

THE DANISH
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HUMAN RIGHTS

HUMAN RIGHTS AND ECONOMIC GROWTH

AN ECONOMETRIC ANALYSIS OF THE
RIGHTS TO EDUCATION AND HEALTH

ANNEXES

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HUMAN RIGHTS AND ECONOMIC GROWTH
AN ECONOMETRIC ANALYSIS OF THE RIGHTS TO EDUCATION AND HEALTH

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A.1 METADATA ON EDUCATIONAL AND HEALTH EQUALITY FROM V-DEM

The V-Dem codebook describes all indicators in further detail (downloaded at <https://www.v-dem.net/en/>). Below are descriptions of “Educational equality” and “Health equality”:

3.12.6 Educational equality (C) (v2peedueq, *_osp, *_ord)

Project Manager(s): Michael Coppedge, John Gerring, Staffan Lindberg

Question: To what extent is high quality basic education guaranteed to all, sufficient to enable them to exercise their basic rights as adult citizens?

Clarification: Basic education refers to ages typically between 6 and 16 years of age but this varies slightly among countries.

Responses:

- 0: Extreme. Provision of high quality basic education is extremely unequal and at least 75 percent (%) of children receive such low-quality education that undermines their ability to exercise their basic rights as adult citizens.
- 1: Unequal. Provision of high quality basic education is extremely unequal and at least 25 percent (%) of children receive such low-quality education that undermines their ability to exercise their basic rights as adult citizens.
- 2: Somewhat equal. Basic education is relatively equal in quality but ten to 25 percent (%) of children receive such low-quality education that undermines their ability to exercise their basic rights as adult citizens.
- 3: Relatively equal. Basic education is overall equal in quality but five to ten percent (%) of children receive such low-quality education that probably undermines their ability to exercise their basic rights as adult citizens.
- 4: Equal. Basic education is equal in quality and less than five percent (%) of children receive such low-quality education that probably undermines their ability to exercise their basic rights as adult citizens.

Scale: Ordinal, converted to interval by the measurement model. Data release: 1-8.

Cross-coder aggregation: Bayesian item response theory measurement model (see V-Dem Methodology).

Citation: Pemstein et al. (2018, V-Dem Working Paper Series 2018:21); V-Dem Codebook (see suggested citation at the top of this document).

3.12.7 Health equality (C) (v2pehealth, *_osp, *_ord)

Project Manager(s): Michael Coppedge, John Gerring, Staffan Lindberg

Question: To what extent is high quality basic healthcare guaranteed to all, sufficient to enable them to exercise their basic political rights as adult citizens?

Clarification: Poor-quality healthcare can make citizens unable to exercise their basic rights as adult citizens by failing to adequately treat preventable and treatable illnesses that render them unable to work, participate in social or political organizations, or vote (where voting is allowed).

Responses:

- 0: Extreme. Because of poor-quality healthcare, at least 75 percent
- 1: Unequal. Because of poor-quality healthcare, at least 25 percent
- 2: Somewhat equal. Because of poor-quality healthcare, ten to 25 percent
- 3: Relatively equal. Basic health care is overall equal in quality but because of poor-quality healthcare, five to ten percent
- 4: Equal. Basic health care is equal in quality and less than five percent

Scale: Ordinal, converted to interval by the measurement model.

Data release: 1-8.

Cross-coder aggregation: Bayesian item response theory measurement model (see V-Dem Methodology).

Citation: Pemstein et al. (2018, V-Dem Working Paper Series 2018:21); V-Dem Codebook (see suggested citation at the top of this document).

TABLE 1: EDUCATIONAL EQUALITY AND HEALTH EQUALITY RATINGS
ACROSS COUNTRIES, 2012

Country	Ordinal scale		Interval scale		
	Educational equality	Health equality	Educational equality	Health equality	Educational and health equality
AFGHANISTAN	1	1	-0,61	-0,44	-1,04
ALBANIA	3	3	0,97	1,05	2,02
ALGERIA	3	3	0,69	0,77	1,47
ANGOLA	0	1	-1,68	-0,89	-2,57
ARGENTINA	3	3	0,76	0,95	1,71
ARMENIA	3	3	1,54	1,21	2,75
AUSTRALIA	4	3	2,31	2,16	4,47
AUSTRIA	3	4	1,71	2,44	4,15
AZERBAIJAN	1	1	-0,90	-0,96	-1,86
BANGLADESH	1	1	-1,33	-1,13	-2,46
BELARUS	4	3	2,33	1,81	4,14
BELGIUM	4	4	3,37	2,99	6,36
BENIN	3	3	1,25	0,93	2,18
BHUTAN	3	3	1,31	1,07	2,38
BOLIVIA, PLURINATIONAL STATE OF	1	1	-0,68	-0,15	-0,83
BOTSWANA	3	3	1,22	1,21	2,43
BRAZIL	2	2	-0,04	0,47	0,43
BULGARIA	3	3	1,33	1,48	2,81
BURKINA FASO	2	3	-0,03	0,92	0,89
BURUNDI	1	3	-0,32	1,71	1,38
CAMBODIA	1	1	-0,48	-0,52	-0,99
CAMEROON	2	2	0,72	0,56	1,27
CANADA	4	4	2,71	2,95	5,65
CAPE VERDE	2	3	0,62	1,50	2,12
CENTRAL AFRICAN REPUBLIC	2	2	0,68	-0,01	0,67
CHAD	1	0	-1,39	-1,78	-3,18
CHILE	2	3	0,15	0,88	1,03
CHINA	2	2	0,14	0,00	0,15
COLOMBIA	1	2	-0,35	0,50	0,14
COMOROS	2	1	0,26	-0,35	-0,09

CONGO	1	1	-0,61	-1,27	-1,88
CONGO, THE DEMOCRATIC REPUBLIC OF THE	1	1	-0,40	-0,89	-1,29
COSTA RICA	3	4	1,63	2,51	4,13
CÔTE D'IVOIRE	2	1	-0,75	-0,47	-1,23
CROATIA	4	4	2,12	2,35	4,47
CYPRUS	4	4	2,57	3,19	5,76
CZECH REPUBLIC	4	4	2,96	2,58	5,54
DENMARK	4	4	2,93	2,84	5,77
DJIBOUTI	1	1	-0,23	-0,16	-0,39
DOMINICAN REPUBLIC	1	1	-0,17	-0,22	-0,39
ECUADOR	2	2	0,64	0,68	1,32
EGYPT	1	1	-1,20	-1,33	-2,53
EL SALVADOR	1	1	-0,64	-0,85	-1,49
ESTONIA	4	4	2,27	2,72	4,99
ETHIOPIA	1	1	-0,40	-0,93	-1,33
FIJI	3	2	0,81	0,08	0,89
FINLAND	4	4	3,12	2,74	5,86
FRANCE	4	4	2,57	3,99	6,56
GABON	2	2	0,18	0,12	0,30
GAMBIA	1	2	-0,59	0,19	-0,40
GEORGIA	4	3	1,81	1,03	2,84
GERMANY	4	4	2,12	3,63	5,75
GHANA	2	2	-0,05	0,44	0,40
GREECE	4	4	2,64	2,38	5,02
GUATEMALA	1	1	-0,85	-0,51	-1,37
GUINEA	1	0	-1,00	-1,49	-2,48
GUINEA-BISSAU	1	1	-0,87	-1,41	-2,28
GUYANA	2	2	0,50	0,08	0,58
HONDURAS	1	1	-0,93	-1,12	-2,05
HUNGARY	3	3	1,21	1,46	2,67
ICELAND	4	4	2,90	2,84	5,74
INDIA	1	1	-0,86	-0,32	-1,19
INDONESIA	2	2	0,05	0,43	0,47
IRAN, ISLAMIC REPUBLIC OF	2	3	0,48	1,21	1,69
IRAQ	1	2	-0,31	0,36	0,05
IRELAND	4	4	2,30	2,33	4,63

ISRAEL	3	4	0,89	2,50	3,39
ITALY	4	3	1,99	2,09	4,08
JAMAICA	3	3	0,77	0,96	1,73
JAPAN	4	4	3,48	3,62	7,10
JORDAN	3	3	1,09	0,97	2,06
KAZAKHSTAN	3	3	1,38	1,33	2,71
KENYA	2	2	0,42	0,14	0,56
KOREA, REPUBLIC OF	4	4	3,20	3,02	6,22
KYRGYZSTAN	2	2	0,65	0,71	1,36
LAO PEOPLE'S DEMOCRATIC REPUBLIC	1	1	-0,29	-0,33	-0,63
LATVIA	4	4	2,24	2,26	4,50
LEBANON	2	2	0,62	0,54	1,16
LESOTHO	3	3	1,08	1,84	2,92
LIBERIA	1	1	-0,75	-0,86	-1,61
LIBYA	3	3	0,61	1,06	1,67
LITHUANIA	4	4	2,32	2,95	5,27
MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF	3	3	1,09	1,32	2,41
MADAGASCAR	0	0	-2,60	-1,84	-4,44
MALAWI	1	1	-0,83	-1,05	-1,89
MALAYSIA	3	3	1,26	1,50	2,76
MALI	1	2	-0,18	0,06	-0,12
MAURITANIA	1	1	-0,68	-0,40	-1,08
MAURITIUS	3	4	1,67	2,25	3,92
MEXICO	1	1	-0,51	-0,33	-0,84
MOLDOVA, REPUBLIC OF	3	3	1,16	0,99	2,15
MONGOLIA	3	3	1,24	1,00	2,24
MOROCCO	1	1	-0,96	-0,26	-1,22
MOZAMBIQUE	1	1	-0,79	-1,17	-1,95
MYANMAR	1	1	-1,12	-1,00	-2,13
NAMIBIA	2	2	-0,05	0,01	-0,04
NEPAL	1	1	-0,28	-0,32	-0,61
NETHERLANDS	4	4	2,87	3,27	6,14
NEW ZEALAND	4	4	2,69	2,70	5,39
NICARAGUA	1	2	-0,62	0,09	-0,53
NIGER	3	2	0,69	0,62	1,31
NIGERIA	1	1	-0,35	-0,61	-0,96

