

Globalization and Health Gap between Countries

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Abstract

This paper contributes to the empirical literature by investigating globalization as a channel of health gap between Organisation for Economic Co-operation and Development (OECD) and Sub-Saharan Africa (SSA) during the period 1980-2009 and draws out some policy implications. To control for the endogeneity problem, Arellano – Bond (1991) General Method of Moments (GMM) estimator is used. The empirical results show that globalization has *insignificant* impact on the health gap between OECD and SSA. The result is consistent with some previous studies on the impact of globalizat on developing countries.

Keywords: Globalization, Health Gap, life expectancy at birth, dynamic panel data

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1. Introduction

A just released Human Development Report (UNDP, 2013) had a most welcome positive message: over 40 developing countries did much better than expected in human development terms, with progress accelerating noticeably in the past decade and this success looks sustainable. Hence, the title of the report, “The Rise of the South: Human Progress in a Diverse World”. Regrettably and disappointingly, all ten countries in sub-Saharan Africa examined in this report were excluded from the “rising” South. This is not surprising as there are innumerable studies documenting the dismal performance on health and the growing within-country inequalities in health of virtually every country in Africa.

Africa is most unlikely to reach most the health-related Millennium Development Goals (MDGs) declared in 1990 and to be achieved by 2015. The MDGs specific to health include the reduction of the under-five mortality rate by two-thirds; the reduction of maternal mortality rates by three-quarters; achievement of universal access to reproductive health; halt and begin to reverse the spread of HIV/AIDS; achieve universal access to treatment of HIV/AIDS, halt and reverse the incidence and prevalence of malaria, tuberculosis, and other major diseases; provide safe drinking water and basic sanitation to at least half the population; and provide access to affordable essential drugs. Hardly any African country is likely to meet any of these goals. The gaps are substantial, and inequalities as big or bigger than ever. Notably, many of the health problems that Africa faces are preventable (Bishaw, 2011).

“The United Nations is starting to map out new goals for the years following 2015 expiration of the current MDGs” (Gates, 2013, 2). Sadly many countries including the USA, Canada, Japan, Netherlands, Germany are reducing their budgets. Almost all of the advanced industrialized countries face fiscal weakness. The fiscal capacity of most African countries is dismal with future prospects uncertain at best.

Close to 20 percent of adults in Southern Africa carries HIV (Hickel, 2012, 1). Africa has over two-thirds of the global cases of HIV/AIDS. While accounting for 14 percent of the world’s population, Africa has 60 percent of the world’s malaria cases and 30 percent of tuberculosis cases. AIDS has already orphaned over 12 million children. The average daily death toll from AIDS in South Africa alone is over 1,000. “In Swaziland”, HIV carriers “reaches 42 percent in antenatal clinics” (Hickel, 2012, 1). Africa also has the world’s most indebted countries, with government revenues squeezed by decreasing tariff and customs revenue compelled by trade liberalization and structural adjustment policies urged by the IMF and World Bank. Health budgets were and are being consumed by the rising costs of treating HIV infected adults.

Among the principal drivers of HIV/AIDS is the rotating migrant labour system deployed by mines, plantations and factories. In “South Africa, HIV prevalence is nearly three times higher among migrant workers than among non-migrants. Poor health care services in these zones means that even easily curable STIs go untreated, which makes HIV transmissions up to 40 percent more likely. That is why the highest prevalence rates in the world are found at migrant workplaces, sometimes reaching as high as 70 percent” (Hickel, 2012, 2). The other key driver of

HIV in Africa is women exchanging sex for money, driven mostly out of desperate economic circumstances.

Previous studies did not extensively investigate the impact of globalization on health gap between developing and developed countries (Nissanke and Thorbecke, 2007). To *fill* this gap in the literature, this study investigates the hypothesis that globalization is the channel of the health gap between SSA and OECD countries. The remainder of this study is organized as follows.

Section 2 discusses the relationship between globalization and health. Section 3 covers the empirical specification. Section 4 presents the data. Section 5 discusses the empirical findings. Section 6 has the conclusions.

2. Globalization-Health Nexus

Globalization was largely a Western-driven phenomenon at the behest of multinational corporations, aided and abetted by the IMF, World Bank and the WTO. The social, health and economic inequalities in Africa are not merely the legacies of colonialism but exacerbated by trade and financial globalization. Inequalities between and within countries worsened. “South Africa is considered to have one of the world’s most unequal economy with a Gini coefficient measuring 0.58. However, (it) could be as high as 0.68” (Triegaardt, 2006, 5).

