Educational Mobility in Africa

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African History through the Lens of Economics

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In Memoriam. Alberto Alesina

Founder. Modern Field of Political Economy



Presentation Structure

1. **Introduction and Motivation**
2. **Data and Approach**
3. **Intergenerational Mobility (IM)**
   - African Countries and Regions
   - Religious Affiliation
4. **Childhood Exposure Effects**
5. **Regional Correlates of Mobility [across Religious Affiliation]**
6. **Discussion. Further Evidence**
7. **Conclusion**

Introduction

Section Structure

1. **Motivation**
2. **Related Literature**

Motivation. Education and Inequality

Educational Gains in Africa. Have these gains been distributed equally?

- **Country and Regional Differences**
  - Anecdotal evidence of large geographic differences in education and opportunity
  - Regional inequalities move in tandem with lower levels of development [Williamson (1965), Alesina, Michalopoulos, and Papaioannou (2016)]

Motivation. Education and Inequality

Educational Gains in Africa. Have these gains been distributed equally?

- **Country and Regional Differences**
  - Anecdotal evidence of large geographic differences in education and opportunity
  - Regional inequalities move in tandem with lower levels of development [Williamson (1965), Alesina, Michalopoulos, and Papaioannou (2016)]
- **Religious Affiliation**
  - Limited research [Evans and Acosta (2020) education review in Africa 145 papers, no discussion of religion]
  - Move *beyond* ethnicity [research emphasis]
  - Christianity in Africa coined as the ”biggest social experiment”
  - Islam is the fastest-growing religious group in Africa

Paper 1. Intergenerational Mobility in Africa

Educational Mobility across African Countries and Regions

1. **Upward and Downward IM statistics**. **27 countries, 2,846 regions**: large within-country differences [boys and girls]
2. **Inertia**
   - Upward IM is higher and downward IM is lower in countries and regions with higher literacy of the old generation; Slow convergence
3. **Regional Correlates**
   - Regional Development, Location, Colonial Investments
4. **Regional Childhood Exposure and Spatial Sorting**
   - Causal effects of regions
     - Sibling Comparisons
     - Push shocks
     - Historical migration projections

Paper 2. Religion and Educational Mobility in Africa

Religious Adherence Differences in Educational Mobility across African Countries and Regions

1. **IM statistics across religious lines**. **20 countries, 2,105 regions**: sizable differences in educational IM across religious lines
2. **Potential Drivers of religious IM gaps**
   - Household Features [e.g., size/composition, age of marriage]
   - Economic Traits [employment sector, profession, rural-urban]
   - Regional Features [segregation]
3. **Regional Childhood Exposure Effects by Religion**
   - Causal effects of regions *similar* across religious groups
4. **Characterize religious IM (gaps)**. Regional Correlates
   - Regional Development, Location, Colonial Investments
   - Own Religion Share - Segregation
5. **Discussion. A Primer on Migration**

Intergenerational Mobility

Dimensions. Income, Earnings, Wealth, Education

- **Income, Lifetime Earnings** [mostly developed-industrial countries]

  Erikson and Goldthorpe (1992); Checchi et al. (1999); Jantti et al. (2006); Corak (2006); Hertz et al. (2008); Mayer and Lopoo (2008); Long and Ferrie (2013); Clark (2014); Chetty et al. (2014, 2016); Derenoncourt (2019)

  - Mapping and correlational analysis. Where is the Land of Opportunity? [Chetty et al. QJE 2014, Chetty et al. 2020]
  - Causal impact of regions vs. sorting [Chetty and Hendren QJE 2018a,b]

- **Education. [reviews Solon (1999) and Black and Deveroux (2011)]**

  "In addition to earnings, educational attainment provides an important source of information about the lives of individuals; as a result, there has been extensive study of intergenerational transmission of education. As a practical matter, education has advantages over earnings in terms of estimation; with education, measurement issues are much less difficult. People tend to complete education by their mid- twenties so, unlike with lifetime earnings, analysis can successfully take place when children are relatively early in the life-cycle. Also, non-employment causes no difficulties, and measurement error is likely to be much less of a problem as people tend to know their own educational attainment. Furthermore, there is now an extensive literature that shows that higher education is associated with many other beneficial characteristics such as higher earnings, better health and longer lifespans."

- **Intergenerational Transmission. Education** [Becker and Tomes (1976), Loury (1981)]

Intergenerational Mobility in Education across Space

Educational IM

- Hertz et al. (2007). **42 countries (only 3 African)**
- World Bank (van der Weide et al. (2021)). **153 countries**
  - survey data
  - construct measures of IM in education and income across many countries
- Asher, Novosad, and Rafkin (2020). **India**
  - mapping educational IM across Indian districts, castes, and religious groups
  - correlates of regional IM
- Card, Domnisoru, and Taylor (2018). **United States in 1920-1940**
  - mapping educational IM across US states and racial groups
  - educational policies and educational IM
- Hilger (2017). **United States Long-Run**

Intergenerational Mobility and Race

United States Focus

- Borjas (QJE 1992, AER 1995). **Ethnic Capital**
  - Ethnicity as externality in human capital accumulation
  - skills of current generation depend on parental and ethnic capital
  - Ethnic capital stronger in ethnically segregated neighborhoods
- Chetty et al. (QJE 2020). **Race and Mobility**
  - Large variation in IM across race
  - Family characteristics explain little of black-white gap in IM conditional in income (as in our setting)
  - Regions do not matter much (opposite finding here)
  - Black-white gap IM among boys remains even in the same neighborhood
- Davis and Mazumder (2018). **Race and Ethnic Background**
  - estimates of IM by region and ethnicity/race
  - ethnic IM gaps are larger than regional gaps
  - migration explains little of variation in IM

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Section Structure

1. **Data. IPUMS**
2. **Cohabitation**
3. **Cohort Effects/Trends**
4. **Education Dynamics and Absolute IM**

