

# Comparative Trends in Ethno-Regional Inequalities in Ghana and Nigeria: Evidence from Demographic and Health Surveys

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### *Abstract*

The paper compares measures of socio-economic inequality between population groups in Ghana and Nigeria using nationally representative survey data from the Demographic and Health Surveys (DHS). In particular, the paper focuses attention on the politically salient north-south divide. Different dimensions of inequality such as education, employment, household wealth and child mortality as well as alternative group markers like ethnicity, religion, and region of residence are considered over time.

The general conclusion is that in both countries the socio-economic divide between the 'north' and the 'south', however defined, remains very deep despite the efforts by post-colonial administrations to redress the gap. In terms of cross-country comparisons, the greater degree of overlap between regional and cultural identities in Nigeria, coupled with a much more even demographic split between northern and southern regions than in Ghana, is likely to make the north-south divide particularly visible to people and to their political elites in the north. Furthermore, whereas in Ghana inequalities have, with very few exceptions, remained stable over the decade 1993-2003, in Nigeria changes in group inequalities over time have been more dramatic, particularly in women's educational attainment and child mortality rates (CMR).

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**Table of Contents**

1. Introduction .....	3
2. Data and group definition .....	5
3. North-south inequalities.....	9
3.1 Women's education.....	10
3.1.1 Gender differences .....	14
3.2 Child mortality.....	15
4. Concluding remarks .....	19
5. References.....	21
Appendix .....	23

**List of Tables and Figures**

Table 1: Group composition (percentage of sample) .....	7
Table 2: Degree of substitution between regional, ethnic and religious identities.....	9
Table 3: Sample summary statistics .....	11
Figure 1G: South/north, region of residence, average years of education, Ghana ...	13
Figure 1N: South/north, region of residence, average years of education, Nigeria ..	13
Figure 2G: South/north, ethnicity, average years of education, Ghana.....	13
Figure 2N: South/north, ethnicity, average years of education, Nigeria.....	13
Figure 3G: Christians/Muslims, average years of education, Ghana .....	13
Figure 3N: Christians/Muslims, average years of education, Nigeria .....	13
Figure 4: North/south, region, under-five CMR .....	17
Figure 5: North/south, ethnicity, under-five CMR .....	17
Figure 6: Muslims/Christians under-five CMR.....	17
Figure 7: North/south, region, household wealth .....	17
Figure 8: North/south, ethnicity, household wealth .....	17
Figure 9: Muslims/Christians, household wealth.....	17

# Comparative Trends in Ethno-Regional Inequalities in Ghana and Nigeria: Evidence from Demographic and Health Surveys

By Luca Mancini

## 1. Introduction

Ghana and Nigeria are multiethnic societies, both characterised by a significantly less developed Sahelian north compared to the coastal south. Poorer agricultural land, lower rainfall, and the general remoteness of the northern localities have been powerful impediments to the development of the north in both countries. Former colonial rule is also widely purported to have been a key factor in the making of the north-south divide.<sup>1</sup> In the case of Ghana, Tsikata and Seini (2004: 16) note that ‘the decline of the north started when the trade routes northwards were reoriented south to the coast. The export of labour from the north under the British administration to work in the southern mines and forest economy enhanced the depopulation of the middle belt.’ In the case of Nigeria, Gboyega *et al.* (2004) point out that ‘the divide can be traced back to the beginning of the twentieth century to the creation of the Southern and Northern Protectorate and the persistent squabbles between the two colonial administrations over transfers.’ According to Mustapha (2005: 6) ‘misguided colonial educational policy in Northern Nigeria and different levels of ethnic receptivity to western education, produced a huge development gap between northern and southern regions of Nigeria from the early 1900s’. Notwithstanding the unfavourable interplay of hostile geography and biased colonial policies, the persistence and often the widening of the north-south development gap in Ghana and Nigeria also raises serious questions about the effectiveness of post-independence governments’ policies in producing an inclusive society.

The north-south divide is but one of the politically salient socio-economic divisions in Ghana and Nigeria. The rural-urban, indigenous-settler, ethnic majorities-ethnic minorities divides, as well as the several intra-regional and intra-ethnic cleavages are all of great social and political relevance throughout most of West Africa. Without discounting their importance, this paper focuses on the north-south divide for a number of reasons. First, scholarly research on West Africa has widely recognised the overarching prominence of the north-south gap in contemporary political discourse. Tsikata and Seini (2004: 47) note that ‘spatial variations in the level of economic development have been found around the world at different levels. In Ghana, the most striking of these is a north-south dichotomy in development which has geographical and cultural features, but which is largely socio-economic and political, and has been nurtured and reinforced by discriminatory colonial and post-colonial policies’. In the case of Nigeria, during the military dictatorship, the regime dominated by Hausa-Fulani generals fiercely repressed pro-democracy activists who were mainly Yoruba, thus enabling Yoruba nationalist leaders to claim that the entire Yoruba people was threatened by the hegemony of the Northerners (Guichaoua, 2006). Osaghae and Suberu (2005: 12) argue that even after the reorganisation of regional identities around six geopolitical zones, ‘the old regional divisions remain very strong, particularly with the efforts by the various elite segments to re-organise along old regional lines. A case in point is the Northern elite, which, through organisations like the Northern Elders Forum and the Arewa Consultative Forum, has continued to mobilise around the theme of pan-

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<sup>1</sup> In Ghana the divide predates the colonial period, when the Ashanti were seen as the black imperialists and exploited northern regions through the slave trade.

regional unity'. Second, the north-south divide is not only an economic demarcation but it also largely coincides with religious and ethnic divisions within these two countries. For instance, Muslims live predominantly in the northern regions while Christians are concentrated in the south, particularly in Nigeria. Ethnic groups have a strong regional base. In Nigeria, old ethno-regional identities – the Hausa-Fulani in the Northern region, the Igbo in the Eastern region and the Yoruba in the Western, to mention the three largest groups – remain very influential and deeply engrained into the political discourse even after the division of the country into 36 states (Osaghae and Suberu, 2005).<sup>2</sup> The existence of a regional base can also be found in Ghana, with the Mole-Dagbani being the dominant ethnic group in the north of the country, the Akan in much of the centre and the south and the Ewe in the east. However, the concept of ethnic homelands is less strong than in Nigeria, as ethnic groups in Ghana are no longer confined to specific geographical areas. Internal migration and foreign immigration have contributed to make geographical regions increasingly diverse in their ethnic composition over time (Tsikata and Seini, 2004). Migration is also present in Nigeria but on a much lower scale than in Ghana. The high political salience of the notion of indigeneity in the Nigerian Federation has certainly been an important deterrent to internal migration in the country. Finally, certain communal conflicts are rooted in the neglect and marginalisation of the North and its problems, as for instance in Northern Ghana.

North-south inequalities in Ghana and Nigeria have been widely explored both in academic research and in country reports. Drawing on this rich literature, this paper aims to make two main contributions. First, unlike previous research which has mainly focused on one country, this paper is essentially a comparative exercise not only between different time periods but also across national borders. This is expected to capture differences and commonalities between Ghana and Nigeria, which may help explain, for instance, differences in inter-ethnic relations and political mobilisation. The standardised questionnaire and sampling methodology of the Demographic and Health Surveys (DHS) used in the analysis and presented in the next section is particularly suitable for this type of analysis. Recognising the challenge of making meaningful comparisons between countries, especially when measures of inequalities are based on self-reported information on ethnic and religious background, the results presented in the paper are always tested for statistical robustness. Second, quantitative studies focusing on the measurement of these inequalities have mainly looked at spatial imbalances between administrative regions. Taking advantage of the unique information on ethnic and religious background available from the DHS, the paper also looks at the north-south gap defined in terms of socio-economic inequalities between cultural groups, alongside more conventional inequalities between the geographical regions. As with ethnicity, religious affiliation is also to a significant extent coterminous with regional identity in the context under study. Therefore, exploring group differences between the two dominant religions, Islam and Christianity, is a third way of examining the north-south divide. If, on the one hand, overlapping identities and group boundaries can reinforce divisions and their social and political implications, on the other hand a lower degree of alignment between regional, ethnic and religious identities can reveal where the deepest inequalities are and shed light on how migration patterns have contributed to reshaping group inequalities by affecting intra-group dynamics.