NORWAY	4	4	3,13	3,36	6,48
PAKISTAN	0	1	-1,49	-1,20	-2,68
PANAMA	2	2	0,61	0,78	1,39
PAPUA NEW GUINEA	2	1	-0,07	-1,22	-1,29
PARAGUAY	1	1	-1,10	-0,76	-1,87
PERU	1	1	-0,65	-0,44	-1,09
PHILIPPINES	1	1	-0,42	-0,37	-0,79
POLAND	4	3	2,43	1,94	4,37
PORTUGAL	4	3	2,08	2,11	4,19
QATAR	4	4	2,17	3,06	5,23
ROMANIA	3	3	0,94	2,13	3,07
RUSSIAN FEDERATION	3	3	1,06	0,96	2,02
RWANDA	3	3	0,84	1,14	1,98
SENEGAL	2	2	0,29	0,26	0,55
SERBIA	3	3	1,09	1,12	2,21
SEYCHELLES	4	3	2,08	2,07	4,16
SIERRA LEONE	1	1	-0,33	-0,30	-0,63
SLOVAKIA	3	4	0,80	2,28	3,08
SLOVENIA	4	4	3,36	2,38	5,74
SOLOMON ISLANDS	1	1	-0,66	-0,63	-1,29
SOMALIA	0	0	-2,02	-1,48	-3,50
SOUTH AFRICA	1	1	-0,24	-0,15	-0,39
SPAIN	4	4	2,24	2,27	4,52
SRI LANKA	2	3	0,61	1,56	2,17
SUDAN	1	1	-1,24	-1,46	-2,70
SURINAME	2	3	0,64	1,23	1,87
SWAZILAND	1	1	-0,82	-0,73	-1,56
SWEDEN	4	4	2,41	3,25	5,66
SWITZERLAND	4	4	3,15	2,64	5,79
SYRIAN ARAB REPUBLIC	2	1	0,06	-0,68	-0,62
TAJIKISTAN	1	1	-0,44	-0,23	-0,67
TANZANIA, UNITED REPUBLIC OF	2	2	-0,13	0,21	0,09
THAILAND	2	2	0,39	0,77	1,16
TRINIDAD AND TOBAGO	3	3	1,89	2,15	4,04
TUNISIA	3	3	0,80	1,07	1,87
TURKEY	2	3	0,28	1,76	2,04
TURKMENISTAN	3	2	0,96	0,67	1,63
UGANDA	1	1	-0,15	-0,15	-0,30

ANNEXES

UKRAINE	3	3	1,43	0,89	2,32
UNITED KINGDOM	4	4	2,34	3,03	5,36
UNITED STATES	3	2	1,18	0,77	1,95
URUGUAY	3	3	1,08	2,02	3,10
UZBEKISTAN	3	3	0,93	1,01	1,95
VANUATU	1	1	-0,27	-0,28	-0,56
VENEZUELA, BOLIVARIAN REPUBLIC OF	1	3	-0,47	0,81	0,35
VIET NAM					
YEMEN	0	0	-1,86	-1,50	-3,36
ZAMBIA	2	2	0,04	0,74	0,78
ZIMBABWE	3	1	0,97	-0,85	0,13

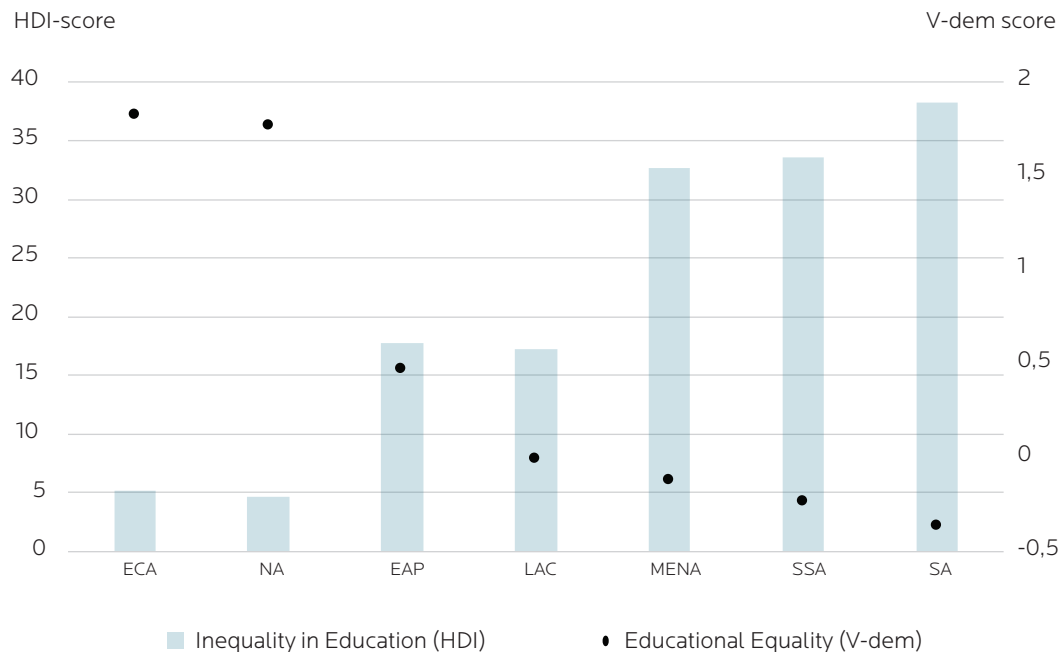
A.2 TRIANGULATION OF V-DEM DATA

We have compared data from multiple data sources that examine the effect of equality or quality of education and health. Among others, the different sources used in the triangulation cover the Human Development Index (HDI) made by the United Nations Development Programme (UNDP); the Demographics and Health Surveys (DHS) implemented by ICF International; Multiple Indicator Cluster Surveys (MICS) implemented by UNICEF; net enrolment ratio, pupil/teacher ratio and government expenditure on education from UNESCO; and life expectancy, infant mortality, and public expenditure from the World Development Indicators (WDI). We have used these sources to compare and validate the ranking and development of regions and countries of the V-Dem indicators. We compare data on a regional level, where we use the World Bank's classification of regions: Sub-Saharan Africa (SSA), North America (NA), South Asia (SA), Europe and Central Asia (ECA), East Asia and Pacific (EAP), Middle East and Northern Africa (MENA), Latin America and the Caribbean (LAC), and South Asia (SA).

2.1 EDUCATIONAL EQUALITY

To assess V-Dem's indicator of educational equality (equal access to education), we start by using Inequality in mean years of schooling from the Human Development Index (HDI) made by UNDP. The HDI-indicator is based on household surveys estimated using the Atkinson inequality index and exist only for 2015. The most unequal countries rank just below 50, and the most equal countries rank just above 1. When comparing the regional scores between the HDI and V-Dem educational equality, we find that the ranking is very similar, as shown in figure 2 (note that V-Dem measures equality where as HDI measures inequality, hence the ranking is adverse).

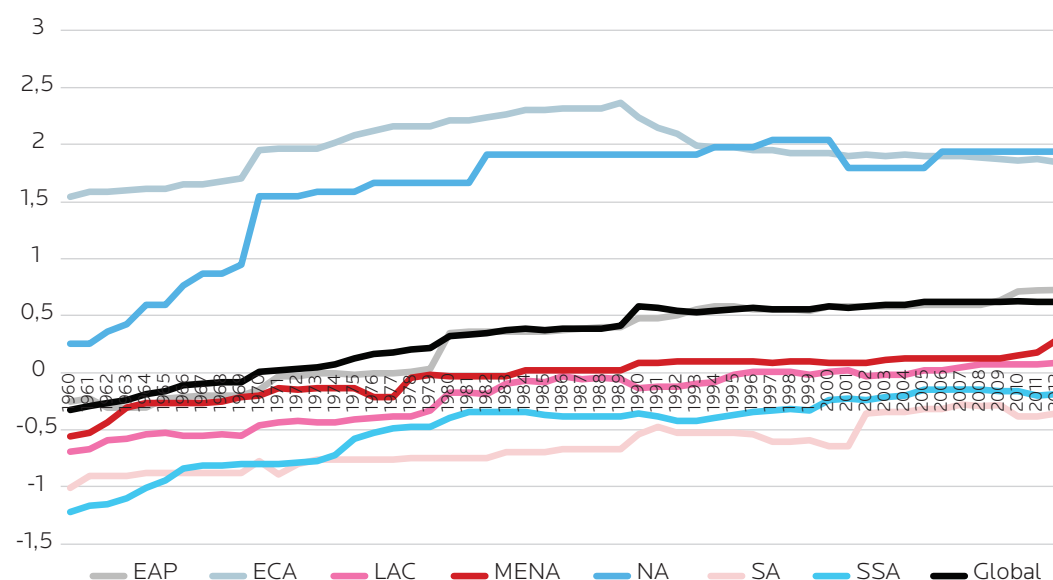
FIGURE 1: SCORE OF THE HDI INEQUALITY IN MEAN YEARS OF SCHOOLING AND V-DEM EDUCATIONAL EQUALITY



Note: Data from V-Dem is average from 2010-2012 (shown on the right axis) and data from HDI is from 2015 (shown on the left axis). The graph only contains countries that exist in both data-collections.