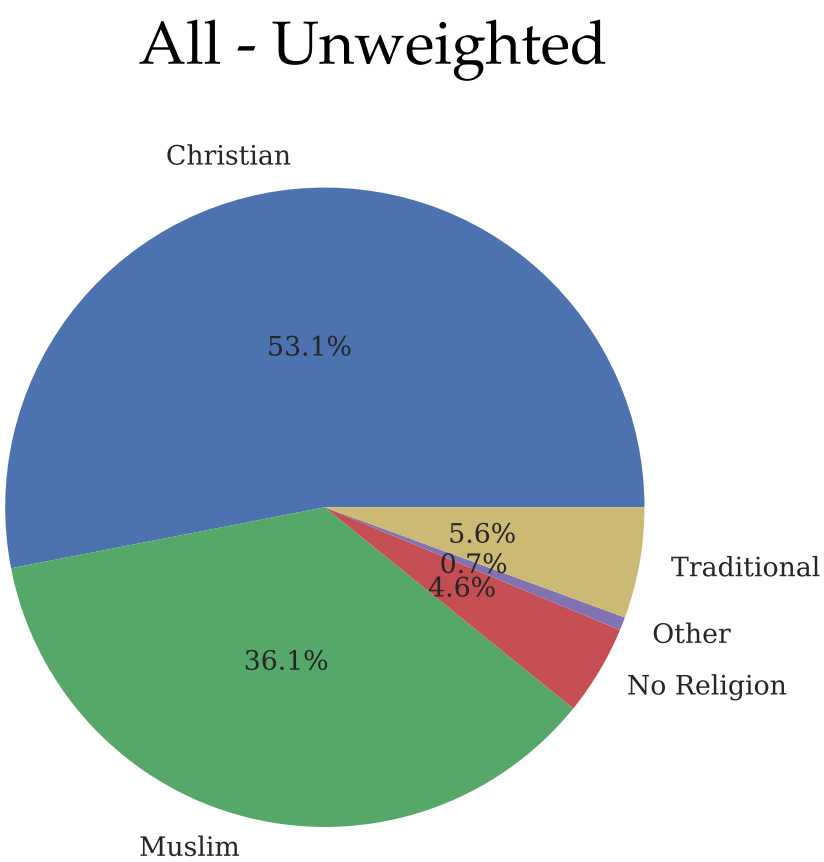
International IPUMS, Census data

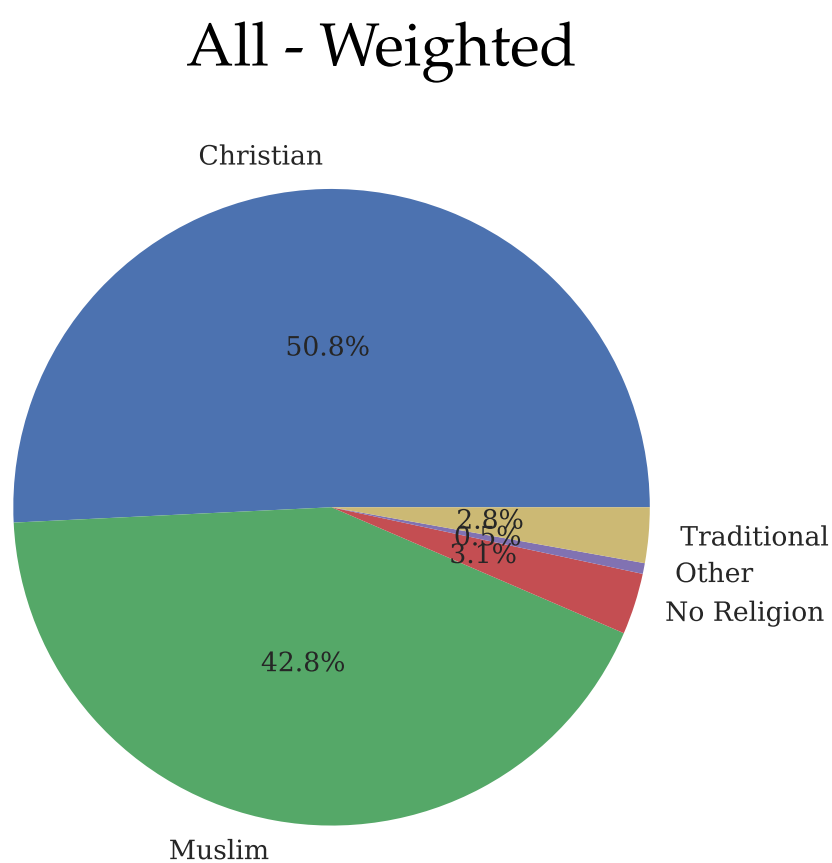
Data Features

- Representative samples (typically 10%) from censuses [Nigeria, household surveys]. young individuals 14-18 [and 14-25]
  - Regions Sample: 9,785,393 (young) individuals (14-18 age) ; 16,814,272 (young) individuals (14-25 age)
  - Religion Sample: 6,392,474 (young) individuals (14-18 age); 11,420,731 (young) individuals (14-25 age)
- **27 (20) countries**; 69 (38) censuses
  - Lesotho, Kenya, Morocco, North and South Sudan, Tanzania, Zimbabwe
  - Benin, Botswana, Burkina Faso, Cameroon, Egypt, Ethiopia, Liberia, Ghana, Guinea, Mali, Malawi, Mozambique, Nigeria, Rwanda, Uganda, South Africa, Sierra Leone, Zambia, Togo, Uganda
- **2,846 (2,205) districts** (mostly admin-2/3 units)

Religion Shares in the Sample

Unweighted and Population Weighted [Nigeria]





Methodology. Absolute IM

Chetty et al. (2014, 2016) definitions

- "Relative" IM
  - Regressions of (relative) child outcomes (education) on (relative) parental outcomes
- "Absolute" IM
  - Likelihood of children having outcome y conditional on parents having (relative) outcome x. ($\Rightarrow$ likelihood of having better / worse outcomes than parents)

Absolute educational IM [also in Chetty et al. (2017); like parallel work of Card et al. (2018), also Derenoncourt (2020) and Hilger (2020)]

- Upward IM: Likelihood that children of parents with less than primary education ("illiterate") complete at least primary ("literate")
- Downward IM: Likelihood that children of parents at least primary education fail to complete primary school

Co-residence

Assessing primary school attainment vis a vis parents

Tension

(A) Younger individuals more likely to live with their parents

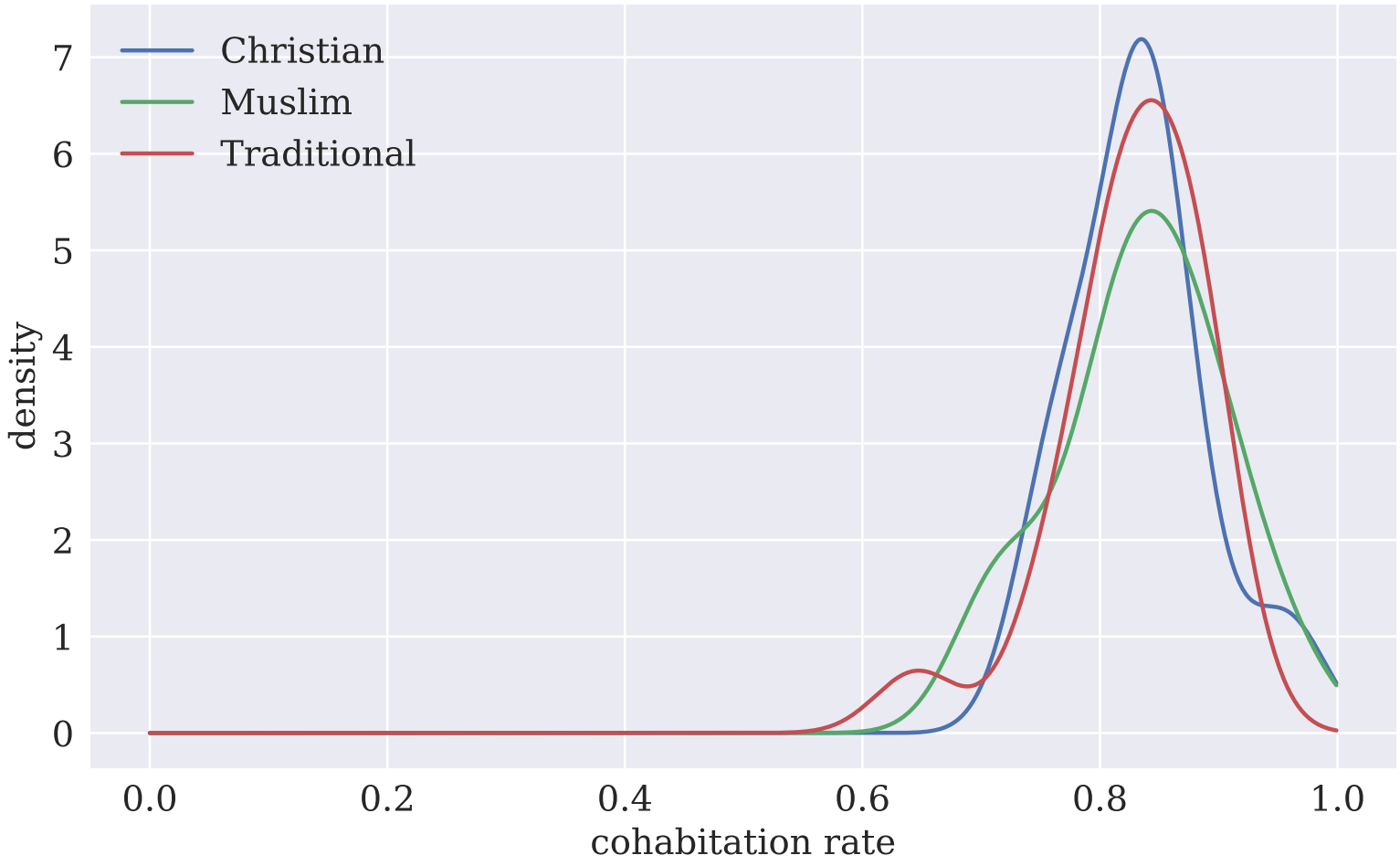
(B) Older individuals more likely to have finished education

$\Rightarrow$ **to deal with (A) and (B)**

- individuals aged 14-18 (80%-90% co-residence rate in the sample compared to 95.1% for 8-year olds) (Card, Domnisory, and Taylor, 2018)
- at the same time, old enough to have completed primary school
- compare results to results from individuals aged 14-25 and 14+
- no major differences across religious affiliation

Country-Level Co-residence Rates 14-18 yo

Muslims, Animists, Christians



Methodology

Time and cohort effects

Step 1. Define indicator variables

- lit_par_{ibct} = 1 if the parents of child i born in birth-cohort b in country c and observed in census t are literate and zero otherwise
- IM_up_{ibct} = 1 if a child i born to illiterate parents in (decadal) birth-cohort b in country c and observed in census year t is literate and zero otherwise.
- IM_down_{ibct} = 1 if a child i born to literate parents in (decadal) birth-cohort b in country c and observed in census year t is illiterate and zero otherwise.