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<sup>2</sup> Mustapha (2005) reports official government figures from 1952/53 which suggest that the three majority groups constituted about 52 per cent of the national population. In the Northern region, the Hausa-Fulani constituted 51 per cent. In the Western Region, the Yoruba constituted 70.8 per cent of the population, while in the Eastern Region, the Igbo constituted 61 per cent of the population. More than 50 years on these figures still provide an accurate account of the ethno-regional and demographic map of Nigeria.

Learning about the magnitude of the north-south gap and how it has changed over the years may help assess the efficacy of past policies directed at bridging the gap, as well as inform future policy interventions aimed at redressing persisting imbalances. Bridging the divide is not only a matter of economic efficiency but also one of social justice and political stability, especially when geographic imbalances coincide with cultural cleavages (Stewart, 2002). For multiethnic societies with strong ethno-regional identities like Ghana and Nigeria, closing the gap is not just about unleashing idle growth potential, but also about strengthening the social cohesion that is often a necessary condition for a country to develop and prosper.

## 2. Data and group definition

The Demographic and Health Surveys (DHS) project is the third consecutive worldwide research project initiated by the US Agency for International Development (USAID) to provide data and analysis on the population, health and nutrition of women and children in developing countries. Over the last 20 years, the DHS project has coordinated more than 70 nationally representative household surveys in more than 50 countries throughout Sub-Saharan and North Africa, Asia, Latin America and the Caribbean, and parts of Europe. Typically, these surveys are conducted every five years. At least three rounds have been completed in most countries. The use of a standardised core questionnaire allows for comparisons both across different countries and over time. Furthermore, unlike many other surveys, the DHS questionnaire asks respondents about their religious affiliation and ethnic background which is obviously crucial for the purposes of this paper.<sup>3</sup>

An individual is considered a northerner/southerner depending on her current place of residence. Unfortunately the respondent's place of birth is not available from the DHS data. However, in the context under study it can be argued that it is an individual's place of origin (where her blood ties are) that matters for identifying her true provenance, rather than her place of birth. A person can be born in the south, but if her ancestry has northern roots she will *de facto* be (and be seen as) a 'northerner'. The concept of place of origin is therefore better captured by ethnic background than by place of birth. The case of an ethnic northerner resident in the geographic south is illustrative of the 'imperfect blur' between alternative north-south definitions which is exactly what this paper seeks to explore in relation to north-south inequality. Ethnic information in the DHS surveys is typically self-reported. However, in some countries including Nigeria, often due to the political sensitiveness of disclosing one's ethnic affiliation, the question is omitted from the questionnaire. To obviate this deficiency, ethnic origin is derived from the respondent's mother tongue. Language is regarded as a good proxy for ethnicity in Nigeria, so the unavailability of direct ethnic information, as with the unavailability of the respondent's place of birth, is not expected to be a serious problem. Religious affiliation is also self-reported but unlike ethnicity it is available for both countries.

This paper subscribes to the notion that group definition is a controversial matter, as group boundaries are not watertight and groups can grow and shrink, emerge and disappear. However it is also true that switching cultural identities is often difficult and evidence of widespread and durable inequalities between groups suggests that boundaries are generally taut (Stewart, 2002). Also the deeper the divide the more serious the objective grievance and the more obvious and 'primordial' cultural group markers are likely to become or to be perceived.

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<sup>3</sup> The standard survey consists of a women's questionnaire and of a household questionnaire. In some of the rounds, men's surveys have also been implemented, although their sample size is usually significantly smaller.

When groups are broadly defined, more particularistic identities (tribal, sub-regional, sectarian) are likely to be subsumed within the wider boundaries of overarching divisions such as the north-south identities considered in this paper. The downside of using large groupings is that significant intra-group diversity is likely to be overlooked. Conclusions on inequalities between groups that ignore within-group heterogeneity can be misleading in terms of where the real cleavages are. In view of these concerns, the next sections will also present evidence on intra-group inequalities. Moreover, by adopting alternative north-south membership criteria, this paper seeks to explore how framing the north-south divide in different terms would alter conclusions.

Table 1 shows the composition of the groups and their relative size in Ghana and Nigeria. Dotted lines have been drawn to delimit the 'north' and the 'south', both in regional and ethnic terms. The grouping criteria used in this paper are widely accepted in contemporary political discourse as well as in the academic literature (Osaghae and Suberu, 2005; Shepherd *et al.*, 2005). In terms of group size, in Ghana the north ranges over time from 13-19 per cent of the national population when defined by region of residence to 20-28 per cent when defined in ethnic terms, which shows the substantial depopulation of the underdeveloped north due to the migration of northerners to the south. Muslims represent between 11 per cent and 19 per cent of the sample depending on the survey year (a bit more in the male sample). In terms of the major ethnic groups, the Akan make up over 50 per cent of the population, the Mole-Dagbani, when including the other northern minorities, represent about 20 per cent, the Ewe about 15 per cent and the Ga-Adangbe 8 per cent. These proportions are in line with figures from the 2000 Census (Asante, 2007; Shepherd *et al.*, 2005).

**Table 1: Group composition (percentage of sample)**

Ghana							Nigeria					
F = females		1993		1998	2003			1990	1999		2003	
M = males		F	M	F	F	M		F	F	M	F	M
Geo-political regions	Upper West (UW)	3.0	3.6	2.0	3.0	2.6	North West (NW)	25.0	21.0	21.3	27.0	25.7
	Upper East (UE)	6.0	4.8	6.0	5.0	6.3	North East (NE)	9.0	12.0	12.7	18.0	17.9
	Northern (N)	10.0	10.6	5.0	9.0	10.5	North Central (NC)	17.0	19.0	18.0	15.0	14.9
	Brong Ahafo (BA)	10.0	9.4	7.0	10.0	10.5	South West (SW)	17.0	19.0	20.4	13.0	13.7
	Volta (VO)	11.0	13.6	11.0	9.0	8.8	South South (SS)	17.0	18.0	18.3	18.0	18.9
	Ashanti (AS)	16.0	13.6	15.0	20.0	19.1	South East (SE)	14.0	11.0	9.3	10.0	8.8
	Eastern (E)	11.0	13.3	13.0	10.0	10.7						
	Western (W)	9.0	8.7	12.0	10.0	9.5						
	Central (C)	10.0	8.9	11.0	7.0	7.4						
	Greater Accra (GA)	13.0	13.3	17.0	16.0	14.6						
Main ethnic groups	Mole-Dagbani	16.0	18.0	10.0	13.0	18.0	Hausa-Fulani	29.0	23.0	23.4	34.0	30.9
	Northern minorities	7.0	5.0	9.0	6.0	7.0	Northern minorities	21.0	21.0	14.5	21.0	19.7
	Akan	51.0	47.0	55.0	56.0	49.0	Yoruba	17.0	20.0	22.3	11.0	12.0
	Ewe	15.0	17.0	16.0	14.0	14.0	Igbo	16.0	16.0	15.2	14.0	13.4
	Ga-Adangbe	8.0	9.0	8.0	8.0	8.0	Southern minorities <sup>(2)</sup>	17.0	19.0	17.2	20.0	19.7
Southern minorities <sup>(1)</sup>	2.0	4.0	2.0	3.0	4.0							
Muslims	Islam (all brotherhoods)	17.0	12.0	11.0	19.0	16.0	Islam (all brotherhoods)	48.0	44.0	45.0	51.0	50.0
Christians	Catholics, Protestants (all denominations) and other Christians	74.0	72.0	78.0	70.0	77.0	Catholics, Protestants (all denominations) and other Christians	48.0	54.0	53.0	48.0	48.0
Sample size		4562	1302	4853	5961	5015		8781	8199	2658	7620	2346

<sup>(1)</sup> Southern minorities include the Guan.<sup>(2)</sup> Southern language minorities include Annang, Ibibio, Edo, Urhobo, Ogoni, Ijaw, Adoni and other smaller groups.