Figure 1 shows how Europe and Central Asia and North America have the most equal access to education. Whereas South Asia and Sub-Saharan Africa have the most unequal access. From Dabla-Norris et al. (2015), we know that educational inequality has been declining globally during the last 60 years, but when we look into the different regions of the world, the inequality is still considerable, at least in the Middle East and Northern Africa, Sub-Saharan Africa, and South Asia, which we also see from the global trend in figure 2, where the average development of V-Dem educational equality for the different regions of the world are outlined.

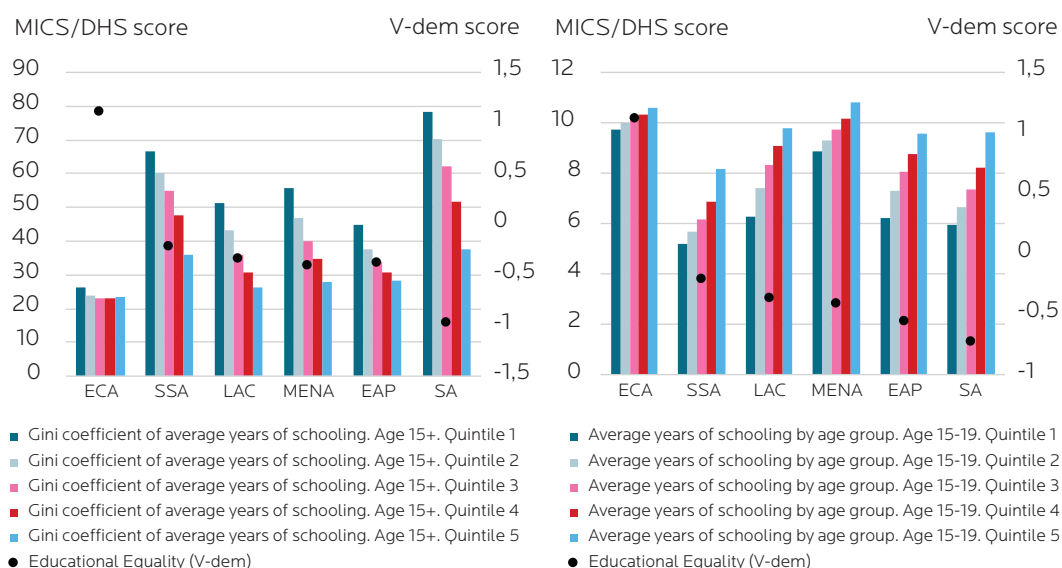
FIGURE 2: DEVELOPMENT IN THE V-DEM EDUCATIONAL EQUALITY INDICATOR – GLOBALLY AND REGIONALLY



We have further compared the V-Dem data with data from the Demographics and Health Surveys (DHS) implemented by ICF International and Multiple Indicator Cluster Surveys (MICS) implemented by UNICEF as far as it has been possible. The challenge of comparison is both the lack of country-timer-observations in DHS/MICS since this data collection covers only around 100 countries (all low- and middle-income countries) and a highly unbalanced time series that runs from 1993. The maximum number of observations per country is seven over the years, while a considerable number of countries were observed only once or twice.

Figure 3 and 4 compares data between MICS/DHS and V-Dem. MICS/DHS data are presented on the left and illustrate inequality in average years of schooling within the different income quintile measures by the Gini coefficient (the lower the Gini score, the lower the inequality). The bar graph on the right shows the average years of schooling in the age group of 15-19 years, also divided into income quintiles.

FIGURE 3 AND 4: MICS/DHS GINI COEFFICIENT OF AVERAGE YEARS OF SCHOOLING AND AVERAGE YEARS OF SCHOOLING DIVIDED INTO QUINTILES AND COMPARED TO V-DEM EDUCATIONAL EQUALITY



Note: Data is average from 1993-2012, but only for comparable years within countries, and the graph contains only countries that exist in both data collections.

Again, we find that all three measures rank Europe and Central Asia as the most equal and South Asia as the most unequal. Moreover, the average years of schooling measure also catches part of the quality effect, as we see how, for example, Sub-Saharan Africa has an average of only 5 years of schooling when looking at quintile 1 and only 8 years of schooling when looking at quintile 5 in contrast with Europe and Central Asia where the populations of both quintiles 1 and 5 have an average of around 10 years of schooling.

To assess the quality of education, we use net enrolment ratio, pupil/teacher ratio, and government expenditure on education from UNESCO. Again, we find that the ranking is more or less similar, as shown in figure 5.

FIGURE 5: RANKING OF NET ENROLMENT RATIO, PUPIL/TEACHER RATIO, AND GOVERNMENT EXPENDITURE ON EDUCATION AND V-DEM EDUCATIONAL EQUALITY



Note: Data is average from 2010-2012 (shown on the left axis). V-Dem has been multiplied by 10 for visibility in the graph.

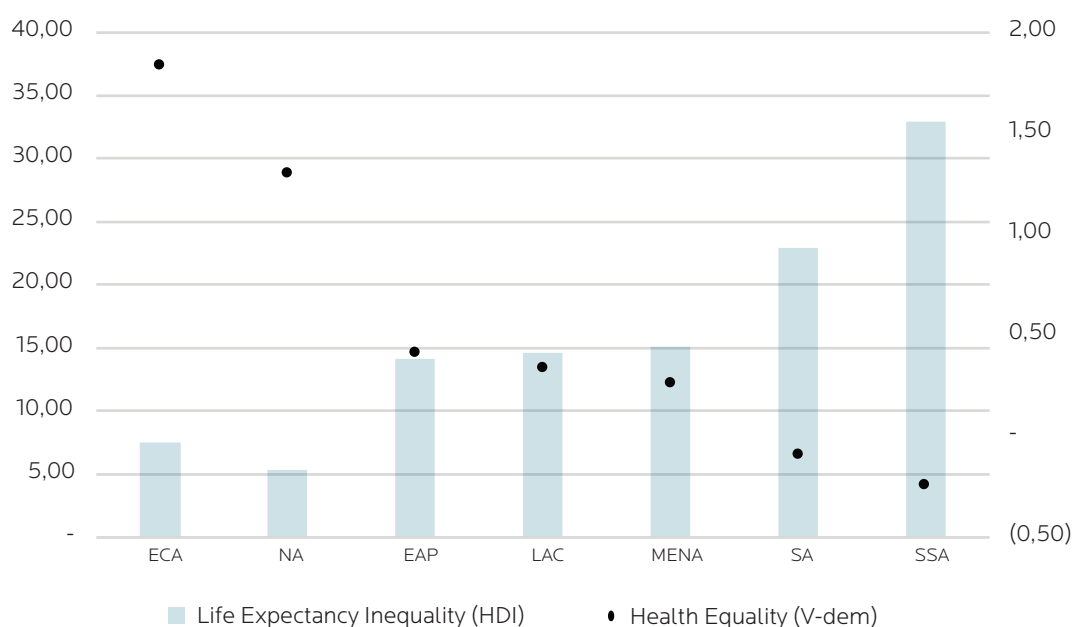
Figure 5 illustrates how North America and Europe and Central Asia have higher-quality education on all four measures compared with the global average. They have a higher net enrolment rate, that is, a bigger part of the population is enrolled in the school system; they have fewer students for each teacher, and more public funds are used on the educational system.

2.2 HEALTH EQUALITY

To assess V-Dem's indicator of health equality (equal access to healthcare), we also start by comparing data from V-Dem with data from, respectively, HDI and MICS.

Figure 6 compares V-Dem health equality with the HDI-indicator life expectancy inequality. The HDI indicator is, again, based on household surveys estimated using the Atkinson inequality index and exist only for 2015. Again, we find that the two sources agree more or less on the ranking of the regions, with Europe and Central Asia and North America being the most equal, and Sub-Saharan Africa the most unequal.

FIGURE 6: SCORE OF THE HDI LIFE EXPECTANCY INEQUALITY AND V-DEM HEALTH EQUALITY



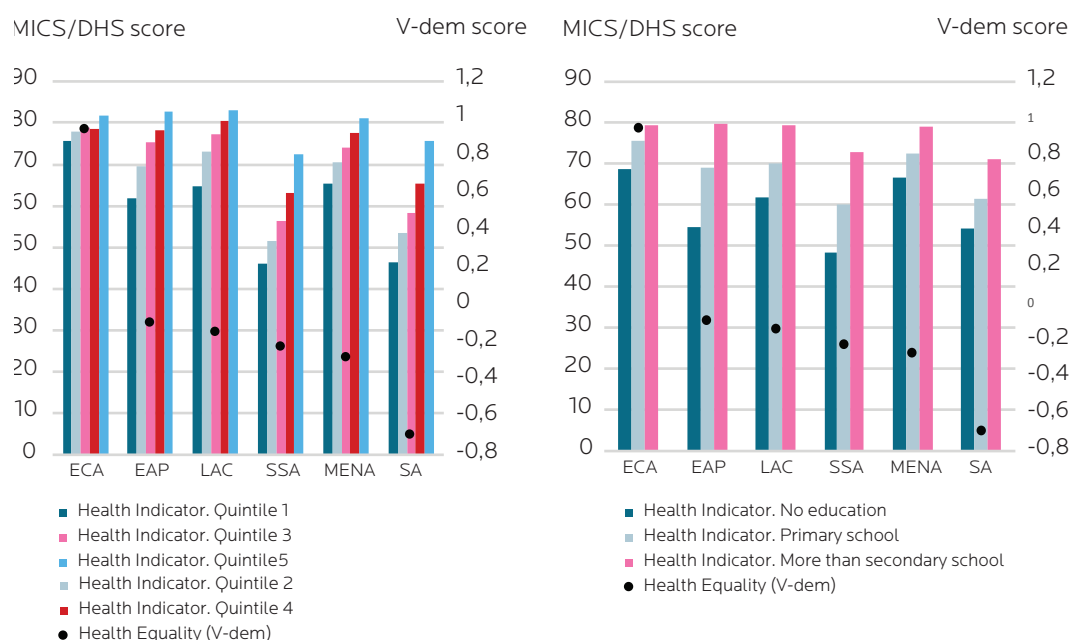
Note: Data from V-Dem is average from 2010-2012 (shown on the right axis), and data from HDI is from 2015 (shown on the left axis). The graph contains only countries that appear in both data collections.

