant at 1, 5 and 10 percent level of significance, respectively. Values in [#] are probability values.*

The short-run relationship of the sectoral index with respective sectoral GDP along with some controlled variables is presented in Table 5. As can be seen from the table, for the model I LGMAN, LCO and LTRADE has a significant and positive impact on LMANI in the short-run at 1%, 1% and 5% level, respectively.

For the model II, unlike the long-run result, LGEGW is not significant to LEGWI in the short-run. But LCO and LREER has a significant and positive impact on the LEGWI in the short-run at 1% level. Whereas, LWPI is negatively significant to LEGWI at the 1% level.

For the model III, LGSER, LCO and LTB has a significant and positive impact on LSERI in the short-run at 1%, 1% and 10% level, respectively. Whereas, LWPI is negatively significant to LSERI at the 10% level in the short-run.

The short-run adjustment process is examined from the ECM coefficient. The coefficient lies between 0 and -1, the equilibrium is converging to the long-run equilibrium path, is responsive to any external shocks. However, if the value is positive, the equilibrium will be divergent from the reported values of ECM test. The coefficient of the lagged error-correction term (-0.333), (-0.318) and (-0.215) are significant at the 1% level of significance for the model I, model II and model III, respectively. The coefficient implies that a deviation from the equilibrium level of stock market index in the current period will be corrected by 33% for model I, 31% for model II and 21% for model III, in the next period to resort the equilibrium.

Table 4 : Estimated Short-run Coefficients using ARDL Approach

(Dependent variable: LMANI, LEGWI, LSERI)

Regressors	Model I		Model II		Model III	
	Coefficient	*t- values*	*Coefficient*	*t- values*	*Coefficient*	*t- values*
ΔLGMAN	0.115*	2.744	-	-	-	-
ΔLGEGW	-	-	-0.181	-0.708	-	-
ΔLGSER	-	-	-	-	0.107*	2.801
ΔLCO	0.047*	3.520	0.082*	2.668	0.039*	3.455
ΔLREER	0.017	0.449	0.239*	2.640	0.021	0.731
ΔLTB	0.010	1.012	0.016	1.040	0.014***	1.737
ΔLTRADE	0.038**	1.943	0.016	0.639	0.028	1.618
ΔLWPI	-0.052	-1.474	-1.354*	-3.864	-0.092***	-1.863
CONS	-0.167	-0.574	1.087	1.747	-0.348	-1.070
ECM_{t-1}	-0.333	-2.860	-0.318	-2.373	-0.215	-2.313

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	Robustness Indicators		
R^2	0.647	0.606	0.665
Adjusted R2	0.566	0.470	0.588
D.W. Stat	1.431	2.109	1.455
SE Regression	0.011	0.015	0.008
RSS	0.004	0.007	0.002
F Statistics	9.186 [0.000]	7.039 [0.000]	9.944 [0.000]

Note: (1) The lag order of the model is based on Schwarz Bayesian Criterion (SBC).

*(2) *, ** and *** indicate significant at the 1, 5 and 10 percent level of significance, respectively. Values in [#] are probability values.*

The results of table 5(a) indicate that there is causality running from LGMAN to LMANI in India, which shows that a change in manufacturing sector share in GDP causes a change in manufacturing index. It is also observed that the error correction term is statistically significant for specification with LMANI as the dependent variable which indicate that there exist a long-run causal relationship among the variables with LMANI as the dependent variable.

The results of table 5 (Model II) indicate that there is causality running from LGEGW and LWPIto LEGWI in India, which shows that a change in electricity, gas and water supply sector share in GDP and the change in inflation causes a change in electricity, gas and water index. It is also observed that the error correction term is statistically significant for specification with LEGWI as the dependent variable which indicate that there exist a long-run causal relationship among the variables with LEGWI as the dependent variable. Estimation results show a unidirectional causality running from LEGWI to LTRADE.

The results of table 5 (Model III) indicate that there is no causality running from any of the variables to LSERI in India. It is also observed that the error correction term is also not statistically significant for specification with LSERI as the dependent variable which indicate that there exist no long-run causal relationship among the variables with LSERI as the dependent variable.

Table 5 : Results of Vector Error Correction Model

Table 5(a): Results of Vector Error Correction Model (Model I)

Dependent variable	*Sources of Causation*							
	Short-run independent variables							*Long-run*
Model I	ΔLMANI	ΔLGMAN	ΔLCO	ΔLREER	ΔLTB	ΔLTRADE	ΔLWPI	$ECM_{(t-1)}$
ΔLMANI	-	-2.200**	0.126	-0.300	-0.889	0.916	-1.375	-2.724*
ΔLGMAN	-0.028	-	-0.659	0.594	-1.211	-0.208	-0.458	0.310
ΔLCO	-0.647	1.090	-	-1.132	-0.938	-0.605	-3.148*	-0.883
ΔLREER	-0.132	1.756***	-0.714	-	0.423	-1.824***	0.277	-0.832
ΔLTB	-0.787	2.010**	0.813	0.276	-	-0.072	0.365	-3.025*
ΔLTRADE	-0.136	0.407	2.357**	0.388	-1.310	-	-1.382	0.550
ΔLWPI	-0.210	-0.693	2.951*	0.113	-0.491	-1.327	-	-0.471
Model II	ΔLEGWI	ΔLGEGW	ΔLCO	ΔLREER	ΔLTB	ΔLTRADE	ΔLWPI	
ΔLEGWI	-	1.704***	0.492	0.289	0.441	1.074	-1.752***	-5.428*
ΔLGEGW	-1.594	-	-2.739*	-2.187**	-1.452	-1.470	-0.411	2.066
ΔLCO	-1.177	-0.674	-	-0.379	-0.373	0.031	-2.917*	0.170
ΔLREER	0.358	0.393	-0.645	-	-0.133	-1.499	0.242	-1.013
ΔLTB	0.914	-0.246	1.118	0.493	-	0.426	0.472	-1.827***
ΔLTRADE	-1.893***	-0.179	2.330**	1.142	0.039	-	-1.803***	1.663
ΔLWPI	-0.900	-0.420	3.013*	0.691	0.761	-0.361	-	2.147
Model III	ΔLSERI	ΔLGSR	ΔLCO	ΔLREER	ΔLTB	ΔLTRADE	ΔLWPI	
ΔLSERI	-	-0.873	0.004	0.217	-1.296	0.659	-0.444	-0.425
ΔLGSER	-0.119	-	-0.378	-0.223	-1.585	-0.043	0.584	-1.943**
ΔLCO	-0.439	-0.138	-	-1.189	-0.928	0.044	-3.051	0.757
ΔLREER	0.678	0.884	-0.579	-	0.508	-1.671	0.388	-0.205
ΔLTB	0.092	2.437**	0.198	0.646	-	-0.423	-0.602	-3.343*

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ΔLTRADE	-0.187	-0.361	2.067**	0.107	-1.402	-	-1.343	-0.032
ΔLWPI	-0.588	-1.884**	3.237*	0.208	-0.174	-0.181	-	-0.641

, ** and * indicate significant at 10, 5 and 1 percent level of significance, respectively.*

The robustness of the short-run result are investigated with the help of diagnostic and stability tests. The ARDL-VECM model passes the diagnostic against serial correlation, functional misspecification and non-normal error. The cumulative sum (CUSUM) and the cumulative sum of square (CUSUMSQ) tests have been employed in the present study to investigate the stability of a long-run and short-run parameters. The cumulative sum (CUSUM) and the cumulative sum of square (CUSUMSQ) plots (Figure 1) are between critical boundaries at 5% level of significance. This confirms the stability property of long-run and short-run parameters which have an impact on the sectoral indices in case of India. This confirms that models seem to be steady and specified appropriate.

b) Variance Decomposition (VDC) Analysis

It is pointed out by Pesaran and Shin (2001) that the variable decomposition method shows the contribution in one variable due to innovation shocks stemming in the forcing variables. The variance decomposition indicates the amount of information each variable contributes to the other variables in the autoregression. It determines how much of the forecast error variance of each of the variables can be explained by exogenous shocks to the other variables. The main advantage of this approach as it is insensitive to the ordering of the variables. The results of the VDC for all the models are presented in table 6. The empirical evidence indicates that 39.63% of LMANI change is contributed by its own innovative shocks. Further, shock in LGMANI explains manufacturing index by 26.22%. Shock in LCO also explains LMANI by 23.48%, which shows that crude oil price also plays an important role in explaining manufacturing index. The share of other variables is minimal.

The empirical evidence for model II, indicates that 35.22% of LEGWI change is contributed by its own innovative shocks. Further, shock in LGEGW explains LEGWI by 5.21%. LCO contributes the maximum to LEGW by 43.32%.

The empirical evidence for model III, indicates that 34.45% of LSERI change is contributed by its own innovative shocks. Further, shock in LGSER explains LSERI by 18.05%. LCO contributes the maximum to LSERI by 38.53%.

Table 6 : Variance Decomposition (VDC) Analysis

Period	*S.E.*	*LMANI*	*LGMAN*	*LCO*	*LREER*	*LTB*	*LTRADE*	*LWPI*
Model I								
1	0.015	100.000	0.000	0.000	0.0000	0.000	0.000	0.000
5	0.032	54.845	19.741	22.374	0.008	0.152	2.768	0.109
10	0.037	42.114	26.777	24.579	0.661	1.754	2.831	1.280
15	0.038	39.632	26.223	23.481	1.852	3.000	2.899	2.909
Model II		*LEGWI*	*LGEGW*	*LCO*	*LREER*	*LTB*	*LTRADE*	*LWPI*
1	0.013	100.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.034	47.809	7.994	34.810	2.143	1.822	5.132	0.287
10	0.043	36.389	5.477	43.123	3.235	3.626	7.956	0.191
15	0.045	35.229	5.211	43.321	3.283	3.974	8.746	0.233
Model III		*LSERI*	*LGSER*	*LCO*	*LREER*	*LTB*	*LTRADE*	*LWPI*
1	0.012	100.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.027	51.364	13.502	33.333	0.611	0.925	0.003	0.259
10	0.033	36.791	19.070	39.573	0.501	1.905	0.035	2.122
15	0.034	34.453	18.052	38.538	0.633	3.096	0.390	4.835
Cholesky Ordering: LSERI LGSER LCO LREER LTB LTRADE LWPI								

V. Conclusion

This paper aims to examine the relationship between gross domestic product and stock prices from a sectoral perspective. Precisely, an effort has been made in this paper to investigate whether sectoral GDP, i.e. Manufacturing sector, electricity, gas and water supply sector and service sector share in GDP affect respective sectoral stock indices in India or not. Towards this effort, quarterly data from 2003:Q3 to 2014:Q4 for all the variables included in the estimation has been used. The bounds test used for the study, confirms that there exists a long-run co-integrating the relationship between sectoral GDP and sectoral stock indices in India. The long-run estimates of ARDL test for model I showed that positive and significant relationship exists between the manufacturing sector share in GDP with the manufacturing index. It also confirms that the manufacturing sector share in GDP, crude oil price and trade openness have a significant and positive impact on the manufacturing index in the short-run. For model II the results show that the electricity, gas and water

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supply sector share in GDP and inflation has a positive effect on electricity, gas and water supply index, unlike short-run. Crude oil price and real effective exchange rate has a significant and positive impact on the electricity, gas and water index in the short-run. For model III, results show that the service sector share in GDP and T-bills rate has a positive effect on service sector index in the long-run and in short-run as well along with crude oil price. The results suggest that sectoral indices are affected by changes in sectoral GDP in the long-run, whereas, all the three indices are sensitive to the change in crude oil price in the short-run. The error correction model of ARDL approach reveals that the adjustment process from the short-run deviation is high. More precisely, it is found that the ECM_{t-1} term is (-0.333), (-0.318) and (-0.215). This term is significant at 1%, for the model I, model II and model III, respectively, again confirming the existence of cointegration that the derivation from the long-run equilibrium path is corrected 33%, 31% and 21%, respectively, per Quarter.

To determine the direction of causality VECM is used in the study and the result found unidirectional short-run causality running from sectoral GDP, crude oil price, REER, T-bill rates, trade openness and WPI to respective sectoral stock indices in India. Further, the result indicates the presence of long-run causality for the equation with manufacturing index and electricity, gas and water supply index as the dependent variable, but, except for the service sector index which shows no long-run causality running from any of the independent variables. The CUSUM and CUSUMSQ test results suggest the policy changes considering the explanatory variables of the sectoral stock indices equations will not cause major distortions in India. To predict the long-run and short-run shocks variance decomposition is used for the study, the result of VDC analysis, for all three models, show that a major percentage of sectoral indices are its own innovative shocks. Other than the respective sectoral GDP, crude oil price is a common variable which is playing a crucial role in explaining all three indices by contributing its maximum towards the shock, hence, reflecting maximum information about the movement of the indices.

Sectoral analysis is a better approach for both investors as well as regulators. In a sectoral study the impact of macroeconomic factors is studied on various sectors. The performance of different sectors in same economic conditions is different. This gives an idea of risk diversification to investors and enables them to design well diversified portfolios. The relationship of sectoral GDP with respective sectoral indices is a matter of interest to investors, institutions, researchers and policy makers.

For the purpose of comparison, our paper used the same set of macroeconomic variables to test for the relationships on the Sector indices. It may be useful for future studies to include other economic variables that might affect each sector specifically. It is also recommended to work out for research that compares results with other developing countries' under similar assessment and measurement.

