Chapter Seven: Globalisation and Maternal Health care Utilisation in sub-Saharan Africa

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0.1 Introduction

The empirical chapters of this thesis so far have considered inequalities in gender relations and human rights violations as factors affecting adequate utilisation of maternal health care in sub-Saharan Africa. We have established that these factors are a function of both local and global social and economic structures that are designed to disadvantage women. However, the debate about the importance of macro-structures to population health outcomes extend beyond gender and human rights. Globalisation and its determinants of health and healthcare has equally dominated the literature. This chapter discusses the role of economic, social and political globalisation on maternal health care utilisation in sub-Saharan Africa.

Research in the world systems and dependency theory traditions posit that suggests that unequal exchange relationships between the core and periphery countries result in the under-development of the latter. It has been argued that Economic linkages between developed and developing countries through trade, foreign direct investments and aid have been detrimental to health and quality of life in developing countries (Bradshaw and Huang, 1991; Shandra et al., 2005, 2004). The rationale behind this formulation is that globalisation indeed increases the rate of economic growth but at the same time increases income inequality which adversely affects well-being for a large number of people in developing countries (Wallerstein, 1974; Frank et al., 1967). Trade between the core and peripheral nations does not help this process because it is based on an unequal framework – the exchange of raw materials for processed goods and with long-term decline of prices for primary goods relative to finished goods. This results in weakened abilities to raise revenues by peripheral states and the lack of revenue limits the state's health expenditure which would affect the funding of health programmes, recruitment and motivation of health personnel, provision of adequate health facilities and and other social services that enhances life chances for many people (Frank et al., 1967). The quality of maternal health care is equally affected by lack of delivery care facilities and a cadre of lowly paid and demotivated staff.

However, some empirical studies have concluded that globalisation is good for public health, social development and developing countries' food security (Bergh and Nilsson, 2010; Martens et al., 2010; Mihalache-O'Keef and Li, 2011; Bahadur, 2011; Mukherjee and Krieckhaus, 2012). The mechanisms and pathways that make globalisation have a positive influence on population health are mainly economic in nature. Indeed globalisation has been found to stimulate economic growth through increased employment opportunities, reduction of prices for consumer goods, encouragement of entrepreneurship and improved economies of scale in production among others (Cornia, 2001). The precondition for this would be competitive domestic markets, strong regulatory institutions, moderate asset concentration and widespread access to public health services.

Globalisation can be linked with maternal health care utilisation through different pathways. The established association between globalisaton and economic growth for example, implies improved education levels and employment status in the population. It is well known that women who are educated, employed or otherwise those who live with partners who are in the higher socioeconomic status bracket, are more likely to utilise maternal health care (Adjiwanou et al., 2018; Simona et al., 2018; Stephenson et al., 2006; Ononokpono et al., 2013). Urbanisation is another factor that has been linked to globalisation (Goryakin et al., 2015). We know that in urban areas, the distance to health facilities is not such a big problem. Also that access to information about the dangers of delivering in homes and not visiting hospitals during pregnancy in urban areas. All these are drivers of positive maternal health care utilisation.

Many studies on the role of globalisation in health have often been criticised for their conceptualisation of globalisation as solely an economic process (Goryakin et al., 2015). Recently there has been a move to a more broader definition of globalisation that also captures the social and political aspects. Keohane and Nye (2000), formulated a more widely accepted measurements of globalisation which includes the three dimensions: a) economic: long distance flows of goods, capital and services as well as information and perceptions that accompany market exchanges, b) political: the diffusion of government policies internationally, and c) social: the spread of ideas, information, images and people. The KOF index of globalisation was created by Dreher et al. (2008) to include the three and some more sub-dimensions. For all dimensions, the index was formulated using comprehensive data sets from 1970 to 2015.

Social and political globalisation have implications on the use of maternal health care in sub-Saharan Africa through the extent to which information is spread across the population and the impact of integration of global norms respectively. Social and cultural globalisation

involves media freedom and cross-border movements of people and cultures. It is probable that women who have better exposed to technology, internet, mobile phones and tourists are likely to value maternal health services and use them more than those who aren't. Political globalisation on the other hand, has to do with participation in international norms and may also be a positive driver of maternal health care utilisation. Political globalisation is a precursor to greater economic integration by encouraging trade between countries (Dreher, 2006). Although the relationship between political globalisation and maternal health may not be straightforward, it is conceivable that those who live in countries that uphold international norms would use maternal health care services better than those who are not. This is what makes inclusion of the non-economic measures of globalisation important

This study makes use of the new measurement and its different aspects to investigate the role of globalisation in maternal health care utilisation in sub-Saharan Africa. It is important to include all the different aspects of globalisation in the analysis because they capture different dimensions that may not be related to each other, making it possible to delineate which aspects may be responsible for women's propensity to use maternal health care services. There are a few other studies that have used these measurements to study child mortality and obesity (Tausch, 2016; Goryakin et al., 2015)

0.2 Methods

0.2.1 The data

The data used in this chapter is the same as in all the empirical chapters of this thesis. The individual and community-level analysis (level 1 and 2) pools data from 35 Demographic and Health Surveys (DHS) conducted between 2006 and 2015 in sub-Saharan Africa. The country data which forms the main explanatory variables are derived from the KOF globalisation index at the KOF Swiss Economic Institute. The globalisation indexes are from 1 up to 100 and the countries with higher schores are the most globalised ones and the ones with lower schore are the least globalised. The definitions and measurements of the component variables of globalisation are described below.

0.2.2 Variable selection and operationalisation

The dependent variables are measures of maternal health care utilisation and have been described in previous chapters. They include antenatal care visits, institutional delivery

and postnatal care for mothers and newly borne children. Globalisation is the explanatory variable which is delineated into four components including total, economic, social and political globalisation.