We have further compared the V-Dem data with data from the Demographics and Health Surveys (DHS) implemented by ICF International and Multiple Indicator Cluster Surveys (MICS) implemented by UNICEF as far as it has been possible. As in the above, the challenge of comparison is the limited data coverage in terms of both countries and years.

Figure 7 compares data between MICS/DHS and V-Dem. On the left side, MICS/DHS data is represented by a health equity indicator that measure the composite coverage of specific health facilities¹ across wealth quintiles (the higher the difference in coverage between lower and higher wealth quintiles, the higher the level of inequality). The right side illustrates the health equity indicator across educational levels.

The data sources agree that Europe and Central Asia is the most equal region, and South Asia is the most unequal. However, the data sources disagree slightly on the ranking of the Middle East and North Africa and Sub-Saharan Africa.

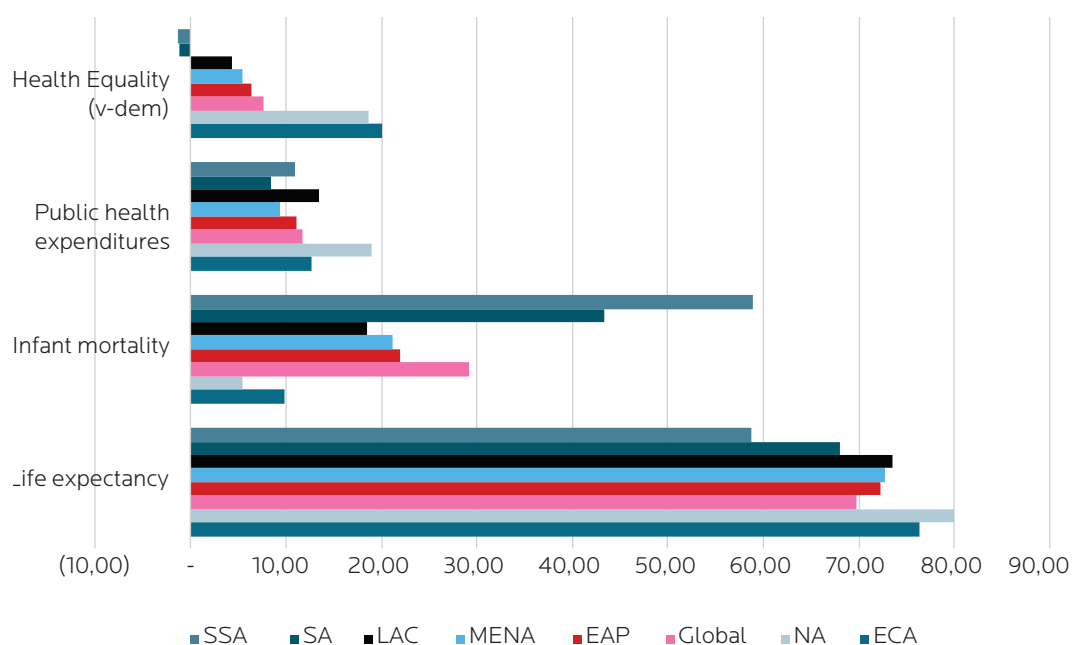
FIGURE 7: MICS/DHS HEALTH INDICATOR DIVIDED INTO QUINTILES AND COMPARED TO V-DEM HEALTH EQUALITY



Note: Data is average from 1993-2012, but only for comparable years within countries, and the graph contains only countries that appear in both data-collections.

To assess the quality of health, we compare V-Dem data with, respectively, life expectancy, infant mortality, and public expenditure on health as shown in figure 8.

FIGURE 8: RANKING OF NET ENROLMENT RATIO, PUPIL/TEACHER RATIO, AND GOVERNMENT EXPENDITURE ON EDUCATION AND V-DEM EDUCATIONAL EQUALITY

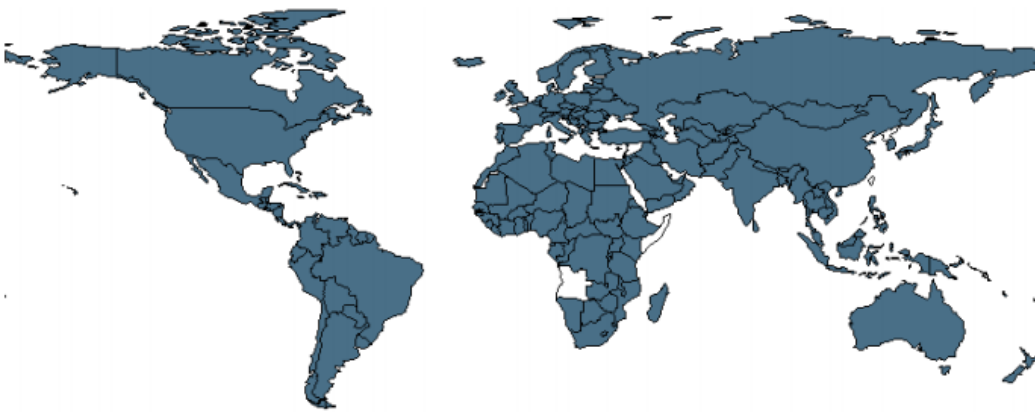


Note: Data is average from 2010-2012 (shown on the left axis). V-Dem has been multiplied with 10 for visibility in the graph.

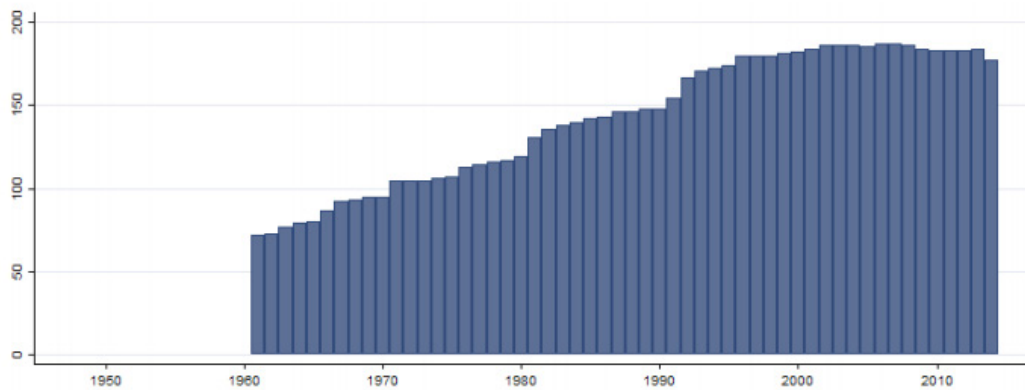
Figure 8 illustrates how North America and Europe and Central Asia have higher-quality health on all four measures compared with the global average. They have a higher life expectancy, lower infant mortality, higher public expenditure on health, and the highest V-Dem score. South Asia and Sub-Saharan Africa have lower quality compared with the global average on all four parameters.

A.3 DATA COVERAGE OF ECONOMIC GROWTH AND COVARIATES

A.3.1 – GDP PER CAPITA GROWTH (ANNUAL %)

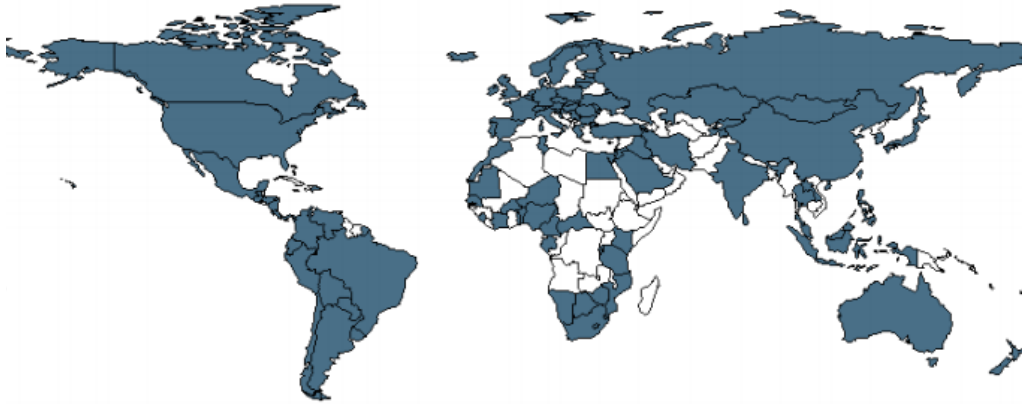


Min. Year: 2011 Max. Year: 2013 N: 185

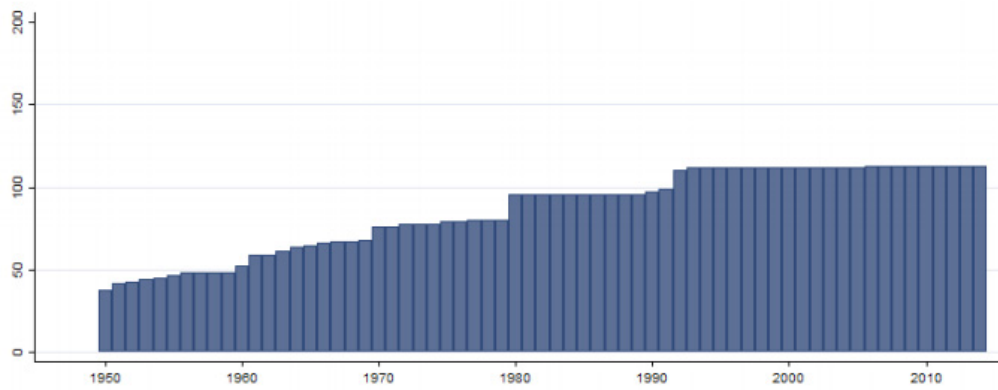


Min. Year: 1961 Max. Year: 2014 N: 196 n: 7690
 \bar{n} : 142 \bar{T} : 39: 142 :39