References Références Referencias

1. Adaramola (2011). The impact of macroeconomic indicators on stock prices in Nigeria. *Developing Country Studies*, 1,1–14.
2. Alam & Uddin (2009). Relationship between interest rate and stock price: empirical evidence from developed and developing countries. *International journal of business and management*, 4, 43-51.
3. Arodoye, Nosakhare Liberty (2012). An econometric analysis of the impact of macroeconomic variables on stock prices in Nigeria: a Vector Autoregressive (VAR) model approach. *International Review of Business and Social Sciences*, 1, 63-77.
4. Basher et al. (2012). Oil prices, exchange rates and emerging stock markets. *Energy Economics*, 34, 227-240.
5. Bencivenga et al. (1996). Equity markets, transaction costs and capital accumulation: An illustration. *World Bank Economic Review*, 10, 241–265.
6. Carlstrom et al. (2002). Stock Prices and Output Growth: An Examination of the Credit Channel. Federal Reserve Bank of Cleveland (2002) August 15
7. Chen et al. (1986). Economic forces and the stock market. *Journal of Business*, 59, 383-403.
8. Chinzara (2011). Macroeconomic uncertainty and conditional stock market volatility in South Africa*.*South African Journal of Economics*, 79, 27-49
9. Daferighe, E.E., Aje, S.O. (2009). An impact analysis of real gross domestic product, inflation and interest rate on stock prices of quoted companies in Nigeria. *International Research Journal of Finance and Economics,* 25, 53 - 63.
10. Devereux and Smith(1994). International risk sharing and economic growth. *International Economic Review*, 35, 535 - 550.
11. Fama(1990). Stock returns, expected returns, and real activity. *The Journal of Finance,*45, 1089–1108.
12. Fama (1991). Efficient capital markets: II. *The Journal of Finance,*46, 1575–1617.
13. Fama (1981). Stock returns, real activity, inflation and money. *American Economic Review*, 71, 545-565.
14. Fathi, Saeed et al. (2012). Examining the Effect of Selective Macroeconomic Variables on the Stock Exchange's Depth and Breadth (Case Study: Tehran Stock Exchange).*International Journal of Economics and Finance*, 4, 97-104.

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15. Gabriel (2010). Measuring the Impact of Macroeconomic Indicators On the leasing Industry. *Economic Thesis,* pp. 1-65.
16. Hancocks (2011). An Analysis of the Influence of Domestic Macroeconomic Variables on the Performance of South African Stock Market Sectoral Indices. Doctoral dissertation, Rhodes University
17. Jones & Kaul (1996). Oil and the stock markets. The journal of Finance, 51, 463–491.
18. Levine & Zervos (1996). Stock market development and long-run growth. *World Bank Economic Review*, 10, 323–339.
19. Levineand Zervos (1998). Stock markets, banks and economic growth. *The American Economic Review*, 88, 537-558.
20. Maysami et al. (2004). Relationship between macroeconomic variables and stock market indices: Cointegration evidence from stock exchange of Singapore's All-S sector indices. *Jurnal Pengurusan*, 24, 47-77.
21. Maysami, Loo & Koh (2004). Co-movement among sectoral stock market indices and cointegration among dually listed companies. *Jurnal Pengurusan,* 23, 33-52.
22. Mazuruse, P. (2014). Canonical correlation analysis: Macroeconomic variables versus stock returns. *Journal of Financial Economic Policy*,6, 179-196.
23. Miller & Ratti(2009). Crude oil and stock markets: Stability, instability, and bubbles. *Energy Economics*,31, 559-568.
24. Mukherjee and Naka (1995). Dynamic relations between macroeconomic variables and the Japanese stock market: An application of a vector error correction model. *Journal of Financial Research*, 18, 223-237.
25. Naikand Padhi(2012). The Impact of Macroeconomic Fundamentals on Stock Prices Revisited: Evidence from Indian Data. *Eurasian Journal of Business and Economics,* 5, 25-44.
26. Nassehand Strauss (2000). Stock prices and domestic and international macroeconomic activity: a cointegration approach. *Quarterly Review of Economics and Finance*, 40, 229-45.
27. Nishat and Shaheen (2004). Macroeconomic Factors and Pakistani Equity Market.*The Pakistan Development Review*, 43, 619-637.
28. Nurudeen, Abu (2009). Does stock market development raise economic growth? Evidence from Nigeria. *The Review of Finance and Banking*, 1, 15-26.
29. Rafique, et al. (2013). Impact of Macroeconomic Variables on Stock Market Index (A Case of Pakistan).*Elixir Finance Management*, 57, 14099-14104.
30. Rahman, et al. (2009). Macroeconomic Determinants of Malaysian Stock Market. *African Journal of Business Management*, 3, 95-106.
31. Ram (1999). Financial development and economic growth: additional evidence. *Journal of Development Studies*, 35, 164–174.
32. Ratanapakornand Sharma (2007). Dynamics analysis between the US Stock Return and the Macroeconomics Variables. *Applied Financial Economics*, 17, 369-377.
33. Ray (2012). Testing Granger Causal Relationship between Macroeconomic Variables and Stock Price Behaviour: Evidence from India. *Advances in Applied Economics and Finance*, 3,470-481.
34. Raza et al. (2012). Foreign capital inflows, economic growth and stock market capitalization in Asian countries: an ARDL bounds testing approach. *Qual Quant*, DOI: 10.1007/s11135-012-9774-4.
35. Saeed, S. (2012). Impact of Macro Economic Factors on the returns of Oil and Gas Sector in Pakistan. *International Journal of Contemporary Business Studies*, 3, 15-25.
36. Sahu et al. (2014). An empirical study on the dynamic relationship between oil prices and Indian stock market. *Managerial Finance*,40, 200-215.
37. Sharabati (2013). The Relationship between Amman Stock Exchange (ASE) Market and Real Gross Domestic Product (GDP). *European Journal of Business and Management*, 5, 51-63.
38. Singh (1997). Financial liberalization, stock markets and economic development. *The Economic Journal,*107,771–782.
39. Sun & Brannman (1994). Cointegration and co-movement of SES sector prices indices. *Working Paper Series, pp.* 12-94.
40. Ta & Teo (1985). Portfolio diversification across industry sectors. *Securities Industry Review,* 11, 33-39.
41. Toda and Yamamoto (1995). Statistical Inference in Vector Auto regressions with Possibly Integrated processes. *Journal of Econometrics*, 66, 225-250.
42. Yogaswari et al. (2012). The Effect of Macroeconomic Variables on Stock Price Volatility: Evidence from Jakarta Composite Index, Agriculture, and Basic Industry Sectors. *International Proceedings of Economics Development and Research*, 46, 96-100.
43. Yu Hsing, Michael Budden (2012), Macroeconomic Determinants of the Stock Market Index for a Major Latin American Country and Policy Implications. *Business and Economic Research*, 2, 1-10.
44. Zaheer (2009). Economic Forces and Stock Market Returns: A Cross Sectoral Study testing Multi Factor Model.*World Applied Sciences*, 9, 922-982.

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45. Zaighum (2014). Impact of Macroeconomic Factors on Non-financial firms' Stock Returns: Evidence from Sectorial Study of KSE-100 Index. *Journal of Management Science,* 1, 35-48.

[i]National Stock Exchange (NSE) sectoral indices are not incorporated in the study due to unavailability of sectoral data.

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U.S. - Arab Trade and Investment Relations (2010 - 2014): An Analytical View

By Dr. Ghassan F. Hanna

Southern New Hampshire University, United States

Abstract- Trade and investment are vital to economic growth and markets' integration. A study was conducted to assess U.S. - Arab trade and investment relations and the impact of Free Trade Agreements on the economic development in the Arab world. The qualitative research utilized publically available trade and investment data for years 2010 -2014. U.S. exports to the 22 Arab countries for Year 2014 amounted to $71.4 billion and accounted for 4.4% of total U.S. exports to the rest of the world which stood at $1.6 trillion. U.S. imports (mostly oil and gas) from the Arab countries stood at $88.2 billion and amounted to 3.7% of total U.S. imports from rest of the world. The six Gulf Cooperation Council countries accounted for 70.4% of total U.S. exports to Arab countries and 74.8% of its total imports. Free trade agreements had limited impact on economic cooperation between United States and Arab countries. All signatories were among U.S. small Arab trading partners.

Keywords: trade, foreign direct investment, U.S. economy, arab economy, free trade agreement.

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I. Introduction

With 714 billion barrels, the Arab World sits on 43% of world's total proven oil reserves and produces one third of world oil supply (Fattouh & El-Katiri, 2012). The so-called Arab Spring proved the region to be rife with violent internal ethnic and religious conflicts causing tremendous damages to the economies of several Arab states and some even threatening their very existence. Still, the Middle East plays an increasingly central stage in the geostrategic areas of international politics. Despite playing that pivotal role, its economic performance lags behind other regions in the world and its potential as strong partner in trade relations is yet to be fulfilled.

Arab economies have lower performance than other regions in the world in terms of living standards, economic diversification, and employment. Limited integration with global economy is frequently cited as a hindrance to its economic development. The expansion of trade across the world, in recent years, has created new jobs, improved earnings, and helped spread new knowledge and technology.

The oil revenues earned by natural-resource-rich Arab countries have been poorly utilized and development of manufacturing sector of the economy was not seriously pursued. Oil producing countries were prime examples of "resource curse" where oil revenues deterred rather than aided economic development as well as exacerbated corruption and inequality. In a speech delivered in May 2011 addressing events in the Middle East and North Africa and the launching of his administration's Trade and Investment Partnership Initiative in the Middle East and North Africa, President Obama (2011) illustrated the economic performance of the region by stating "If you take out oil exports, this entire region of over 400 million people exports roughly the same amount as Switzerland".

Recently, several oil-rich Gulf countries have actively pursued diversification of their economies in the hope of developing local industries and expanding employment opportunities.

Arab countries have not met the challenge of creating employment for their growing labor forces due to weak regulatory environment and the poor governance institutions of Arab states (Lawrence, 2006a). Arab trade with other countries of the world is limited to mainly oil exports and imports of manufactured goods. Arab administrative regimes for conducting business and cross borders trade are extremely burdensome impeding both private sector entrepreneurship and foreign investors. They persisted because they generate benefit for those who know how to work within the system and those who are granted benefits by the system. Changing those regulatory regimes will result in a new set of winners and losers, and therefore has major political implications. This in turn led to the recycling of non-democratic political regimes that have stifled innovation and economic competition leading to the current state of weak economies.

The weak Arab integration in the global economy and its small industrial sector had the effect of weak educational systems that have not been able to equip the students with the hands-on skills demanded by the competitive global environment. The inability (or refusal by some) to find a peaceful solution to the Arab-Israeli conflict, in addition to the newly stirred Sunni-Shia sectarian quarrel, has resulted in the diversion of large sums of funds to the defense budget. This had the effect of weak spending, if any, on infrastructure projects. The other important factor preventing the Arab region from fully realizing its economic potential is the low proportion women constitute of the labor force.

Trade and investment between the United States and Arab region is relatively limited. United States

Author: Adjunct Faculty, Southern New Hampshire University.
e-mail: ghanna@islbci.com

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trade with Arab countries accounts for 4% of total U.S. trade and 1% of U.S. foreign direct investment (FDI) outflows in 2011 (Akhtar, Bolle, & Nelson, 2013). The Arab region biggest trading partner is the European Union (EU) followed by Japan, with United State ranking third place (Akhtar et al., 2013). Trade between the United States and Arab countries consists mostly of exchanging crude oil for manufactured goods.

Since the 1980s, the United States sought stronger trade agenda in the Arab region through bilateral relations as well as the promotion of regional trade integration not just for its economic values, but also for its potential political gains in fostering more stable political environments. In fostering growth and development through trade, the United States argued that increasing economic welfare will promote domestic reforms that are central to America's fight against terrorism and extremist sentiments threatening its own security. The events of 9/11 highlight the impact of Arab issues on U.S. security. Actually, the 9/11 Commission stated in its report that ""a comprehensive U.S. strategy to counter terrorism should include economic policies that encourage development, more open societies, and opportunities for people to improve the lives of their families and to enhance prospects for their children's future" (9/11 Commission, 2004, p. 379).

Reinvigorated by events of 9/11 and continuing its previous policy of economic engagement in the Arab region, the United States sought the establishment of free trade agreements (FTAs) with Arab countries. Free trade is based on Adam Smith and David Ricardo notions of comparative advantage where countries that produce certain products more efficiently than others have a comparative advantage and can trade those products to other countries in exchange for goods that other countries have a comparative advantage in producing (Malkawi, 2010). In real life, economists agree that free trade is rare. Various domestic import-competing industries will seek protectionism and state institutions will set their own regulations impacting open trade policy. Trade between economically advanced country and least developed ones, like Arab countries, is usually part of a bigger geostrategic political agenda of the advanced nation.

The main aspects of a typical FTA include market access in goods, general services including financial and telecommunications, investment, government procurement, intellectual property rights, labor and environmental standards, and competition policy (Mohamadieh, 2006). The United States has signed and entered into FTAs with 20 different countries and in 2014, 47 percent of its export goods, totaling $765 billion, went to FTA partner countries (U.S. International Trade Administration, n.d.). All FTAs negotiated by the United States were based on a standard template of the type of agreement the US Congress will agree on. Signing FTAs based on multiple variations of the template would have encouraged different countries to seek similar customized items complicating negotiation process and possibly overwhelming U.S. compliance agencies.

Whether due to influence of foreign powers or the acts of competing regional leaders, the economic integration of Arab countries has proven to be an extremely difficult task. This led to United States seeking bilateral trade agreements with the right Arab candidates in terms of economics and politics. Economically, the U.S. exports to those countries will increase, while imports will not threaten U.S. industries. Politically, the FTAs reflect the friendly relations between the partners as well as U.S. appreciation of the support and cooperation of those countries in its fight against terrorism.

In 2003, President Bush proposed the creation of a free trade area between the United States and Middle Eastern countries, named MEFTA (Matthijs, 2007). The Bush Administration planned to negotiate bilateral trade agreement with certain Arab countries with the aim of "combining these into a single overarching arrangement between the U.S. and the Middle East region as a whole" (Lawrence, 2006a, p. 21). The Bush Administration moved then to negotiate FTAs with Morocco, Bahrain, Oman, and the United Arab Emirates (UAE). This was in addition to its earlier signed agreements with Jordan and Israel (extended to cover West Bank and Gaza as beneficiaries of the FTA). The United States FTA agreements with Morocco and Bahrain went into effect in 2006, and that with Oman entered into force in 2009 (Office of the United States Trade Representative, n.d. a). The FTA with Jordan has been in force since 2001 and went thru a gradual elimination of tariffs on all industrial and agricultural products and was fully implemented in 2010. It should be noted that those bilateral agreement would not have been achieved if the United States have chosen the top-down approach of MEFTA, due to the fact that collective negotiations usually stall due to actions of some countries in foot-dragging. Universal Arab participation would most certainly not conclude with those far reaching agreements with Morocco, Bahrain, Oman, and Jordan. From the US standpoint, choosing bilateral bottom-up approach places the United States in a stronger bargaining position than negotiating with a coalition of Arab states. It allows it to choose the sequence with which it negotiates and to place pressures on late comers as well as to use FTAs as a reward for countries that are willing to work closely with the United States. As conditions emerge towards negotiating a MEFTA, Arab countries might find it easier to coordinate their positions and possibly strike a better FTA deal with the United States than the ones afforded by bilateral agreements.