Total globalisation: This is an aggregation of the economic, social and political components of globalisation. It is measured using the KOF Globalisation indicator.

Economic globalisation: This is the composite measure which is a component of the the KOF globalisation index. It comprises trade in goods and services (as a percent of GDP), foreign direct investments (% of GDP), portfolio investments (% of GDP), international debt (% of GPD), international reserves and international income payments (% of GDP). Others are trade taxes and tariffs, capital account openness and investment restrictions.

Social globalisation: The main measure is the KOF globalisation index and it is based on the international voice traffic, transfers, international tourism foreign population, migration (% of total population), patent applications, international students, high technology exports, trade in cultural goods, McDonald restaurants (per capita), telephone subscriptions, international airports, television ownership, press freedom, internet, gender parity and expenditure on education.

Political globalisation: The main measure in the KOF Globalisation index which is created from the number of embassies, participation in UN peace keeping missions, presence of international NGOs, international treaties signed and number of partners in investment treaties. This component is designed to measure the degree of a country's international political engagement (Dreher, 2006; Goryakin et al., 2015)

The study controls for important variables that may be associated with maternal health care utilisation or may be intervening in the relationship between globalisation and maternal health care localisation. These variables are defined at both community and country-levels and they include the age of women at birth, distance to health facilities, exposure to the media (news papers, radio and television) and place of residence (whether rural or urban).

0.2.3 Statistical analysis

Multilevel models were deemed appropriate for this analysis because it takes into account the nested structure of the data set which is often difficult to represent in a single-level modelling approach. In this case, individual women are nested within communities and within countries. Chapter four of this thesis provides details of the nature of the data sets used and the rationale for using multilevel modelling approaches. Taking into account the

hierarchical structure of the data set and the possible correlation that may exist within and between clusters and countries, a three-level random intercept logistic regression model was used.

Estimates for parameters were obtained using the Markov chain Monte Carlo (MCMC) methods in MLwiN through the `R2MLwiN` package (Zhang et al., 2016) in the `R` environment. `MLwiN` uses a combination of Gibbs sampling and Metropolis-Hastings sampling to extract samples from the posterior distribution of unknown parameters. MCMC methods allows specification of the prior distribution which is then combined with the likelihood function produced by the data to create the posterior distribution. MCMC methods do not aim at finding simple point estimates for the parameters of interest as it is done in the frequentist likelihood methods. Instead, they make a large number of simulated random draws from the joint posterior distribution of all parameters and use the draws to make a summary of the underlying distributions(Browne, 2015; Gill, 2014). From these random draws, it is then possible to calculate the posterior mean and standard deviation (SD), as well as density plots of the complete posterior distribution and quantiles of this distribution.

Because of limited background information and lack of related previous studies, this study uses uninformative uniform prior distribution for both regression and precision parameters. I specified 2 chains running for 55,000 iterations with a burn-in length of 5,000 iterations in order to achieve convergence. The convergence of chains was assessed by inspection of trace and auto-correlation plots. The Bayesian Deviance Information Criterion (DIC) was used to evaluate the goodness of fit of the models (Gelman and Hill, 2007; Lynch, 2007; Browne, 2015)

Four models were specified for each of the outcome variables. In all the tables, model 1 is is the null or empty model which contains only the intercept and the outcome variable. Model 2 includes all the components of globalisation (total, economic, social and political globalisation) which have been measured at the country-level. Model 3 includes community-level variables (community education, community distance to health facility problem, community media exposure and place of residence) and Model 4 controls for the individual level socio-demographic variables (maternal age, educational status, distance to a health facility and exposure to the media).