A.3.2 - TOTAL FACTOR PRODUCTIVITY (TFP) AT CONSTANT NATIONAL PRICES (2005=1)



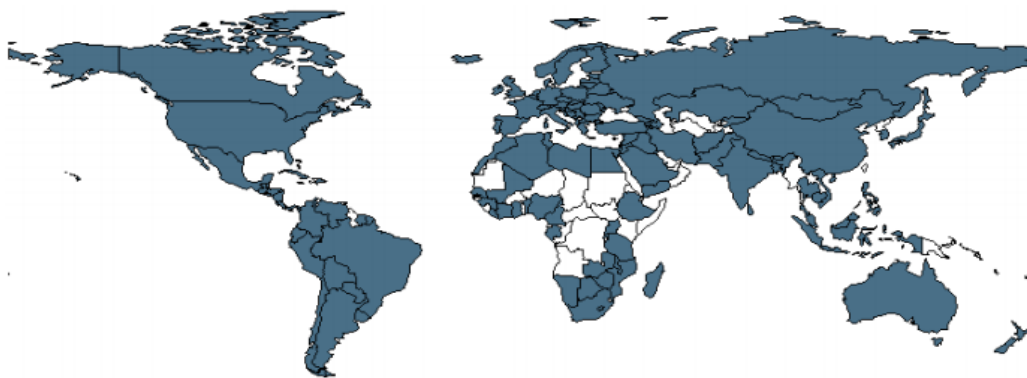
Min. Year: 2013 Max. Year: 2013 N: 113



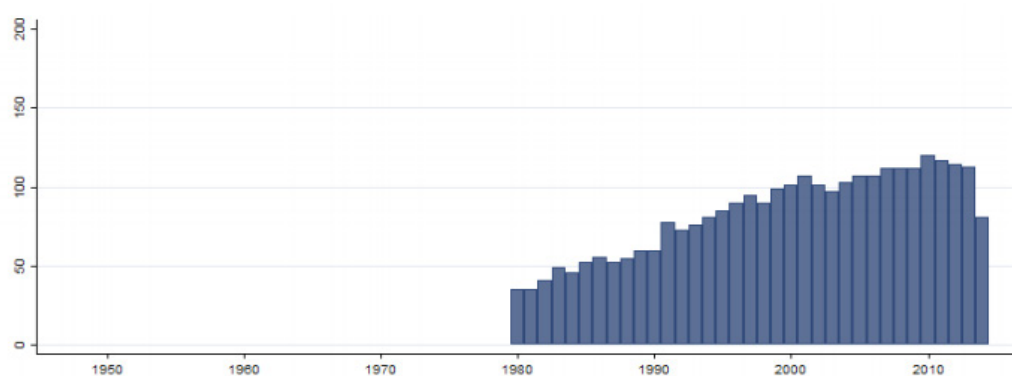
Min. Year: 1950 Max. Year: 2014 N:116 n: 5602
 \bar{N} : 86 \bar{T} : 48

A.3.3 - UNEMPLOYMENT, TOTAL (% OF TOTAL LABOUR FORCE) (NAT. EST.)

Unemployment refers to the share of the labour force that is without work but available for and seeking employment. Definitions of labour force and unemployment differ by country.



Min. Year: 2010 Max. Year 2014 N: 146



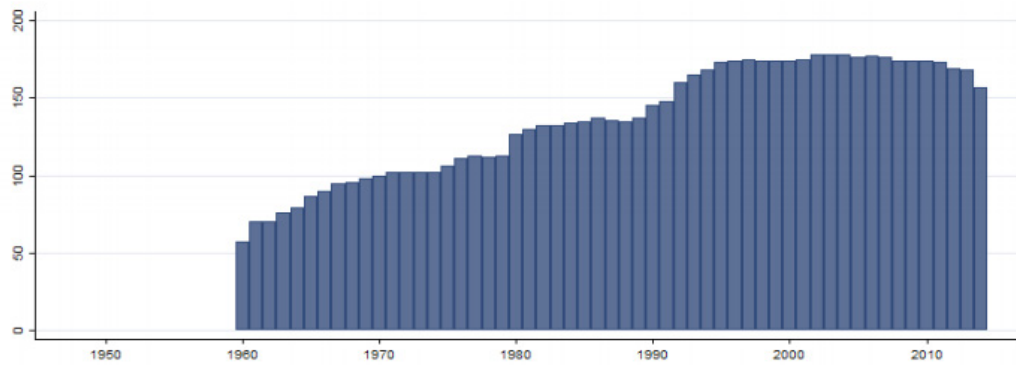
Min. Year: 1980 Max. Year 2014 N:179 n: 2912
 \bar{N} : 83 \bar{T} : 16

A.3.4 – TRADE (% OF GDP)

Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.



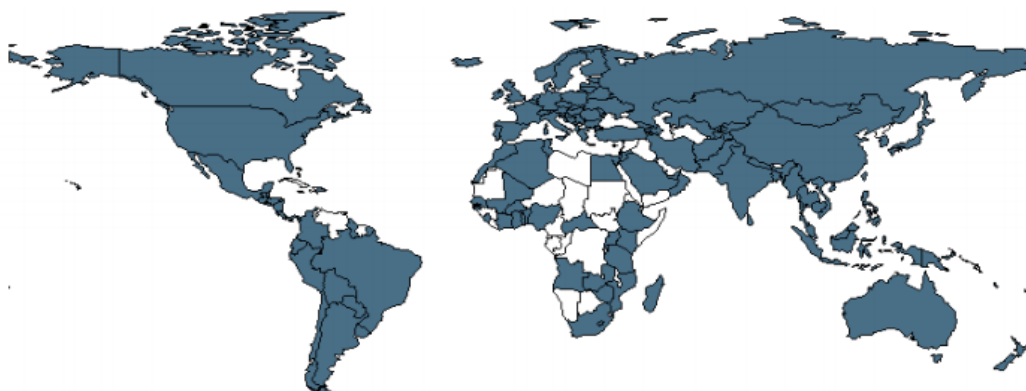
Min. Year: 2010 Max. Year 2013 N: 177



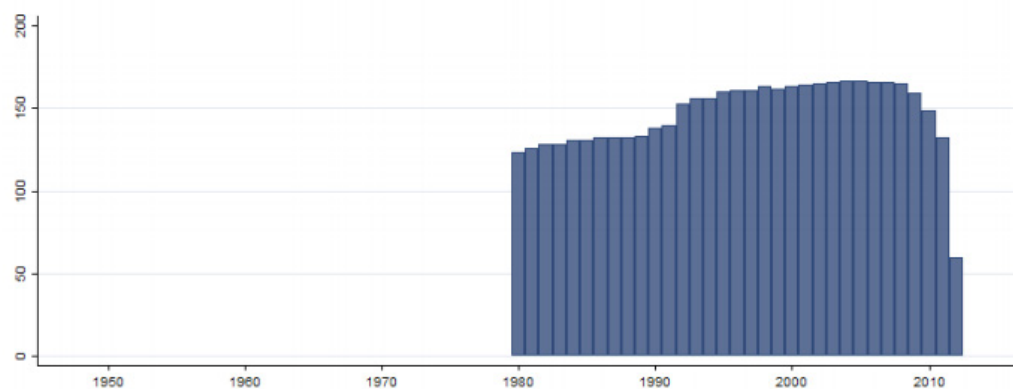
Min. Year: 1960 Max. Year 2014 N:187 n: 7473
 \bar{N} : 136 \bar{T} : 40

A.3.5 - TOTAL INVESTMENT (PER CENT OF GDP)

Total investment (% of GDP). Expressed as a ratio of total investment in current local currency and GDP in current local currency. Investment or gross capital formation is measured by the total value of the gross fixed capital formation and changes in inventories and acquisitions less disposals of valuables for a unit or sector.



Min. Year: 2010 Max. Year: 2012 N: 149



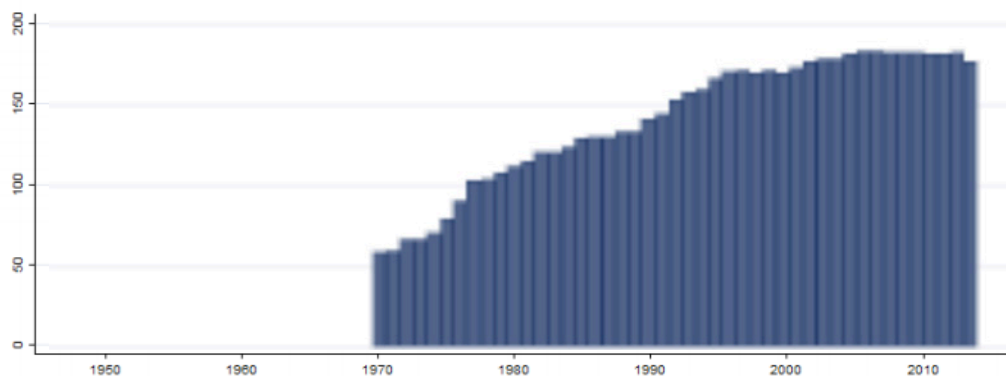
Min. Year: 1980 Max. Year: 2012 N: 172 n: 4835
 \bar{N} : 147 \bar{T} : 28

A.3.6 – FOREIGN DIRECT INVESTMENT (PER CENT OF GDP)

Foreign direct investment is the net inflows of investment to acquire a lasting management interest (10 per cent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors and is divided by GDP.