By first negotiating bilateral agreements with countries that were most able and willing to engage, the

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US hoped to use MEFTA to liberalize bilateral trade with the region, facilitate domestic reform, and build mutual trust between the Arab countries to encourage regional economic cooperation (Yousef, 2004). With economic growth comes enhanced political stability and improved conditions for a peaceful resolution of the Arab-Israeli conflict leading to reduced security risks and alleviated Islamic fanatical sentiments in the region. The U.S. also hoped to use those FTAs to improve its trading position in the Arab region vis-à-vis the European Union (EU) which has its own set of FTAs and other trade agreements with Arab countries. The geographic proximity of Europe to the Arab region clearly gives it an advantage over distant America. Add to that, the European Union's political attachments to those FTA are less demanding than those signed with United States.

For Arab countries, FTAs with United States provide economic advantages such as increased trade and investment. FTAs offer preferential access of Arab goods to the large US market resulting in increased exports and investment by foreign and local firms. FTAs with United States could improve trading of Arab countries with other partners. Arab countries with similar FTAs with United States would have already gone through the required economic liberalization demanded by the US, and as such would have already established the bases for closer regional economic integration. This could lead to the aspired MEFTA the United States is seeking which would spur Arab countries to launch a regional integration among the willing and able. Finally, to sign an FTA with United States would require taking steps to liberalize the economy which, hopefully, could lead to the much sought out domestic political reforms (Lawrence, 2006b).

While MEFTA was presented as a regional initiative by the United States, the current FTA negotiation with the Gulf Cooperation Council (GCC) points to difficulties that had each of Bahrain and Oman sign their own FTAs with the United States in a clear breach of GCC policies. The UAE is currently at an advanced stage of concluding its own FTA, again in a breach of GCC policy. This could be a precursor that a single MEFTA would be difficult to conclude and the end result could be a deeper economic integration among reformer Arab states.

In addition to FTAs, the United States has used other tools of trade diplomacy to engage Arab countries, such as Trade and Investment Framework Agreement (TIFA) and Qualified Industrial Zones (QIZ) agreements. TIFAs are typically the first step with Arab countries towards free trade agreements. TIFA is a consultative mechanism used by the United States to discuss trade and investment issues with another country, and due to its consultative nature is a non binding agreement. The U.S. has signed TIFAs with Algeria, Bahrain, Egypt, Gulf Cooperation Council (GCC), Iraq, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Tunisia, United Arab Emirates, and Yemen (Office of the United States Trade Representative, n.d. b). By addressing specific trade issues and helping Arab partners to acquire the necessary knowledge and experience to integrate into global economy, the United States hopes to create the needed economic liberalization that could lead to an FTA.

The United States also supports the creation of QIZs, authorized by Congress in 1996, where jointly produced goods by Israel with either Jordan or Egypt are allowed to enter the United States without tariff or quota restrictions. The QIZs are intended to promote peace between Israel and its Arab neighbors, specifically Egypt and Jordan who have signed peace treaties with Israel. They also intend to benefit the two Arab countries as well as West Bank and Gaza by creating employment and stimulating economic activities (al-Khouri, 2008). QIZs are created in Jordan and Egypt where Israel sends its raw materials that get incorporated in the final Jordanian and Egyptian products to be exported to the United States duty free. There are currently 13 designated QIZs in Jordan employing over 40,000 people and helping it grow its exports to the United States (Israel Ministry of Economy, 2015). In Egypt, 15 designated QIZs have attracted 700 companies and are producing annual revenues of $1 billion (Egypt Ministry of Trade and Industry, n.d.).

The reaction to United States economic initiative, MEFTA, varied among Arab countries. Some were eager to join while others resisted the economic liberalization policies required by FTAs and thru them the change in political positioning driven by United States geopolitical strategy in the area. The United States approach of bilateral agreements made it clear that those excluded have not gone far enough to satisfy U.S. demands. Absent an Israeli-Palestinian agreement, many Arab countries found it difficult to join a U.S. regional economic initiative that seeks, at one stage, the normalization of Arab-Israeli economic and political relationships.

In this study, the U.S. – Arab trade and investment were assessed over the past five years (2010 – 2014). Arab countries with FTAs signed with United States were reviewed for their trading volume compared to those countries without FTA agreements. US investment in Arab world was also assessed.

II. Research Method

An exploratory qualitative research methodology was used to assess United States trade with Arab countries. The qualitative method was employed to examine the phenomenon of U.S.-Arab trade from the perspective of deep understanding rather than micro-analysis of limited variables used by quantitative research. Instead of trying to prove or disprove a hypothesis, this qualitative research seeks

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themes and general patterns to emerge from the collected data. Data were collected primarily from the United States Department of Commerce-Bureau of Economic Analysis, U.S. Census Bureau, and the International Monetary Fund (IMF).

The research objective is to improve the understanding of U.S. and Arab region economic relations thru the assessment of trade volume (exports and imports of goods to/from the Arab countries) as well as flow of U.S. direct investment in the region. The objectives were met by answering the following qualitative research questions:

1. What is the volume of U.S. -Arab trade over the period 2010 thru 2014? Does it show any improvement?
2. Have FTAs contribute to increased volumes of trade and investment between the United States and concerned Arab countries?
3. How does inter-Arab trade between those with signed FTAs compare to those without?

The first question was designed to provide the readers with recent solid data about trade volumes and investment between the United States and Arab countries over the past five years (2010-2014). The second question was to assess the effects of FTAs on trade volumes between the United States and its Arab partners. The third question was to assess inter-Arab trade over the period of the study for any trends of increased regional economic integration, especially among those that have gone through the liberalizations demanded by the FTAs. While, several studies (Freund & Portugal-Perez, 2012; Matthijs, 2007; Mohamadieh, 2006) have concluded that trade agreements had marginal effects at best on stimulating economic growth in concerned countries, this study revisited the topic with more recent data in addition to assessing investment and inter-Arab trade.

III. Results

Data was collected for both imports and exports of Arab goods to/from the United States from both the United States Census Bureau as well as the IMF. Data in Table 1 and Table 2 show the imports/exports of goods from/to the United States by individual Arab countries. Table 1 is import/export data collected from U.S. Census Bureau while Table 2 is that collected from International Monetary Fund. There are slight differences between the two monitoring bodies due to differing in collection methods. They're presented here to the readers for illustration purposes as well as due to the fact the Census Bureau collects data on Palestine (West Bank and Gaza) due to the expansion of FTA with Israel to cover the two territories. The IMF in turn provided more data that were used to develop other tables.

Data in Table 1 shows the steady improvement of U.S. exports to Arab countries over the period of 2010 – 2014 with exports in 2014 totaling 147% increase over that of Year 2010. In contrast, U.S. imports from the Arab region (mainly oil and natural gas) reached its highest volume of $111.8 billion in 2012 before declining to $88.2 billion in 2014. This decline is expected to continue due to U.S. steady increase of its own oil production through the increased use of fracking and other drilling technologies. With increased pressure on U.S. Administration to lifting the 40 years old ban on U.S. crude oil exports, it's expected that U.S. imports from the Arab region would decrease substantially due to expected fracking boom resulting from ban lifting (U.S. Energy Information Administration, 2015). The expected U.S. entry into the oil exporting arena will have a significant geo-political impact on European dependency on Arab oil. Countries of the European Union would steadily lessen their reliance on oil imports from the unstable and unpredictable Arab region more in favor of American oil.

Table 1 : U.S. Exports to/ imports from Arab states 2010 - 2014 (in $ millions) - Census Bureau Data

	Exports to Arab Countries					Imports from Arab Countries				
Country	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Algeria	1,194.3	1,597.0	1,363.2	1,848.70	2,617	14,518.0	14,609.3	9,993.3	4,830.90	4,628.90
Bahrain	1,235.1	1,214.4	1,176.9	1,017.90	1,059.80	420.3	518.4	701	635.6	965.4
Comoros	1.3	1.1	1	3.5	3.5	1.7	1.8	2	2.8	2.1
Djibouti	122.8	129.2	118.8	164.5	110.9	3	4.1	11.8	3.9	11.8
Egypt	6,832.5	6,228.2	5,498.3	5,175.30	6,472.60	2,238.20	2,058.70	3,000.1	1,614.60	1,410.20
Iraq	1,643.1	2,400.4	2,053.8	2,021.70	2,105.70	12,143.3	16,959.8	19,265.4	13,305.7	13,827.0
Jordan	1,172.2	1,449.7	1,766.4	2,084	2,050.40	974.1	1,060.50	1,155.5	1,197.30	1,400.40
Kuwait	2,774.8	2,749.7	2,681.9	2,597.60	3,648.60	5,382.00	7,808.70	13,020.9	12,636.9	11,437.0
Lebanon	2,009	1,807.3	1,039.9	1,034.30	1,268.50	83.9	79.3	81.2	91.8	72.2

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Libya	665.5	307.2	549	864.5	531.9	2,116.80	645	2,493.0	2,558.20	224.8
Mauritania	84.3	243.3	291.6	245.5	149.2	52.9	1	0.7	130.7	101.4
Morocco	1,947.6	2,823.3	2,170.4	2,483.70	2,102.20	685.5	995.7	932.1	976.1	992.1
Oman	1,105.2	1,436.7	1,746.9	1,571.30	2,015.90	773.3	2,208.30	1,354.4	1,022.60	976.1
Palestine	0.7	1.1	1.5	0.9	1.8	3.2	4.8	4.8	4.9	4.4
Qatar	3,159.8	2,806.7	3,577.7	4,958.40	5,173.40	466.4	1,199.70	1,011.50	1,300.90	1,742.10
Saudi Arabia	11,506	13,923.7	17,961.2	18,960.2	18,704.9	31,412.8	47,476.3	55,667	51,806.7	47,040.8
Somalia	1.5	6.1	16.7	16	35.7	0.1	1.1	1	1.2	0.5
Sudan	N/A	59.9	55.5	88.3	77.2	N/A	4.2	6.5	10.4	11.9
Syria	503.3	230.2	19.5	21.6	6.8	429.3	393.2	19.5	19.2	12.4
Tunisia	572.8	597	614.9	870.2	831.4	405.5	352	737.9	748.9	520.9
UAE	11,662	15,921.6	22,559.1	24,452.5	22,069.3	1,145.40	2,439.80	2,253.0	2,293.20	2,814.20
Yemen	397.8	389.7	469.5	518.3	368.9	181.4	561.7	87.1	65.6	41.2
Total (Arab States)	48,592	56,323.5	65,733.7	70,998.9	71,405.6	73,437.1	99,383.4	111,799.7	94,282	88,237.8

Note. Data collected from U.S. Census Bureau (http://www.census.gov/foreign-trade/balance/index.html)

Table 2 : U.S. Exports to/ imports from Arab states 2010 - 2014 (in $ millions) – IMF Data

	U.S. Imports from Arab Countries					U.S. Export to Arab Countries				
Country	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Algeria	13,830	15,122	10,782	6,096	4,691	2,117	2,176	1,771	2,220	2,872
Bahrain	406	498	667	605	877	1,375	1,335	1,330	1,120	1,166
Comoros	2	2	2	3	2	1	2	1	4	4
Djibouti	3	4	11	4	11	137	146	135	187	138
Egypt	1,692	1,817	2,002	1,213	1,123	4,939	6,464	5,143	5,056	5,066
Iraq	11,476	15,786	17,853	12,313	12,570	1,811	2,674	2,243	2,229	2,316
Jordan	924	1,034	1,125	1,206	1,323	867	1,213	1,377	1,365	1,320
Kuwait	5,079	7,282	12,133	11,765	10,397	3,055	3,000	2,951	2,854	4,014
Lebanon	0	0	65	88	58.64	1,919	1,994	2,376	1,136	1,227
Libya	1,988	606	2,322	2,384	204	732	316	603	894	554
Mauritania	0	1	1	122	92	92	267	304	270	179
Morocco	602	947	894	919	852	2,501	3,746	2,900	3,363	3,202
Oman	863	1,732	868	658	750	974	1,393	1,651	1,515	1,265
Qatar	794	1,045	1,131	820	546	3,738	2,555	2,759	3,157	3,476
Saudi Arabia	29,684	44,327	52,116	48,271	42,762	12,750	15,201	19,930	20,887	20,547
Somalia	0	1	1	1	1	2	6	17	17	39
Sudan	5	5	5	0	11	191	78	100	94	50
Syria	405	371	19	18	0	563	275	22	24	0
Tunisia	389	276	326	397	474	896	881	799	798	935

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UAE	1,087	2,280	2,103	2,165	2,545	12,802	17,483	24,827	27,068	24,324
Yemen	187	560	90	63	38	441	429	516	568	402
Total	69,416	93,696	104,516	88,349	79,492	51,903	61,634	71,755	74,826	73,187

Note. Data collected from International Monetary Fund (http://data.imf.org)

Table 3 data shows U.S. trade with selected neighboring countries of the Arab region. It's worth noting the trade between the United States and Israel, a country of six million people versus that of the 22 Arab countries with a population of 400 million people. While U.S. imports from the Arab countries is mainly oil and gas that from Israel is mostly manufactured goods. Both Israel and Arab countries have run trade surplus with the United States where Israeli exports of goods to the United States for Year 2014 stood at $23 billion almost $8 billion more than what it imported from the United States. Likewise, for Year 2014 Arab countries exported $88.3 billion of mostly oil and gas to the United States and imported manufactured goods from the later worth $71.4 billion.

Table 4 was constructed from data collected from International Monetary Fund. Arab import of manufactured goods from the United States has increased from $51.9 billion in 2010 to $73.1 billion in 2014, 4.5% of total U.S. exports to rest of the world. Arab export of oil and gas showed a decline of $23.4 billion in 2014 from the total of $104.5 billion in 2012. This is a result of a decline of U.S. oil purchases from the Arab region.