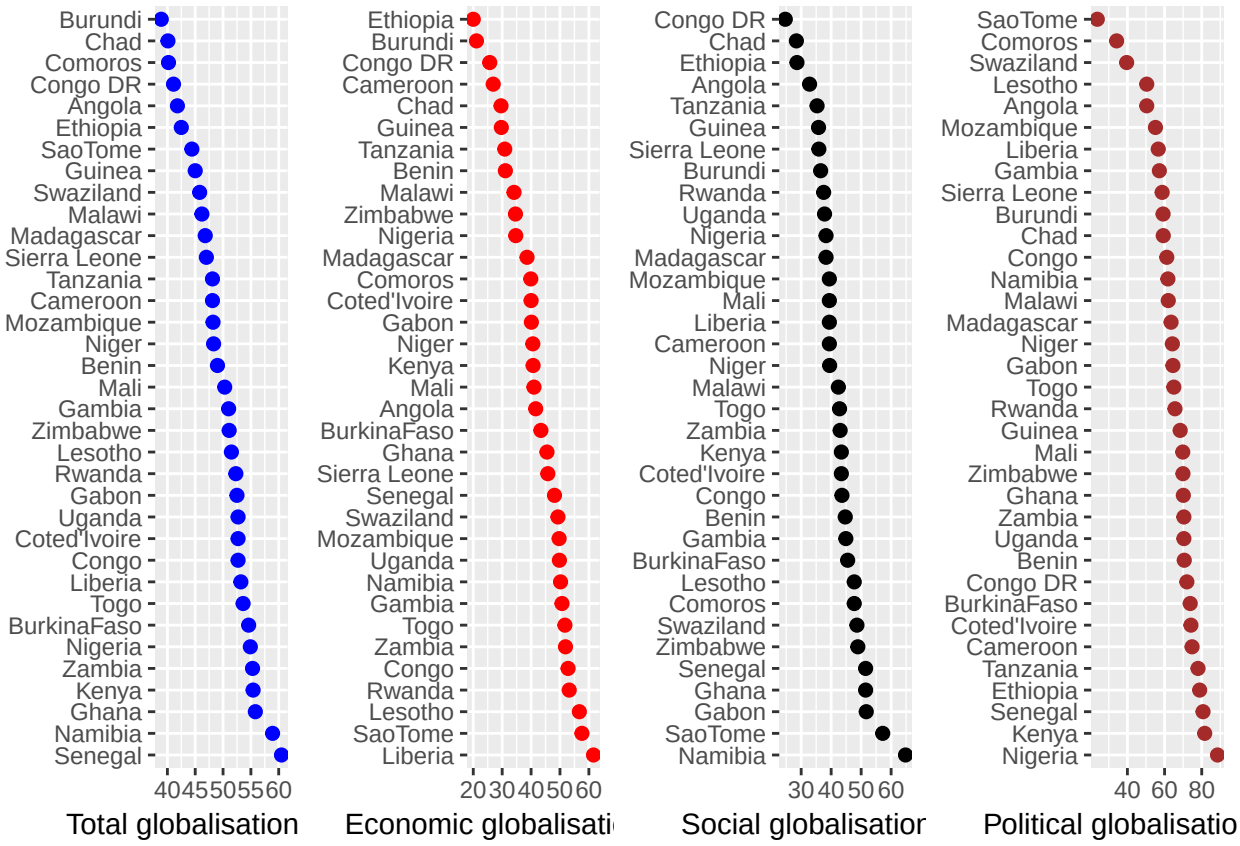

Figure 1: The distribution of the four components of globalisation across SSA countries

0.3 Results

0.3.1 Descriptive statistics

The distribution of maternal health care utilisation across SSA countries is already described in the sixth chapter. Figure 1. shows the distribution of the three components of globalisation indexes and the aggregated total globalisation accross SSA countries in 2015. It is interesting to note that the performance of countries vary in each of the globalisation indexes. Liberia, Nambia and Nigeria are the most globalised in terms of economic, social and political globalisation respectively. In terms of aggregated globalisation however, it is evident that Senegal, Namibia, Ghana and Kenya are among the most globalised countries while countries like Burundi, Chad, Comoros and Congo DR are some of the least globalised in the sub-continent.

Figure 2. displays results of non-parametric associations between the four components of globalisation and the proportion of have 4 or more antenatal care visits in SSA. This is a pooled analysis of correlation coefficients globalisation indexes of each of the four components

and the proportion of having adequate antenatal care visits among women in selected SSA countries. All countries selected in the analysis are included except that countries which overlap with others were removed to ensure quality visualisation. Correlation coefficients are reported and indicated on top of each graph with the linear line of fit and 95% confidence interval indicated by the shaded areas. The results here may give an indication as to how the concerned explanatory variables are associated with outcome variables but it is important to note that these relationships do not include half the attributes of the outcome variables. It should therefore not be surprising if the direction of the effects would be different in the much more robust analysis that follows.

Apart from political globalisation, all the components of globalisation show moderate but positive correlation with the proportion of adequate antenatal care visits. Total glabalisation is not significantly related to antenatal care while economic and social globalisation display significant relationships (t = 3.34) and (t = 3.45) respectively. Political globalisation on the other hand, shows a negative and signifiant relationship with the proportion of 4 + more visits (t = -2.30).

In fig. 3, I plot the correlation between the four components of globalisation and the proportion of institutional delivery in SSA. There is a linear, positive and moderate correlation between 3 components of globalisation (total, economic and social globalisation) but the proportion of institutional delivery is only strongly correlated with total and economic globalisation. Just like in the case of antenatal care visits, political globalisation is negatively correlated with institutional delivery.

The relationship between the four components of globalisation and postnatal care shows a similar pattern as the other outcome variables except that in this case the 3 components are not only positively correlated with postnatal care but the correlation is also statistically significance. Political globalisation still posits negative correlation albeit marginal.

0.3.2 Multilevel modelling analysis

The non-parametric analysis undertaken above has a weakness of not indicating the extent of association between variables, neither does it enable prediction of the value of the outcome variable based on the explanatory variables. Even more importantly, issues of dependence, contextuality and heterogenity in data as discussed above, are not captured in correlation analysis. As such, this part of analysis uses multilevel models to study the effects of globalisation on maternal health care utilisation. Fixed and random effects of each component of globalisation and maternal health care are presented in table 1-3. The tables report the