In Nigeria, the north-south population divide is much more even than in Ghana and it is remarkably stable irrespective of whether north and south are defined in terms of region, ethnicity or religion. In Nigeria the Hausa-Fulani are about 30 per cent, reaching over 50 per cent when other northern minorities are included, the Yoruba constitute nearly 20 per cent, the Igbo 15 per cent and the southern minorities about 20 per cent.<sup>4</sup> As in the case of Ghana, these figures are in line with evidence from other sources. Gboyega *et al.* (2004) report that the north-south population ratio in Nigeria was 53.7:46.3, according to 1992 figures from the Federal Office of Statistics (FOS).

Table 2 provides a snapshot of the degree of alignment between group identities in Ghana and Nigeria. Perhaps the most eye-catching difference between the two countries is in the proportion of ethnic northerners living in the south. Ghana is renowned as a migrant economy, characterised by considerable and sustained north-to-south migration. This took place particularly during the 1980s and mainly from the Upper Regions to Greater Accra, the Western and Ashanti regions (Shepherd *et al.*, 2005).<sup>5</sup> In 2003 about 35 per cent of ethnic northerners lived in the south and this is true for both men and women. Table 2 also shows that very few southern Ghanaians live in northern Ghana, which strongly exemplifies the one-way nature of north-south migration flows in the country.<sup>6</sup> Unlike in Ghana, in Nigeria the proportion of northerners living in the south does not exceed 5 per cent. With the exception of the 1999 survey, a very similar pattern is found when identities are reversed, i.e. the proportion of southerners living in the north is equally very modest.<sup>7</sup> Although it is widely documented that many Nigerians emigrated during the 1990s, specific migration data for Nigeria are not available.<sup>8</sup> However there is some evidence suggesting that the bulk of the migration taking place in Nigeria is intra-state or intra-region. Uwaifo Oyelere (2005) provides evidence based on FOS statistics that about 95 per cent of Nigerians were still living in the state where they were born at the end of the 1990s. The DHS figures presented in Table 2 largely confirm these results. Table 2 also shows that, although in both countries Muslims are found predominantly in the north, religion is less geographically concentrated than ethnicity. In Ghana over 35 per cent of northerners are Christians, and even in Nigeria, which is not a

<sup>4</sup> In 2003 the north accounts for 60 per cent of the DHS sample, which is a significantly higher figure compared to the nearly 50:50 split found in previous surveys. The reason behind these less balanced figures seems to be the under-sampling of the Yoruba in the 2003 survey (the sample proportion is down to 11 per cent compared to nearly 20 per cent in 1990 and 1993). It is not clear why this is the case. Potentially this may affect the magnitude of north-south inequality in 2003, given that the Yoruba people tend to be relatively well-off compared to other ethnic groups.

<sup>5</sup> Interestingly, unlike in the Upper Western and Upper Eastern regions, there is evidence of very low out-migration (but also low in-migration) in the Northern region in the early 1990s, due to the development of rice cultivation and the shea-nut industry.

<sup>6</sup> This by no means implies that north-to-south is the only type of migration that took place in Ghana. Intra-regional movements have been historically very important, especially in the south where migration flows closely followed the staggered rise and fall of cocoa production in different areas of the country, such as the Ashanti, Western and Brong Ahafo regions.

<sup>7</sup> It is not clear why the number of ethnic southerners who reside in the north is so much higher in the 1999 DHS sample. A closer look at the 1999 data reveals that these individuals are overwhelmingly Yoruba and Igbo people living in the Middle Belt states of Kwara and Kogi. These patterns are also present in the 1990 and 2003 surveys but to a much lesser extent. Whatever the reasons for the 1999 anomaly, this evidence suggests that the high numbers of ethnic southerners living in the geographic north in 1999 are unlikely to be due to migration. In fact many of these Yoruba and Igbo respondents living in Kwara and Kogi states are indigenes to these states, whose borders partially fall within the old boundaries of Yorubaland and Igboland.

<sup>8</sup> Census data are unreliable, if not misleading, at gauging migration figures in Nigeria. In fact, Nigerians tend to go back to their place of origin when censuses take place. This is expected to distort migration estimates significantly.

predominantly Christian country, Christians constitute nearly 20 per cent of the population in the north, while Muslims account for about 15 per cent of the population in the south.

**Table 2: Degree of substitution between regional, ethnic and religious identities**

	Ghana					Nigeria				
	1993		1998	2003		1990	1999		2003	
F = females	F	M	F	F	M	F	F	M	F	M
Ethnic northerners living in the south (%)	28.2	40.8	37.2	35.1	36.8	2.1	4.9	3.7	1.0	1.1
Ethnic southerners living in the north (%)	1.9	3.6	0.4	1.4	1.5	3.9	14.0	15.6	5.6	6.4
Ethnic northerners who are Christians (%)	35.1	21.4	36.4	39.0	37.0	19.0	25.9	24.6	19.4	20.3
Ethnic southerners who are Muslims (%)	3.8	2.6	3.3	5.3	6.5	15.0	18.5	21.1	12.6	15.2
People living in the north who are Christians (%)	30.5	23.7	33.2	30.7	26.2	18.2	28.8	29.6	22.5	23.1
People living in the south who are Muslims (%)	7.1	11.7	7.9	8.9	10.6	12.8	16.0	18.8	11.8	13.7

### 3. North-south inequalities

The paper focuses on three dimensions of inequality: a) education; b) child mortality; and c) household wealth. The intuitive appeal as well as the popularity of these aspects of wellbeing is powerfully reflected in their choice as the three components of the Human Development Index (HDI). Educational attainment is measured as the total years of formal education acquired by the individual at the date of survey. This paper focuses primarily on women's education, not only because of data availability constraints, but also because the externalities of women's education in terms of household and social welfare are typically higher compared to men's education. Child mortality rates (CMR) are calculated as the proportion (per thousand) of children born in the ten years preceding the date of the survey who died within 60 months of birth.<sup>9</sup> Household wealth is based on households' ownership of a range of amenities including radio, television, electricity, refrigerator, car, flush toilet, piped water, and non-earth flooring.<sup>10</sup> The wealth

<sup>9</sup> Health conditions in the HDI are usually proxied by life expectancy at birth. However, owing to data availability, infant or child mortality is also commonly used as an indicator of health.

<sup>10</sup> Arguably, as a measure of economic status, household wealth has some advantages over income: it represents a more permanent status and it lends itself to being measured more easily and more reliably (Rutstein and Johnson, 2004).

index is calculated as a weighted sum of the number of assets owned by the household (see Appendix for details).

Group inequality is measured in terms of disparity ratios (GDRATIO) of group means in the three dimensions discussed above (see Appendix for details).<sup>11</sup> A ratio of 2 between the average number of years of education of group A and B indicates that, on average, an individual from group A is twice as educated as an individual from group B (or, equivalently, a member of group B has received, on average, only half the amount of education received by a member of group A).

Changes in inequality over time are explored by looking at three consecutive DHS rounds conducted in each of the two countries between 1990 and 2003.<sup>12</sup> The magnitude and trends of north-south inequalities are shown graphically. Straight solid lines connecting estimates in each year have been drawn to visualise possible trends between surveys. Ninety-five per cent confidence intervals (dashed lines) are also shown for each indicator, to gauge the statistical significance of time trends and inter-country comparisons.<sup>13</sup>

### 3.1 Women's education

Table 3 shows that educational attainment improved during the 1990s in both countries. This is particularly so in Nigeria, where the average number of years of formal education increased from three to five; the proportion of uneducated women was reduced from nearly 60 per cent to about 40 per cent; and the percentage of those who attended secondary school or higher nearly doubled between 1990 and 2003. The expansion of formal education is largely the result of government policies adopted in both countries during the 1960s and 1970s to promote free universal primary education for school-age children.<sup>14</sup> In Ghana, secondary school and post-secondary enrolment increased fivefold between 1993 and 2003, with the main shift occurring overwhelmingly from primary to secondary-level attainment. Despite these trends, the proportion of uneducated people remains significant in both countries, particularly in Nigeria. Table 3 also suggests that in both countries, education expansion slowed down significantly after 1999, to the point where in Nigeria there is some evidence of a trend reversal. The decline in enrolment rates during the 1990s in Nigeria (despite gross enrolment rising throughout the 1990s at all levels of education) has been documented by other sources (FOS, 2000).

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<sup>11</sup> Group means are always adjusted for sampling weights and clustering effects. Means become proportions when variables are defined as binary dummies.