Table 5 data shows trading volumes of the six countries of the Gulf Cooperation Council (GCC) with the United States. It shows a decline of $11.1 billion of U.S. imports from GCC in 2014 from the height of $69 billion in 2012. While United States reduced oil imports from the Arab region as a whole an amount of $23.4 billion in 2014 from that of 2012, almost 53% of that reduction came from countries outside the GCC. In 2014, the GCC countries constituted 70.4% of total Arab exports to the United States and 74.8% of its total imports from the region. This explains the strategic importance the United States puts on its relations with GCC countries of which both Bahrain and Oman are signatories to FTA agreements with it. While there are no FTA negotiations between the United States and Saudi Arabia, the latter's oil exports to the United States constituted more than 50% of its total oil imports from Arab region (assuming US imports as mainly oil). The United States biggest economic partner in the Arab region is that of the United Arab Emirates with $24.3 billion worth of goods imported from the United States amounting to 33% of total U.S. exports to the region. Negotiation between the two trading partners to sign an FTA agreement is at advanced stages (Office of the United States Trade Representative. (n.d. a).. Data from Table 5 clearly shows that signing an FTA agreement is not a pre-condition for an improved trading relationship with the United States.

For Year 2014, exports to the United States constituted 13% of Saudi Arabia's total exports, while its imports from the U.S. made only 12% of its total imports (see Table 6). While United States imported 15.7% of total oil exports of Iraq, its exports to the country made only 4.5% of total imports of Iraq. For 2014, the Arab countries exports to the United States totaled $81 billion (or 6.95%) out of the more than $1.17 trillion exports to the rest of the world, while its imports amount to $73 billion (or 8.16%) out of the $894.1 billion total imports from the rest of the world. The aforementioned data did not include Syria due to sanctions imposed by the United States resulting in complete cessations of trade relations between the two countries.

The trade between Arab countries with signed FTAs with United States (namely, Bahrain, Jordan, Oman and Morocco) seems to be modest at best (See Table 6). The exports of the four countries to the United States in 2014 totaled $3.8 billion or 3.1% of their total exports of $122.2 billion, while their imports from the U.S. were $6.9 billion or 6.1% of their total imports of $114.2 billion. Individually, Bahrain's exports of $877 million to United States mounted to 2.37% of its total exports to the world, while its imports of $1.1 billion amounted to 7.04% of its total imports. Morocco's exports to the U.S. made only 3.61% and its imports 7.02%. While Oman's exports were 1.41% and its imports from the United States were 4.32%. Of the Arab countries that have signed FTA, only Jordan exports of $1.3 billion to the United States amounted to almost 16% of its total exports while its imports almost 6% of its total of $22.7 billion. Jordan FTA agreement with United States is clearly helping boost its economy and its people employment opportunities. Jordan, a non-oil producing country, exports to the United States are mainly manufactured goods and other raw material requiring employment of a sizable number of working people. Same argument could be made for Morocco, also a non-oil producing country, while Bahrain's and Oman's exports are mainly oil and natural gas with little impact on employment rates. The oil industry employs small number of people and increasing oil production has limited effects on creating new jobs in a country.

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Table 3 : U.S. Exports to/ imports from Neighboring states of Arab Region 2010 2014 (in $ millions)

Country	2010		2011		2012		2013		2014	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Arab States	48,592.3	73,437.1	56,323.5	99,383.4	65,733.7	111,799.7	70,988.9	94,282.0	71,405.6	88,237.8
Israel	11,295.0	20,984.8	13,961.6	23,046.6	14,273.5	22,131.1	13,742.2	22,783.2	15,083.0	22,962.2
Turkey	10,538.5	4,207.2	14,695.2	5,220.8	12,474.7	6,294.1	12,073.4	6,669.10	11,645.4	7,357.00
Iran	211.4	94.5	233.2	1	251.1	2.1	308.1	2.2	186.5	0
Africa	28,339.9	85,008.1	32,883.0	93,009.0	32,726.4	66,816.5	35,244.6	50,059.8	38,077.2	34,589.5
World	1,278,100	1,912,100	1,480,700	2,207,000	1,547,100	2,275,000	1,578,900	2,267,600	1,623,300	2,345,800

Note. Data collected from U.S. Census Bureau (http://www.census.gov/foreign-trade/balance/index.html)

Table 4 : Percentage of Arab Exports/Imports to United States Imports/Export of Goods for Years 2010 – 2014 ($ billions)

Year	Total U.S. Exports to World	Total Export to Arab Region	Percentage of Total U.S. Exports	Total U.S. Imports from World	Total U.S. Import from Arab Region	Percentage of Total U.S. Imports
2010	1,277	51.9	4.0%	1,968	69.4	3.5%
2011	1,481	61.6	4.1%	2,265	93.6	4.1%
2012	1,545	71.7	4.6%	2,336	104.5	4.5%
2013	1,579	74.8	4.7%	2,331	89.1	3.8%
2014	1,623	73.1	4.5%	2,345	81.2	3.4%

Note. Data from IMF (http://data.imf.org/)

Table 5
Export/import of goods from GCC to/

Table 5 : Export/import of goods from GCC to/from the United States 2010- 2014 ($ millions)

	Export to U.S.					Import from U.S.				
Country	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Bahrain	406	498	667	605	877	1,375	1,335	1,330	1,120	1,166
Kuwait	5,079	7,282	12,133	11,765	10,397	3,055	3,000	2,951	2,854	4,014
Oman	863	1,732	868	658	750	974	1,393	1,651	1,515	1,265
Qatar	794	1,045	1,131	820	546	3,738	2,555	2,759	3,157	3,476
Saudi Arabia	29,684	44,327	52,116	48,271	42,762	12,750	15,201	19,930	20,887	20,547
UAE	1,087	2,280	2,103	2,165	2,545	12,802	17483	24827	27068	24,324
Total GCC	37,913	57,164	69,018	64,284	57,877	34,694	40967	53448	56601	54,792
Total Arab States	69,416	93,696	104,516	89,111	81,058	51,903	61634	71755	74826	72,960
Percentage GCC of total trade with US	54.6%	61%	66%	72.1%	70.4%	66.8%	66.4%	74.5%	75.6%	74.8%

Note. Data from IMF (http://data.imf.org/)

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Table 6 : Arab Export/Import of Goods to/from United States vs. total World for Year 2014 ($ millions)

Country	Export to U.S.	Total Export to World	% of Total	Import from U.S.	Total Import from World	% of Total
Algeria	6,421	59,675	10.76%	2,736	55,899	4.89%
Bahrain	877	37,037	2.37%	1,166	16,567	7.04%
Comoros	2	39	5.13%	4	307	1.30%
Djibouti	11	552	1.99%	138	4,238	3.26%
Egypt	1,123	26,693	4.21%	5,066	68,189	7.43%
Iraq	12,570	79,389	15.83%	2,316	51,455	4.50%
Jordan	1,323	8,379	15.79%	1,320	22,727	5.81%
Kuwait	10,397	91,919	11.31%	4,014	31,635	12.69%
Lebanon	59	3,279	1.8%	1,227	19,992	6.14%
Libya	204	17,068	1.20%	554	19,226	3.04%
Mauritania	92	2,369	3.88%	179	3,856	4.64%
Morocco	852	23,599	3.61%	3,202	45,611	7.02%
Oman	750	53,221	1.41%	1,265	29,305	4.32%
Qatar	546	131,584	0.41%	3,476	30,355	11.45%
Saudi Arabia	42,762	332,321	12.87%	20,547	169,966	12.09%
Somalia	1	809	0.06%	39	2,514	1.55%
Sudan	11	4,350	0.25%	50	9,211	0.54%
Syria	0	12,688	0.00%	0	19,800	0.00%
Tunisia	474	15,345	3.09%	935	24,553	3.81%
UAE	2,545	257,243	0.99%	24,324	273,283	8.90%
Yemen	38	9,471	0.40%	402	15,248	2.64%
Total	81,058	1,167,030	6.95%	72,960	915,475	7.99%
Total excl. Syria	81,058	1,151,661	7.02%	72,960	894,137	8.16%

Note. Data from IMF (http://data.imf.org/)

Data in Table 7 shows the inter-Arab regional trade for Year 2014. Trading with other Arab countries makes a good percentage of total trade of several countries. The international sanctions against Syria have forced to completely rely on its trade with fellow Arab nations. Majority of Syria's exports of $12.7 billion (or 96%) went to other Arab countries, while it imported from them approximately 58% of its total imports of $19.8 billion. Algeria, Egypt, Djibouti, Somalia and Sudan exported over 30% of their total exports to other Arab countries, while Bahrain, Iraq, Jordan, Kuwait, Oman, Somalia and Yemen imported more than quarter (or 25%) of their goods from other Arab countries. Data from Table 7 while showing certain Arab countries are more integrated in their Arab surroundings than others, inter-Arab trade, as a whole, points to a steady progress of economic integration of the Arab region.

Both Algeria and Saudi Arabia imported more goods from the United States than their Arab neighbors (See Table 8), while Iraq, Kuwait and Saudi Arabia had more exports to the U.S. than fellow Arab nations. Saudi Arabia's trade with United States surpasses that with all other Arab countries combined (See Table 8).

United States investment in Arab region of $62.7 billion made only 1.3% of its total direct investment abroad (See Table 9). Egypt seems to be attracting the most U.S. investment dollar over the period of study, followed by Saudi Arabia and then UAE. In 2014, the three Arab countries received $46.4 billion (or 74%) of total U.S. investment in the region. For the period of study (2010-2014) the three nations seem to be the main attraction of U.S. investment in the area. Data collected from U.S. Bureau of Economic Analysis was based on historical cost bases and what was

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publically available was only for the three Arab countries shown in Table 9. Hopefully, future researchers will be able to collect U.S. investment data for all other Arab countries for improved analysis.

Table 7 : Inter-Arab Export/Import of Goods for Year 2014 ($ millions)

Country	Exports to Arab Countries	Total Exports	Percentage	Imports from Arab countries	Total Imports	Percentage
Algeria	18,128	59,675	30.38%	2,561	55,899	4.58%
Bahrain	3,090	37,037	8.34%	7,200	16,567	43.46%
Comoros	3	39	7.69%	75	307	24.43%
Djibouti	514	552	93.12%	890	4,238	21.00%
Egypt	8,719	26,693	32.66%	9,309	68,189	13.65%
Iraq	2,779	79,389	3.50%	13,190	51,455	25.63%
Jordan	3,954	8,379	47.19%	6,810	22,727	29.96%
Kuwait	6,614	91,919	7.20%	7,257	31,635	22.94%
Lebanon	1,818	3,279	1.8%	2,556	19,992	6.14%
Libya	1,368	17,068	8.01%	3,325	19,226	17.29%
Mauritania	8	2,369	0.34%	310	3,856	8.04%
Morocco	1,089	23,599	4.61%	6,149	45,611	13.48%
Oman	9,506	53,221	17.86%	11,971	29,305	40.85%
Qatar	10,292	131,584	7.82%	5,431	30,355	17.89%
Saudi Arabia	30,432	332,321	9.16%	15,671	169,966	9.22%
Somalia	571	809	70.58%	973	2,514	38.70%
Sudan	2,345	4,350	53.91%	2,149	9,211	23.33%
Syria	12,158	12,688	95.82%	11,417	19,800	57.66%
Tunisia	1,753	15,345	11.42%	1,412	24,553	5.75%
UAE	24,484	257,243	9.52%	29,999	273,283	10.98%
Yemen	1,419	9,471	14.98%	4,736	15,248	31.06%
Total	141,044	1,164,349	12.11%	143,391	915,475	15.66%

Note. Data from IMF (http://data.imf.org/)

Table 8 : Country Export/Import to/from other Arab countries vs. United States for 2014

Country	Exports to Arab Countries	Export to United States	Imports from Arab countries	Import from United States
Algeria	18,128	6,421	2,561	2,736
Bahrain	3,090	877	7,200	1,166
Comoros	3	2	75	4
Djibouti	514	11	890	138
Egypt	8,719	1,123	9,309	5,066
Iraq	2,779	12,463	13,190	2,316
Jordan	3,954	1,323	6,810	1,320
Kuwait	6,614	10,397	7,257	4,014
Lebanon	1,818	59	2,556	1,227
Libya	1,368	204	3,325	554

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Mauritania	8	92	310	179
Morocco	1,089	852	6,149	3,202
Oman	9,506	750	11,971	1,265
Qatar	10,292	546	5,431	3,476
Saudi Arabia	30,432	42,762	15,671	20,547
Somalia	571	1	973	39
Sudan	2,345	11	2,149	50
Syria	12,158	0	11,417	0
Tunisia	1,753	474	1,412	935
UAE	24,484	2,545	29,999	24,324
Yemen	1,419	38	4,736	402
Total	141,044	81,222	143,391	73,187

Note. Data from IMF (http://data.imf.org/)

Table 9 : Showing U.S. Direct Investment In Arab Region 2010 -2014 ($ millions)

Country	U.S. Direct Investment Abroad on a Historical Cost Bases				
	2010	2011	2012	2013	2014
Egypt	12,599	14,950	17,341	18,795	21,320
Saudi Arabia	7,436	8,250	9,488	10,084	10,064
UAE	4,935	5,864	8,335	11,717	15,035
Others	12,595	11,496	13,413	15,067	16,268
Total	37,565	40,560	48,577	55,663	62,687
Total U.S. Investment Abroad	3,741,910	4,084,659	4,384,671	4,693,348	4,920,653
Percentage of Total U.S. Investment	1%	1%	1.1%	1.2%	1.3%

Source: U.S. Department of Commerce – Bureau of Economic Analysis (www.bea.gov)

IV. Conclusion

A qualitative research was conducted to assess the economic relationship between the United States and the Arab countries for the period of 2010-2014. Publicly available data supplied by IMF and U.S. government agencies were utilized for the assessment. Results show trade between the two partners has increased over the period of the study. U.S. exports to the Arab countries increased from $48.6 billion in 2010 to $71.4 billion in 2014, while its imports from Arab countries increased from $73.4 billion in 2010 to $88.2 billion in 2014 (Refer to Table 1).