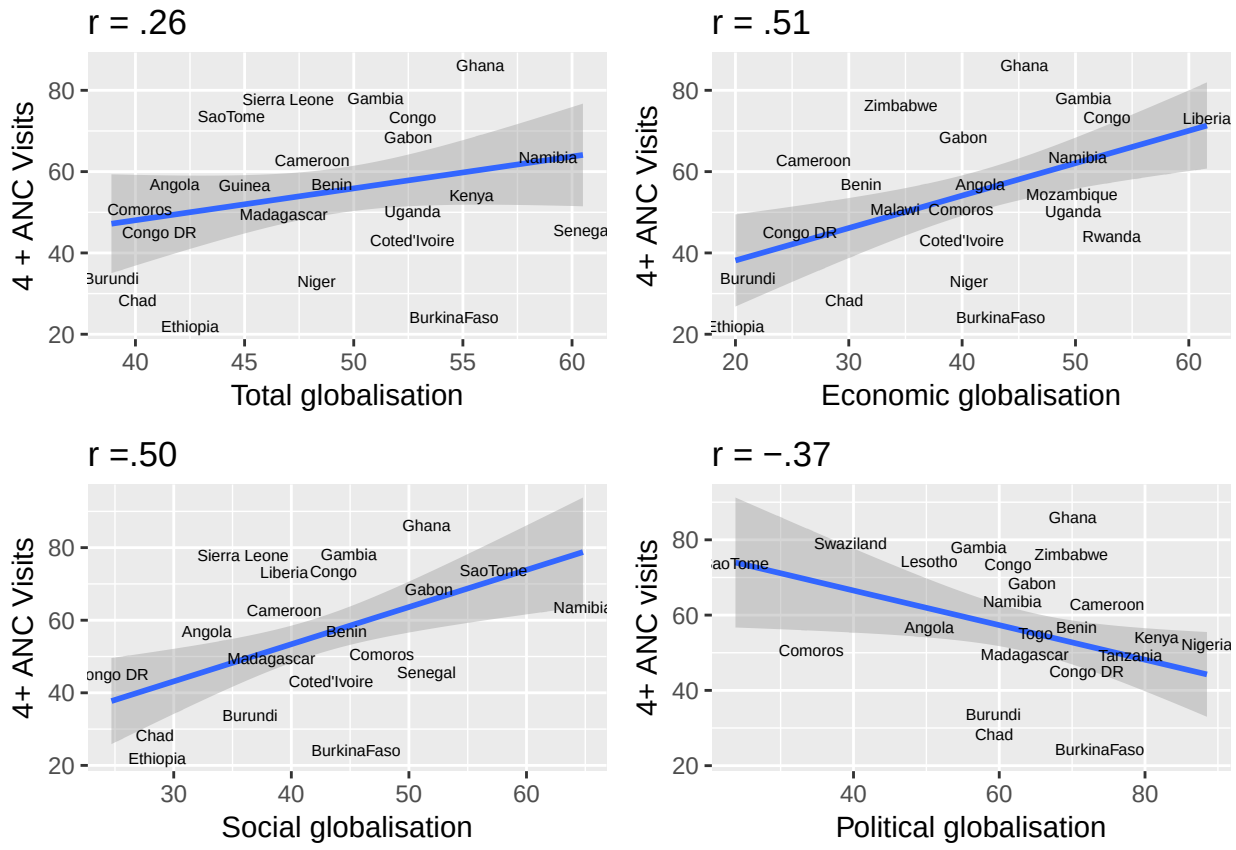

Figure 2: The relationship between the four components of globalisation and antenatal care visits

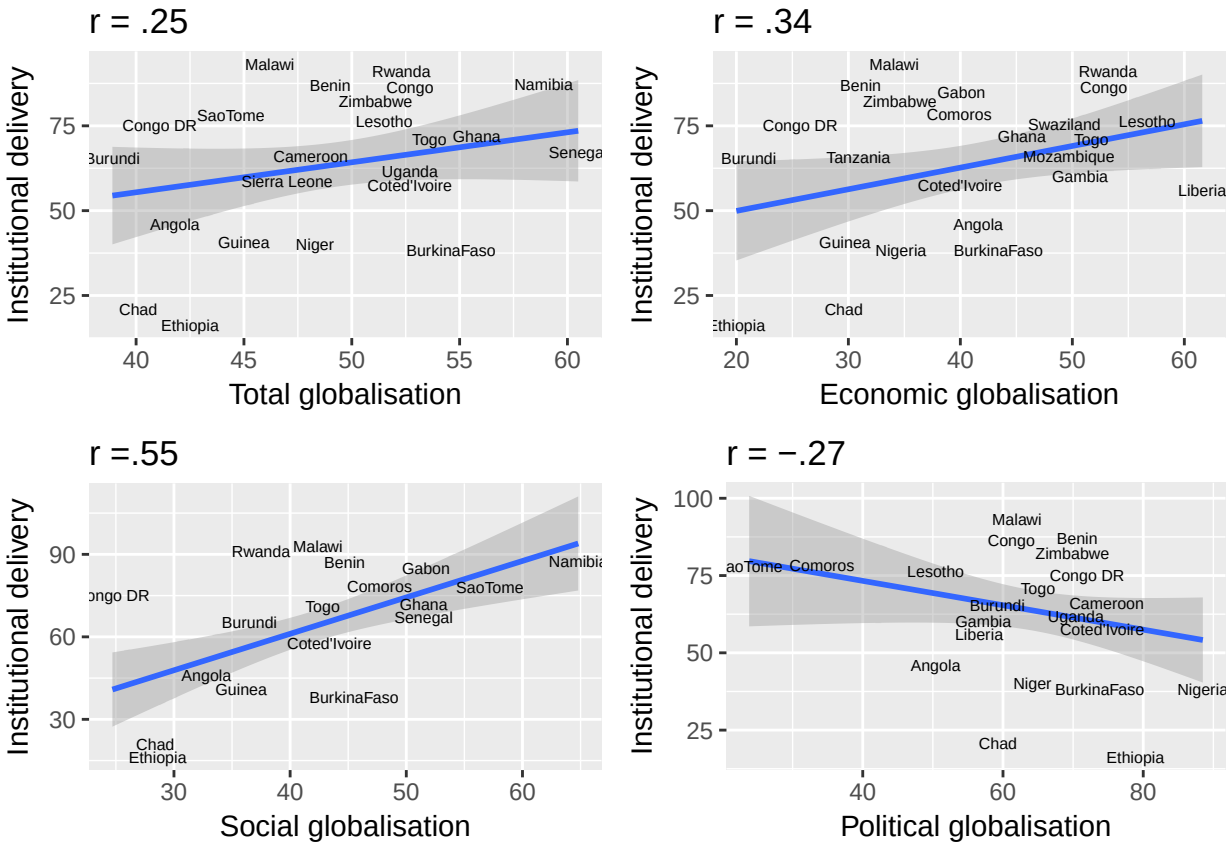

Figure 3: The relationship between the four components of globalisation and institutional delivery