<sup>12</sup> For Ghana, this paper uses the 1993, 1998 and 2003 data, i.e. the second, third and fourth rounds of the Ghanaian survey. The first round was carried out in the 1980s, but has not been used here due to comparability concerns. For Nigeria all available surveys implemented to date (in 1990, 1999 and 2003) have been used.

<sup>13</sup> We are aware that meaningful comparisons between different years and countries are not easy, especially when groups are defined in cultural terms based on self-reported information. For this reason sample figures are often compared with available estimates from other sources (censuses, other surveys) to check whether some groups are grossly under- or over-represented in the DHS sample. In this respect, different DHS surveys in each country act as controls for each other and references to previous or later rounds may also help highlight anomalies in the data.

<sup>14</sup> The 1961 Education Act in Ghana and the 1976 Universal Primary Education Program (UPE) in Nigeria. Although the UPE ended in 1981, with responsibility transferring to individual states, it was actually extended to 1983 in all states where the United Party of Nigeria won the elections (Uwaifo Oyelere, 2007).

**Table 3: Sample summary statistics**

	Ghana					Nigeria				
	1993		1998	2003		1990	1999		2003	
F = females	F	M	F	F	M	F	F	M	F	M
Total years of formal education	5.3	7.1	6.0	5.9	7.8	3.1	5.2	7.0	5.1	7.2
No education (%)	0.35	0.25	0.29	0.28	0.18	0.57	0.41	0.25	0.42	0.22
Secondary and higher school attendance (%)	0.10	0.21	0.53	0.52	0.66	0.19	0.37	0.49	0.37	0.52
Under-5 CMR ('000)	116.8	-	104.8	104.9	-	163.5	120.1	-	179.7	-
Average no. of household assets (crude additive index)	2.19	-	2.36	2.84	-	2.10	2.25	-	2.49	-
In poverty (no assets or mass goods only) (%) <sup>(1)</sup>	75.5	-	63.4	36.5	-	73.8	59.8	-	57.0	-
Household wealth inequality (Gini) <sup>(2)</sup>	0.38 0.40 0.40	-	0.30 0.35 0.36	0.46 0.37 0.44	-	-	-	0.41 0.34 0.39		
Sample size	4562	1302	4843	5691	5015	8781	8199	2658	7620	2346

<sup>(1)</sup> A household asset is considered a mass good if at least 50 per cent of the households in the sample own it.

<sup>(2)</sup> The first figure refers to the North, the second to the South, while the last is the overall national figure.

One major reason for these trends was the extremely low returns to education. Evidence suggests that overall returns to an extra year of formal education were in the region of 3.5 per cent, although returns for women were about half those to men's (Uwaifo Oyelere, 2005).<sup>15</sup> Similarly, evidence from the Ghana Living Standard Survey suggests that returns to primary schooling were almost nil in Ghana toward the end of the 1980s (Lavy, 1992). This is a typical side effect of the expansion of primary education. Although returns from secondary school were much higher, the cost of staying at school after primary level was often too high for many households to afford.<sup>16</sup> Consequently, this had

<sup>15</sup> The deteriorating quality of education due to over-crowded classrooms in Nigeria was also an important factor behind faltering participation. Expansion in pupil enrolment after 1976, when UPE began to be implemented, far exceeded expectations. Csapo (1983) reports that in Kano State there were more pupils in year one in 1976 than in all the other six years combined. The result was that many schools soon became seriously under-funded and understaffed, especially in the north. This significantly affected parents' perceptions of and attitudes towards their children's education (Sunal *et al.*, 2003).

<sup>16</sup> In Nigeria, although school attendance is free, parents will often still need to supply uniforms and books. As early as 1978, two years after its introduction, the huge increase in UPE

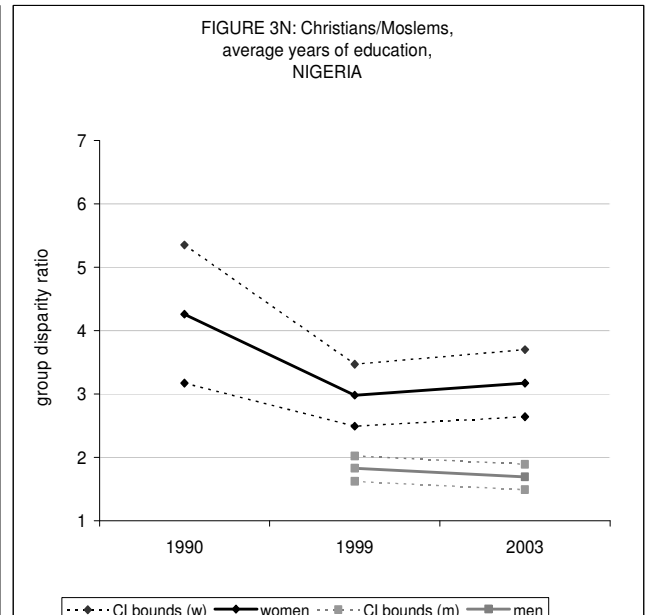
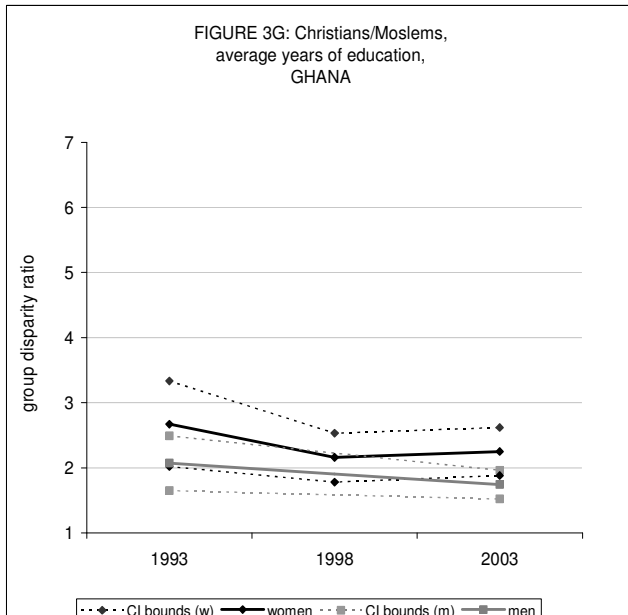
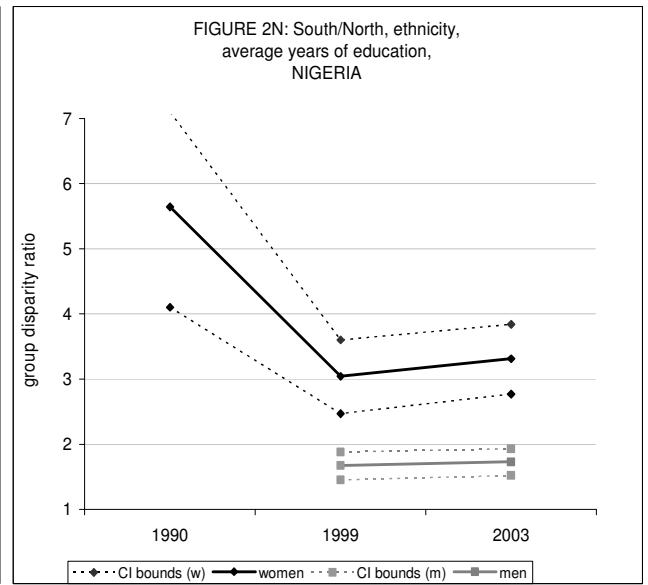
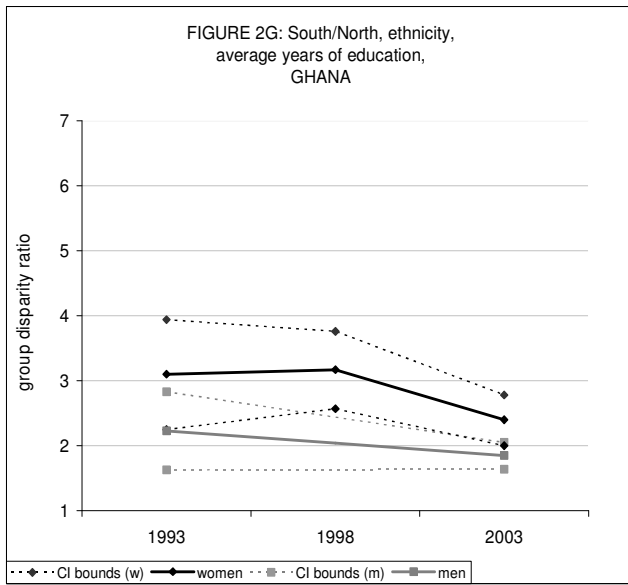
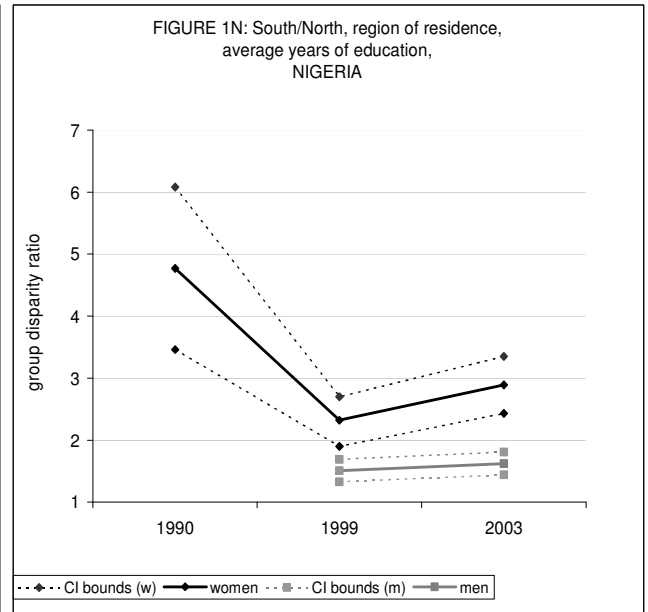
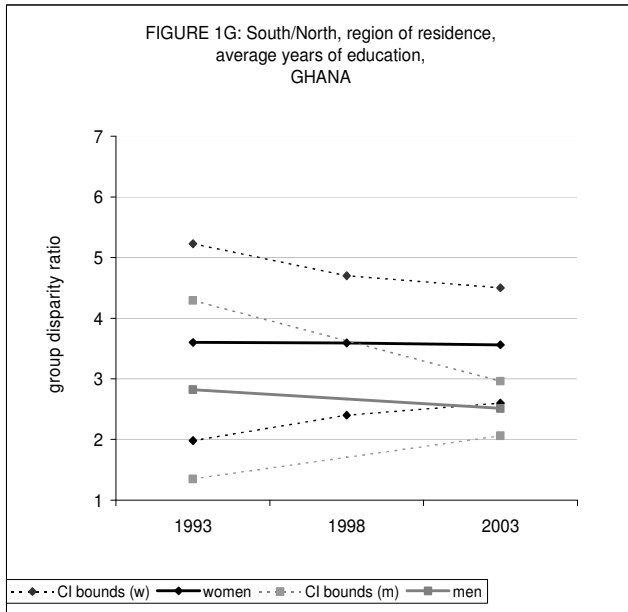
a backlash on primary school enrolment and drop-out rates, as sending their children to primary school was perceived by parents as being only worthwhile if the child was able to move on to secondary school and beyond (Sunal *et al.*, 2003).