Trade historically has contributed to improved economic relations between the engaging partners. Those who enjoy healthy exchange of goods tend to have closer political and social relationships. Due to its close relations with Israel, United States presence in the Middle East has always attracted various reactions from different sectors of Arab societies. Arab nationalists and Islamists have accused it of exploiting Arab oil resources to the detriment of Arab people interests. The results of this study show the fallacy of such argument. While United States, and due to its status as a super power, might have political hegemony in the region due to its strategic location and its oil wealth, however, Arab trade with United States is limited and mutually beneficial for the two trading partners. The Arabs have an important buyer in the United States of their oil that provides in return significant financial proceeds. This study showed Arab countries exporting to the United States only $88 billion (or 8%) of their total exports of $1.1 trillion, while importing only $71.4 billion (or 8%) of their needs of $894 billion (See Table 6). Trade with Arab states made a small portion of U.S. activities with rest of the world. Its exports/imports to/from the region made 4.4% and 3.7% respectively. Due to proximity and weaker political commitments than those required by the United States, Arab region trading is larger with the European Union.

Arab countries, such as GCC, seem to successfully utilize their relations with United States to improve their economic conditions. The results of this study did not show a significant improvement of trade between Arab countries with signed FTA with United States over those without it. Only Jordan of the four Arab

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countries with FTAs with United States seems to have fully utilized the agreement to increase exports to the U.S. and create new jobs for its people.

Inter-Arab regional trade constituted a good percentage of total trade of several Arab countries. Increased trade between neighboring countries should increase regional economic integration leading, hopefully, to improved political relationships between Arab governments. Only Saudi Arabia's trade with United States surpassed that of its trade with other Arab countries.

U.S. direct investment in the area was around 1% of its total investment abroad for the period of the study. Directing more funds to the area would help in improving trade relations with Arab region. Three Arab countries, namely Egypt, Saudi Arabia, and UAE seem to enjoy preferred recipient status and making 74% of total U.S. investment in the region in Year 2014. It's hoped that future researchers will have access to more detailed data about annual U.S. investment in every Arab country and expand this study to assess Arab trade with European Union, China and Japan.

References Références Referencias

1. 9/11 Commission. (2004). *The 9/11 Commission Report.* Washington, D.C.: U.S. Government Printing Office. Retrieved from www.9-11commission.gov/report/911Report.pdf
2. Al-Khouri, R. (2008). *EU and U.S. free trade agreements in the Middle East and North Africa*. Carnegie Endowment for International Peace. Retrieved from www.CarnegieEndowment.org
3. Akhtar, S.I., Bolle, M.J., & Nelson, R.M. (2013). *U.S. trade and investment in the Middle East and North Africa: Overview and issues for Congress*. Congressional Research Service. Retrieved from www.crs.gov
4. Egypt Ministry of Trade and Industry. (n.d.) *What is QIZ*? Retrieved on September 24, 2015 from http://www.qizegypt.gov.eg/About_QIZ.aspx
5. Fattouh, B., & El-Katiri, L. (2012). *Energy and Arab economic development*. United Nations Development Programme. Retrieved from http://www.-arab-hdr.org/publications/other/ahdrps/-ENGFattouhKatiriV2.pdf
6. Freund, C., & Portugal-Perez, A. (2012). *Assessing MENA's trade agreements*. Retrieved from http://siteresources.worldbank.org/INTMENA/Resources/WP56WEB.pdf
7. Israel Ministry of Economy. (2015). *Q.I.Z. – Qualifying Industrial Zones*. Retrieved on September 24, 2015 from http://www.moit.gov.il/NR/exeres/-2124E799-4876-40EF-831C-6410830D8F02.htm
8. Lawrence, R. Z. (2006a). *Recent US free trade initiatives in the Middle East: Opportunities but no guarantees*. Retrieved from https://www.weforum.org/pdf/Global_Competitiveness_Reports/Reports/chapters/1_2.pdf
9. Lawrence, R. Z. (2006b). *A US-Middle East trade agreement: A circle of opportunity?* Peterson Institute for International Economics.
10. Malkawi, B. H. (2010). Rules of origin under U.S. trade agreements with Arab countries: Are they helping and hindering free trade? *Acta Juridica Hungarica, 51*(4), 273-291.
11. Matthijs, M. (2007). *US and EU trade policy towards the Middle East: A comparative assessment*. Retrieved from https://www.sais-jhu.edu/
12. Mohamadieh, K. (2006). Free trade agreements in the Arab region. Proceedings report of a regional workshop. *The Arab NGO Network for Development*. Retrieved from www.annd.org
13. Office of the United States Trade Representative. (n.d. a). *Free Trade Agreements*. Retrieved on September 23, 2015 from https://ustr.gov/trade-agreements/free-trade-agreements
14. Office of the United States Trade Representative. (n.d. b). *Trade & Investment Framework Agreements*. Retrieved on September 23, 2015 from https://ustr.-gov/trade-agreements/trade-investment-framework-agreements
15. President Obama. (2011). *Remarks by the President on the Middle East and North Africa*. Retrieved from https://www.whitehouse.gov/the-press-office/2011/-05/19/remarks-president-middle-east-and-north-africa
16. U.S. Energy Information Administration. *Effects of removing restriction on U.S. crude oil exports*. Retrieved from http://www.eia.gov/analysis/-requests/crude-exports/pdf/fullreport.pdf
17. U.S. International Trade Administration. (n.d.). *Free Trade Agreements*. Retrieved on September 22, 2015 from http://trade.gov/fta/
18. Yousef, T. M. (2004). Development, growth and policy reform in the Middle East and North Africa since 1950. *Journal of Economic Perspectives 18* (3), 91-116.

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Level of Disclosure of Environmental Information in the Electricity Sector: An Empirical Study of Brazil and the Iberian Peninsula

By Braga, Célia, Silva, Patrícia P. & Santos, Ariovaldo

University of Ceará, Brazil

Abstract- Electricity markets currently face shared global challenges in the search for sustainable energy: security of energy supply, protection of the environment and maintenance of competitiveness. Together these three factors help produce cleaner and more compatible energy with sustainable development. One way of assessing the environmental performance and disclosure level of a company is the use of metrics. The Global Reporting Initiative (GRI) indicators are the most accepted ones in previously published literature. In the first decade of this century there was an increase in social and environmental disclosure in the electricity sector in Brazil, following trends set elsewhere in the world. The stakeholders' request for both environmental information and accountability resulted in the dissemination of sustainability reports, especially in the more environmentally sensitive industries. During the privatization of the Brazilian electricity sector, some of Iberia's largest energy firms began to invest more in Brazil as a result of the European liberalization process that was already under way.

Keywords: disclosure, GRI, environment, electricity, power generation.

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Level of Disclosure of Environmental Information in the Electricity Sector: An Empirical Study of Brazil and the Iberian Peninsula

Braga, Célia [α], Silva, Patrícia P. [σ] & Santos, Ariovaldo [ρ]

Abstract- Electricity markets currently face shared global challenges in the search for sustainable energy: security of energy supply, protection of the environment and maintenance of competitiveness. Together these three factors help produce cleaner and more compatible energy with sustainable development. One way of assessing the environmental performance and disclosure level of a company is the use of metrics. The Global Reporting Initiative (GRI) indicators are the most accepted ones in previously published literature. In the first decade of this century there was an increase in social and environmental disclosure in the electricity sector in Brazil, following trends set elsewhere in the world. The stakeholders' request for both environmental information and accountability resulted in the dissemination of sustainability reports, especially in the more environmentally sensitive industries. During the privatization of the Brazilian electricity sector, some of Iberia's largest energy firms began to invest more in Brazil as a result of the European liberalization process that was already under way. This paper aims to identify the Environmental Information Disclosure Level (EIDL) of Brazilian companies and Iberian companies, which published sustainability reports using the GRI indicators. The main conclusions show that Brazilian companies are in the process of improving their disclosure level while Iberian companies have remained constant at a higher level. An analysis of the level of disclosure of different firms and their different locations suggests that Iberian companies have better performance than their Brazilian counterparts when it comes to environmental issues.

Keywords: disclosure, GRI, environment, electricity, power generation.

I. Introduction

World statistics and global trends continue to indicate that the generation of electricity will remain the main source of growth in CO_2 emissions in the XXI century. Therefore, challenges in global markets for electricity remain, including security of energy supply, protection of the environment and competitiveness in the search for sustainable energy (IEA, 2012).

In order to monitor and evaluate this, it is essential to analyze the environmental information disclosure of firms using important metric systems such as those indicators included in the framework Global Reporting Initiative (GRI), G3. These indicators are used worldwide in all economic sectors, and are disseminated in the form of a report, which consents to the monitoring of a company's performance in the economic, social and environmental dimensions (Ethos, 2010).

After the privatization of the electricity sector in Brazil, which attracted both domestic and foreign investors and led to the creation of the regulatory agency, the National Electric Energy Agency, ANEEL, companies began to show higher levels of information disclosure related to financial, economic, social and environmental data. An increasing number of Brazilian Electricity companies also started to publish GRI reports.

At the same time, Europe was increasing its Internal Electricity Market, which required the use of an unbundling process in Portugal and Spain, two Member-States that had not at that time completed their liberalization processes. Accordingly, the largest players in the Iberian Peninsula energy sector made larger investments in Brazil. These companies were already experienced in environmental regulation due to the European regulatory system. (Eugénio, 2010).

This article aims to analyze the relationship between the Environmental Information Disclosure Level (EIDL) and the location of companies, considering their regulatory systems, their different market structures, and their diverse economic, social and geographical dimensions.

To the best of our knowledge the study here in provided is the first one to present a database relying on environmental variables concerning Brazilian and Iberian electric utilities.

Thus, we are able to build and EIDL that allows us to concluide on the main drivers and challenges that the electricity sector has to deal with.

Author α: University of Ceará, Faculty of Economics, Business Administration and Accounting, R. Silva Paulet, Apto. Bloco A, Meireles, Fortaleza, Ceará, Brasil. e-mail: celiabragac@hotmail.com
Author σ: University of Coimbra, Faculty of Economics, Av. Dias da Silva, Coimbra, Portugal. e-mail:patsilva@fe.uc.pt
Author ρ: University of São Paulo, Faculty of Economics and Administration, Departamento de Contabilidade e Atuária. Av. Prof. Luciano Gualberto, Prédio III Cidade Universitária São Paulo, SP, Brasil. e-mail: arisanto@usp.br
Author α σ: Institute for Systems Engineering and Computers at Coimbra (INESC- Coimbra), Rua Antero de Quental, Coimbra, Portugal.

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The Environmental Information Disclosure Level of 21 Brazilian companies and of 10 Iberian companies was used in this study. This represents all the firms that the GRI publishes on its website and accounts for the specific G3 indicators during the period 2006 to 2009 (GRI, 2010).

Furthermore, this study proposes to answer the following four questions: *i*). How has environmental disclosure evolved on an individual basis? *ii*). What was the EIDL of Brazilian, Portuguese and Spanish electricity companies from the 2006 to 2009, considering the set of different characteristics of each country?, *iii*). Who are the main stakeholders of the companies under study? And, finally, *iv*). Which communication channels are used by the companies for announcing their sustainability reports?

This study is divided into five sections. The next section describes the importance of environmental information disclosure in reports using the GRI indicators while considering the concepts of energy sustainability and cleaner production. The third section explains the methodology used and identifies the samples; the fourth section states the results of the analysis; and, finally, conclusions are made in the fifth section.

II. Environmental Information Disclosure – Literature Review

a) *Brazil and The Iberian Peninsula: the energy context and environmental disclosure*

With the transnationalization of the companies in the global market, the capital of a business is often centred in one country and the company in another. The privatization of the electric power market in Brazil produced companies with different corporate structures and with foreign capital. In this context, a synergy among the Brazilian, Portuguese and Spanish capital, and the companies located in these countries in different economic, social and geographical contexts emerged.

i. *The Brazilian energy market context*

According to ANEEL (2010), in 2010, there were 2,238 enterprises in operation in Brazil, 134 under construction and 435 granted between 1998 and 2010. From the 1,339 power plants in Brazil, 76% use fossil fuels; 20% use biomass and 4% use other types. The most commonly used types of fuels are: diesel (596 plants), sugarcane bagasse (252) and natural gas (85). Brazil shows a historical framework of hydroelectric generation. However the government has invested in the diversification of energy sources to solve the problem of the rain shortage and the serious environmental and social impacts caused by the construction of Hydroelectric Energy Plant (HEP).

The energy model in Brazil is private and public. The private companies with public services concession contracts according to article 175 of the Federal Constitution/1988. This model has two structures, and the second one is headed by ANEEL, the agency responsible for regulating and inspecting the electric sector and that was created in by Decree N° 2.335/97. ANEEL's work is directly linked to the National Power System Operator (ONS) and to the Chamber of Commercialization of Electric Power (CCEE). In 2010, the Brazilian energy market had 2,238 companies (ANEEL, 2010). The production and power frequency conversion of the Brazilian energy market is shared with countries from the Southern Common Market (MERCOSUR).

ii. *The Iberian Peninsula energy market context*

The Iberian Market of Electricity (MIBEL) was created in The Iberian Peninsula to integrate the Portuguese and Spanish energy markets. The main achievement in MIBEL in 2008 was the growth of energy production using renewable energy sources and the combined cycle aimed at meeting the goals of reducing CO_2 emissions and increasing independence from fossils fuels (ERSE, 2010).

The Spanish energy market experienced a decrease in energy demand in 2008, registering a slight increase of only 0.8%. However, between 2002 and 2006 there was an increase of 4% and another of 3.2% in 2007. Energy demand is strongly related to the growth of the Gross Domestic Product (GDP) in each country (Red Elétrica, 2009).

The Portuguese energy policy is focused on the implementation of clean energy, especially wind, photovoltaic micro-generation and small hydro-electricity plants. The aim here is to offset the cost of installing wind farms with the savings made by reduced imports of the oil and gas needed for thermal generation.

One of the biggest challenges facing the energy sector of the Peninsula arises from the complexity of the system, which now has to operate in inter-regional transportation (Super Grids) and local distribution (Smart Grids) systems. It is necessary to deal with the instability of the generation of alternative energy sources (i.e.: Wind Power), with the energy consumption complexity and with the electrical mobility program to supply power to electric cars. It is also necessary to deal with the difficulties of storing energy, the efficiency of public transport, the costs and the technological challenges involved in the installation of offshore wind farms and the search for an intelligent digital distribution system that would allow one to buy and to sell the energy (bidirectional) and provide real time information. The Iberian electricity supply industry comprises only privately owned companies.