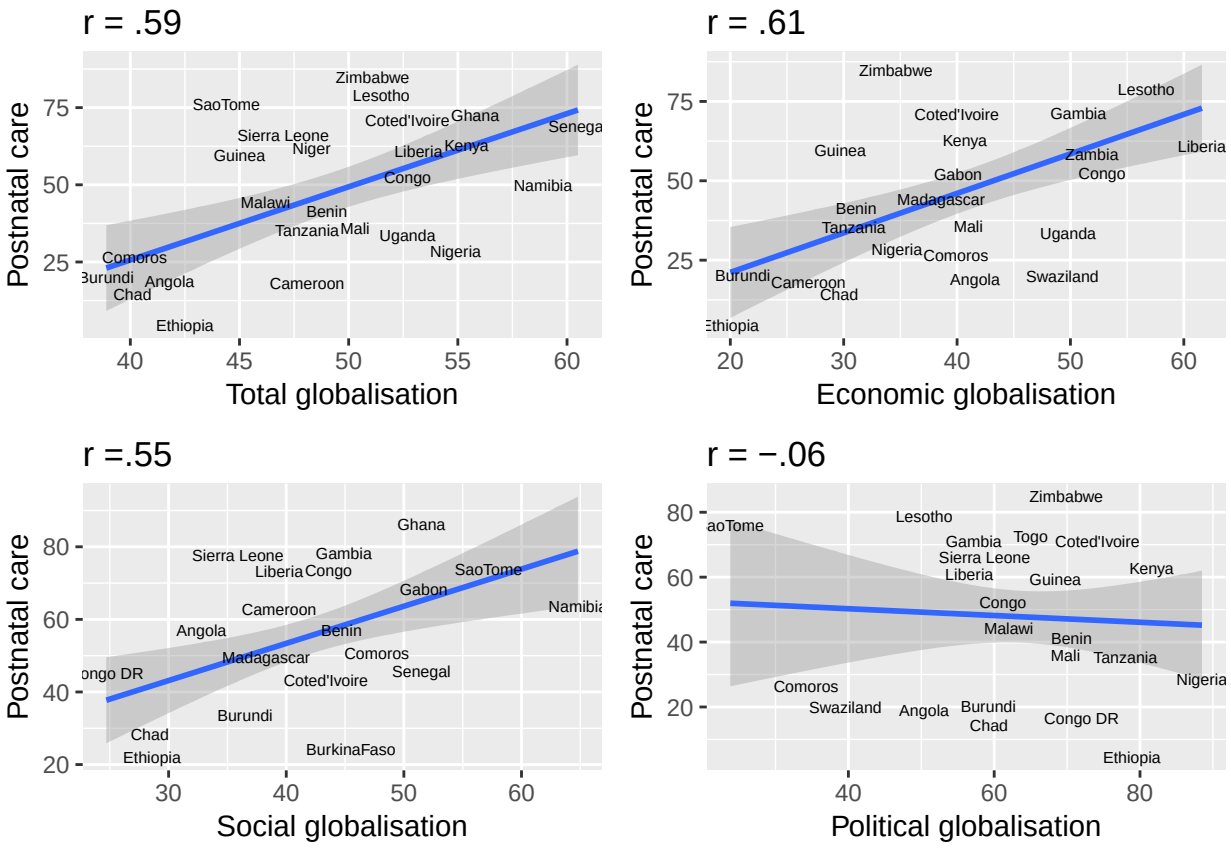

Figure 4: The relationship between the four components of globalisation and postnatal care

posterior odds ratio (OR) and 95% Bayesian credible intervals (CrI) for each of the variables in all models except for the null where only the intercept parameters are reported. Statistical significance is determined by non-inclusion of "0" in the 95% (CrI).

0.3.2.1 Globalisation and antenatal care in SSA

Beginning with the impact of globalisation on antenatal care in SSA reported in table 1. The results indicate that total globalisation is positively associated with antenatal care in that a one standard increase in the total globalisation index increases the propensity of having adequate antenatal care visits by a factor of 1.30–1.32. In models 3 and 4, adds community and individual-level control variables respectively in order to examine confounding. The results show an improvement in the precision of the estimates as well as an increment in the magnitude of association. The parameters for the total globalisation remain positive and significant. This result colloborates many studies that claim that globalisation is good for health and well-being especially in developing countries.

Since this study delineates the concept of globalisation into its distinct components to determine whether the components indeed capture different phenomena, each of the components were regressed on antenatal care visits. Contrary to total globalisation, the results here indicate that all the sub-components of globalisation have a negative effect on antenatal care visits. Economic globalisation decreases the odds of adequate antenal care visits by a factor of 0.92-0.93. This means that women who live in countries with higher indexes of economic globalisation are less likely to have adequate antenatal care visits. Adding country and community-level control factors reduces the magnitude of associations but the results still remain significant. This finding is expected according to dependency and world system theories, which have consistently argued that global economic integration only works to perpetually undermine development and better life chances among people in developing countries.

The relationship between social globalisation and antenatal care visits is also reported in table 1. The results show that a one standared deviation increase in the social globalisation index results into a decrease in the propensity of antenatal care by a factor of 0.94-0.96. Although there is a slight change in the effect sizes as the additional control community and individual-level variables are added, the results remain statistically significant. This also is an endorsement of dependence and world systems theories and some studies which see globalisation as a threat to health and well-being in periphery countries.