Min. Year: 2011 Max. Year: 2013 N: 185



Min. Year: 1970 Max. Year: 2014 N: 189 n: 6341
 \bar{N} : 141 $\bar{\tau}$: 34

A.3.7 – GOVERNMENT EFFECTIVENESS, RULE OF LAW, AND CONTROL OF CORRUPTION



Min. Year: 2013 Max. Year: 2013 N: 192

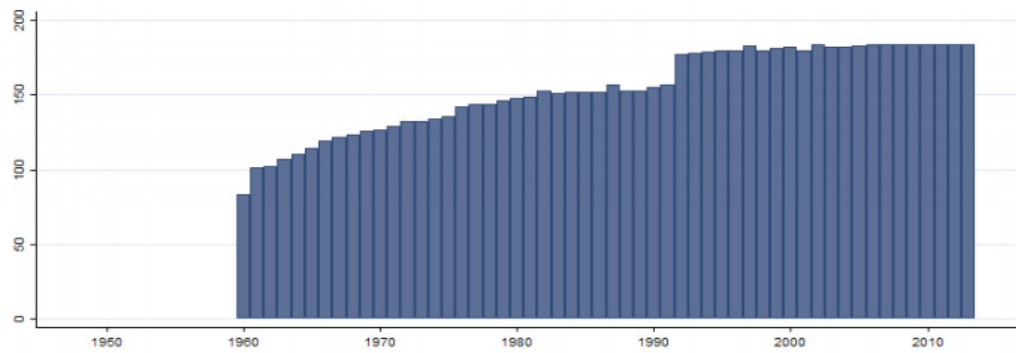


Min. Year: 1996 Max. Year: 2014 N: 193 n: 3013

A.3.8 – LIFE EXPECTANCY



Min. Year: 2011 Max. Year: 2013 N: 185

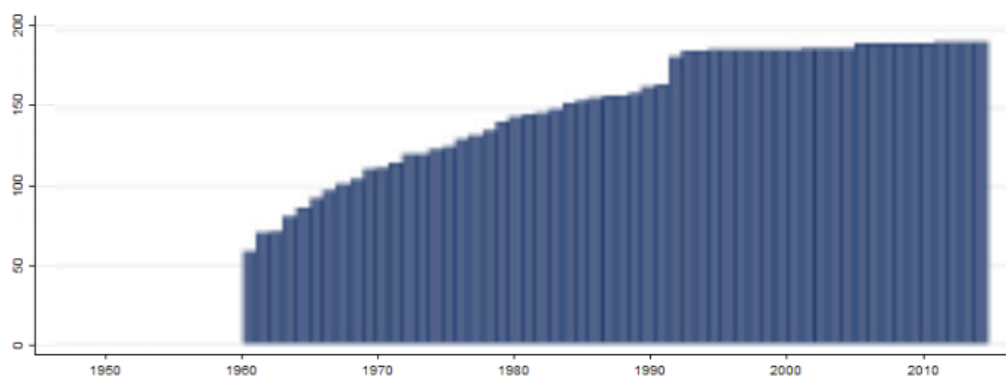


Min. Year: 1960 Max. Year: 2013 N: 195 n: 8308

A.3.9 – INFANT MORTALITY



Min. Year: 2013 Max. Year: 2013 N: 191



Min. Year: 1960 Max. Year: 2015 N: 196 n: 8497

A.3.10 - NET INCOME INEQUALITY

The Standardised World Income Inequality Database (SWIID) takes a Bayesian approach to standardising observations collected from the OECD Income Distribution Database, the Socio-Economic Database for Latin America and the Caribbean generated by CEDLAS and the World Bank, Eurostat, the World Bank's PovcalNet, the UN Economic Commission for Latin America and

the Caribbean, national statistical offices around the world, and many other sources. Luxembourg Income Study data serve as the standard. As described in Solt (2016), the SWIID maximises the comparability of available income inequality data for the broadest possible sample of countries and years. However, incomparability remains, and it is sometimes substantial. This remaining incomparability is reflected in the standard errors of the SWIID estimates, making it often crucial to take this uncertainty into account when making comparisons across countries or over time (Solt 2009, 238; Solt 2016, 14). It was once the case that incorporating the standard errors into an analysis required considerable effort. It is now straightforward. Net income inequality is an estimate of the Gini index of inequality in equivalised (square root scale) household disposable (post-tax, post-transfer) income, using Luxembourg Income Study data as the standard.

TABLE 1: DATA COVERAGE ACROSS COUNTRIES FOR NET INCOME INEQUALITY FROM THE STANDARDISED WORLD INCOME INEQUALITY DATABASE (SWIID)

Country name	No. of obs	Min. year	Max. Year	Average	Std. dev.
AFGHANISTAN	6	2007	2012	34,17	0,41
ALBANIA	17	1996	2012	38,48	0,25
ALGERIA	18	1988	2005	32,74	0,60
ANGOLA	10	2000	2009	44,75	1,21
ARGENTINA	52	1961	2012	40,32	3,97
ARMENIA	25	1988	2012	37,32	2,53
AUSTRALIA	38	1975	2012	30,50	1,97
AUSTRIA	30	1983	2012	26,22	1,79
AZERBAIJAN	21	1988	2008	31,31	2,88
BANGLADESH	47	1964	2010	35,49	2,80
BELARUS	25	1988	2012	23,03	0,72
BELGIUM	34	1979	2012	24,75	1,34
BENIN	11	2002	2012	39,56	1,72
BHUTAN	10	2003	2012	46,32	1,16
BOLIVIA, PLURINATIONAL STATE OF	23	1990	2012	49,82	3,85
BOTSWANA	26	1985	2010	56,42	0,98
BRAZIL	53	1960	2012	50,70	1,73
BULGARIA	24	1989	2012	31,65	1,14
BURKINA FASO	19	1994	2012	39,26	3,42
BURUNDI	15	1992	2006	33,97	1,31
CAMBODIA	19	1994	2012	41,45	2,01
CAMEROON	17	1996	2012	38,65	0,38
CANADA	42	1971	2012	29,77	1,40
CAPE VERDE	14	1999	2012	43,96	1,12
CENTRAL AFRICAN REPUBLIC	17	1992	2008	45,72	1,85
CHAD	9	2003	2011	37,14	0,75
CHILE	45	1968	2012	49,01	1,85
CHINA	35	1978	2012	40,91	7,88

COLOMBIA	43	1970	2012	51,18	0,83
COMOROS	2	2004	2005	52,23	0,33
CONGO	7	2005	2011	43,09	0,41
CONGO, THE DEMOCRATIC REPUBLIC OF THE	9	2004	2012	38,08	0,10
COSTA RICA	52	1961	2012	42,94	1,45
CROATIA	25	1988	2012	28,65	0,85
CYPRUS	28	1985	2012	29,62	0,36
CZECH REPUBLIC	25	1988	2012	24,06	2,24
CÔTE D'IVOIRE	28	1985	2012	36,52	0,50
DENMARK	37	1976	2012	23,83	0,94
DJIBOUTI	17	1996	2012	36,83	1,08
DOMINICAN REPUBLIC	27	1986	2012	47,83	0,98
ECUADOR	26	1987	2012	48,11	1,95
EGYPT	38	1975	2012	45,68	3,80
EL SALVADOR	22	1991	2012	44,88	2,62
ESTONIA	25	1988	2012	32,67	2,19
ETHIOPIA	17	1995	2011	29,20	2,97
FIJI	33	1977	2009	46,77	0,88
FINLAND	47	1966	2012	23,01	1,82
FRANCE	43	1970	2012	30,15	1,79
GABON	1	2005	2005	36,21	
GAMBIA	19	1992	2010	41,15	0,85
GEORGIA	25	1988	2012	38,08	3,51
GERMANY	53	1960	2012	27,03	0,87
GHANA	26	1987	2012	35,73	1,72
GREECE	39	1974	2012	34,23	1,07
GUATEMALA	32	1981	2012	49,11	0,84
GUINEA	22	1991	2012	36,72	3,12
GUINEA-BISSAU	18	1993	2010	36,59	2,47
GUYANA	16	1992	2007	49,16	1,29
HONDURAS	25	1988	2012	51,10	1,02
HUNGARY	51	1962	2012	26,09	2,05
ICELAND	21	1992	2012	23,50	2,23

INDIA	37	1976	2012	44,23	2,29
INDONESIA	48	1965	2012	39,66	1,55
IRAN, ISLAMIC REPUBLIC OF	44	1969	2012	45,77	3,06
IRAQ	1	2007	2007	36,63	
IRELAND	40	1973	2012	31,47	1,02
ISRAEL	34	1979	2012	33,45	2,52
ITALY	46	1967	2012	33,66	2,07
JAMAICA	17	1988	2004	56,14	0,84
JAPAN	52	1961	2012	26,77	2,56
JORDAN	26	1987	2012	42,20	1,52
KAZAKHSTAN	25	1988	2012	31,25	1,21
KENYA	32	1976	2007	44,72	2,80
KOREA, REPUBLIC OF	48	1965	2012	29,16	0,89
KYRGYZSTAN	25	1988	2012	35,12	2,80
LAO PEOPLE'S DEMOCRATIC REPUBLIC	21	1992	2012	39,35	1,06
LATVIA	25	1988	2012	33,24	3,04
LEBANON	18	1995	2012	42,54	1,87
LESOTHO	25	1986	2010	49,71	0,93
LIBERIA	8	2005	2012	32,68	0,29
LIBYA	1	2003	2003	28,69	
LITHUANIA	25	1988	2012	32,21	1,66
MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF	19	1994	2012	33,72	2,24
MADAGASCAR	51	1962	2012	40,45	2,35
MALAWI	44	1969	2012	48,61	6,62
MALAYSIA	43	1970	2012	45,89	1,39
MALI	16	1994	2009	36,36	2,34
MAURITANIA	26	1987	2012	35,93	2,10
MAURITIUS	26	1987	2012	31,61	0,25
MEXICO	50	1963	2012	48,07	2,32
MOLDOVA, REPUBLIC OF	25	1988	2012	35,65	2,47