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The European Directive 2003/54/EC and lately the European Directive 2009/72/EC reviewed the European Directive 96/92/EC, which for the first time established common rules for the various electricity markets in Europe, based on the liberalization of the sector without prejudice of the public service required and the access by the generators and consumers to the transmission and distribution grid. These requirements are guaranteed by regulation authorities established in each country (Silva, 2007).

In 2001, the Governments of Portugal and Spain decided to create an integrated Iberian Electricity Market (MIBEL). In July 2007, the Portuguese electricity generators operating under the so-called Ordinary Regime (OR) started bidding systematically into the Iberian Electricity spot market operated by Operador de Mercado Elétrico (OMEL); both Spanish and Portuguese generators also bid regularly into the Iberian electricity derivatives market operator - Operador de Mercado Elétrico-Pólo Português (OMIP). Entidade Reguladora dos Serviços Energéticos (ERSE) and Comisión Nacional de Energía (CNE) are the independent regulatory agencies that have been established in Portugal and Spain, respectively.

iii. *Environmental Disclosure in Brazil and in Iberian Peninsula: mandatory versus voluntary*

The fundamental need of electricity for economic and social development does not exclude this industry of the category the activity of high environmental impacts. This highlights the need for increased specific industry environmental regulation and its consequent disclosure (Braga et al, 2009; Liu and Anbumozhi, 2009; Rover et al, 2009; Sangle and Babu, 2007).

The publishing of environmental information is normally carried out trough websites and/or printed reports in Brazil and The Iberian Peninsula (Bolívar, 2009; Jose and Lee, 2007; Sarmento and Durão, 2009; Skouloudis et al, 2010).

The disclosure of environmental information in an annual report is defined as a subset of the Corporate Social Responsibility (CSR), which includes information on waste management, recycling programs and environmental control (Ahmad et al, 2003).

The environmental issues disclosed in the reports, including the GRI model, highlight the commitment of a company to a system of cleaner production and environmental sustainability.

This publication usually includes both mandatory and voluntary environmental information provided to the broad group of stakeholders that has a relationship with the company (Brammer and Pavelin, 2006; Holland and Foo, 2003; Hosssain and Hammami, 2009). In Brazil environmental disclosure is not mandatory.

There are nevertheless several recommendations for its dissemination given by entities information through groups such as the Securities and Exchange Commission, the Institute of Independent Auditors of Brazil and the Federal Accounting Council. Furthermore, there is extensive environmental legislation at all levels of government (Rover et al, 2005).

In Brazil the corporate legislation in use adopts the accounting, economic and financial concept, and only the financial statements are considered mandatory for publication. These aspects favour the disclosure of environmental information by the entities, which may happen in either a voluntary or mandatory way (Simnett et al, 2009). Gibson and O'Donovan (2007) concluded the existence of a global trend in the rise of environmental disclosure. Accordingly, Braga et al, 2009; Calixto et al, 2007 and Rover et al, 2009 confirm that Brazil is in alignment with this worldwide tendency.
Sarmento and Durão (2009) also found an increase in the publication of sustainability reports in Portugal, and Bolívar (2009) observed the same trend through the Internet in Spain.

In Spain, the disclosure of environmental information in annual reports has been mandatory since 1998, with the sectoral adaptation of the Charts of Accounts of the electricity companies. In addition, Resolution No 6389 dated March 25, 2002, of the Institute of Accounting and Auditing (IAA) approved standards of recognition, evaluation and information for the environmental aspects included in annual statements (Eugénio, 2010).

In Portugal, Accountant Financial Reporting Standard No. 26 - Environmental Matters (IAS 26) has been in force since January 1, 2008. This guideline applies to environmental information disclosed in both individual and consolidated accounts.

In addition to their mandatory disclosures, the Portuguese and Spanish electricity companies have published their own environmental information voluntarily in sustainability reports using the GRI indicators. The adhesion to the GRI methodology began in 2000 with Energias de Portugal (EDP) and Endesa, two Portuguese and Spanish companies respectively, who are the pioneers in this field. In Brazil, the pioneering company was CPFL Energy, which released its first report in 2002.

b) The reporting and disclosure of environmental indicators

In Portugal, Spain and Brazil, the context of corporate disclosure is based on financial disclosure, which is regulated by law, and regulated by agencies such as *Comissão de Mercado de Valores Mobiliários* (CMVM*), Commissión Nacional del Mercado de Valores* (CNMV) and the *Comissão de Valores Mobiliários* (CVM), which follow the book publishing of listed companies.

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The companies' adaptation to the environmental practices required by the stakeholders has been reflected in their management strategy and in the manner by which companies disclose their effect on the environment. Thus, final information disclosure comprises both mandatory and voluntary issues, which are related to the competitiveness of the business (Aerts and Cormier, 2009; Berns et al, 2009).

In this sense, it has been noticed that a constant demand for further disclosure, accountability, good corporate governance practices and ethical behaviour by companies referring to environmental information is necessary (Rover et al, 2009).

Companies are used to publishing their environmental information in a specific environmental report, one that covers social and environmental sustainability, together with financial statements (Simnett et al, 2009; Jose and Lee, 2007).

Companies shape their reports voluntarily for many reasons. One of them is to provide information to stakeholders and to reduce the symmetry between the information content of the company and of the market. The report also reveals the organizational commitment, the management of risks and the desire to build a corporative reputation. Reliability is an important factor in this process (Hossain and Hammami, 2009; Simnett et al, 2009).

The disclosure of CSR and financial information can be motivated by countless factors, such as: legal provision, origin of stock control (Monteiro and Aibar-Guzmán, 2010); stakeholders' pressure (Liu and Anbumozhi, 2009); ethical aspects (Almeida, 2007); cultural considerations (Simnett et al, 2009); the need to gain legitimacy (Jose and Lee, 2007) and media exposure (Reverte, 2009).

It has been noted that, despite the importance of the environmental information provided there is a lack of structural order in the disclosure when it is made voluntarily (Bolívar, 2009).

NGO's and technological advances offer innovative solutions to the problems arising from the lack of content standardization in the environmental reports, as well as the uniformity at an international level (Jose and Lee, 2007). Internationally, Global Reporting Initiative orientations are used (Brown et al, 2009; Skouloudis et al, 2010). In this piece of research the publications using the GRI G3 indicators are analysed. The indicators include responses with both qualitative and quantitative aspects (i.e. monetary and non-monetary). The way these indicators are published in the report structure should be according to the GRI orientations and be compatible with the perception of its stakeholders.

As for the frequency of disclosure reports, entities should define a consistent cycle and establish a date to produce their report. This is most commonly done annually.

Another important aspect of disclosure is the definition of material support and dissemination. According to Jose and Lee (2007), the Internet has emerged as low cost, quick and easy-to-access tool. In addition to disclosures made on websites, companies offer print versions of complete reports and/or summaries and also give information on CD-ROM (Bolívar, 2009; Calixto et al, 2007; Jose and Lee, 2007; Rover et al, 2009).

c) Cleaner production in the electric sector

The process of industrialization, large-scale production and technological advances has led the consumer market to the age of disposable products. These products have an ever shorter life cycle, which results in a rise in the level of environmental impact: increased use of products results in a rise in the use of raw materials and in the need for waste disposal.

This creates new industries, resulting in an increase in energy consumption, including electricity. The great challenge nowadays is to manage these issues while preserving human life and the environment. Part of the solution could be to introduce a model of corporate management for cleaner production, which is the integrated environmental strategy applied to processes, products and services in order to increase eco-efficiency and reduce risks to human life and damage to the environment. This concept was presented by the United Nations Environmental Program (UNEP), in1989 (WBCSD and UNEP, 1997).

In the electricity sector, the largest amount of waste and the most severe environmental impacts arise from the production of energy. Some energy sources cause further damage, such as those generated from nuclear energy, from coal and oil.

Beyond the serious health risks caused by air, soil and water pollution, energy production generates greenhouse gases, noise, ash, slag, toxic waste and the spillage of hazardous products.

The transport of workers prominently employed in transportation and the distribution of energy also generates emission of substances that destroy the ozone layer. Companies must disclose the amount of fines paid and the amount of non-monetary sanctions taken for noncompliance with environmental laws and regulations. It is also important that they publish the total investment made in environmental protection.

An analysis of the GRIs is important for monitoring the environmental management of these organizations and for ensuring cleaner production in industries classified as sensitive because of their negative environmental impact.

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III. Methodology and Sample Identification

This section describes the sample identification method and data analysis techniques used in the research: content analysis and Correspondence Analysis (CA). The chosen methods proved to be the most appropriate ones, considering the sample characteristics and the aim of the study.

They are also widely accepted in the most up-to-date literature. For content analysis, see, for instance, Monteiro and Aibar-Guzmán, 2010; Múrcia, 2009; García-Sánchez 2008; Jose and Lee, 2007; Cormier et al, 2004; Cormier and Magnan, 2003; García-Ayuso and Larrinaga, 2003; Holland and Foo, 2003; Milne and Adler, 1999. For more information on Correspondence Analysis see Múrcia, 2009; Lima, 2007.

The criteria used to select the sample were: a) companies of the electric energy sector located in Brazil, Portugal, and Spain, and b) companies that disclosed the report in the GRI website in the period between 2006-2009. The sample totals 31 companies (GRI, 2010). The companies that make up the Brazilian sample are presented in Table 1, the Portuguese sample in Figure 1, and the Spanish sample in Figure 2.

Table 1 : Environmental Information Disclosure Level, electric power sector, Brazil, 2006-2009

	2006	2007	2008	2009
AES Tietê S A		0.2941		
Endesa Cachoeira		0.7353	0.5882	0.8529
Eletronorte		0.2647	0.5000	
Furnas Centrais Elétricas		0.3529	0.4706	
Itaipu Binacional	0.4412	0.7647	0.8824	0.9706
Tractebel Energia		0.5588	0.7647	0.7059
CTEEP			0.3824	0.3529
AES Eletropaulo		0.5294	0.5588	
Coelba		0.4412	0.5588	
Coelce	0.3824	0.5588	0.8235	0.7941
Ampla	0.5588	0.5294	0.7059	0.7647
Elektro	0.4412	0.2941	0.3529	0.4706
Cosern		0.2941		
Cemig	0.3529	0.4706	0.5294	0.5882
Copel	0.6471	0.5882	0.6765	0.7647
Energias do Brasil	0.4118	0.6765	0.8529	1.0000
CPFL Energia	0.7941	0.2059	0.7353	
Eletrobrás			0.4706	0.6471
Light S.A.		0.6176	0.7059	0.7941
Endesa Brasil		0.6471	0.7941	0.7941
Grupo Rede		0.4412		

Source: Own computations.

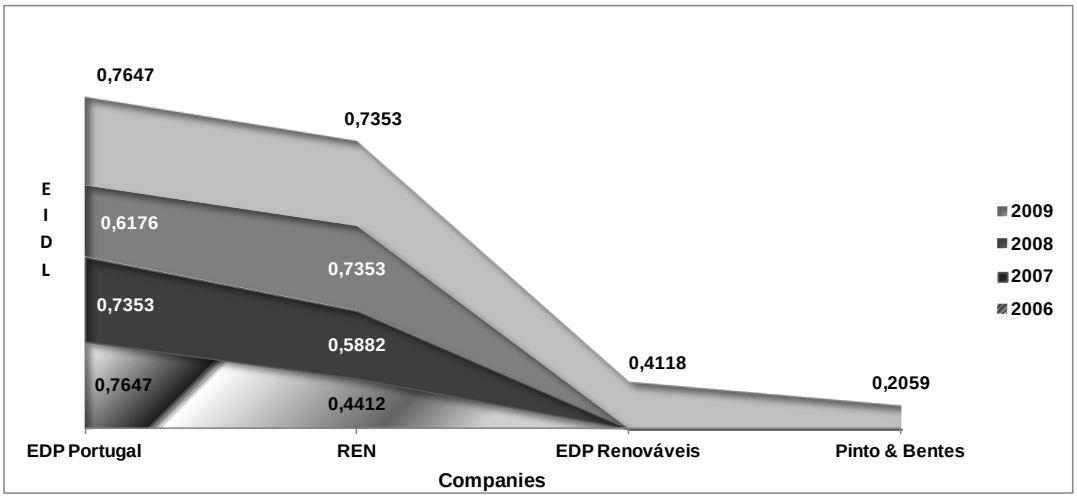


Figure 1 : Environmental information disclosure level, GRI, Portugal, 2006 to 2009

Source: Own computations.

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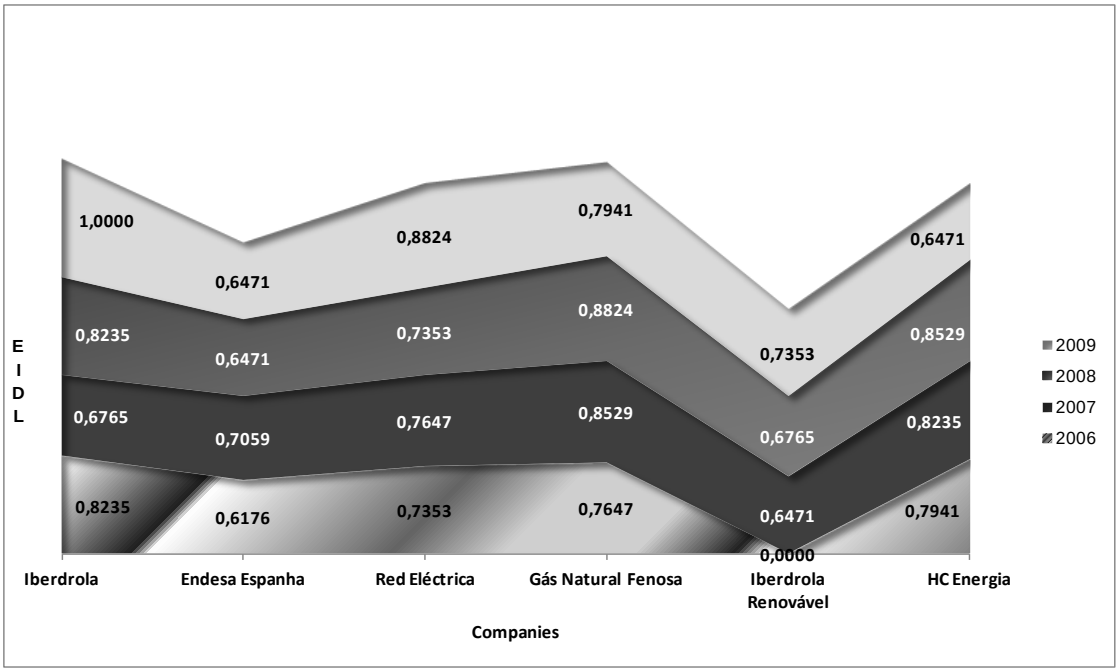


Figure 2 : Environmental information disclosure level, GRI, Spain, 2006 to 2009

Source: Own computations.