Step 2. For all individuals, estimate

$$\text{lit_par}_{ibct} = \alpha^{o}_{cb} + \epsilon_{ict}$$
$$\text{IM_up/down}_{ibct} = \alpha^{y}_{cb} + \epsilon_{ict},$$

$\hat{\alpha}^{o}_{cb}$ share of literate parents in country/district c, birth-cohort b.

$\hat{\alpha}^{y}_{cb}$ estimate of upward/downward IM in country/district c, birth-cohort b.

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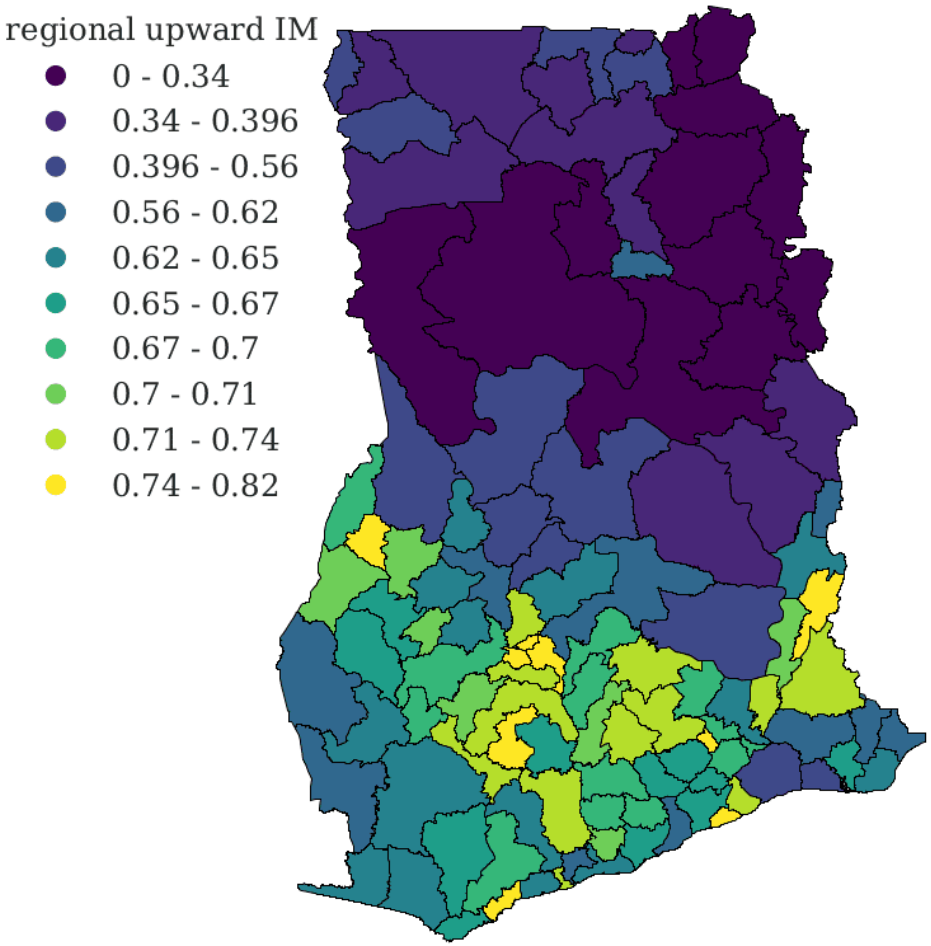
New Measures. IM in Education across Countries, Regions, and Religious Affiliation

1. **Intergenerational Mobility across 27 African Countries and 2,846 Regions**. Paper 1
   - Mappings and descriptive patterns
   - Persistence and Dynamics
2. **Intergenerational Mobility across Religious Affiliation across 20 African countries and 2,205 regions.** Paper 2
   - Mappings and descriptive patterns
   - Drivers Religious IM Gaps.
     - Household/family
     - Income/occupation
     - regions

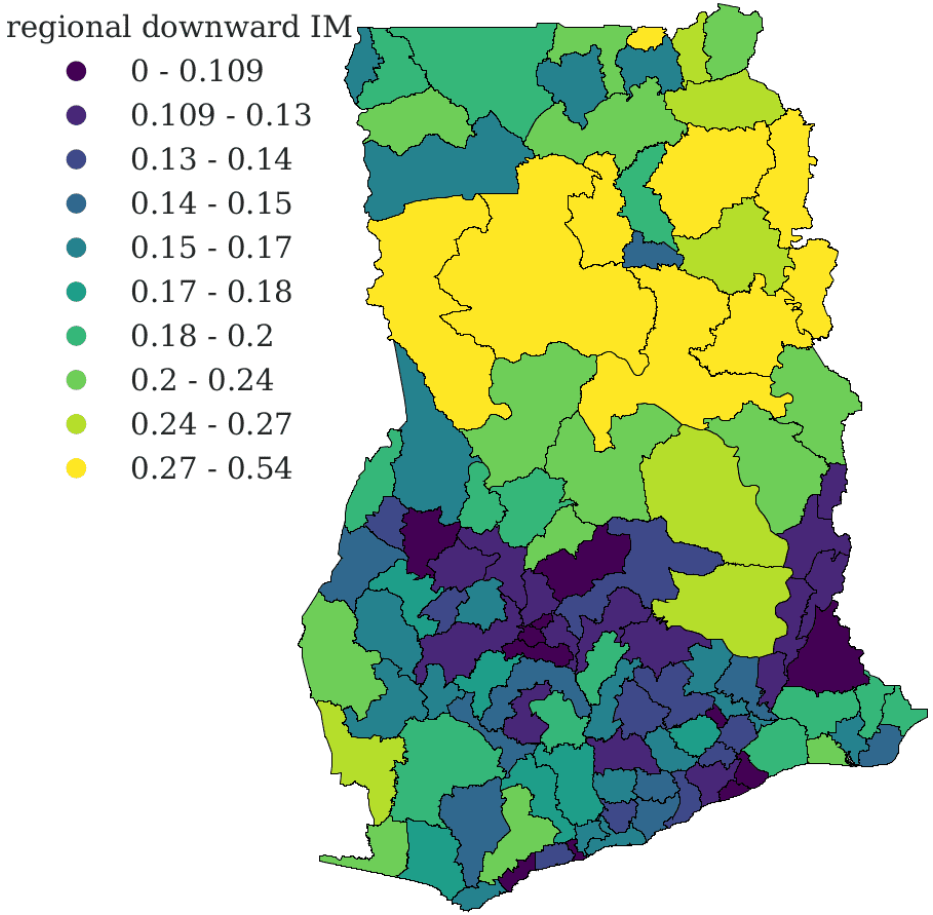
IM, Example: The Land of Opportunity in Ghana