MONGOLIA	18	1995	2012	37,79	0,43
MOROCCO	29	1984	2012	35,72	0,18
MOZAMBIQUE	14	1996	2009	40,39	0,47
MYANMAR	1	2010	2010	33,42	
NAMIBIA	20	1993	2012	57,51	1,26
NEPAL	34	1977	2010	40,46	3,14
NETHERLANDS	36	1977	2012	25,56	0,76
NEW ZEALAND	31	1982	2012	31,02	2,31
NICARAGUA	20	1993	2012	47,38	3,22
NIGER	21	1992	2012	34,96	2,15
NIGERIA	26	1985	2010	38,78	0,93
NORWAY	43	1970	2012	23,94	0,96
PAKISTAN	49	1964	2012	35,67	0,57
PANAMA	43	1970	2012	49,23	0,92
PAPUA NEW GUINEA	14	1996	2009	56,01	1,05
PARAGUAY	23	1990	2012	46,50	1,96
PERU	41	1972	2012	52,66	2,12
PHILIPPINES	52	1961	2012	48,03	0,64
POLAND	30	1983	2012	29,66	2,45
PORTUGAL	45	1968	2012	34,21	0,59
QATAR	25	1988	2012	43,52	0,37
ROMANIA	24	1989	2012	28,85	3,68
RUSSIAN FEDERATION	25	1988	2012	41,02	4,11
RWANDA	29	1984	2012	39,55	6,40
SENEGAL	21	1991	2011	36,77	1,68
SERBIA	11	2002	2012	34,23	0,61
SEYCHELLES	14	1999	2012	38,89	0,71
SIERRA LEONE	43	1969	2011	43,02	4,90
SLOVAKIA	25	1988	2012	23,82	3,16
SLOVENIA	26	1987	2012	23,36	1,02
SOLOMON ISLANDS	2	2005	2006	51,36	0,11
SOMALIA	1	2002	2002	36,15	
SOUTH AFRICA	38	1975	2012	56,84	0,85
SPAIN	39	1974	2012	32,37	0,91

SRI LANKA	43	1970	2012	46,02	4,77
SUDAN	42	1968	2009	36,40	2,10
SURINAME	7	1999	2005	55,12	0,03
SWAZILAND	25	1985	2009	58,14	3,59
SWEDEN	53	1960	2012	24,47	3,12
SWITZERLAND	33	1980	2012	29,97	1,16
SYRIAN ARAB REPUBLIC	11	1997	2007	39,81	0,75
TAJIKISTAN	25	1988	2012	41,76	3,87
TANZANIA, UNITED REPUBLIC OF	44	1969	2012	40,14	1,47
THAILAND	51	1962	2012	45,35	1,55
TRINIDAD AND TOBAGO	34	1972	2005	41,48	0,11
TUNISIA	28	1985	2012	35,87	1,17
TURKEY	26	1987	2012	45,51	2,07
TURKMENISTAN	18	1988	2005	35,06	1,85
UGANDA	24	1989	2012	37,71	0,91
UKRAINE	33	1980	2012	27,52	2,11
UNITED KINGDOM	52	1961	2012	30,63	3,31
UNITED STATES	52	1961	2012	34,01	2,23
URUGUAY	32	1981	2012	40,37	1,10
UZBEKISTAN	16	1988	2003	34,68	1,78
VANUATU	5	2006	2010	44,69	1,51
VENEZUELA, BOLIVARIAN REPUBLIC OF	51	1962	2012	41,51	1,44
VIET NAM	21	1992	2012	41,11	0,90
YEMEN	15	1992	2006	40,71	0,54
ZAMBIA	35	1976	2010	48,07	1,66
ZIMBABWE	17	1995	2011	42,03	1,29

A.4 BETWEEN AND WITHIN VARIATIONS ACROSS REGIONS

	Global		ECA		SSA		EAP	
	Between	Within	Between	Within	Between	Within	Between	Within
GDP per capita growth	1,64	5,59	1,37	5,34	1,56	6,35	1,89	4,19
Equal access to education and healthcare	2,77	1,01	1,65	0,9	1,67	1,21	2,97	0,92
Net income inequality	8,38	2,29	5,52	2,01	7,06	2,68	8,02	2,49
	MENA		LAC		NA		SA	
	Between	Within	Between	Within	Between	Within	Between	Within
GDP per capita growth	1,74	8,42	0,81	4,26	0,07	2,09	1,75	3,28
Equal access to education and healthcare	2,19	0,87	1,89	0,91	2,21	1,02	2,41	0,89
Net income inequality	5,13	2,1	4,44	1,96	2,99	1,89	5,27	2,87

A.5 ROBUSTNESS CHECK OF GLOBAL BASELINE MODEL

TABLE 1: MEDIUM-TERM EFFECT OF EQUAL ACCESS TO EDUCATION AND HEALTHCARE ON GROWTH – BASELINE MODEL WITHOUT INCOME INEQUALITY

	Baseline without income inequality
GDP per capita	-1,39** (0,56)
Equal access to education and healthcare	0,99*** (0,28)
N	1183
No. of countries	148
Time periods	10
AR2 test	0,65
Instruments	90
Sargan test	107,26
Time dummies	Yes

Note: The medium-term effect is estimated using system GMM estimation technique. The dependent variable is GDP per capita growth. Time dummies and a constant are included in the model. Lagged GDP per capita in levels is also included in the model. Every regressor is, in some form, included in the instrument matrix. Number inside () are standard deviations and *: P < 0.1. **: P < 0.05, ***: P < 0.01. N is the total number of observations. The AR2 test denotes the test statistics of serial uncorrelated residuals of the second order, and the Sargan test denotes the test statistics for the test of overidentified restrictions.

TABLE 2: MEDIUM-TERM EFFECT OF EQUAL ACCESS TO EDUCATION AND HEALTHCARE ON GROWTH – BASELINE MODEL BASED ON DATA AVERAGED OVER A 10-YEAR PERIOD

	Baseline on 10 years averages
GDP per capita	-0,85 (0,55)
Equal access to education and healthcare	0,65** (0,32)
Net income inequality	0,01 (0,06)

N	377
No. of countries	145
Time periods	4
AR2 test	0,14
Instruments	40
Sargan test	55,84
Time dummies	Yes

Note: The medium-term effect is estimated using system GMM estimation technique. The dependent variable is GDP per capita growth. Time dummies and a constant are included in the model. Lagged GDP per capita in levels is also included in the model. Every regressor is, in some form, included in the instrument matrix. Numbers inside () are standard deviations and *: P < 0.1. **: P < 0.05, ***: P < 0.01. N is the total number of observations. The AR2 test denotes the test statistics of serial uncorrelated residuals of the second order, and the Sargan test denotes the test statistics for the test of overidentified restrictions.

TABLE 3: MEDIUM-TERM EFFECT OF EQUAL ACCESS TO EDUCATION AND HEALTHCARE ON GROWTH – BASELINE MODEL BASED ON ANDERSEN-HSIAO ESTIMATION

	Baseline with AH-estimation
GDP per capita	-0,9 (0,59)
Equal access to education and healthcare	0,76* (0,41)
Net income inequality	0,06 (0,1)
N	871
No. of countries	147
Time periods	10
AR2 test	-0,26
Instruments	30
Sargan test	23,38
Time dummies	Yes

Note: The medium-term effect is estimated using system Andersen-Hsiao estimation technique. The dependent variable is GDP per capita growth. Time dummies and a constant are included in the model. Lagged GDP per capita in levels is also included in the model. Every regressor is, in some form, included in the instrument matrix. Numbers inside () are standard deviations and *: P < 0.1. **: P < 0.05, ***: P < 0.01. N is the total number of observations. The AR2 test denotes the test statistics of serial uncorrelated residuals of the second order, and the Sargan test denotes the test statistics for the test of overidentified restrictions.

TABLE 4: MEDIUM-TERM EFFECT OF EQUAL ACCESS TO EDUCATION AND HEALTHCARE ON GROWTH – BASELINE MODEL WITH CONTROL OF CORRUPTION

	Baseline + corruption
GDP per capita	-2,57*** (0,62)
Equal access to education and healthcare	0,92** (0,42)
Net income inequality	-0,02 (0,11)
Control of corruption	-0,15 (0,91)
N	531
No. of countries	147
Time periods	4
AR2 test	-0,32
Instruments	52
Sargan test	84,27

Note: The medium-term effect is estimated using system GMM estimation technique. The dependent variable is GDP per capita growth. Time dummies and a constant are included in the model. Lagged GDP per capita in levels is also included in the model. Every regressor is, in some form, included in the instrument matrix. Numbers inside () are standard deviations and *: P < 0.1, **: P < 0.05, ***: P < 0.01. N is the total number of observations. The AR2 test denotes the test statistics of serial uncorrelated residuals of the second order, and the Sargan test denotes the test statistics for the test of overidentified restrictions.