Political globalisation shows a similar pattern whereby an increase in political globalisation

indexes is associated with reduced odds of having adequate antenatal care by a factor of 0.89-0.90. In here too, the community and individual-level control variables result into improved model fit and slightly reduced magnitude of associations but still statistically significant.

The VPC results incicate that 15.2% of cross-national variations in maternal health care utilisation is attributed to the country-level, while 19% is attributable to the community level. Both the counry and community level contributions to maternatl health care variations are statistically significant. The magnitude of influence decreases with the introduction of additional community and individual level variables in the models. Although, the individual-level still remain the greatest contributions, this result helps to deepen the importance of contextual factors in explaining variations of maternal health care utilisation in SSA.

Table 1: Posterior odds ratios for multilevel logistic regression for Globalisation and antenatal care in sub-Saharan Africa with 95% credible intervals

Variable	Model 1	Model 2	Model 3	Model 4
Globalisation variables				
Intercept	1.15	0.20	0.24	0.10
Economic globalisation		1.03(1.02,1.04)	1.02(1.00,1.03)	1.03(1.00,1.05)
Social globalisation		1.02(1.01,1.03)	1.00(1.00,1.02)	1.02(0.98,1.06)
Political globalisation		1.00(0.99,1.00)	1.00(0.99,1.01)	1.00(0.98,1.01)
GDP per capita PPP		1.13(0.96,1.39)	1.05(0.87,1.23)	1.05(0.84,1.31)
Community controls				
Community education				
Low			1.00	1.00
Medium			1.98(1.90,2.07)	1.65(1.56,1.71)
High			2.79(2.66,2.98)	1.94(1.82,2.07)
Community distance problem				
Less problems			1.00	1.00
More problems			0.83(0.80,0.86)	0.89(0.86,0.93)
Community media exposure				
Low			1.00	1.00
High			1.44(1.37,1.49)	1.23(1.20,1.30)
Residence				
Urban			1.00	1.00
Rural			0.71(0.68,0.74)	0.77(0.74,1.80)
Individual controls				
Maternal age				
<20				1.00
20-34				1.16(1.13,1.19)
35-49				1.16(1.12,1.20)
Educational status				
No education				1.00
Primary				1.34(1.30,1.38)
Secondary/higher				1.91(1.84,1.98)
Distance				
Less problems				1.00
More problems				0.87(0.85,0.89)
Media exposure				
No				1.00
Yes				1.29(1.25,1.32)
Random effects				
Globalisation index(Country-level)				
Variance(SE)	0.761(0.198)	0.531(0.156)	0.384(0.099)	0.342(0.101)
VPC(%)	15.22	11.15	8.90	8.03

Table 1 – continued from previous page

Variable	Model 1	Model 2	Model 3	Model 4
MOR	2.30	2.00	1.81	1.75
Community-level				
Variance(SE)	0.952(0.017)	0.950(0.017)	0.636(0.013)	0.622(0.013)
VPC(%)	19.04	19.91	14.76	14.61
MOR	2.54	2.53	2.14	2.12
DIC	288,116.80	288,157.43	286,614.83	246,968.46

0.3.2.2 Globalisation and institutional delivery in SSA

The impact of globalisation on institutional delivery is reported in table 2. Contrally to antenatal care, total globalisation influences institutional delivery negatively. One standard deviation increase in total globalisation index decreases the odds of institutional delivery by a factor of 0.90-0.93. Contralling for additional variables does not have a significant effect on the results and they remain significant. The result would be in line with widely held views on the impact of globalisation and population health as indicated above.

Economic globalisation and the rest of the components of globalisation posit a contrally results which are positive and significant. One standard deveiation increase in economic globalisation index reduces the propensity of institutional delivery by a factor of 1.03-1.07. This result is not affected by the introduction of control variables although the magnitude of the effect sizes reduces. This means living in countries with higher economic integration increases the chance of having better utilisation of maternal health care.

The results of the relationship between social globalisation and the probability of institutional delivery are also reported in table 2 and they indicate that women who live in countries that have higher indexes of social globalisation have increased chances of delivering in health facilities. One standard deviation increase in social globalisation index increases the chance of institutional delivery by a factor of 1.07–1.08. Only slight changes are observed when community-level and individual-level variables are introduced into the model and there is no consequantial changes in the significance of the relationship between the two variables.

Political globalisation posits a similar influence on institutional delivery as the other two. In that political globalisation has a positive impact on institutional delivery. Women who live in politically globalised nations have better chances of delivering in health institutions.

One standard deviation increase in the political globalisation index increases the odds of institutional delivery by a factor of 1.02-1.03. The results are significant even after holding control variables constant.

According to the VPC, the combined contribution of community and country-level factors in cross-national variation in instutional delivery is higher than individual level contribution. Country-level factors are responsible for 27.7% variation in institutional delivery while community-level factors are responsible for 39.2%. The VPC is significant accross the models. MOR also buttresses this nortion because they are equally large numbers that are observed. The MOR at the country-level is 2.3 and at the community level is 2.5. The significant drop in the VPC at country-level from 27.7% to 17.5% after the community level factors are introduced shows the established importance of community-level factors in determining health and well-being. The decreasing values of the DIC with additional variables indicates better fit, which also exemplies the importance of community and individual-level variables in explaining institutional delivery.