Transition Likelihoods, 1980-born Cohort

upward, brighter colors → higher ↗ IM



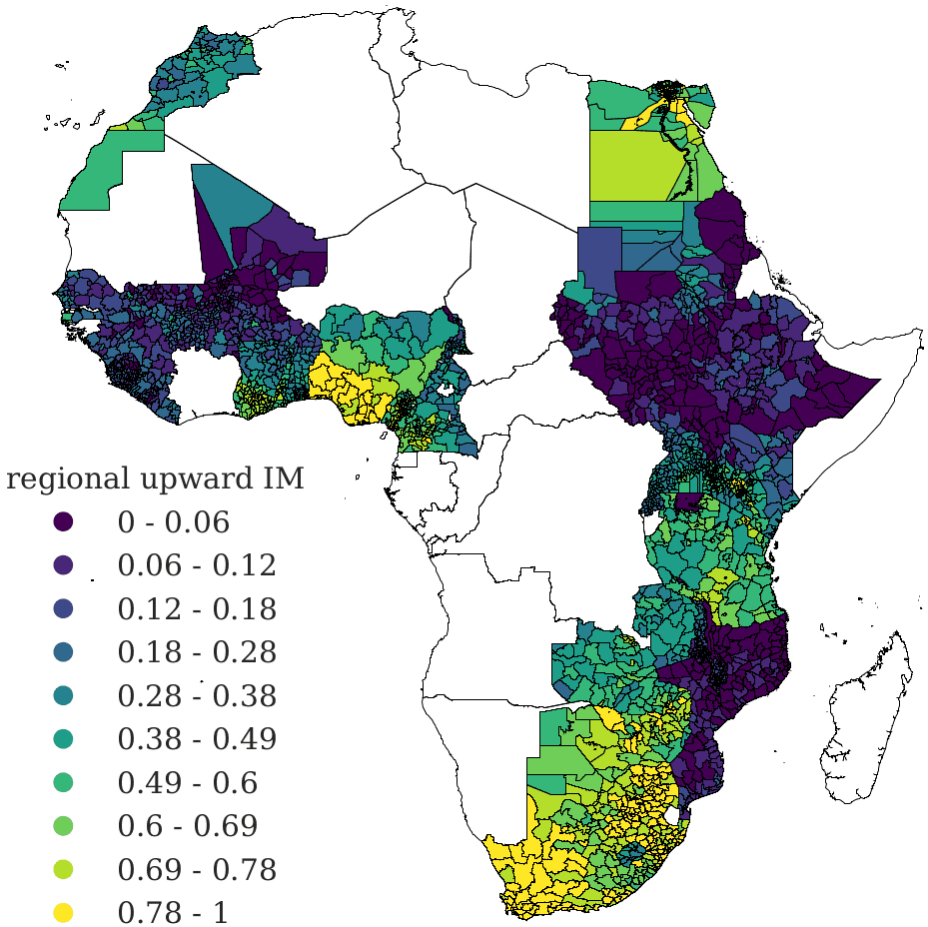
downward, brighter colors → higher ↘ IM



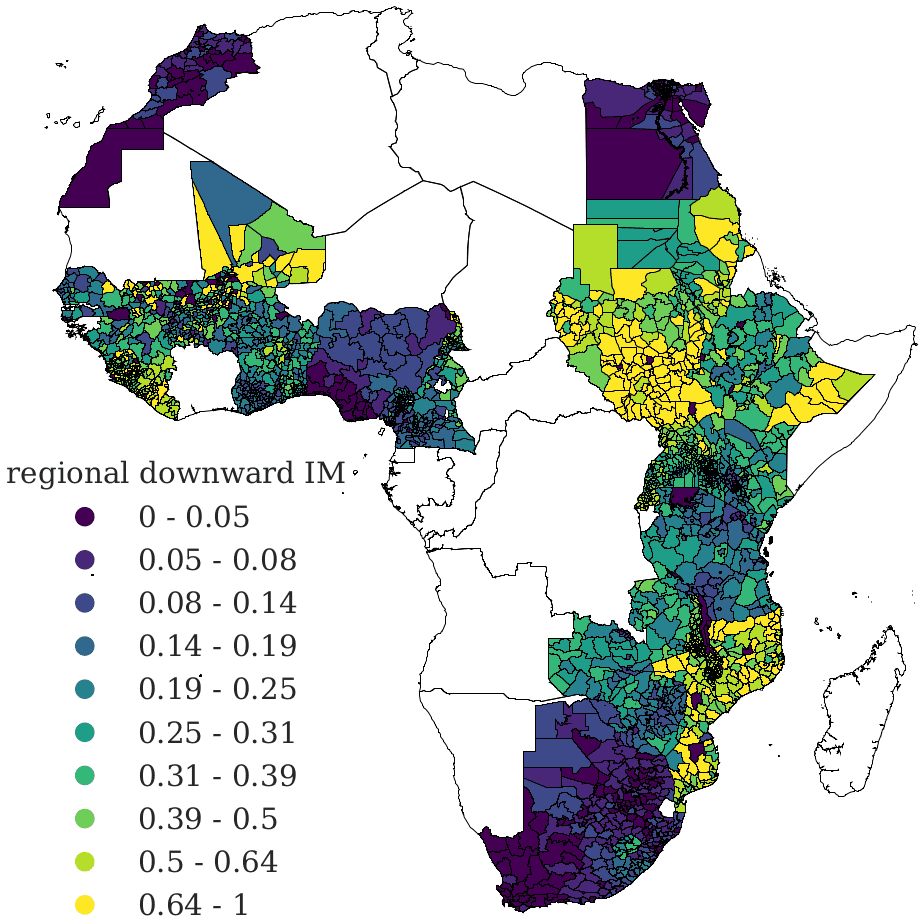
The Land of Opportunity in Africa

Transition Likelihoods, 1980-born Cohort

upward, brighter colors → higher ↗ IM



downward, brighter colors → higher ↘ IM



Regional IM across African Countries

Summary Statistics. IM across Districts

		upward					downward				
country	districts	mean	median	stdev	min	max	mean	median	stdev	min	max
South Africa	216	0.788	0.802	0.07	0.565	0.897	0.081	0.073	0.038	0.018	0.217
Zimbabwe	88	0.734	0.746	0.136	0.428	1.0	0.161	0.161	0.086	0.02	0.462
Botswana	23	0.71	0.717	0.083	0.5	0.826	0.076	0.077	0.027	0.0	0.133
Nigeria	37	0.7	0.772	0.21	0.301	0.957	0.094	0.083	0.051	0.02	0.189
Egypt	236	0.673	0.683	0.108	0.392	0.914	0.076	0.068	0.039	0.013	0.242
Tanzania	113	0.615	0.619	0.096	0.391	0.836	0.182	0.181	0.068	0.056	0.369
Ghana	110	0.577	0.637	0.157	0.176	0.803	0.214	0.198	0.077	0.101	0.557
Cameroon	230	0.539	0.58	0.208	0.083	0.895	0.228	0.182	0.144	0.035	0.812
Kenya	173	0.504	0.523	0.189	0.054	0.872	0.261	0.269	0.108	0.041	0.586
Togo	37	0.493	0.506	0.13	0.235	0.687	0.252	0.242	0.093	0.092	0.543
Zambia	72	0.48	0.472	0.123	0.282	0.771	0.275	0.28	0.096	0.084	0.483
Morocco	59	0.429	0.422	0.14	0.158	0.702	0.144	0.13	0.066	0.062	0.375
Lesotho	10	0.421	0.423	0.057	0.318	0.497	0.328	0.337	0.06	0.235	0.419
Uganda	161	0.373	0.374	0.124	0.019	0.659	0.382	0.38	0.118	0.152	0.933

Regional IM across African Countries, cont.