Figures 1G and 1N show the magnitude and change over time of north-south regional inequalities in educational attainment (years of education) in Ghana and Nigeria respectively. In terms of magnitude, in both countries inequality for women never fell below 2 during the years covered by the survey. This means that on average, women living in the south have at least twice as many years of formal education as women who live in the north. Whereas in Ghana the gap has remained stable over time (although confidence intervals are very large), in Nigeria inequality trends in women's education are much more dramatic and statistically significant. The south-north disparity ratio fell drastically during the 1990s but it increased again after 1999. In 2003, women in the north of the country still achieved on average only about one-third of the amount of education of their compatriots in the south. Worryingly, a closer inspection of the data reveals that it is the high and widening north-south gap in the proportion of the uneducated which mainly contributed to keeping education inequalities high (not shown). In 2003, 70 per cent of women of northern ethnic origin were still uneducated compared to only 10 per cent of women from the ethnic south. Considering that in 1990 the proportion of women uneducated in the north was 83 per cent, the effect of UPE in bridging the north-south gap has been very modest, at least for women.

Ethnic inequalities in years of education for Ghana are shown in Figure 2G. Unlike regional inequality (Figure 1G), the gap in women's education between the ethnic north and the ethnic south showed signs of decline between 1998 and 2003. The different trends between regional and ethnic inequalities appear to be driven by the different dynamics at the bottom end of the distribution (not shown): whereas the number of uneducated women of northern ethnic origins has declined more than proportionately compared to the numbers of uneducated women of southern ethnic origins, the number of uneducated women living in the north has declined less than proportionately compared to the south. This may suggest that educated ethnic northerners migrated to the richer south in search of better job opportunities during the 1990s. Alternatively, northern migrants may have received relatively more education in the south than their co-ethnics in the north. The data also reveal that inequalities in Ghana remain pervasive at secondary level and there are some signs of an increase between 1993 and 2003, although the change is not statistically significant (not shown). In 2003, ethnic southerners were still over 3.5 times more likely than ethnic northerners to have attended secondary or higher levels of education. In Nigeria ethnic inequalities (Figure 2N) are very similar to regional inequalities both in magnitude and trends. This is not surprising given the high degree of overlap between ethnic origin and region of residence in Nigeria.

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costs prompted the then Military Governor to announce that public contribution to UPE was necessary and the reference to UPE as free was a misnomer (Csapo, 1983: 96).



Inequalities in educational attainment between Muslims and Christians are shown in Figures 3G and 3N. In Ghana estimates are more precise compared to regional and ethnic inequalities (smaller confidence intervals) and despite Christians being more educated than Muslims, the gap between the two groups is generally narrower than between ethnic or regional groups. However, this is largely due to the fact that in Ghana, unlike in Nigeria, a sizeable portion of the sample (between 9 and 16 per cent depending on the survey year) either belongs to traditional faiths or reports not to adhere to any specific faith.<sup>17</sup> The data suggest that individuals who belong to these two groups are significantly less educated than both Muslims and Christians and tend to reside mostly in the northern regions, as well as being mostly of northern ethnic origin. This is not surprising given that very few southerners live in the north in Ghana, and was particularly notable in the 1998 and 2003 surveys. It helps explain why, in Ghana, Christian-Muslim inequalities tend to be lower than interregional or inter-ethnic ones. In Nigeria inter-religious inequalities in educational attainment closely mimic regional and ethnic inequalities both in magnitude and change over time.

This is an interesting result because living in the north or coming from the north does not automatically imply being a Muslim in Nigeria (see Table 2). Figure 1N shows that the north-south disparity ratio in women's year of education was 2.89 in 2003. However, when data are broken down by religion (not shown) Christian women living in the south are 1.4 times more educated than their co-religionists living in the north, while Muslim women living in the south attain on average about 4 times the level of education that Muslim women attain in the north. Alternatively, Figure 3N shows that in 2003 the disparity ratio between Christians and Muslims was 3.2. When the data is broken down by region, the inequality originates entirely from Christian-Muslim differences in the north as differences in educational attainment between Christian and Muslim women in the south is basically nil. This evidence suggests that region and religion reinforce each other in affecting women's education in Nigeria and that Muslim women in the north are by far the most uneducated section of the Nigerian population. The traditional antagonism of Muslims toward Western education in Hausaland helps explain these patterns.<sup>18</sup> Western education is seen as synonymous with Christianity and parents fear that it would disrupt the Islamic way of life and the preference for Hausa language. Therefore, girls were traditionally sent to Qu'ranic schools (Csapo, 1981).<sup>19</sup> The impact of cultural factors on women's education is further explored in the next section, where attainment levels and north-south inequalities are compared across genders.

### 3.1.1 Gender differences

Table 3 shows that in both countries, and in each year when men's surveys were also implemented, men attain on average significantly more formal education than women (about 1.7 and 2 additional years in Ghana and Nigeria, respectively). Evidence of considerably lower enrolment rates among girls in Nigeria, particularly in the north, is

<sup>17</sup> In Nigeria the proportion of individuals of traditional faith or with no specific religious affiliation does not exceed 2 per cent of the sample.

