**Appendix 1: 48 Countries included in main panels**

|  |
| --- |
| Armenia |
| Bangladesh |
| Benin |
| Bolivia (Plurinational State of) |
| Burkina Faso |
| Cambodia |
| Cameroon |
| Chad |
| Colombia |
| Comoros |
| Congo |
| Cote d'Ivoire |
| Democratic Republic of the Congo |
| Dominican Republic |
| Egypt |
| Gabon |
| Ghana |
| Guatemala |
| Guinea |
| Haiti |
| Honduras |
| India |
| Indonesia |
| Jordan |
| Kazakhstan |
| Kenya |
| Lesotho |
| Liberia |
| Madagascar |
| Malawi |
| Mali |
| Mozambique |
| Namibia |
| Nepal |
| Nicaragua |
| Niger |
| Nigeria |
| Pakistan |
| Peru |
| Philippines |
| Rwanda |
| Senegal |
| Sierra Leone |
| Turkey |
| Uganda |
| United Republic of Tanzania |
| Viet Nam |
| Zimbabwe |

**Appendix 2: Detailed results from fixed-effects longitudinal regressions of each wealth quintile’s IMR on total health expenditure for 48 countries (1993-2013)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** |
|  | **WQ1 IMR** | **WQ2 IMR** | **WQ3 IMR** | **WQ4 IMR** | **WQ5 IMR** |
| **Total government expenditure1** | -2.020\* | -1.482\* | -1.431\* | -0.606 | 0.00188 |
|  | (-2.22) | (-2.17) | (-2.43) | (-0.67) | (0.00) |
| **Year** | -2.473\*\*\* | -2.788\*\*\* | -2.329\*\*\* | -2.304\*\*\* | -1.376\*\*\* |
|  | (-5.70) | (-7.03) | (-6.89) | (-5.98) | (-5.74) |
| **Log GDP per capita 2** | -2.162 | 2.485 | 1.008 | 5.107 | 4.469 |
|  | (-0.29) | (0.34) | (0.19) | (0.95) | (1.13) |
| **Democracy (Polity IV)** | 0.327 | 0.617 | 0.773 | 0.598 | 0.864\* |
|  | (0.59) | (1.12) | (1.33) | (1.09) | (2.28) |
| **Private non-OOP health expenditure1** | -6.472 | -2.544 | -2.642 | -4.151 | -1.827 |
|  | (-1.25) | (-0.52) | (-0.61) | (-0.79) | (-0.70) |
| **Private OOP health expenditure 1** | 0.160 | -0.248 | -0.108 | 2.572 | -0.543 |
|  | (0.05) | (-0.08) | (-0.04) | (0.94) | (-0.32) |
| **Constant** | 5078.5\*\*\* | 5658.3\*\*\* | 4744.2\*\*\* | 4640.1\*\*\* | 2767.9\*\*\* |
|  | (6.13) | (7.50) | (7.37) | (6.25) | (6.05) |
| **Observations** | 142 | 142 | 142 | 141 | 141 |

***Notes:*** *t statistics in parentheses,* \* p<0.05 \*\* p<0.01 \*\*\* p<0.001. 1 (% of GDP); 2 (2011 USD adjusted for PPP); IMR – infant mortality rate; OOP – Out of pocket; GDP –Gross Domestic product.