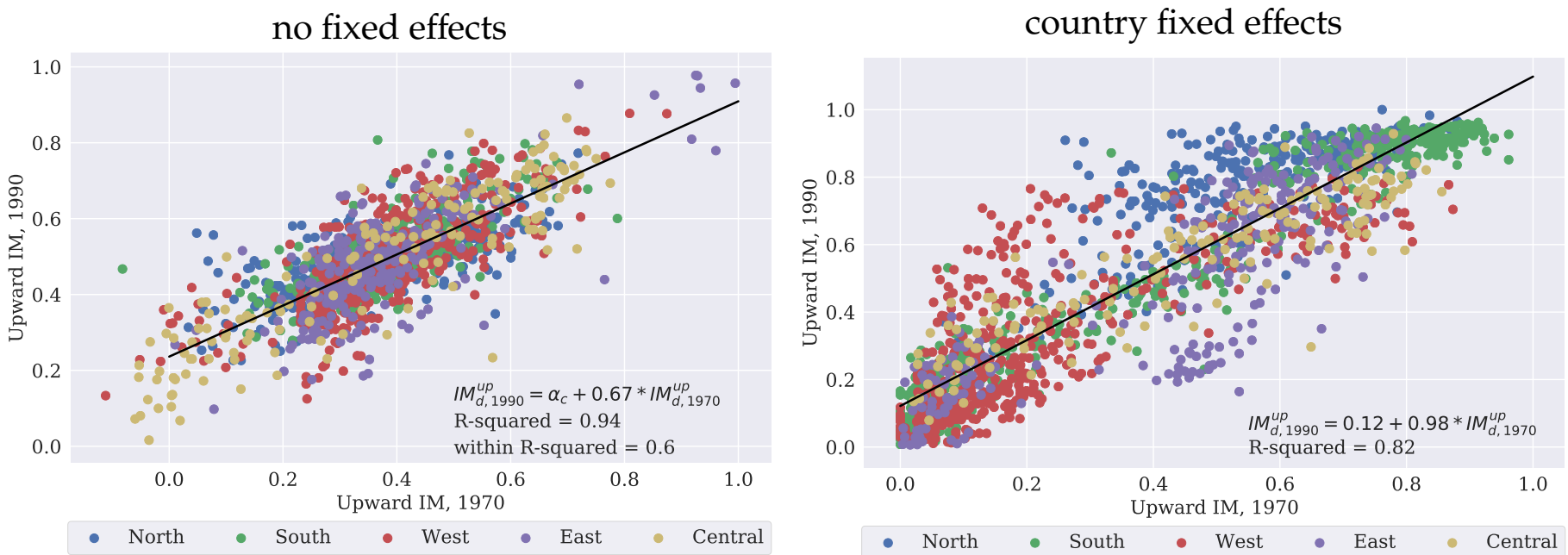
Summary Statistics. IM across Districts

		upward					downward				
country	districts	mean	median	stdev	min	max	mean	median	stdev	min	max
Benin	77	0.36	0.369	0.126	0.105	0.597	0.274	0.264	0.079	0.123	0.594
Rwanda	30	0.302	0.283	0.061	0.228	0.468	0.501	0.53	0.095	0.255	0.623
Senegal	34	0.253	0.183	0.151	0.078	0.592	0.316	0.282	0.132	0.149	0.793
Sierra Leone	107	0.219	0.17	0.143	0.032	0.667	0.563	0.581	0.189	0.142	1.0
Ethiopia	94	0.207	0.123	0.223	0.008	0.81	0.427	0.412	0.195	0.0	1.0
Malawi	227	0.195	0.16	0.111	0.049	0.562	0.533	0.551	0.122	0.179	0.8
Liberia	47	0.187	0.194	0.079	0.032	0.348	0.613	0.594	0.115	0.397	1.0
Guinea	34	0.156	0.151	0.072	0.06	0.432	0.441	0.44	0.098	0.25	0.68
Sudan	129	0.155	0.104	0.142	0.001	0.556	0.549	0.545	0.177	0.27	1.0
Burkina Faso	45	0.144	0.138	0.077	0.03	0.501	0.328	0.328	0.1	0.0	0.609
Mali	241	0.142	0.126	0.093	0.014	0.538	0.455	0.406	0.223	0.0	1.0
Mozambique	144	0.094	0.066	0.084	0.017	0.67	0.641	0.625	0.158	0.141	1.0
South Sudan	72	0.043	0.021	0.055	0.0	0.31	0.849	0.864	0.138	0.5	1.0
total	2,846	0.403	0.375	0.267	0.0	1.0	0.337	0.294	0.235	0.0	1.0