One of the concomitant effects of globalization is the reduction in the “Welfare State” role of governments, resulting in the intensification of poverty and exclusion of marginalized groups, particularly the poor, women, and non-urban populations. This was further strengthened by the imposition of structural adjustment programs (SAP) by the IMF and World Bank which required

African states to cut back on health, education and welfare provisions, and often required, or at least encouraged, the introduction of user fees and the privatization of health services. SAP was launched in 1987 by the World Bank with a major emphasis on financial and macroeconomic goals rather than social sector (including health) goals. SAP also diverted foreign aid away from its intended use in favor of deficit reduction and the accumulation of currency reserves. SAP diminished the capacity of poor countries to provide even the most basic health care services for the population, depriving the very poor of the care they had hitherto received. SAP often led to devaluation of the currency thereby, raising the cost of importing health goods (drugs, devices, supplies, technology and medical equipment). “A review of studies of the health effects of structural adjustment found a preponderance of negative effects among 76 studies identified, especially with respect to Africa” (Labonté and Schrecker, 2007, part 2, 6).

In Africa, private insurance and non-insured out-of-pocket spending (much of it by the poor) make up the bulk of health care spending. Out-of-pocket payments especially user fees accounts for more than 25 percent of total health care expenditure in about 75 percent of African countries. Private health insurance or medical schemes usually cover the higher income urban populations. Public expenditures are often stagnant or declining. Yet governments typically subsidize private insurance and spending by corporations (Kevany et al, 2012; McIntyre et al., 2005). In 2001, African Heads of State set a target of 15% of total government expenditure being devoted to the health sector. In 60 percent of African countries the actual allocation of public expenditures for health is well below 10%. About 35% of the countries get about a quarter of their health care spending through foreign aid, with 5% of the countries relying on foreign aid for

about half of their health care spending. In all African countries, publicly financed programs lose doctors, nurses, and related manpower to the private sector or to other countries.

The shortage of health care personnel is endemic and serious across all of Africa (Department of Health, 2005; Lancet Editorial, 2011; WHO, 2006). “Africa represents a classic example of the inverse care law; the lowest socio-economic groups bear the largest burden of ill-health, but have the lowest level of health service utilization and derive the least benefits from service use” (Ataguba et al, 2011, 8).

Most African countries are rich in mineral, oil and gas resources or agricultural potential, which could be exploited to benefit all residents. Paradoxically, there is extreme poverty and gross inequalities in virtually every social indicator in most of such resource rich countries. The term “resource curse” or “oil curse” aptly describes this paradox. Such countries are observed to be highly corrupt with authoritarian modes of governance. These states, such as those in the Niger Delta, Angola, Chad and Sudan have high rates of child mortality and malnutrition, low life expectancy and low levels of public spending on health care (Calain, 2008).

Resource extraction is capital-intensive and does not generate much employment opportunities. Sub-Sahara Africa is “the fastest growing oil producing region worldwide” (Calain, 2008, 2). Corporations in the extractive industries do provide health services for their employees but is typically insulated from surrounding communities. Their main purpose is to improve employee morale and public relations, and serves as a social license to operate their business interests. Even Botswana (diamonds instead of oil) does not perform well on equity. Its “life expectancy at

birth remains low (48.1 years in 2005), (and its) GDP per capita rank minus HDI rank (an indicator of performance in translating the society's wealth into social development) is currently (2007-08) the lowest (minus 70) among all countries, considered in the latest Human Development Report" (Calain, 2008, 11). It is difficult not to conclude that resource extraction is not geared to benefit local communities but rather to meet the needs of industrialized countries (Labonté and Schrecker, 2007, part 1; Coburn and Coburn, 2007).

Inequalities in health is hardly unique to sub-Sahara Africa. A recent study (Boutayeb and Helmert, 2011, 5) concluded that "during the last decades, North African countries have seen a noticeable growth in terms of economic, social and health indicators. Unfortunately, this growth has not been enjoyed equally by different socioeconomic groups of the same country. Sharp social inequalities and health inequities are found between rural and urban regions and wealth-income groups... postnatal mortality may be five times greater in children belonging to the poorest quintile, .. post natal mortality is 2.5 times greater in rural areas than urban cities".