<sup>18</sup> The nomadic way of life of the Fulani has also been mentioned as a barrier to enrolment. Communities tend to move every two months in search of good grazing land for their cattle throughout Hausaland (which extends beyond the political borders of Nigeria). Children are fully involved in the family economy, where girls typically carry the milk to town for sale. Côte d'Ivoire, for instance, where the Northern region is predominantly Christian, struggles with the same problem. Life is harsher in the regions bordering the Sahara due to less favourable agricultural conditions and the contribution of children to the family economy and labour is an important component of economic survival (Csapo, 1981).

<sup>19</sup> The DHS only collects information on formal years of education attained, which excludes Islamic schooling. This may bias downwards the number of years of education achieved by Muslim women.

well documented. In 1977 the ratio was about one girl to every five boys in the northern states (Csapo, 1983). Gender differences in attainment are particularly high at secondary level and beyond. Furthermore, Figures 1N and 1G highlight the fact that south-north disparity ratios in years of education are generally lower for males than for females, especially in Nigeria where gender differences have also increased between 1999 and 2003. In Nigeria, men in the south are 'only' about 1.5 times more educated than men in north, however defined. This is mainly driven by the large gender differences in disparity ratios at the secondary and post-secondary level where values for men remain below 2 while for women they exceed 3 (not shown). In Ghana gender differences in group inequality are smaller and statistically weaker than in Nigeria (Figures 1G-3G). Information on the highest schooling level attained reveals that, perhaps not surprisingly, in 2003 the north-south gap among the uneducated is higher for men than for women. This is due to the fact that the residual 18 per cent of Ghanaian men who were still uneducated in 2003 live overwhelmingly in or came overwhelmingly from the north of the country. The evidence is reversed at secondary school level, where disparity ratios are about twice as large for women as for men in 2003. This is in line with the findings for Nigeria. However, in Ghana, unlike Nigeria, significant gender differences in secondary school attainment are only found when the north-south divide is defined in ethnic terms. This may suggest that in the south the education gap between men of northern ethnic origin relative to men of southern origin is less pronounced compared to the same gap among women.

Interestingly, when figures on educational attainment are broken down by marital status in both countries in 2003 (not shown), unmarried women have on average almost the same number of years of education as unmarried men and only slightly fewer in earlier surveys. The story is very different for married individuals. Whereas married men attain on average at least six years of formal education, married women usually do not achieve more than four years. Therefore, most of the gender bias in educational attainment originates from differences between married men and married women. Marital status statistics reveal that in both Ghana and Nigeria, marriage rates among women are about 80 per cent in the north, however defined, compared to 50 per cent in the south. Given that cultural factors are probably as influential as economic factors in marriage decisions, cultural differences between north and south also affect attitudes towards women's education and ultimately women's attainment.<sup>20</sup>

### 3.2 *Child mortality*

Table 3 shows that under-five CMR are significantly lower in Ghana than in Nigeria. In Ghana CMR declined between 1993 and 1998 but remained stable at about 105/1000 between 1998 and 2003. In Nigeria CMR fell significantly between 1990 and 1999, but rose sharply between 1999 and 2003 to levels even higher than in 1990. The sharp decline in CMR in Nigeria during the 1990s may reflect the effect of the nationwide immunisation programme launched by the federal government in 1988, which led to a massive increase in vaccination against major childhood diseases like pertussis, diphtheria, measles, polio, tetanus and tuberculosis on the one hand, and significant expansion of primary health care, on the other. The polio epidemics that broke out in 2001 are likely to be the main factor behind the high 2003 figure, given that children under five are typically the most at risk.<sup>21</sup> It is also possible, however, that the

<sup>20</sup> In Hausa Muslim society, marriage customs directly affect educational choices, as girls would traditionally marry as young as 12. Furthermore economic reasons typically induce mothers to regard girls' education as a luxury or, even worse, as an unsound investment (Csapo, 1981).

<sup>21</sup> Chen (2004) reports that the number of polio cases in Nigeria quadrupled in 2001, accounting for almost half of all polio cases worldwide. In addition, a rebellion instigated by clerics and community leaders against the polio vaccine in northern Nigeria broke out towards the end of



significantly lower CMR in 1999 compared to the 1990 and 2003 estimates may be due to data quality issues, which led to significant underreporting of child mortality levels in 1999, rather than to a genuine decline in mortality risk overall. The high CMR value found in the 2003 survey is in line with estimates from other sources like, for instance, the 2004 UNICEF figure of 197/1000 (NPC, 2004).<sup>22</sup>

North-south regional inequalities in CMR are shown in Figure 4. Overall, CMR are significantly higher in the north than in south in both countries, but the extent of the gap varies considerably depending on the year of the survey and on group definition. In Ghana, CMR in the geographic north were nearly twice as high as in the south in 1993 but the gap fell by more than 50 per cent by 2003. A disaggregated analysis (not shown) suggests that the fall in the gap was driven by a significant decline in CMR in the Northern and Upper East regions between 1998 and 2003 and by a parallel increase in CMR in the Ashanti and Eastern regions in the south. This evidence has been documented by previous research based on DHS data (Shepherd *et al.*, 2005; Canagarajah and Ye, 2001). It appears that despite the much more extensive health facilities available in the southern regions, the percentage of fully immunised children is only marginally higher, although the reason for this bias toward curative rather than immunisation capacity in the south is unclear. Another possible explanation is the action of donors and NGOs, which focused strongly on improving access to primary health care in many deprived northern localities.<sup>23</sup>

In Nigeria, as in Ghana, there was considerable variation in regional inequalities in CMR over the period 1990-2003 (Figure 4). The gap between the geographic north and the geographic south closed by 25 per cent between 1990 and 1999 but widened again between 1999 and 2003, echoing the direction of change in overall child mortality rates shown in Table 7.<sup>24</sup> In Nigeria it may be possible that immunisation was more efficient in the north, although this explanation remains speculative. It is also possible that the underestimation of child mortality in the 1999 survey was greater in the northern regions, although again, this is guesswork.