IM across Regions: The Land of Opportunity in Africa

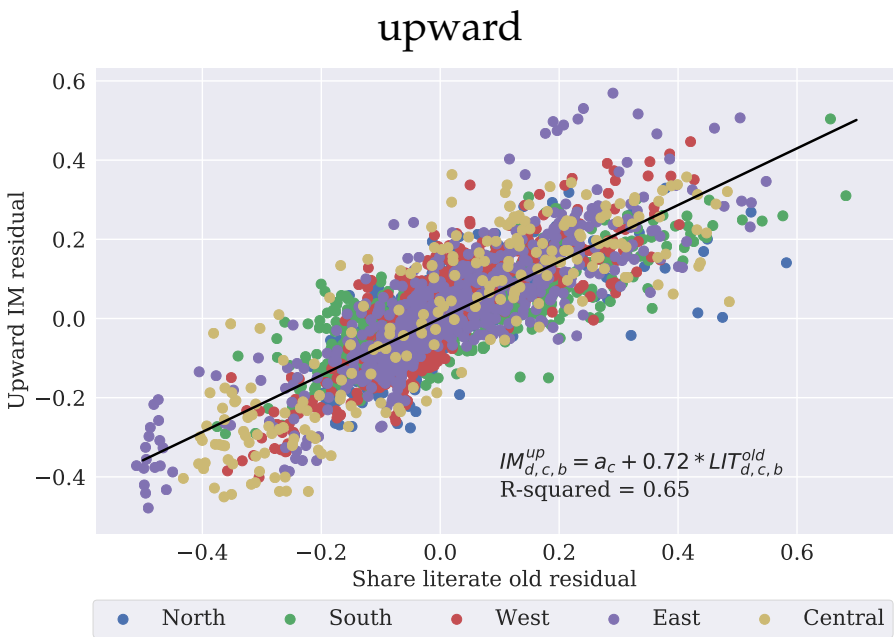
Persistence. 1970 Cohort - 1990 Cohort

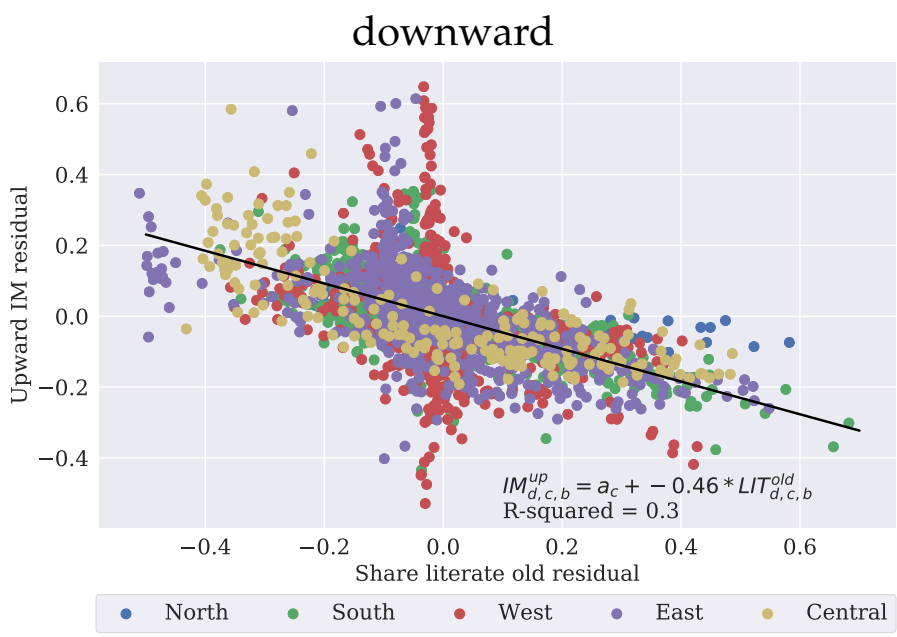
District-level Upward IM over time



Regional Associations. Persistence

Old' Literacy and IM across Districts





Intergenerational Mobility across Religious Lines

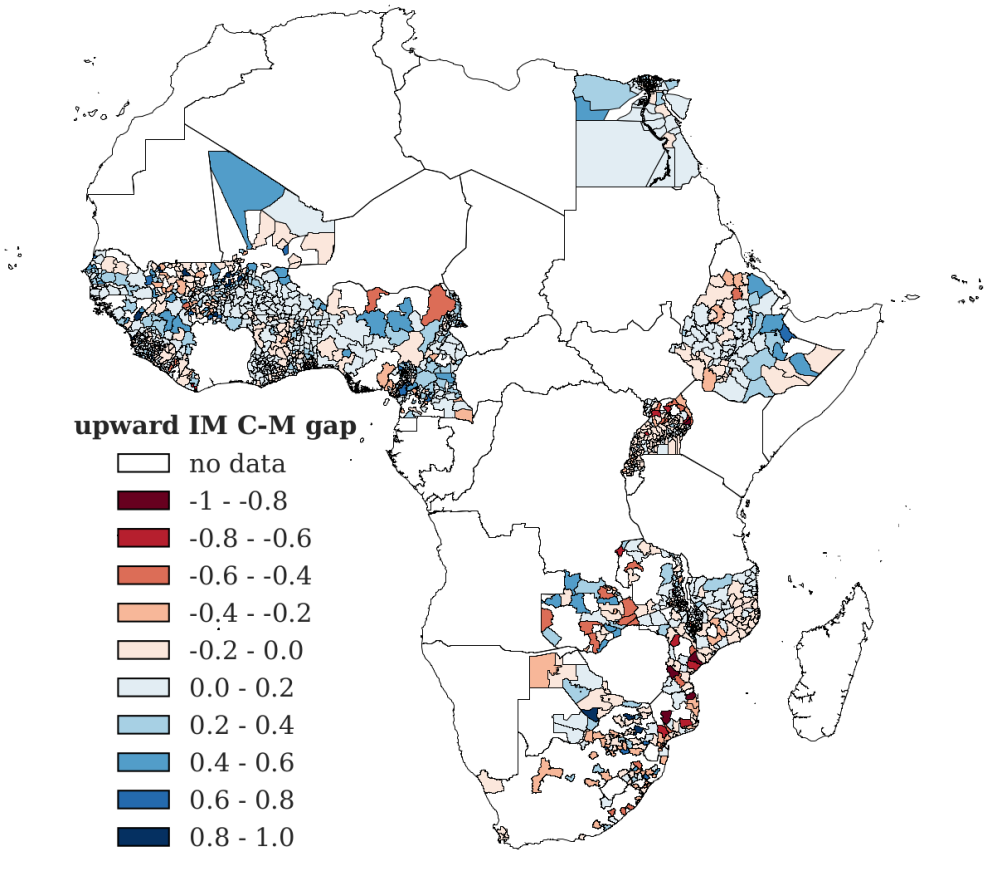
20 African Countries. individuals aged 14-18

	upward IM							downward IM						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
country	overall	Christian	Muslim	Traditional	$\Delta(c-m)$	N^{10+}_{dist}	$s(c>m)$	overall	Christian	Muslim	Traditional	$\Delta(c-m)$	N^{10+}_{dist}	$s(c>m)$
Botswana	0.798	0.822	0.556	0.699				0.085	0.083	0.027	0.076		1	0.0
South Africa	0.731	0.74	0.874	0.764		34.0	0.324	0.105	0.106	0.04	0.182		37	0.162
Egypt	0.673	0.679	0.673			187.0	0.775	0.052	0.048	0.052			186	0.634
Cameroon	0.613	0.739	0.424	0.481		113.0	0.867	0.056	0.042	0.196	0.185		107	0.738
Nigeria	0.612	0.786	0.466	0.229		6.0	0.667	0.096	0.078	0.162	0.0		7	0.143
Ghana	0.557	0.654	0.468	0.263		108.0	0.741	0.173	0.157	0.263	0.471		108	0.759
Togo	0.526	0.641	0.534	0.382		34.0	0.765	0.19	0.165	0.214	0.361		30	0.633
Zambia	0.439	0.446	0.484	0.449		6.0	0.5	0.253	0.25	0.221	0.262		6	0.667
Uganda	0.4	0.404	0.485	0.019		122.0	0.377	0.29	0.295	0.257	0.641		121	0.488
Benin	0.298	0.415	0.214	0.213		58.0	0.759	0.292	0.274	0.308	0.469		50	0.5
Mozambique	0.287	0.324	0.207	0.366		47.0	0.638	0.249	0.225	0.314	0.22		41	0.634
Mali	0.274	0.395	0.273	0.187		57.0	0.754	0.237	0.219	0.237	0.491		47	0.532
Sierra Leone	0.261	0.319	0.248	0.091		82.0	0.854	0.332	0.257	0.385	0.6		81	0.802
Senegal	0.244	0.527	0.235			22.0	1.0	0.264	0.163	0.274			22	0.773
Liberia	0.222	0.218	0.266	0.103		20.0	0.4	0.538	0.537	0.544	0.632		18	0.444
Burkina Faso	0.191	0.332	0.182	0.072		44.0	0.955	0.235	0.199	0.269	0.569		42	0.81
Guinea	0.182	0.229	0.181	0.138		14.0	0.929	0.439	0.5	0.418	0.724		14	0.286
Rwanda	0.181	0.183	0.274	0.077		21.0	0.238	0.543	0.541	0.489			19	0.632
Malawi	0.133	0.143	0.096	0.095		109.0	0.716	0.512	0.503	0.616	0.556		90	0.711
Ethiopia	0.116	0.138	0.082	0.017		58.0	0.759	0.344	0.323	0.481	0.8		52	0.731

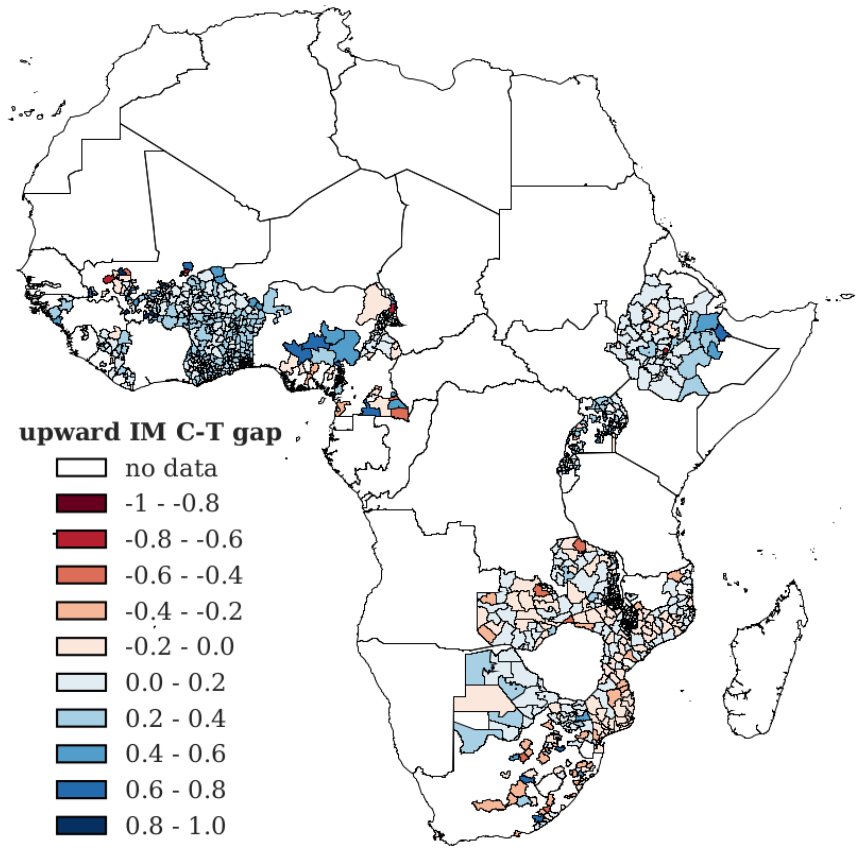
Religious IM Gaps across African Regions