3. Empirical specification

To test the hypothesis that globalization affects health gap between OECD and SSA countries, we specify the following dynamic panel data regression:

$$\text{Health_Gap}_{it} = \beta_1 \text{Health_Gap}_{i,t-1} + \beta_2 \text{Glob_Index}_{it} + \varepsilon_{it} \quad (\text{Equation 1})$$

Where: Health_Gap is the relative health gap between OECD and SSA countries, measured by life expectancy at birth, based on Li and Liu (2005). Glob_index is the globalization index at time t. The construction of globalization index will be discussed in section 3. ε_{it} is the error term.

$$\varepsilon_{it} = \nu_i + e_{it} \quad \text{Equation (2)}$$

Equation (2) tells us that the unobserved country-specific effect ν_i and the observation specific errors e_{it} are the two components of the error term in equation (2). The use of dynamic panel data model and Arellano–Bond dynamic panel GMM estimators will be justified in the empirical findings section.

4. Data

The panel dataset of this study contains data for 37 SSA countries (see appendix A). To examine the overall effect of globalization, we use data from Swiss Federal Institute of Technology (KOF, 2012) for the globalization index. “Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.” [World Bank, 2012]. To construct this index, the percentiles of the original distribution are used to transform each variable to an index. In addition, the weights for each variable are calculated based on principal components analysis. KOF (2012) index globalization index captures the economic, social, and political dimensions of globalization. Each dimension has number of variables (see table 1).

Table (1) KOF Index of Globalization (numbers in parentheses are the weights for each variable).

Economic Dimension (36%)	Social Dimension (38%)	Political Dimension (26%)
i) Actual Flows (50%) (1) Trade (percent of GDP) (16%) (2) Foreign Direct Investment flows (percent of GDP) (21%) (3) Foreign Direct Investment, stocks (percent of GDP) (23%) (4) Portfolio Investment (percent of GDP) (19%) (5) Income Payments to Foreign Nationals (percent of GDP) (22%) ii) Restrictions (50%) (1) Hidden Import Barriers (24%) (2) Mean Tariff Rate (28%) (3) Taxes on International Trade (percent of current revenue) (28%) (4) Capital Account Restrictions (20%)	i) Data on Personal Contact (29%) (1) Outgoing Telephone Traffic (14%) (2) Transfers (percent of GDP) (8%) (3) International Tourism (27%) (4) Foreign Population (percent of total population) (25%) (5) International letters (per capita) (27%) ii) Data on Information Flows (35%) (1) Internet Hosts (per 1000 people) (20%) (2) Internet Users (per 1000 people) (24%) (3) Cable Television (per 1000 people) (20%) (4) Trade in Newspapers (percent of GDP) (14%) (5) Radios (per 1000 people) (23%) iii) Data on Cultural Proximity (37%) (1) Number of McDonald's Restaurants (per capita) (40%) (2) Number of IKEA (per capita) (40%) (3) Trade in books (percent of GDP) (20%)	(1) Embassies in Country (35%) (2) Membership in International Organizations (36%) (3) Participation in U.N. Security Council Missions (29%)

Source: KOF (2012), Dreher (2006) and Dreher et al. (2008)

In the next section, we will present the empirical results of the impact globalization on health gap between OECD and SSA during the period 1980-2009.

4. Empirical findings

There is a great potential for endogeneity problem in equation (1) because the reverse or feedback causality that is indicated in previous studies (e.g. Bergh and Nilsson (2010)). This problem can be solved by using Arellano – Bond (1991) difference General Method of Moments (GMM)

estimator first suggested by Holtz-Eakin et al. (1988). Using first difference GMM estimator, equation (1) is transformed into equation (3):

$$\Delta \text{Health_Gap}_{it} = \beta_1 \Delta \text{Health_Gap}_{i,t-1} + \beta_2 \Delta \text{Glob_Index}_{it} + \Delta \varepsilon_{it} \quad (3)$$

Table (2) presents the empirical results of equation (3).

Table (2) presents the results of dynamic panel data regression for the $\Delta \text{Health Gap}_{it}$ variable, difference GMM Model; Values in parentheses are t-statistics.

Regression Number	Regression (1)
$\Delta \text{Health_Gap}_{i,t-1}$.7944528 (16.76)
$\Delta \text{Glob_Index}_{it}$	-.0000861 (-0.98)
Arellano-Bond test for AR(2) in first differences	Prob > z = 0.134
Hansen (1982) test of overid. Restrictions	Prob > chi2 = 0.982
Number of groups	37
Number of observations per group	28
Number of observations	1036

The Arellano-Bond test shows that no autocorrelation at 5% significance level. The Hansen (1982) test shows that the instruments as a group are exogenous. This implies that the instrumental variables are uncorrelated with residuals. The main result of regression (1) shows that globalization has insignificant impact on the health gap between SSA and OECD. This result can be justified by two points. Firstly, developing countries (e.g. SSA countries) benefit less from globalization than developed countries (e.g. OECD countries). This is mainly due to the weakness of human development (see Elmawazini et al. (2013)) and technological capabilities of