TABLE 5: MEDIUM-TERM EFFECT OF EQUAL ACCESS TO EDUCATION AND HEALTHCARE ON GROWTH – BASELINE MODEL ON REDUCED SAMPLE

	Baseline on reduced sample
GDP per capita	-2,85*** (0,89)
Equal access to education and healthcare	0,92* (0,55)
Net income inequality	-0,02 (0,12)

N	531
No. of countries	147
Time periods	4
AR2 test	-1,04
Instruments	101
Sargan test	114,13

Note: The medium-term effect is estimated using system GMM estimation technique. The dependent variable is GDP per capita growth. Time dummies and a constant are included in the model. Lagged GDP per capita in levels is also included in the model. Every regressor is, in some form, included in the instrument matrix. Numbers inside () are standard deviations and *: P < 0.1. **: P < 0.05, ***: P < 0.01. N is the total number of observations. The AR2 test denotes the test statistics of serial uncorrelated residuals of the second order, and the Sargan test denotes the test statistics for the test of overidentified restrictions.

TABLE 6: LONG-TERM EFFECT OF EQUAL ACCESS TO EDUCATION AND HEALTHCARE ON GROWTH – BASELINE MODEL ON REDUCED SAMPLE

	Baseline on reduced sample
Equal access to education and healthcare	1,74** (0,73)
Long-run effect of equal access to education and healthcare	1,03** (2,5)
GDP per capita	-2,23** (0,88)
Net income inequality	-0,02 (0,06)
N	2048
No. of countries	147
Time periods	17

Note: The long-term effect is estimated using within estimation technique (fixed effects). The dependent variable is GDP per capita growth, and 2 lags of the dependent variable are included to remove serial correlation. GDP per capita in levels is included as lag 10 according to the number of lags of the index for equal access to basic education and healthcare. Numbers inside () are standard deviations except for long-run effects where numbers in () are z-values and *: P < 0.1, **: P < 0.05, ***: P < 0.01. N is the total number of observations.

A.6 SEPARATE REGRESSIONS OF EQUAL ACCESS TO EDUCATION AND EQUAL ACCESS TO HEALTHCARE – GLOBAL MODEL

TABLE 1: MEDIUM-TERM EFFECT OF EQUAL ACCESS TO EDUCATION ON GROWTH

	Baseline		Baseline + Controls	
	(1)	(2)	(3)	(4)
GDP per capita	-1,36*** (0,35)	-2,10*** (0,49)	-2,40*** (0,35)	-4,10*** -0,98
Equal access to education	0,82* (0,48)	1,27** (0,59)	1,09*** (0,39)	1,49* -0,89
Net income inequality	-0,16*** (0,06)	-0,05 (0,05)	0 (0,04)	-0,07 -0,12
Trade		0,01 (0,01)		
Investments		0,15** (0,07)		
Unemployment		-0,13** (0,06)		
Life expectancy			0,16*** (0,06)	
Infant mortality			-0,02 (0,01)	
Government effectiveness				4,76*** (1,5)
Control of corruption				-2,41** (1,16)
N	871	584	870	531
No. of countries	147	128	147	147
Time periods	10	7	10	4
AR2 test	0,01	0,22	-0,11	-0,73
Instruments	118	136	174	60
Sargan test	116,59	116,58	136,43	86,4

Note: The medium-term effect is estimated using system GMM estimation technique. The dependent variable is GDP per capita growth. Time dummies and a constant are included in the model. Lagged GDP per capita in levels is also included in the model. Every regressor is, in some form, included in the instrument matrix. Numbers inside () are standard deviations and *: P < 0.1. **: P < 0.05, ***: P < 0.01. N is the total number of observations. The AR2 test denotes the test statistics of serial uncorrelated residuals of the second order, and the Sargan test denotes the test statistics for the test of overidentified restrictions.

TABLE 2: MEDIUM-TERM EFFECT OF EQUAL ACCESS TO HEALTHCARE ON GROWTH

	Baseline		Baseline + Controls	
	(1)	(2)	(3)	(4)
GDP per capita	-1,70*** (0,52)	-1,91*** (0,47)	-2,46*** (0,44)	-4,07*** (0,99)
Equal access to healthcare	1,21* (0,72)	1,05 (0,69)	1,09** (0,54)	1,75* (0,91)
Net income inequality	-0,12** (0,06)	-0,05 (0,06)	-0,01 (0,05)	-0,06 (0,13)
Trade		0,01 (0,01)		
Investments		0,17*** (0,05)		
Unemployment		-0,12* (0,07)		
Life expectancy			0,17*** (0,06)	
Infant mortality			-0,02 (0,01)	
Government effectiveness				4,10** (1,69)
Control of corruption				-2,16 (1,34)
N	871	584	870	531
No. of countries	147	128	147	147
Time periods	10	7	10	4
AR2 test	0,07	0,17	-0,04	-0,53
Instruments	118	136	174	60
Sargan test	114,3	116,03	136,09	85,62

Note: The medium-term effect is estimated using system GMM estimation technique. The dependent variable is GDP per capita growth. Time dummies and a constant are included in the model. Lagged GDP per capita in levels is also included in the model. Every regressor is, in some form, included in the instrument matrix. Numbers inside () are standard deviations and *: P < 0.1. **: P < 0.05, ***: P < 0.01. N is the total number of observations. The AR2 test denotes the test statistics of serial uncorrelated residuals of the second order, and the Sargan test denotes the test statistics for the test of overidentified restrictions.

TABLE 3: LONG-TERM EFFECT OF EQUAL ACCESS TO EDUCATION ON GROWTH

	Baseline		Baseline + Controls	
	(1)	(2)	(3)	(4)
Equal access to education	2,28** (0,94)	3,01** (1,38)	2,18** (0,95)	2,25** (0,98)
Long-run effect of equal access to education	1,12*** (2,69)	1,93*** (4,18)	0,68* (1,86)	1,85** (2,53)
GDP per capita	-2,05*** (0,45)	-2,75*** (0,62)	-2,93*** (0,41)	-1,91** (0,86)
Net income inequality	0,02 (0,05)	0,04 (0,05)	0,05 (0,04)	-0,05 (0,06)
Trade		0,04*** (0,01)		
Investments		0,14*** (0,03)		
TFP		3,43** (1,65)		
Life expectancy			0,12*** (0,04)	
Infant mortality			-0,01 (0,01)	
Government effectiveness				1,48** (0,7)
Control of corruption				0,66 (0,59)
N	3537	2388	3533	2048
No. of countries	147	102	147	147
Time periods	43	33	43	17

Note: The long-term effect is estimated using within estimation technique (fixed effects). The dependent variable is GDP per capita growth, and 2 lags of the dependent variable are included to remove serial correlation. GDP per capita in levels is included as lag 10 according to the number of lags of the index for equal access to basic education and healthcare. Numbers inside () are standard deviations except for long-run effects where numbers in () are z-values and *: P < 0.1, **: P < 0.05, ***: P < 0.01. N is the total number of observations.

TABLE 4: LONG-TERM EFFECT OF EQUAL ACCESS TO HEALTHCARE ON GROWTH

	Baseline		Baseline + Controls	
	(1)	(2)	(3)	(4)
Equal access to healthcare	3,54** (1,78)	4,57* (2,34)	3,40* (1,76)	2,62* (1,33)
Long-run effect of equal access to healthcare	1,11*** (2,65)	1,50*** (2,85)	0,65* (1,8)	0,95 (1,36)
GDP per capita	-2,21*** (0,5)	-2,94*** (0,67)	-2,99*** (0,44)	-1,99** (0,9)
Net income inequality	0,04 (0,05)	0,06 (0,06)	0,06 (0,04)	-0,04 (0,06)
Trade		0,03*** (0,01)		
Investments		0,15*** (0,03)		
TFP		3,12** (1,51)		
Life expectancy			0,12*** (0,04)	
Infant mortality			-0,01 (0,01)	
Government effectiveness				1,37* (0,74)
Control of corruption				0,6 (0,58)
N	3537	2388	3533	2048
No. of countries	147	102	147	147
Time periods	43	33	43	17

Note: The long-term effect is estimated using within estimation technique (fixed effects). The dependent variable is GDP per capita growth, and 2 lags of the dependent variable are included to remove serial correlation. GDP per capita in levels is included as lag 10 according to the number of lags of the index for equal access to basic education and healthcare. Numbers inside () are standard deviations except for long-run effects where numbers in () are z-values and *: P < 0.1, **: P < 0.05, ***: P < 0.01. N is the total number of observations.

A.7 ROBUSTNESS CHECK OF REGIONAL BASELINE MODEL

TABLE 1: MEDIUM-TERM EFFECT OF EQUAL ACCESS TO BASIC EDUCATION AND HEALTHCARE EQUALITY ON GROWTH IN SUB-SAHARAN AFRICA – BASELINE MODEL ON REDUCED SAMPLE

	Baseline on reduced sample
GDP per capita	-1,84* (0,98)
Equal access to education and healthcare (SSA)	1,02 (1,6)
Net income inequality	-0,23* (0,14)
N	531
No. of countries	147
Time periods	4
AR2 test	-1.00
Instruments	66
Sargan test	78.8

Note: The medium-term effect is estimated using system GMM estimation technique. The dependent variable is GDP per capita growth. Time dummies and a constant are included in the model. Lagged GDP per capita in levels is also included in the model. Every regressor is, in some form, included in the instrument matrix. Numbers inside () are standard deviations and *: $P < 0.1$. **: $P < 0.05$, ***: $P < 0.01$. N is the total number of observations. The AR2 test denotes the test statistics of serial uncorrelated residuals of the second order, and the Sargan test denotes the test statistics for the test of overidentified restrictions.

NOTER

1 <http://apps.who.int/gho/data/node.wrapper.imr?x-id=4489>

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