Christian-Muslim Gap and Christian-Animist Gap in Upward IM

Christian-Muslim



Christian-Animist



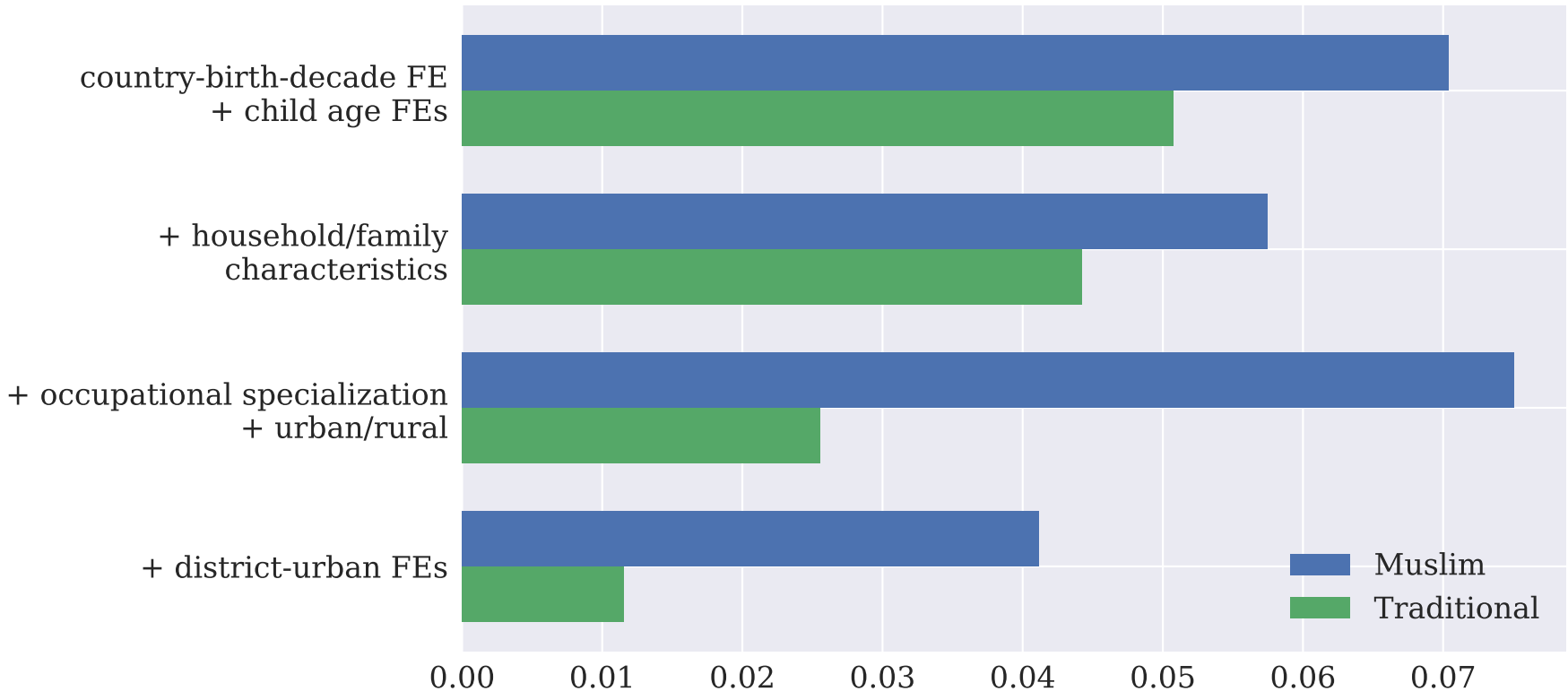
Drivers of Religious IM Gap

Upward IM Gap (Christian-Muslim and Christian-Animist)



Drivers of Religious IM Gap

Downward IM Gap (Christian-Muslim and Christian-Animist)



Drivers of Religious IM Gap. Summary

Overall Patterns and Country Heterogeneity

1. **Household/Family Characteristics. Small-Moderate**
   - Overall small impact [about 10%]
   - Important for girls' downward IM
   - Somewhat larger role in West Africa

2. **Economic Features, No Role for C-M, modest role for C-A**
   - Small differences between Christians and Muslims on occupational specialization, industry of employment, and rural-urban status.
     - *No differences in income [Pew Research Center (2008)] and no differences in living conditions [Afrobarometer (all rounds)]*
   - Christian-Animist Gap. Some power

3. **Regional Factors. Country Heterogeneity**
   - Fixed-effects explain roughly half of religious IM gap
   - Biggest role in **Nigeria, Benin, Ghana, Cameroon, and Senegal** [countries with religious segregation (more to come)]

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Regional Childhood Exposure Effects and Selection

Section Structure

1. **Methodology**. Chetty and Hendren (2018a)
2. **Semi-Parametric Estimates**. Regional Childhood Exposure Effects and Sorting
   - Overall
   - Religious Affiliation

Methodology. Chetty and Hendren (2018a)

Approach

Method: **Look on moving young individuals (children) who**

- live outside their birth region (as recorded by the Census)
- for whom time of residence in the current region is observed
- have moved to current region of residence between age 1 and 18
- are children of illiterate parents [upward IM]

Test: **If regions matter, children, whose families move earlier in the formative-for-schooling age, should be affected the most**

Methodology. Chetty and Hendren (2018a), cont.

Semi-Parametric Estimation, allowing for Religion-Specific Slopes (Chetty et al. (2020))

1. Construct **average IM gap** for each origin-destination pair, (a) all non-movers (nm); (b) non-movers of the same religion (r)

$$\Delta^{r}_{odb} = \widehat{\text{IM}}^{r}_\text{up}^{\text{nm}}_{bd} - \widehat{\text{IM}}^{r}_\text{up}^{\text{nm}}_{bo},$$

2. **Estimate**

$$\text{IM_up}^{r}_{ibmcod} = [\psi_h +]\ \alpha_{ob} + \alpha_m + \sum_{m=1}^{18} \beta^{r}_{m} \times \mathbb{I}(m_i = m) \times \Delta_{odb}$$

$$+ \sum_{b=b_0}^{B} \kappa_b \times \mathbb{I}(b_i = b) \times \Delta_{odb} \ + \epsilon_{i,ibmcod}.$$

3. **Plot religion-specific childhood regional exposure effects by age, $\hat{\beta}^{r}_{m}$.**

Methodology. Chetty and Hendren (2018a), cont.

Further Evidence. Alesina, Hohmann, Michalopoulos, and Papaioannou (ECMA 2021)

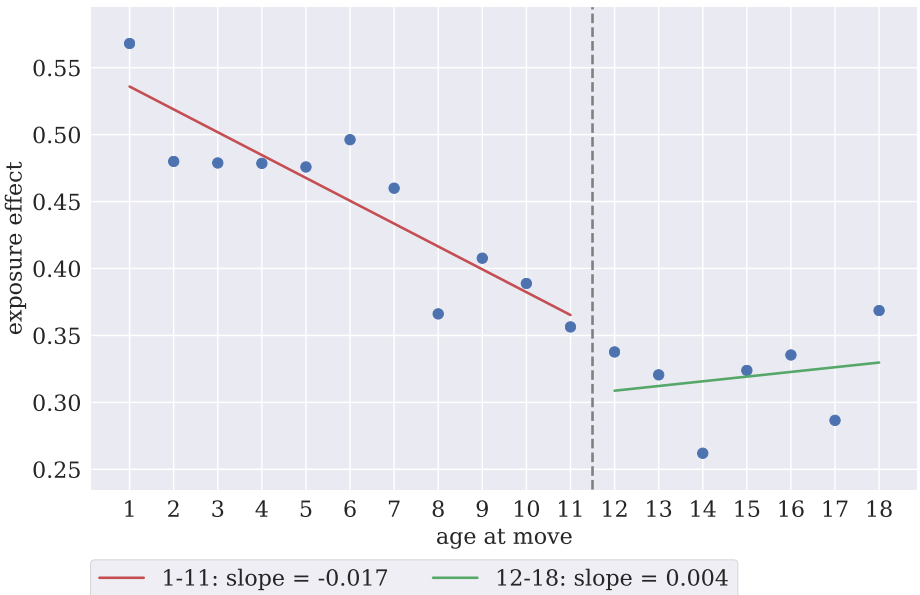
1. **Household Fixed-Effects Specification**. Compare Siblings; account for family unobserved features.
   - selection turns insignificant (and close to 0)
   - regional exposure effects during childhood very similar

2. **Endogeneity**. Push Shocks and and Pull Factors
   - Push Shocks. Years of abnormal outflows
   - Pull Factors: shift - share using past migration
   - Pull Shocks and Push factors: similar estimates (both exposure effects and sorting)

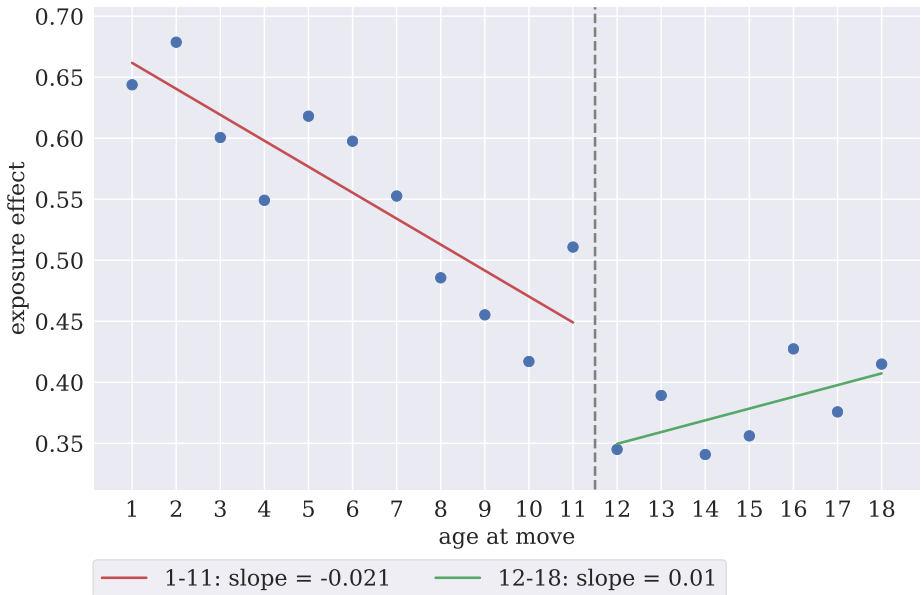
Childhood Regional Exposure Effects and Selection