Table 2: Posterior odds ratios for multilevel logistic regression for Globalisation and Institutional delivery care in sub-Saharan Africa with 95% credible intervals

Variable	Model 1	Model 2	Model 3	Model 4
Globalisation variables				
Intercept	3.39	0.16	0.30	0.09
Economic globalisation		1.01(0.99,1.02)	0.99(0.98,1.00)	1.00(0.95,1.05)
Social globalisation		1.06(1.04,1.07)	1.05(1.04,1.07)	1.07(1.01,1.15)
Political globalisation		1.00(0.99,1.01)	1.00(0.99,1.01)	1.00(0.97,1.03)
GDP per capita PPP		1.14(0.92,0.48)	0.80(0.63,1.06)	0.87(0.60,1.25)
Community controls				
Community education				
Low			1.00	1.00
Medium			3.40(3.17,3.63)	2.47(2.31,2.67)
High			7.85(7.16,8.50)	4.11(3.77,4.48)
Community distance problem				
Less problems			1.00	1.00
More problems			0.50(0.48,0.53)	0.56(0.53,0.59)
Community media exposure				
Low			1.00	1.00
High			1.84(1.73,1.96)	1.59(1.49,1.68)
Residence				
Urban			1.00	1.00
Rural			0.33(0.31,0.35)	0.38(0.36,0.40)
Individual controls				
Maternal age				
<20				1.00
20-34				0.84(0.81,0.87)
35-49				0.77(0.74,0.81)
Educational status				
No education				1.00
Primary				1.47(1.42,1.52)
Secondary/higher				3.04(2.90,3.17)
Distance				
Less problems				1.00
More problems				0.79(0.77,0.81)
Media exposure				
No				1.00
Yes				1.35(1.31,1.40)
Random effects				
Globalisation index(Country-level)				
Variance(SE)	1.829(0.498)	1.394(0.377)	1.032(0.264)	1.193(0.332)
VPC(%)	27.74	17.47	17.79	20.21

Table 2 – continued from previous page

Variable	Model 1	Model 2	Model 3	Model 4
MOR	2.30	2.00	1.81	1.75
Community-level				
Variance(SE)	3.295(0.057)	3.294(0.056)	1.480(0.025)	1.419(0.028)
VPC(%)	39.16	41.29	25.50	24.04
MOR	2.54	2.53	2.14	2.12
DIC	210,330.76	210,351.99	208,208.84	175,561.42

0.3.2.3 Globalisation and postnatal care in sub-Saharan Africa

The impact of globalisation on postnatal care is reported in table 3. The relationship between total globalisation and postnatal care in SSA in negative, which means that it significantly reduces the propensity of having postnatal checks for mothers and newly-born children. The results indicate that one standard deviation increase in total gobalisation index, reuduces the odds of having postnatal check-ups by a factor of 0.59-0.61. Women who live in countries that are more globalised are more at risk of not having postnatal check-ps. These results seems not to be affected by controlling for community and country-level variables and the effect sizes increase slightly.

Economic globalisation has an opposite effect whereby a one standard deviation increase in economic globalisation index increases the odds of having postnatal check-ups by a factor of 1.23-1.26. Adjusted coefficients are notsignificantly different from unadjusted ones, meaning that controlling variables have not impacting the relationship between economicglobalisation and postnatal check-ups. In other words, women who live in more economically globalised countries have better chances of having postnatal check-ups when they give birth.

Table 3 also reports the impact of social globalisation on postnatal check-ups for mothers and their newly-born babies and the results show that women who live in more socially globalised countries have a better chance of have postnatal check-ups when they have babies. One standard deviation increase the the social globalisation index results into an increased propensity of having postnal chack-ups by a factor 1.19-1.22. The the magnitude of effect sizes reduces when controlling variables at community and country levels are introduced but the overall level of significance is unaffected.

Political globalisation has almost the same impact on globalisation as social globalisation in that women who live in countries with high political globalisation indexes have a better

chance of having postnatal care. The results indicate that one standard deviation increase in the social globalisation index increases the odds of having postnatal care by a factor of 1.20-1.22. Even if the community and individual-level covariates are controlled for, the relationship between social globalisation and postnatal care still remains significant.

The country level VPC is 28% and the community level's is 24%. Together they explain cross-national variations in postnatal care more than individual-level variables. This is very important to note because it means policies that address better outcomes in maternal health care should be focused at the contextual level which are in most cases outside the control of individual women. Just like in the other models, the country-level VPC drops significantly when the community-level and contry-level factors are introduced into the models. This as already stated further signifies the importance of community level factors in exlaining maternal health care in developing countries. The MOR tell a similar story and this bolsters the importance of community-level factors and multivel models are the crucial methods of studying maternal health care in SSA.

Table 3: Posterior odds ratios for multilevel logistic regression for Globalisation and Postnatal care in sub-Saharan Africa with 95% credible intervals

Variable	Model 1	Model 2	Model 3	Model 4
Globalisation variables				
Intercept	0.87	0.00	0.00	0.00
Economic globalisation		1.04(1.02,1.05)	1.04(1.03,1.05)	1.06(1.02,1.10)
Social globalisation		1.08(1.05,1.09)	1.09(1.06,1.12)	1.08(1.03,1.14)
Political globalisation		1.01(1.00,1.03)	1.01(0.99,1.03)	1.03(1.00,1.05)
GDP per capita PPP		0.75(0.64,0.93)	0.66(0.54,0.78)	0.68(0.52,0.97)
Community controls				
Community education				
Low			1.00	1.00
Medium			1.64(1.53,1.74)	1.39(1.28,1.50)
High			2.09(1.92,2.76)	1.59(1.49,1.75)
Community distance problem				
Less problems			1.00	1.00
More problems			0.75(0.71,0.80)	0.81(0.76,0.85)
Community media exposure				
Low			1.00	1.00
High			1.49(1.41,1.59)	1.25(1.17,1.33)
Residence				
Urban			1.00	1.00
Rural			0.92(0.87,0.97)	0.97(0.92,1.02)
Individual controls				
Maternal age				
<20				1.00
20-34				1.09(1.05,1.12)
35-49				1.09(1.05,1.14)
Educational status				
No education				1.00
Primary				1.21(1.17,1.26)
Secondary/higher				1.42(1.36,1.48)
Distance				
Less problems				1.00
More problems				0.80(0.76,0.85)
Media exposure				
No				1.00
Yes				1.44(1.40,1.48)
Random effects				
Globalisation index(Country-level)				
Variance(SE)	1.896(0.534)	1.003(0.258)	1.082(0.325)	0.962(0.262)
VPC(%)	27.66	16.82	18.44	16.82