**Appendix 3 – addition of market GINI**

**Table A3 Government redistribution models (1) and (3), with market Gini added in in (2) and (4)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | *With Gini\_market* |  | *With Gini\_market* |
|  | *(1)* | *(2)* | *(3)* | *(4)* |
|  | *IMR SII* | *IMR SII* | *IMR RII* | *IMR RII* |
| *Total government expenditure (% of GDP)* | *-2.561\** | *-2.607\** | *-0.0248* | *-0.0284* |
|  | *(-2.44)* | *(-2.60)* | *(-1.60)* | *(-1.79)* |
| *Year* | *-1.588\*\** | *-1.627\*\** | *-0.00610* | *-0.00570* |
|  | *(-2.75)* | *(-2.87)* | *(-0.94)* | *(-0.91)* |
| *Log GDP per capita (2011 USD adjusted for PPP)* | *-8.339* | *-8.001* | *-0.165* | *-0.146* |
|  | *(-0.71)* | *(-0.67)* | *(-1.23)* | *(-1.10)* |
| *Democracy (Polity IV)* | *-0.477* | *-0.429* | *-0.00841* | *-0.00600* |
|  | *(-1.06)* | *(-0.94)* | *(-1.14)* | *(-0.75)* |
| *Private non-OOP health expenditure (% of GDP)* | *6.277* | *5.915* | *0.0824* | *0.0718* |
|  | *(1.20)* | *(1.05)* | *(1.11)* | *(0.86)* |
| *Private OOP health expenditure (% of GDP)* | *-1.562* | *-2.106* | *-0.0186* | *-0.0222* |
|  | *(-0.38)* | *(-0.48)* | *(-0.40)* | *(-0.38)* |
| *gini\_market* |  | *-0.0530* |  | *0.0113* |
|  |  | *(-0.07)* |  | *(0.84)* |
| *Gov Redistribution (Gini market - Gini net)* |  | *1.629* |  | *-0.0120* |
|  |  | *(0.31)* |  | *(-0.11)* |
| *Constant* | *3319.0\*\** | *3390.5\*\** | *14.60* | *13.21* |
|  | *(3.05)* | *(3.20)* | *(1.20)* | *(1.12)* |
| *Observations* | *102* | *102* | *102* | *102* |

***Notes:*** *t statistics in parentheses,* \* p<0.05 \*\* p<0.01 \*\*\* p<0.001. 1 (% of GDP); 2 (2011 USD adjusted for PPP); IMR – infant mortality rate; SII - Slope index of inequality; RII- Relative index of inequality; OOP – Out of pocket; GDP –Gross Domestic product.

**Appendix 4: Additional analysis of intermediate variables**

*Tables A4.1: Adding Water and Sanitation covariates to main model for 48 countries between 1993-2013 (models 1 and 3 show main SII and RII models, 2 and 4 include additional covariates)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | *(1)* | *(2)* | *(3)* | *(4)* |
|  | *IMR SII* | *IMR SII* | *IMR RII* | *IMR RII* |
| *Total government expenditure 1* | *-2.468\*\** | *-2.472\*\** | *-0.0257\** | *-0.0253\** |
|  | *(-2.88)* | *(-2.78)* | *(-2.36)* | *(-2.34)* |
| *Year* | *-1.350\*\** | *-1.894\*\** | *-0.00241* | *-0.0172* |
|  | *(-3.01)* | *(-2.76)* | *(-0.45)* | *(-2.00)* |
| *Log GDP per capita 2* | *-7.881* | *-7.363* | *-0.0877* | *-0.0784* |
|  | *(-0.84)* | *(-0.80)* | *(-0.82)* | *(-0.77)* |
| *Democracy (Polity IV)* | *-0.519* | *-0.479* | *-0.0120\** | *-0.0114* |
|  | *(-1.05)* | *(-0.93)* | *(-2.03)* | *(-1.99)* |
| *Private non-OOP health expenditure 1* | *-3.698* | *-4.641* | *-0.00932* | *-0.0305* |
|  | *(-0.76)* | *(-1.05)* | *(-0.16)* | *(-0.66)* |
| *Private OOP health expenditure 1* | *-0.698* | *-0.926* | *-0.0307* | *-0.0399* |
|  | *(-0.18)* | *(-0.23)* | *(-0.61)* | *(-0.78)* |
| *Improved water source (% of population)* |  | *0.408* |  | *0.00856* |
|  |  | *(0.81)* |  | *(1.39)* |
| *Improved sanitation facilities (% of population)* |  | *0.393* |  | *0.0140* |
|  |  | *(0.63)* |  | *(1.86)* |
| *Constant* | *2843.5\*\** | *3883.8\*\** | *6.636* | *35.05\** |
|  | *(3.36)* | *(2.98)* | *(0.65)* | *(2.14)* |
| *Observations* | *142* | *142* | *142* | *142* |

***Notes:*** *t statistics in parentheses,* \* p<0.05 \*\* p<0.01 \*\*\* p<0.001. 1 (% of GDP); 2 (2011 USD adjusted for PPP); IMR – infant mortality rate; SII - Slope index of inequality; RII- Relative index of inequality; OOP – Out of pocket; GDP –Gross Domestic product.