SSA and other developing countries (see Stiglitz (2006)). Secondly, some international organizations (e.g. IMF and WTO) policies have negative impact¹ on developing countries (Stiglitz, 2002). For example, a notable causative factor is the lack of pharmaceuticals mainly antiretroviral drugs (ARVs), that could have mitigated the transmission of HIV. ARV regimen costs between \$10,000 to \$15,000 per year whereas generic ARVs can be had for \$80. However, the WTO disallowed the generic treatment option on the basis of the 1995 TRIPS agreement and thus protecting the monopoly and patents of the major (Western) pharmaceutical corporations. Only in 2003, did the WTO bow to international pressure to permit Southern Africa to import generics. Incidentally, another disaster awaits, the WTO will end patent exemptions for poor countries after 2016².

5. Conclusion and Policy implications

Previous studies focus on the impact of globalization on economic growth and health indicators (e.g. life expectancy at birth) in developed and developing countries. This study contribute to the literature by empirically investigate the impact of globalization on health gap between SSA and OECD countries. The main result of this study shows that globalization has insignificant impact on the health gap between SSA and OECD. This result is consistent with some previous studies on the impact of globalization on developing countries (e.g. Elmawazini and Nawnkwo (2012) and Stiglitz (2006; 2002)).

What should be done to reduce health inequalities in Africa? There is reason to be optimistic.

“Evidence from Latin America indicates that measures of education and health have improved

¹ This may explain negative sign of the coefficient of globalization index in table (5.1).

² The HIV/AIDS pandemic is a major factor in Africa failing to achieve the MDGs mentioned in section 2.

significantly, and their inequality has decreased, in the past two decades, even as traditional income poverty has declined only a little and income inequality may well have increased” (Sahn and Younger, 2007, 11). Education and health inequalities are strongly influenced by public provision of basic services and social infrastructure, permitting greater access to these services by the poor, women, minorities and non-urban populations.

African countries need to spend more on primary health care with additional financial resources coming from debt forgiveness, reduction in subsidies for private health care, better tax collection and higher royalties and taxation of foreign corporations in extractive industries and tapping more foreign aid. They need to reclaim greater policy space so as not to be unduly hindered by TRIPS that results in costlier medicines and demand that bilateral and regional trade agreements not force them into the forms of privatization that may compel them to dismantle relatively equitable systems of social and health provisions. They need to resist or more effectively regulate the environmental damage many industries generate, including the trade in hazardous waste. They could do more by themselves, and in co-operation with the developed countries, to reduce the loss of health human resources through migration. Greater reliance on nurses and other non-doctor personnel is also a wiser solution to their health needs. The teaching of preventive behaviour in schools, and school-based provision of basic health and dental care has always been accepted throughout Africa but rarely acted upon. African countries must insist that foreign corporations care for the families of workers and not just the workers alone. It is also time to eliminate the migrant labour strategies long employed by corporation that result in much greater exposure to HIV/AIDS.

There is also an urgent need for African countries to heed the growing and extensive literature on the social determinants of health (Labonté and Schrecker, 2007, parts 1 to 3; Globalization Knowledge Network, 2007). Among the more important social determinants are education, employment, housing, crime reduction and personal security, and the fostering of a sense of community. A recent OECD study showed that men in rich countries with well-financed universal health insurance systems, noticeable health inequalities remain (Devaux and Looper, 2012). The reason is clear, there are non-health system determinants of health. “Treating existing disease is urgent and will always receive high priority but should not be to the exclusion of taking action on the underlying social determinants of health. Wider social policy will be crucial to reduction of inequalities in health” (Marmot, 2005, 1103).

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Appendix A

Table A.1 SSA Countries in the KOF Index

1	Benin	20	Madagascar
2	Botswana	21	Malawi
3	Burkina Faso	22	Mali
4	Burundi	23	Mauritania
5	Cameroon	24	Mauritius
6	Cape Verde	25	Mozambique
7	Central African Republic	26	Namibia
8	Chad	27	Niger
9	Comoros	28	Nigeria
10	Congo, Dem. Rep.	29	Rwanda
11	Congo, Rep.	30	Senegal
12	Cote d'Ivoire	31	Seychelles
13	Gabon	32	Sierra Leone
14	Gambia, The	33	South Africa
15	Ghana	34	Sudan
16	Guinea-Bissau	35	Swaziland
17	Kenya	36	Togo
18	Lesotho	37	Zambia
19	Liberia		