Table 3 – continued from previous page

Variable	Model 1	Model 2	Model 3	Model 4
MOR	2.30	2.00	1.81	1.75
Community-level				
Variance(SE)	1.668(0.032)	1.668(0.030)	1.490(0.027)	1.467(0.029)
VPC(%)	24.33	27.98	25.42	25.65
MOR	2.54	2.53	2.14	2.12
DIC	205,678.41	205,715.91	205,283.37	189,570.40

0.4 Discussion and Conclusion

The study examined the relationship between globalisation and maternal health care utilisation in sub-Saharan Africa. The impact of globalisation on health and health care has been a subject of much scholarship over the past several decades now. The global makert place of goods, services, people, ideas and capital comes with defining social and economic trends that have affected health and well-being either directly or indirectly the world over. Basically two completely opposite narratives have emerged to account for the relationship between globalisation and health. On one hand, globalisation is seen as precusor of global economic growth funnelled through weakened relevence of global foundaries, greater interdependendance between countries and increased adherence to international norms (Kruk, 2012; London and Schneider, 2012). Weakened borders and intedependence between nations support trade liberalism and other economic processses such as foreign direct investments, which in turn leads to economic growth and associated population health and well-being (Dreher, 2006). Adherence to international norms means greater propensity of implementing international treaties which may border on human rights obligations which require states to deliver socio-economic entitlements including health and health care (London and Schneider, 2012).

On the other hand, the same economic fundamentals which are responsible for economic growth and improved population health are blamed for debilitating life chances especially in developing countries. Globalisation is seen as a mediam for the reproduction of global capitalism whereby economic liberalism is imposed predominantly through a global imperilist agenda (Shahmanesh, 2007). Such that although economic growth may results from globalisation, this is more likely to be the case in view of developed rather than developing countries. Also, and most importantly globalisation is strongly associated with widening inequalities within and between countries. Goryakin et al. (2015) for example, posit that macroeconomic policies

propagated by the Washington consensus such as financil deregulation, privatisation and trade liberalisation are associated with higher poverty rates, poorer health outcomes and behavioural risk factors such as smocking and obesity.

It is perhaps not surprising then, that this study finds the relationship between globalisation and maternal health care utilisation in SSA quite confounding. Globalisation was largely found to be negatively associated with antenatal care in SSA, which means that women who live in more globalised societies have a lesser likelihood of attending antenatal care visits for 4 or more times during pregnancy. The fact that this relationship is the case for all the three sub-components of globalisation and that the negative relationship is significant in all the models indicates the robustness of this association. The study also shows that among the components of globalisation, social globalisation had a more stronger association with antenatal care than the other components. This study finding is consistent with dependecy and world systems theory which espouse a nortion that tansnational economic linkages are harmful to health and well-being (Shandra et al., 2004; Frank et al., 1967). The significance of including the sub-components of globalisation is also worthy noting in the sense that economic globalisation maybe suspected to have more impact on globalisation but to the contrary the study finds social globalisation to be a stronger predictor of antenatace care visits.

In terms of the relationship between globalisation and facility delivery, the study finds an opposite result whereby living in more globalised societies was associated with delivering in health facilities. This finding is in line with the view of globalisation as a positive force in the world. This could be due to the positive economic growth that is usually associated with globalisation. Indeed the control variables have shown that education and media exposure which are important indicators of higher economic status have been found to be associated with delivering in health facilities. It is difficult to explain how globalisation can be detrimental to antenatal care and yet be an important positive predictor of facility delivery. Probably the relationship is moderated by community factors such as the proportion of educated mothers in the community or the proportion of women who find the distnace to health care facilities pronlematic.

Globalisation has also been postively associated with postnatal care. Living in more globalised countries has greater proponsity of having postnatal care. The relationship also echoes many studies that have produced the same results regarding the important positive impact of globalisation on well-being and health.

This study can be seen as a great contribution to population health studies and Sociology.

Studying the impact of globalisation on cross-national variations in maternal health care using Bayesian three-level multilevel models is noval. The study has established not only the extent of the impact of globalisation on maternal health care but also shown that overall, contextual factors account for more variations in the relationship than individual factors. This is an important confirmation of the international effort to analyse factors that affect health and well-being beyond the confines of individual persons. The study also is crucial for using the definition of globalisation which takes into consideration economic, social and political factors is offering a holistic view of globalisation especially as it applies to use of maternal health care. To my knowledge there is no previous study which focusses on gloabalisation and maternal health carewhich uses the three components of globalisation.

Inevitably this study has weaknesses just like any other study that uses the DHS or any cross-sectional survey. The analysis is only able to determine associations between variables and not causality. It is also important to note that while causation studies will be desirable, it is difficult to obtain data in sub-Saharan Africa that will enable causality studies. The study analysed oned women who have had birth within the past five years before the survey. Although this is not a weakness at it is the function of the study design, it is important to causation that the intepretation is restricted to a specific section of the women population and not the enture population.

All in all the study bring another dimenstion to the sociological body of knowledge which has been mute in cross-national studies on health. It is therefore an important contribution as it includes a number of countries in SSA.

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