Table A4.2: Adding Slope Index of Inequality covariates for fertility, stunting and health services to main SII model. Models 1, 3 and 5 show main SII model, 2, 4 and 6 include additional covariates.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* |
|  | *IMR SII* | *IMR SII* | *IMR SII* | *IMR SII* | *IMR SII* | *IMR SII* |
| *Total government expenditure 1* | *-2.423\** | *-2.804\*\** | *-2.530\*\** | *-2.478\*\** | *-2.206\** | *-1.848\** |
|  | *(-2.61)* | *(-2.82)* | *(-2.75)* | *(-2.70)* | *(-2.53)* | *(-2.08)* |
| *Year* | *-1.517\*\** | *-1.377\*\** | *-1.339\*\** | *-1.254\** | *-1.598\*\** | *-1.178\** |
|  | *(-3.09)* | *(-2.70)* | *(-2.76)* | *(-2.61)* | *(-3.45)* | *(-2.15)* |
| *Log GDP per capita 2* | *-6.647* | *-5.925* | *-9.971* | *-10.25* | *-4.733* | *-5.416* |
|  | *(-0.69)* | *(-0.60)* | *(-1.02)* | *(-1.07)* | *(-0.48)* | *(-0.51)* |
| *Democracy (Polity IV)* | *-0.437* | *-0.545* | *-0.961* | *-1.004* | *-0.487* | *-0.368* |
|  | *(-0.70)* | *(-0.91)* | *(-1.60)* | *(-1.69)* | *(-0.97)* | *(-0.73)* |
| *Private non-OOP health expenditure 1* | *-3.535* | *-6.300* | *-3.520* | *-4.226* | *-3.863* | *-4.827* |
|  | *(-0.69)* | *(-1.29)* | *(-0.72)* | *(-0.90)* | *(-0.78)* | *(-1.10)* |
| *Private OOP health expenditure 1* | *-0.00779* | *-0.929* | *-0.975* | *-0.495* | *-0.674* | *-0.744* |
|  | *(-0.00)* | *(-0.25)* | *(-0.22)* | *(-0.11)* | *(-0.15)* | *(-0.19)* |
| *Fertility Slope Index of Inequality* |  | *4.409* |  |  |  |  |
|  |  | *(1.43)* |  |  |  |  |
| *Stunting Slope Index of Inequality* |  |  |  | *0.335* |  |  |
|  |  |  |  | *(1.04)* |  |  |
| *Health Services Slope Index of Inequality* |  |  |  |  |  | *0.536* |
|  |  |  |  |  |  | *(1.30)* |
| *Constant* | *3166.3\*\** | *2874.2\*\** | *2839.7\*\** | *2661.9\*\** | *3312.1\*\*\** | *2456.3\** |
|  | *(3.39)* | *(2.96)* | *(3.09)* | *(2.93)* | *(3.79)* | *(2.31)* |
| *Observations* | *128* | *128* | *128* | *128* | *131* | *131* |

***Notes:*** *t statistics in parentheses,* \* p<0.05 \*\* p<0.01 \*\*\* p<0.001. 1 (% of GDP); 2 (2011 USD adjusted for PPP); IMR – infant mortality rate; SII - Slope index of inequality; OOP – Out of pocket; GDP –Gross Domestic product.