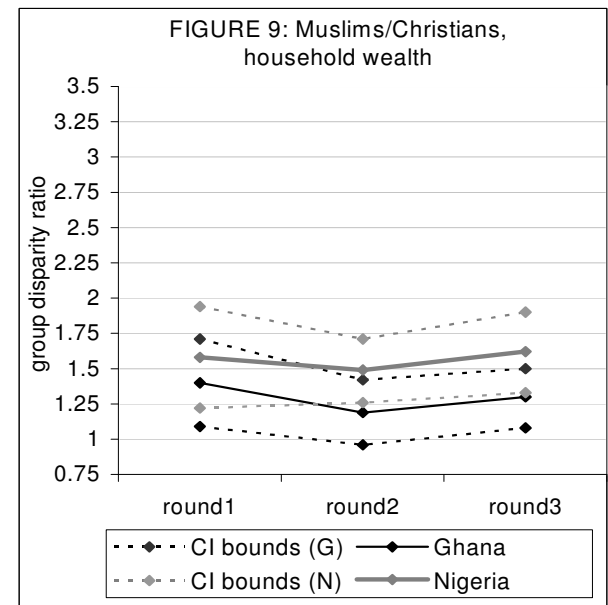
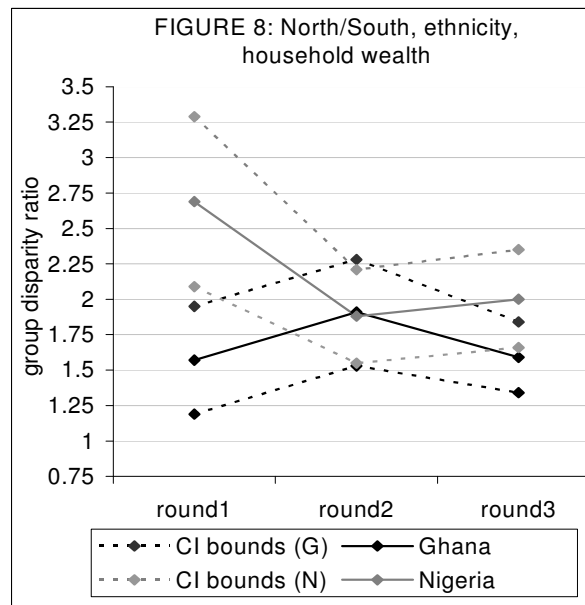
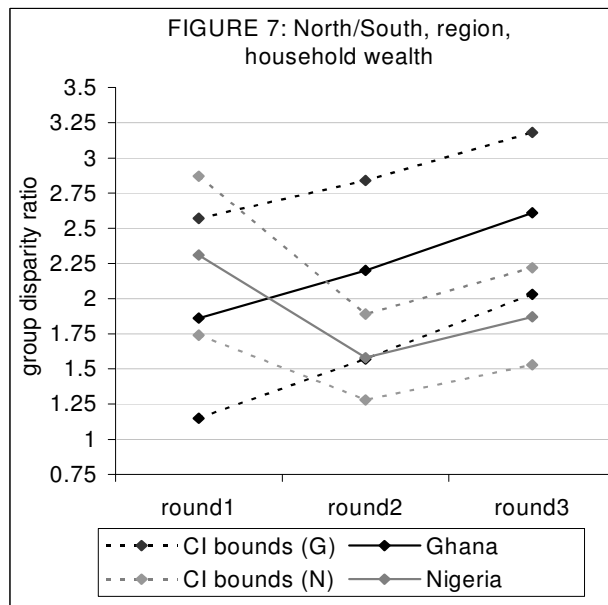
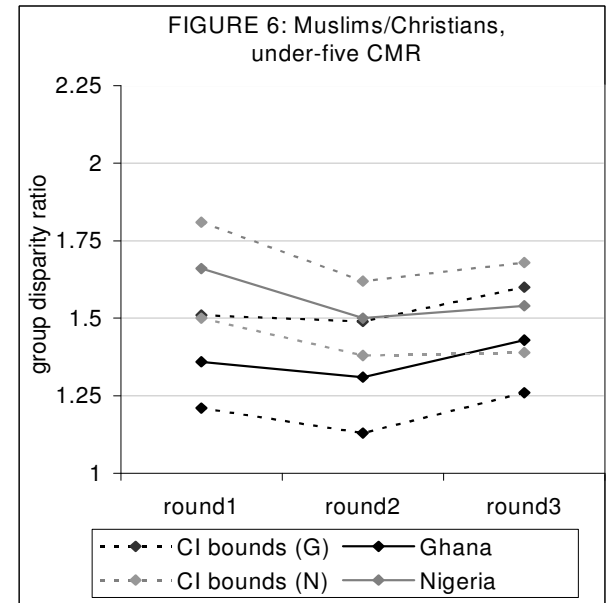
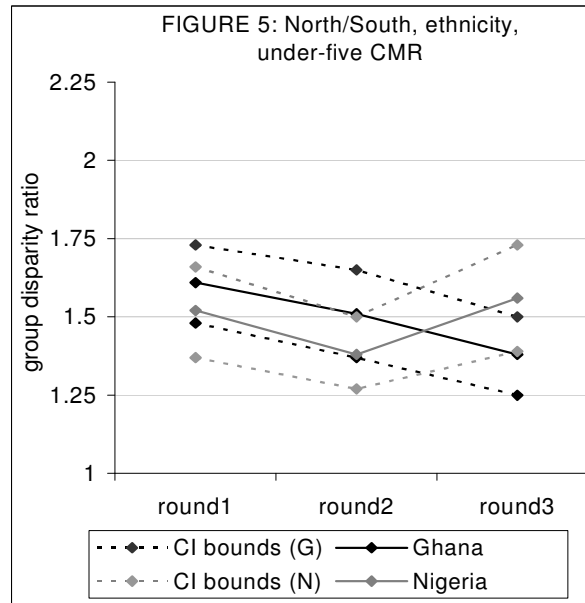
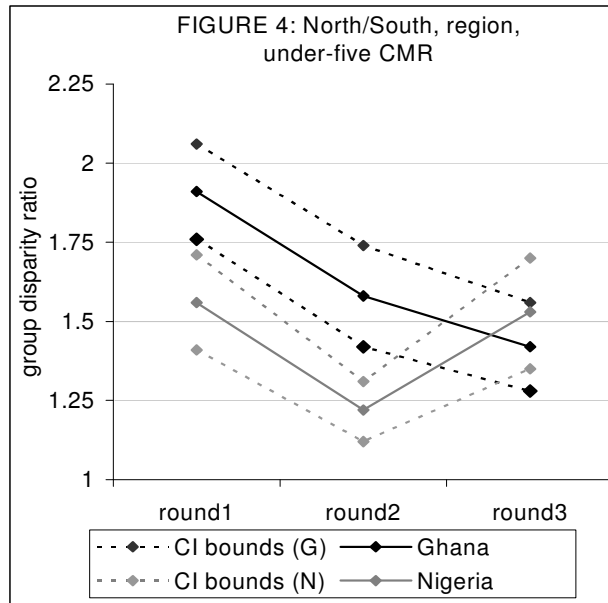
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2003. Rumours of the vaccine being contaminated by westerners with infertility drugs to keep the Nigerian population under check, in connection with the onslaught of the AIDS pandemic, brought the immunisation programme to a halt in that part of the country. It was only resumed a few months later in 2004.

<sup>22</sup> [www.unicef.org/infobycountry/nigeria.html](http://www.unicef.org/infobycountry/nigeria.html).

<sup>23</sup> Further impetus in closing the north-south gap may come in the next few years from the 'Direct Support for Human Development and the Provision of Basic Services' which is part of the Ghana Poverty Reduction Strategy Paper promoted by current New Patriotic Party (NPP) administration for the period 2003-2005. In the programme the government has pledged, among other things, to reduce infant and maternal mortality rates especially in the most deprived regions; increase the ratio of doctors per population in the Northern region; and increase the share of the health care budget allocated to the three northern regions by 7 per cent, reflecting 40 per cent of total expenditure by 2004 (Asante, 2007).

<sup>24</sup> In Nigeria the highly skewed geographic distribution of medical facilities across the country dates back to colonial times and to the role of Roman Catholic hospitals providing health services mainly in the south-east and mid-west of the country. The colonial administration built several clinics and hospitals in Lagos, Calabar and other coastal trading centres in the 1870s. In the 1980s the ratios were an estimated 3,800 people per hospital bed in the north; 2,200 in the Middle Belt; 1,300 per bed in the south-east; and 800 per bed in the south-west (<http://countrystudies.us/nigeria/50.htm>).



When ethnicity is used, trends are less dramatic and not statistically significant in either country (Figure 5). In Ghana this is due the fact that regional inequalities were significantly higher than ethnic inequalities in 1993. This may suggest that ethnic northerners living in Ghana's south benefited from greater access to health facilities in the early 1990s compared to their co-ethnics in the north. However, since immunisation began in the north, the relative advantage (in terms of lower child mortality rates) of living in the south has faded. In Nigeria trends in north-south disparity ratios are less pronounced than in Figure 4 because the 1999 decline is not as steep when north and south are defined in ethnic terms. This is certainly due, at least in part, to the fact that in the 1999 survey a higher proportion of Yorubas and Igbos were sampled in the geographic north, particularly in the Middle Belt states of Kwara and Kogi. Evidence that CMR are significantly lower for these groups, especially the Yoruba, compared to northern groups explains the much steeper decline in regional inequalities in 1999. This may be the result of higher educational attainment among Yoruba and Igbo women, but it may also signal privileged access of these powerful groups to health care, as well as reflecting different cultural practices and beliefs towards child and maternal health across ethnic groups.<sup>25</sup>

As with women's education, inter-religious inequality in CMR in Ghana is generally lower than inter-regional and inter-ethnic inequality and it has also remained stable throughout the period, although confidence intervals are wider (Figure 6). This is due to significant variation in CMR within religious groups across the north-south geographical borders. In contrast, in Nigeria CMR inequality between Muslims and Christians is definitely not smaller than regional and ethnic inequalities, especially in 1999 when inter-religious inequalities were significantly (in statistical terms) higher than regional inequalities. As in the case of education, the explanation lies in the considerably worse record among children from Muslim households in northern Nigeria, who are twice as likely to die before the age of five as children from Muslim and Christian households alike in the south.