Table 2 puts together information concerning not only firms belonging to the four segments of the value chain of the electricity supply industry (ESI), i.e.: generation, transportation, distribution and supply, but also the major holding firms. Column 'GRI' shows the number of reports by country, while the 'Electric sector' column gives the same information but exclusively for companies in the ESI.

Table 2 : Disclosure of the GRI orientations, electric sector, Brazil and Iberian Peninsula. 2006-2009

	2006		2007		2008		2009	
Country	GRI	Electric Sector	GRI	Electric Sector	GRI	Electric Sector	GRI	Electric Sector
Brazil	18	8	32	21	71	20	67	15
Portugal	6	2	18	2	25	2	28	4
Spain	120	6	128	7	138	6	118	6
Total	144	16	178	30	234	28	213	25

Source: Own computations based on GRI October 2010 data.

Brazilian (21) and Iberian (10) companies in the sample show contexts with both similar and different characteristics, as shown in Table 3. The electricity sector has oligopolistic characteristics. It consists of a small number of companies controlled direct, or indirectly, by large private or state economic groups. Given the characteristics of high value fixed assets/intangible and specific assets used in operating activities, it is an industry made up of huge companies.

Table 3 : Characteristics of the companies in the sample

Aspect	Brazil	Iberian Peninsula
Geographic area of the country of origin.	Huge territorial extension. Brazil 8.511.965 Km².	Small territorial extension. Portugal: 92.389 Km² and Spain 504.782 Km².
Number of consumers (*) in the country.	63.892.929	Portugal: 6.316.180 and Spain: 23.759.685.
Quantity of companies listed in	23	10

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the website Global Reporting Initiative – GRI – 2006 to 2009.		
Market concentration	Oligopoly	Oligopoly
Companies sizes	Large company	Large company

(*) In 2008 – social exercise adopted as reference to the calculation of the sample.

Source: Own computations based on ANEEL (2010), GRI (2010), CNE (2009), ERSE (2009).

However, they use the same methodological approach to the analysis of corporate sustainability: the Global Reporting Initiative.

Previous studies by Liu and Anbumozhi, 2009; and Jose and Lee, 2007 provide the general framework metrics. Complementarily, findings by Skouloudis et al, 2010; Liu and Anbumozhi, 2009; Brown et al, 2009; Panayiotou et al, 2009; Gallego, 2006 and Morhardt et al, 2006 allowed us to account for GRI indicators in the metric. The investigation outlines a metric of 34 environmental indicators (17 essential indicators, 12 additional and 5 specific), as shown in Table 4.

Table 4 : Metric with dimensions, sub-dimensions and indicators for calculating EIDL

		Environmental Performance Indicators
		Aspect: Materials
Core	EN1	Materials used by weight or volume
	EN2	Percentage of materials used that are recycled input materials
		Aspect: Energy
Core	EN3	Direct energy consumption by primary energy source
	EN4	Indirect energy consumption by primary source
Add	EN5	Energy saved due to conservation and efficiency improvements
	EN7	Initiatives to reduce indirect energy consumption and reductions achieved
		Aspect: Water
Core	EN8	Total water withdrawal by source
Add	EN9	Water sources significantly affected by withdrawal of water
	EN10	Percentage and total volume of water recycled and reused
		Aspect: Biodiversity
Core	EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas
	EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas
SU	EU13	Biodiversity of replacement habitats compared to the biodiversity of the affected areas
Add	EN13	Habitats protected or restored
	EN14	Strategies, current actions, and future plans for managing impacts on biodiversity

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	EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk
		Aspect: Emissions, Effluents, and Waste
Core	EN16	Total direct and indirect greenhouse gas emissions by weight
	EN17	Other relevant indirect greenhouse gas emissions by weight
Add	EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved
	EN19	Emissions of ozone-depleting substances by weight
	EN20	NOx, SOx, and other significant air emissions by type and weight
Core	EN21	Total water discharge by quality and destination
	EN22	Total weight of waste by type and disposal method
	EN23	Total number and volume of significant spills
Add	EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally
	EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff
		Aspect: Products and Services
Core	EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation
		Aspect: Compliance
Core	EN28	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations
		Aspect: Transport
Add	EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce
		Aspect: Overall
Add	EN30	Total environmental protection expenditures and investments by type
		Aspect: Local Communities
Core	SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs
SU	EU20	Approach to managing impacts of involuntary displacement

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	EU21	Measures for contingency planning, management plan and training programs for disasters / emergencies, and plans for recovery / restoration
		Organizational Profile
SU	EU1	Installed capacity (MW), broken down by primary energy source and the regulatory system
SU	EU5	Allocation of permissions (allowances) emissions of CO_2 equivalent, broken down by market structure of carbon credits

Source: GRI (2010).

Several approaches are possible when developing a scoring scheme to determine the level of disclosure in annual reports, and traditionally both a weighted disclosure index and an non-weighted disclosure index have been used by researchers. Those, such as Hossain and Hammami, 2009 and Cho and Patten, 2007, adopted dichotomous procedures in which an item scores one if disclosed, and zero if not disclosed, and this approach is conventionally termed the non-weighted approach. This study followed such dichotomous procedures.

The EIDL index of each company was calculated by adding individual scores and then dividing the result by the total maximum score that could be obtained in each case i.e. 34 points.

The method of calculating the disclosure score of each company can be expressed according to equation 1. (Hossain and Hammami, 2009).

Equation 1

$$EIDL = \sum_{j=1} \frac{d_j}{n}$$

where:

EIDL: the aggregate disclosure score;

d_j: 1 if the jth item is disclosed or 0 if it is not disclosed; and;

n: the maximum score each company can obtain. In this case, the key factor is whether or not a company discloses an item of information in the annual report.

The binary encoding technique was used for the content analysis. The technique of content analysis not only analyses the text, but also the details of context and inferences regarding the communication process with the aim of understanding the causes and background of the message, as well as its effects and consequences. The research is exploratory and uses the method of content analysis (Milne and Adler, 1999), together with the technique of documentary research for the analysis of sustainability reports published on websites of the companies in order to calculate the Environmental Information Disclosure Level.

Data analysis was performed with correspondence analysis. CA is an exploratory multivariate technique that converts frequency tables into graphical displays in which rows and columns are depicted as points (Greenacre 1984, 1989). Thus, CA is a method of visually representing the associations between different categorical variables, and it is most often employed as it is used here: a method for portraying data for visual inspection and analysis, rather than a method for testing statistical significance.

The analysis of the relationship between EIDL variables and country of location of a company used an interdependence technique called Correspondence Analysis (CA) in panel data, with a sample of 31 companies and 124 pieces of information regarding the period from 2006 to 2009.

Although the sample be characterized as small, it represents the entire universe of companies that published the report according to the GRI model and reported on the GRI website, except for a Brazilian company.The number of companies researched is compatible to other studies on the subject of voluntary environmental disclosure (Skouloudis *et al.*, 2010; Hossain e Hammami, 2009; García-Sánchez, 2008; Días-Sardinha e Reijnders, 2005; Campbell, 2004; Morhardt *et al.,* 2002).

A reliability test of the methodology was then performed. It is the Cronbach's alpha reliability coefficient that assesses the consistency of the entire range. This is the most widely used measure in exploratory studies such as these (Churchill Jr., 1986). The result shows that the metric of the study shows considerable consistency, considering that the values of Cronbach's alpha were always above 0.966 in the four periods.

The analysis of the organization profile was based on the year 2008 and GRI indicators were checked for the organizational profile. The indicator

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4.14, which informs the list of stakeholders of the organization, deals with stakeholder engagement and the management aspect of communication between stakeholders and the company.

IV. Results Analysis

The analysis of the results is divided in two parts. The first one addresses the descriptive statistics and the second one focuses on the CA.

a) Descriptive analysis

The analysis reveals that the companies in Portugal showed improvement in disclosure, see Figure 1. This is most notable with Energias de Portugal (EDP), which in addition to pioneering publication is also a reference on the quality of the report and the identification of indicators, Figure 1.

EDP Renováveis and Pinto & Bentes started their publications in 2009, and are, therefore, in the process of structuring data for the first period of evaluation of three years, where consistency and materiality reinforce one another.

In Spain, reports from Iberdrola, Red Eléctrica and Gás Natural Fenosa stand out at the level of both disclosure and presentation of the indicators. And, consequently, they had the greatest disclosure levels in 2009, as shown in Figure 2.

The environmental information disclosure level with the GRI model in Brazil showed a positive evolution in both quality and quantity, as shown in Table 1.

The disclosure report with the GRI indicators carried out by the companies of the sample is consistent. In 2006, only eight (8) Brazilian companies had done the disclosure. However, seven (7) companies maintained consistency of disclosure in the period from 2006 to 2009, as shown in Figure 3.

The Portuguese and Spanish companies also maintained consistency publishing in the four years. The disclosure was done by five (5) and two (2) companies, respectively.

With three (3) publications, there was also a consistency of one (1) Spanish company and five (5) Brazilian. This fact practically repeats the number of companies with two (2) report publications, which includes one (1) Spanish company and six(6) Brazilian. Portugal has two (2) companies that started to publish in 2009 and because of this they have only one publication.

In the Brazilian group, three (3) of them published a report only once (1) and show discontinuity of dissemination in the GRI.

Various companies have published the indicators' index, and its equivalent with the principles of the Global Compact. Some companies identify the indicator in the text of the page indicated in the index. However, there are still inconsistencies in this type of information in the reports surveyed.

The reports of the companies with more experience in disclosure show specific identification of the indicator in the report text and in the index. It is worth mentioning here the reports of Endesa (in Brazil and in Spain) and Iberdrola (in Brazil and in Spain) and the following companies: Companhia Energética de Minas Gerais (CEMIG), Energias do Brasil, Companhia de Transmissão de Energia Elétrica Paulista (CTEEP), AES Eletropaulo e Companhia Paulista de Força e Luz (CPFL) located in Brazil.

As for the identification of stakeholders for companies, there is a striking similarity between what is regarded as disclosure in Brazil and in the Iberian Peninsula. The analysis was conducted in 2008, considering a sample of 18 Brazilian companies and 8 Iberian companies. The shareholders/investors, consumers/clients, employees and community/society in general are the priority stakeholders. But it is not told how these stakeholders communicate their business interests.

The report lists the group of stakeholders, which is identified as being priorities for the sustainable management of the company. However, it is not known how these stakeholders communicate their interests to the companies.

It is important to mention that Brazil adopts a non-mandatory model of environmental disclosure whereas Portugal and Spain use a mandatory model. However, the structure of the GRI report, and its voluntary publication, show some similarly in all three countries.

This suggests that the use of GRI indicators favours a process of uniformity in the disclosure of environmental information.

b) Correspondence analysis

To examine whether there is a relationship between the country where a company is located (variable country) and the environmental information disclosure level (variable EIDL) the CA and the division in quartiles were used. The content analysis reveals that the maximum EIDL value of the sample is one, and the minimum is zero. A value of zero shows that the company has failed to publish a particular indicator.

The results given in Table 5 highlight a balance between the bad and regular, and good and very good categories. It is clear, in Table 5, that there is an even distribution of results between the two pairs of categories. This means that the sum of 'bad' and 'regular' categories in percentage terms (52,42%) is almost the same as the sum of 'good' and 'very good' categories in the same percentage terms (47.58%).

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Table 5 : Contingence table, Country x EIDL, Brazil, Portugal and Spain, 2006-2009

Country	Environmental Information Disclosure Level (EIDL)				Active Margin
	Bad	Regular	Good	Very Good	
Brazil	26	29	14	15	84
Portugal	6	3	5	2	16
Spain	1	0	11	12	24
Active Margin	33	32	30	29	124

Source: Own computations.

The high number apparent in the bad category (33) is explained by the number of non-published reports by the companies involved during the period of study. This has no individual qualitative representation because the first time the organizations published their GRI reports they were consistent in the publications and in the disclosure of their indicators and advanced in materiality. As 14 Brazilian companies did not publish any sustainability reports during the period under study, the "bad" category shows a result of 78.79%.

The very good category of 29 companies makes up 23.4% of the total of the sample. Brazil is highlighted in this category with 15 reports, Spain with 12 and Portugal with 2. Considering each individual sample, Spain holds the leading position with 50%, followed by Brazil with 17.9% and Portugal with 12.5% of the published reports.

The graphical representation of the EIDL variables and country of the companies' location is presented in the perceptual map, Figure 4.