Table A4.3: Adding Slope Index of Inequality covariates for fertility, stunting and health services to main RII model. Models 1, 3 and 5 show main RII model, 2, 4 and 6 include additional covariates.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* |
|  | *IMR RII* | *IMR RII* | *IMR RII* | *IMR RII* | *IMR RII* | *IMR RII* |
| *Total government expenditure 1* | *-0.0256\** | *-0.0298\** | *-0.0245\** | *-0.0236* | *-0.0207* | *-0.0175* |
|  | *(-2.22)* | *(-2.43)* | *(-2.12)* | *(-1.99)* | *(-1.95)* | *(-1.67)* |
| *Year* | *-0.00540* | *-0.00389* | *-0.00277* | *-0.00129* | *-0.00676* | *-0.00298* |
|  | *(-0.97)* | *(-0.66)* | *(-0.48)* | *(-0.23)* | *(-1.29)* | *(-0.42)* |
| *Log GDP per capita 2* | *-0.0488* | *-0.0410* | *-0.121* | *-0.125* | *-0.0153* | *-0.0215* |
|  | *(-0.44)* | *(-0.38)* | *(-1.09)* | *(-1.17)* | *(-0.14)* | *(-0.19)* |
| *Democracy (Polity IV)* | *-0.0114* | *-0.0125* | *-0.0158\** | *-0.0166\** | *-0.0101* | *-0.00904* |
|  | *(-1.53)* | *(-1.64)* | *(-2.07)* | *(-2.31)* | *(-1.66)* | *(-1.35)* |
| *Private non-OOP health expenditure 1* | *-0.0167* | *-0.0465* | *-0.00349* | *-0.0157* | *-0.0138* | *-0.0225* |
|  | *(-0.29)* | *(-0.81)* | *(-0.06)* | *(-0.28)* | *(-0.24)* | *(-0.40)* |
| *Private OOP health expenditure 1* | *-0.0249* | *-0.0348* | *-0.0396* | *-0.0313* | *-0.0473* | *-0.0479* |
|  | *(-0.42)* | *(-0.64)* | *(-0.71)* | *(-0.58)* | *(-0.86)* | *(-0.92)* |
| *Fertility Slope Index of Inequality* |  | *0.0475* |  |  |  |  |
|  |  | *(1.31)* |  |  |  |  |
| *Stunting Slope Index of Inequality* |  |  |  | *0.00582* |  |  |
|  |  |  |  | *(1.01)* |  |  |
| *Health Services Slope Index of Inequality* |  |  |  |  |  | *0.00484* |
|  |  |  |  |  |  | *(0.92)* |
| *Constant* | *12.30* | *9.152* | *7.598* | *4.513* | *14.77* | *7.052* |
|  | *(1.16)* | *(0.81)* | *(0.69)* | *(0.43)* | *(1.49)* | *(0.51)* |
| *Observations* | *128* | *128* | *128* | *128* | *131* | *131* |

***Notes:*** *t statistics in parentheses,* \* p<0.05 \*\* p<0.01 \*\*\* p<0.001. 1 (% of GDP); 2 (2011 USD adjusted for PPP); IMR – infant mortality rate; RII- Relative index of inequality; OOP – Out of pocket; GDP –Gross Domestic product.

**Appendix 5 – Addition of IMR to main models**

**Table A4.1: Main regressions (1) and (3), with the addition of IMR covariates in (2) and (4).**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | *With IMR* |  | *With IMR* |
|  | *(1)* | *(2)* | *(3)* | *(4)* |
|  | *IMR SII* | *IMR SII* | *IMR RII* | *IMR RII* |
| *Total government expenditure (% of GDP)* | *-2.468\*\** | *-1.975\** | *-0.0257\** | *-0.0262\** |
|  | *(-2.88)* | *(-2.39)* | *(-2.36)* | *(-2.33)* |
| *Year* | *-1.350\*\** | *-0.349* | *-0.00241* | *-0.00342* |
|  | *(-3.01)* | *(-0.83)* | *(-0.45)* | *(-0.46)* |
| *Log GDP per capita (2011 USD adjusted for PPP)* | *-7.881* | *-8.874* | *-0.0877* | *-0.0867* |
|  | *(-0.84)* | *(-1.07)* | *(-0.82)* | *(-0.81)* |
| *Democracy (Polity IV)* | *-0.519* | *-0.804* | *-0.0120\** | *-0.0117* |
|  | *(-1.05)* | *(-1.75)* | *(-2.03)* | *(-1.91)* |
| *Private non-OOP health expenditure (% of GDP)* | *-3.698* | *-2.211* | *-0.00932* | *-0.0108* |
|  | *(-0.76)* | *(-0.48)* | *(-0.16)* | *(-0.19)* |
| *Private OOP health expenditure (% of GDP)* | *-0.698* | *-0.864* | *-0.0307* | *-0.0305* |
|  | *(-0.18)* | *(-0.24)* | *(-0.61)* | *(-0.60)* |
| *Infant Mortality Rate* |  | *0.442\*\** |  | *-0.000446* |
|  |  | *(3.23)* |  | *(-0.21)* |
| *Constant* | *2843.5\*\** | *810.4* | *6.636* | *8.689* |
|  | *(3.36)* | *(1.00)* | *(0.65)* | *(0.60)* |
| *Observations* | *142* | *142* | *142* | *142* |

***Notes:*** *t statistics in parentheses,* \* p<0.05 \*\* p<0.01 \*\*\* p<0.001. 1 (% of GDP); 2 (2011 USD adjusted for PPP); IMR – infant mortality rate; RII- Relative index of inequality; OOP – Out of pocket; GDP –Gross Domestic product.