### 3.3 Household wealth

Table 3 shows that in 2003 in both countries households are on average more asset-wealthy (in terms of the crude number of amenities owned) than in the early 1990s. In 2003 the 'average' household owned approximately three of the eight items considered in the analysis.<sup>26</sup> The improvement in household wealth is also reflected in a much lower sample proportion of poor households (i.e. those with no amenities or ownership of mass goods and with basic facilities only, such as a radio or non-earth floor), especially in the case of Ghana, where the proportion of poor households declined from 75 per cent in 1993 to 36 per cent in 2003. Infrastructural investments such as, for instance, the District Capitals Electrification Project (DCEP) which connected 110 district capitals to national electricity grid in Ghana is one reason for these improvements (Asante, 2007). In Nigeria the improvement has been more modest, especially between 1999 and 2003.

Not surprisingly, Figures 7-9 show that the north, however defined, is significantly less wealthy than the south in both countries. This finding is in line with social welfare

<sup>25</sup> Cultural beliefs towards health are deeply rooted in Nigeria. Ogunjuyigbe (2004), for instance, shows how the belief in the existence of *abiku* children (children from the spirit world who may die at will) is very strong and pervasive among Yoruba people in south-west Nigeria. *Abiku* children are more likely to be treated by traditional healers rather than by modern health facilities. This is a very powerful example of how particular beliefs are likely to affect a child's chances of survival.

<sup>26</sup> Results are similar when the type of asset is also taken into account, i.e. when greater weight is given to ownership of less prevalent household amenities.

statistics from other sources. Uwaifo Oyelere (2007), using data from the 1996-1999 General Household Surveys of Nigeria, finds that households in southern regions have more amenities than in the north. Shepherd *et al.* (2005) use 1997 and 2003 Core Welfare Indicator Questionnaire (CWIQ) data to show that in Ghana the northern regions have a much lower access to electricity and safe sanitation (flush toilets), as well as lower ownership of television and radios. Figure 9, for instance, shows that the average Christian household in Nigeria has about 1.5 times the number of amenities available to the average Muslim household, and this was true in 2003 just as it was in 1990, despite the fact that during the same period average household wealth has increased and overall wealth inequality has decreased both in the north and in the south (Table 3). Inter-country differences as well as trends over time in disparity ratios are rarely statistically significant.

#### 4. Concluding remarks

This paper has focused on the developmental gap between the north and the south of two West African countries: Ghana and Nigeria. In recognising the existence in both countries of a number of other transversal and intra-regional divisions (e.g. rural-urban, indigenes-settlers), concentration on the north-south divide is warranted for at least three reasons: 1) it is a highly salient theme in contemporary political discourse; 2) it has connotations that are not purely geographical but also cultural, as Ghana and Nigeria are highly diverse multiethnic societies whose ethnic and religious groups tend to have a strong regional base; and 3) certain communal conflicts are rooted in the neglect and marginalisation of the north.

The paper has presented evidence of group inequality in Ghana and Nigeria using nationally representative Demographic and Health Surveys. The highly standardised nature of the data makes it particularly suitable for comparative analyses both over time and between the two countries. The availability of information on respondents' ethnicity and religious background, which is often unavailable in population surveys due to its political sensitiveness, has enabled us to explore not only spatial disparities but also horizontal inequalities between culturally-defined groups (Stewart, 2002). Group inequalities are measured as disparity ratios in three different socio-economic dimensions (education, child mortality, and household wealth) between a) northern and southern regions, b) northern and southern ethnic groups, and c) Muslims and Christians.

The general conclusion is that in both countries the socio-economic divide between the 'north' and the 'south', however defined, remains very deep, despite the fact that the national average levels of wealth and educational attainment have increased over time. For instance, in the north women's educational attainment, measured as the average number of years of formal education obtained, never exceeds half the level of attainment in the south. Similarly, households in the north are on average significantly less asset-wealthy than households in the south. The results also show that wealth inequality within both the north and the south has declined over time, which suggests that northern households have become more homogeneously poor relative to southern households. Despite the efforts by post-colonial administrations to redress the development gap between north and south, the effects of these policies have been quite modest. Some governments are aware of this and have made the bridging of the divide a political priority, as witness the Ghana Poverty Reduction Strategy (2003-2005) which identified regional inequality as a key source of poverty.

In terms of cross-country comparisons, north-south inequalities in under-five child mortality rates were higher in Ghana than in Nigeria until the late 1990s, but the differences had disappeared in 2003 due to sharply rising inequalities in Nigeria and to

their concomitant decline in Ghana. More generally, whereas in Ghana inequalities tend to be consistently highest between regional groups and lowest between religious groups, in Nigeria the magnitude of the north-south divide is largely insensitive to the way groups are defined. This is mostly due to the very different migration patterns between the two countries, whereby in Ghana there is much less alignment between regional and ethnic identities than in Nigeria. The greater degree of overlap between regional and cultural identities in Nigeria, coupled with a much more even demographic split between the north and the south than in Ghana, is likely to make the north-south divide particularly visible to people and to their political elites in the north.

Migration alone, however, does not explain why for instance in Nigeria religious inequalities in education and child mortality are just as high as regional and ethnic inequalities when about 25 per cent of people living in the north are Christians and 15 per cent of southerners are Muslims; nor why in Ghana, with roughly the same proportion of Christians living in the north and Muslims living in the south as in Nigeria, education and wealth inequalities between Christians and Muslims are significantly lower. The evidence presented in the paper seems to suggest that part of the explanation is also cultural, and more precisely it has to do with the role of women within the Hausa Muslim society of northern Nigeria. Muslim women in northern Nigeria attain about four times less formal education, and their children are twice as likely to die before the age of five, compared to Muslim and Christian women alike in the south. It is well known that women marry at a younger age on average in Hausa Muslim communities, which coupled with higher overall marriage rates in the north, heavily affects educational attainment. The data show that marital status significantly affects women's educational attainment. This is confirmed by the fact that the significant gender bias in education in Nigeria is almost exclusively due to differences in attainment between married women and married men. These cultural factors do not exclude the possibility that economic factors are also important; for instance, the more active role that girls have in the family economy in some areas of the Sahelian north.

Finally, whereas in Ghana inequalities have with very few exceptions remained stable over the decade 1993-2003 (trends are rarely statistically significant), in Nigeria changes in group inequalities over time have been more dramatic, particularly in women's educational attainment and child mortality rates. In particular, there are some signs of worsening inequalities between 1999 and 2003 after a substantial decline during the 1990s.

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## Appendix

### Wealth index

Two indices are calculated: the first is a crude sum of the amenities owned by the household, while the second is a weighted sum of amenities owned by the person's household with weights proportional to the degree of exclusiveness of each asset in the population. In other words, each of the 8 amenities that can potentially be owned by the household will contribute 1 minus its prevalence (frequency) in the sample. This is tantamount to classifying households' amenities in mass goods, intermediate goods, and luxury goods and to assigning incremental weights to each category. Thus, if 50 percent of the respondents have a radio in the house this item will only contribute 0.50 to the overall household wealth index. However, if only 5 percent of households have a car the contribution to household economic status of owning a car will be 0.95. Finally, the index is 'normalised' so that it ranges between 0 and 1. Publicly provided services (piped water and electricity) and privately acquired assets (car, radio, fridge, television, flush toilet, non-earth flooring) are both included in the composite wealth indices. The reason for making no distinction between these two types of amenities is that public goods also tend to reflect households' economic status. In fact wealthy households would typically reside in areas that provide such services, either because they moved there or as the result of political pressure to have the services provided to them. Also the provision of electricity and piped water is expected to have an effect on wealth status by lowering economic costs that would otherwise be incurred like purchasing kerosene or the time to travel to get water (Rutstein and Johnson, 2004).

### Disparity ratios

The group inequality measure used in the paper is defined as:

$$GDRATIO = \frac{\frac{1}{n_A} \sum_i^{n_A} X_i^A}{\frac{1}{n_B} \sum_i^{n_B} X_i^B}$$

where the numerator and the denominator of the ratio are respectively group A's and group B's average endowments of human development dimension X. For clarity of exposition and interpretation, by convention group A (nominator) will interchangeably be the disadvantaged or the advantaged group so that the value of the ratio will always be above 1 and group inequality will decrease to zero as the ratio approaches unity.