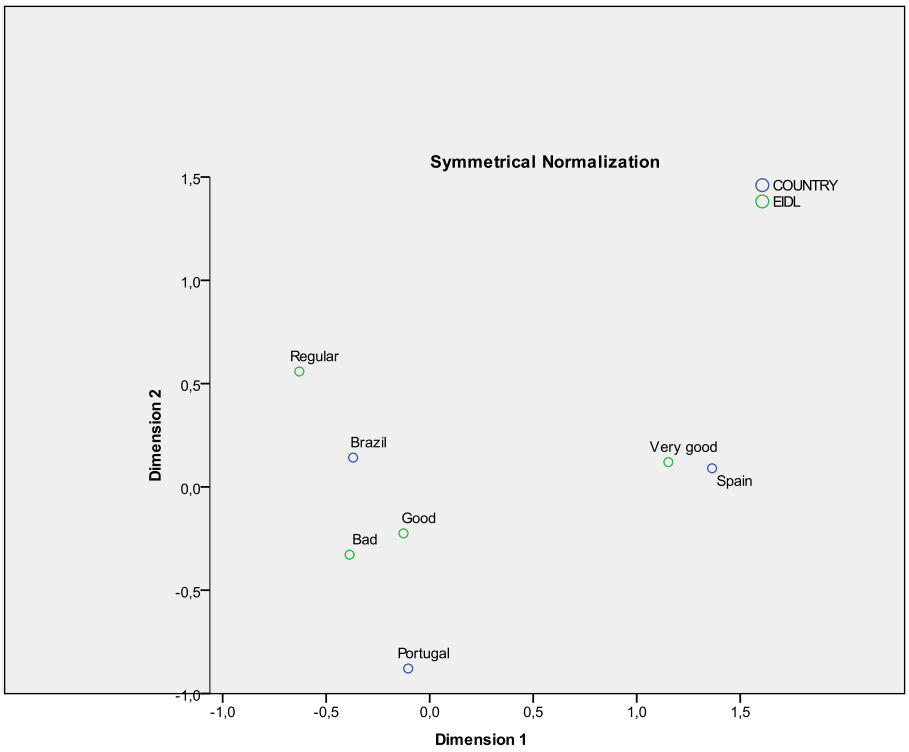


Figure 4 : Perceptual Map

Based on this graph, it is possible to see that the companies' disclosure level regarding the electric power sector in Brazil comes between regular and bad. While in Portugal it is between 'good' and 'bad', Spain shows results close to 'very good'.

The performance of the Spanish companies is more balanced, focusing on good and very good. Spain has a law that enforces environmental disclosure. A large number of companies publish in accordance with

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the guidelines of the GRI and the energy sector is less concentrated in Spain than in Portugal.

Brazilian companies produced 58 publications in the period, but already show a trend in the disclosures with very good disclosure level. In 2006 and 2007, there was a publication each year considered to be very good; in 2008 there were five (5) and in 2009, eight (8).

Despite correspondence analysis not being able to explain a cause and effect relationship between variables, the historical context of the electricity sector in Brazil suggests that the use of environmental information for shareholders and investors, the performance of the regulatory agency (ANEEL) and government regulation in respect environment may be contributing to improve the performance of environmental disclosure in the sector in Brazil. The stakeholder analysis shows that the Brazilian market and the Iberian Peninsula have a focus on the shareholder/ investor. The participation of companies on the stock exchange contributes to an increase in the level of both social and environmental disclosure (Brown *et al.*, 2009).

V. Conclusion

Entities started to incorporate the philosophical concept of sustainable development into their strategies and to use the GRI indicators as a methodological approach to follow the environmental performance.

The results obtained show that the Spanish companies' reports have a very good disclosure level, the Portuguese companies have level of disclosure that is regular and the Brazilian companies show values between regular and bad.

Analysing the individual results over a period of time, it seems that Brazilian companies are in the process of improving their disclosure level, while the Iberian companies are maintaining theirs. This is because the number of Brazilian companies is higher than in relation to the Iberian Market, due to the diversity in its geography and the number of its consumers.

The identification of priority stakeholders to the companies is similar in all three countries. As for companies' communication processes with these stakeholders some similarities have been noted. The main communication channels in use are the telephone, e-mail and/or the use of websites. The conclusions are limited to the sample and the period under study and to the methodology used. It is important to note that the results obtained are site-and industry-specific, and therefore should not be generalized. Nevertheless, they have the merit of serving as the grounds for future research into environmental disclosure in other sensitive industries and might also influence the regulatory policy in the electricity sector

VI. Acknowledgements

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Abbreviations

ANEEL	National Electric Energy Agency
CA	Correspondence Analysis
CCEE	Câmara Comercialização de Energia Elétrica
CEMIG	Companhia Energética de Minas Gerais
CMVM	Comissão de Mercado de Valores Mobiliários
CNMV	Commissión Nacional del Mercado de Valores
CPFL	Companhia Paulista de Força e Luz
CSR	Corporate Social Responsibility
CTEEP	Companhia de Transmissão de Energia Elétrica Paulista
CNE	Comisión Nacional de Energia
CVM	Comissão de Valores Mobiliários
EDP	Energias de Portugal
EIDL	Environmental Information Disclosure Level
ERSE	Entidade Reguladora dos Serviços Energéticos
ESI	Eletricity Supply Industry
GDP	Gross Domestic Product
GRI	Global Reporting Initiative
HEP	Hydroelectric Energy Plant

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IAA	Institute of Accounting and Auditing
MERCOSUR	Mercado Comum do Sul
MIBEL	Iberian Market of Electricity
OMEL	Operador de Mercado Elétrico
OMIP	Operador de Mercado Elétrico-Pólo Português
ONS	National Power System Operator
OR	Ordinary Regime
UNEP	United Nations Environmental Program

References Références Referencias

1. Aerts, W.; Cormier, D., 2009. Media legitimacy and corporate environmental communication. Account. Org. Soc. 34, 1–27.
2. Ahmad, Z., Hassan, S., Mohammad, J., 2003. Determinants of environmental reporting in Malaysia. Int. J. Bus. Stud. 11, 69-90.
3. Almeida, F.J.R., 2007. Ética e desempenho social as organizações: um modelo teórico de análise dos fatores culturais e contextuais. Rev. Adm. Contemp. 11, 1-10.
4. Amorim, F., Silva, P. Vasconcelos, Abreu, I. and Martins, V., 2012. Assessment of generation legacy contracts'costs in the futurePortuguese Electricity System. 9th International Conference on the European Energy Market (EEM'12).
5. ANEEL - Agência Nacional de Energia Elétrica, 2010. The Electronic Farmer http://www.aneel.gov.br/. Acessed in 30 oct. 2010.
6. Berns, M., Townend, A., Khayat, Z., Balagopal, B., Reeves, M., Hopkins, M. S., Kruschwitz, N., 2009. Sustainability and competitive advantage. Sloan Manage. Rev. 51, 1-26.
7. Bolívar, M.P.R., 2009. Evaluating corporate environmental reporting on the internet: The utility and resource industries in Spain. Bus. Soc. 48, 179-205.
8. Braga, J.P., Oliveira, J.R.S., Salotti, B.M., 2009. Determinantes do nível de divulgação ambiental nas demonstrações contábeis de empresas brasileiras. Rev. Contab. Univers. Fed. Ba. 3, 81-95.
9. Brammer, S., Pavelin, S., 2006. Voluntary environmental disclolsures by large UK companies. J. Bus. Financ. Account. 33, 1168-1188.
10. Brown, H.S., Jong, M., Levy, D.L., 2009. Building institutions based on information disclosure: lessons from GRI's sustainability reporting. J. Clean. Prod. 17, 571–580.
11. Calixto, L., Barbosa, R.R., Lima, M.B., 2007. Disseminação de informações ambientais voluntárias: relatórios contábeis versus internet. Rev. Contab. Fin. 18, 84-95.
12. Campbell, D. (2004) A longitudinal and cross-sectional analysis of environmental disclosure in UK companies—a research note. *Brit. Account. Rev*. 36, 107–117.
13. Cho, C.H., Patten, D. M., 2007. The role of environmental disclosures as tools of legitimacy: a research note. Account. Org. Soc. 32, 639-647.
14. Churchill Jr., G.A., 1986. A paradigm for developing better measures of marketing constructs. J. Market. Res. 16, 64-73.
15. CNE – Comisión Nacional de Energía, 2009. El consumo eléctrico en el mercado peninsular em el año 2008. Dirección de Relaciones Institucionales.
16. Cormier, D.; Gordon, I.M.; Magnan, M. (2004) Corporate Environmental Disclosure: Contrasting Management's Perceptions with Reality. *J. Bus. Ethics.* 49(2), 143–165.
17. Cormier, D.; Magnan, M. (2003) Environmental reporting management: a continental European perspective. *J. Account. Public Policy*. 22, 43–62.
18. Dias-Sardinha, I.; Reijnders, L. (2005) Evaluating environmental and social performance of large Portuguese companies: A Balanced Scorecard approach. *Bus. Strat. Env.* 14, 73-91.
19. ERSE - Entidade Reguladora dos Serviços Energéticos, 2009. Caracterização da procura de energia elétrica em 2010. 1-124.
20. Ethos – Instituto Ethos, 2010. *Indicadores*. The Electronic Farmer http://www.ethos.org.br/index.php. Acessed in 30 oct. 2010.
21. Eugénio, T., 2010. Advance in the social and environmental disclosures by companies and the legitimacy theory. Ver. Univ. Cont. 6, 102-118.
22. Gallego, I. (2006) The use of economic, social and environmental indicators as a measure of sustainable development in Spain. *Corp. Soc. Responsib. Environ. Manag*. 13, 78–97.
23. García-Ayuso, M.; Larrinaga, C. (2003) Environmental disclosure in Spain: corporate characteristics and media exposure. *Spanish J. Financ. Account.* 115, 184-214.
24. García-Sánchez, I.M. (2008) Corporate Social Reporting: Segmentation and Characterization of

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Spanish Companies. *Corp. Soc. Responsib. Environ. Manag*. 15, 187-198.

25. Gibson, K., O'donovan, G., 2007. Corporate governance and environmental reporting: an Australian study. Corp. Gov. 15, 944-954.
26. GRI - Global Reporting Initiative, 2010. GRI report list. The Electronic Farmer http://www.globalreporting.org/GRIReports/GRIReportsList/. Acessed in 30 oct. 2010.
27. Greenacre, M.J., 1989. The geometric interpretation of correspondence approach. J. Am. Stat. Assoc. 82, 437-447.
28. Greenacre, M.J., 1984. Theory and applications of correspondence analysis. Academic Press, London.
29. Holland, L., Foo, Y.B., 2003. Differences in environmental reporting practices in the UK and the US: the legal and regulatory context. Brit. Account. Rev. 35, 1-18.
30. Hossain, M., Hammami, H., 2009. Voluntary disclosure in the annual reports of an emerging country: The case of Qatar. Adv. Account. Inc. Adv. Int. Account. 25, 255-265.
31. IAC – InterAcademy Council, 2007. Lighting the way: Toward a sustainable energy future. IAC, Amsterdam.
32. IEA – International Energy Agency, 2012. World energy outlook 2012. The Electronic Farmer www.worldenergyoutlook.org Acessed in 18 feb. 2013.
33. Jose, A., Lee, S., 2007. Environmental reporting of global corporations: A content analysis based on website disclosures. J. Bus. Ethics. 72, 307–321.
34. Lima, G.A.S.F. (2007) *Utilização da teoria da divulgação para avaliação da relação do nível de disclosure com o custo da dívida das empresas brasileiras*. 118p. Thesis (Ph.D. in Accounting and Accounting). Faculty of Economics and Business Administration. University of Sao Paulo.
35. Liu, X., Anbumozhi, V., 2009. Determinant factors of corporate environmental information disclosure: an empirical study of Chinese listed companies. J. Clean. Prod. 17, 593-600.
36. Milne, M.J., Adler, R.W., 1999. Exploring the reliability of social and environmental disclosures content analysis. Account. Auditing Account. J. 12, 237–256.
37. Monteiro, S.M.S., Aibar-Guzmán, B., 2010. Determinants of environmental disclosure in the annual reports of large companies operating in Portugal. Corp. Soc. Responsib. Environ. Manag. 17, 185-201.
38. Morhardt, J. E.; Baird, S.; Freeman, K. (2002) Scoring corporate environmental and sustainability reports using GRI 2000, ISO 14031 and other criteria. *Corp. Soc. Responsib. Environ. Manag*. 9, 215-233.
39. Múrcia, F.D. (2009) *Fatores determinantes do nível de disclosure voluntário de companhias abertas no Brasil*. 182p. Thesis (Ph.D. in Accounting and Accounting). Faculty of Economics and Business Administration. University of Sao Paulo.
40. Panayiotou, N.A.; Aravossis, K.G.; Moschou, P. (2009) A New Methodology Approach for Measuring Corporate Social Responsibility Performance. *Water Air Soil Poll.* 9, 129–138.
41. Prado-Lorenzo, J., Gallego-Alvarez, I., Garcia-Sanchez, I.M., (2009) Stakeholder engagement and corporate social responsibility reporting: the ownership structure effect. Corp. Soc. Responsib. Environ. Manag. 16, 94-107.
42. Red Eléctrica de España, 2009. El sistema eléctrico españhol 2008. Gráficas Monterreina, España.
43. Reverte, C., 2009. Determinants of corporate social responsibility disclosure ratings by spanish listed firms. J. Bus. Ethics. 88, 351-366.
44. Rover, S., Tomazzia, E.C., Murcia, F.D., Borba, J.A., 2009. Explicações para a divulgação voluntária ambiental no Brasil utilizando análise de regressão em painel. In: III Congresso IAAER: ANPCONT, São Paulo, Brazil.
45. Rover, S., Alves, J.L., Borba, J.A., 2005. Análise do conteúdo ambiental das demonstrações contábeis publicadas no Brasil e nos Estados Unidos: um estudo nas companhias com ADR nível III. In: 5° Congresso USP de Controladoria e Contabilidade, São Paulo, Brazil.
46. Sarmento, M., Durão, D., 2009. Comparative study of environmental strategies: The case of Portuguese industries. Energy J. 1-7.
47. Sangle, S., Babu, P.R., 2007. Evaluating sustainability practices in terms of stakeholders' satisfaction. Internat. J. Bus. Gov. Ethics. 3, 56-76.
48. Silva, Patrícia, 2007. O Sector da Energia Eléctrica na União Europeia: Evolução e Perspectivas/The EU electricity supply industry: evolution and perspectives. ed. 1, 1 vol. Coimbra: Coimbra University Press.
49. Simnett, R., Vanstraelen, A., Chua W. F., 2009. Assurance on sustainability reports: an international comparison. Account. Rev. 84, 937-967.
50. Skouloudis, A., Evangelinos, K., Kourmousis, F., 2010. Assessing non-financial reports according to the Global Reporting Initiative guidelines: evidence from Greece. J. Clean. Prod. 18, 426–438.
51. Vaninsky, A.Y. (2009) Environmental performance of the United States energy sector: A DEA model with non-discretionary factors and perfect object. *World Academy of Science, Engineering and Technology*. 54, 139-144.

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52. WBCSD - World Business Council for Sustainable Development, UNEP - United Nations Environment Program, 1997. Eco-efficiency and cleaner production – charting the course for sustainability. UNEP, Paris.

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References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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