Christians and Muslims. Overall Destination-Origin Differences in IM

Christians. 1.7%;



Muslims. 2.1%;



Regional Effects vs Sorting. Summary

Takeways

1. **regional childhood exposure effects for all religions**.
   - also within-household variation
   - also parametric specifications
2. **sizable spatial sorting for both Christians and Muslims**
3. **stronger regional childhood exposure effects for girls**
   - gain/lose the most from early moves to high/low mobility regions

Presentation Structure

1. **Introduction and Motivation**
2. **Data and Approach**
3. **Intergenerational Mobility (IM)**
   - African Countries and Regions
   - Religious Affiliation
4. **Childhood Exposure Effects**
5. **Regional Correlates of Mobility [across Religious Affiliation]**
6. **Discussion. Further Evidence**
7. **Conclusion**

Correlates of Religious IM (Religious Gap)

Section Structure

1. **Correlates of Upward/Downward IM (all)**
2. **Correlates of Upward/Downward IM Religious Gap**
3. **Taking Stock. Further Evidence**

Correlates of Regional IM (across Religion)

Objectives

1. **Characterize Regional IM**
   - at independence conditions, regional development
   - geography-location
   - colonization and precolonial features
2. **Characterize Regional Educational Gaps**
   - Commonalities and differences in correlation sign/strength across religious groups

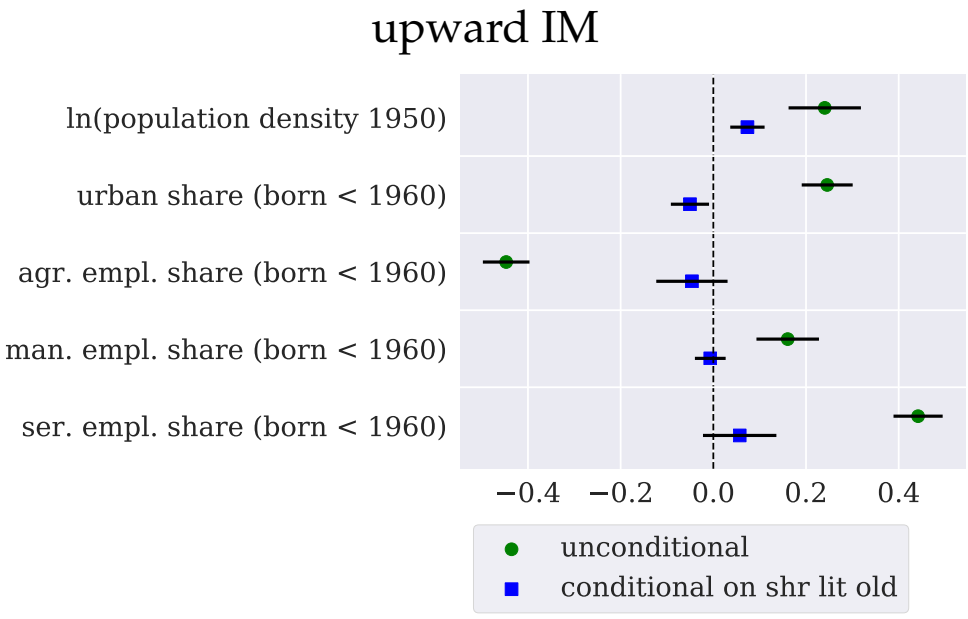
Correlates of Regional IM (across Religion)

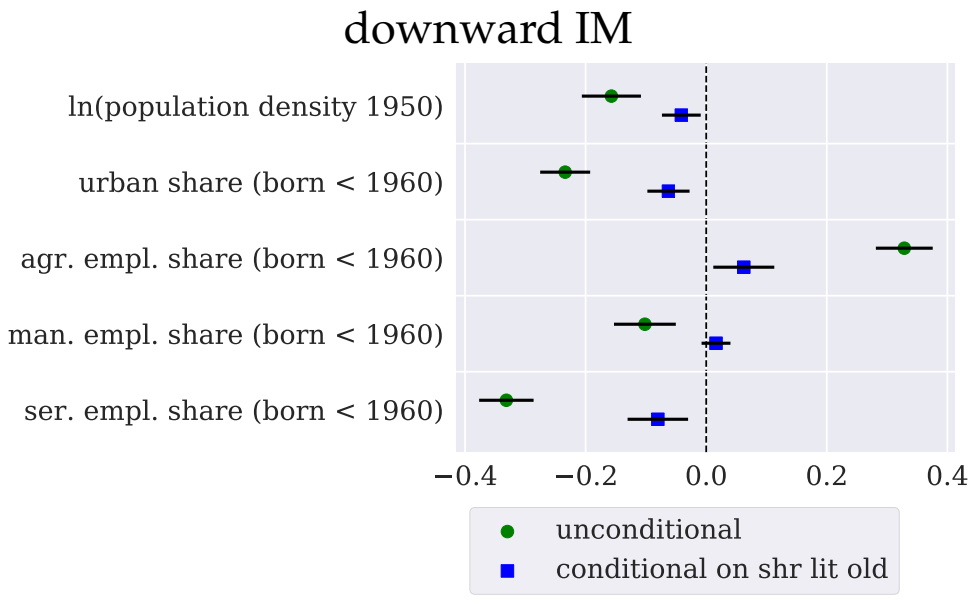
Caveats

- **Non-causal estimates**
  - Non random assignment
  - Error-in-variables
- **Objective to characterize religious IM across African regions**
  - Chetty, et al. (QJE 2014, QJE 2018b, 2021) in the US
  - Asher, Novosad, and Rafkin (2020) in India

Correlates of Regional Intergenerational Mobility

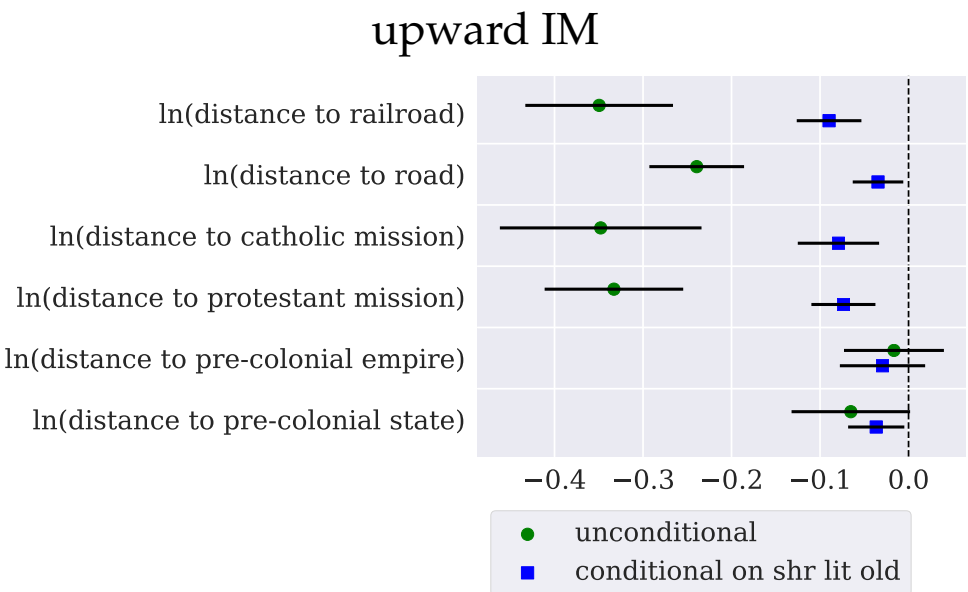
Results: At-Independence Development

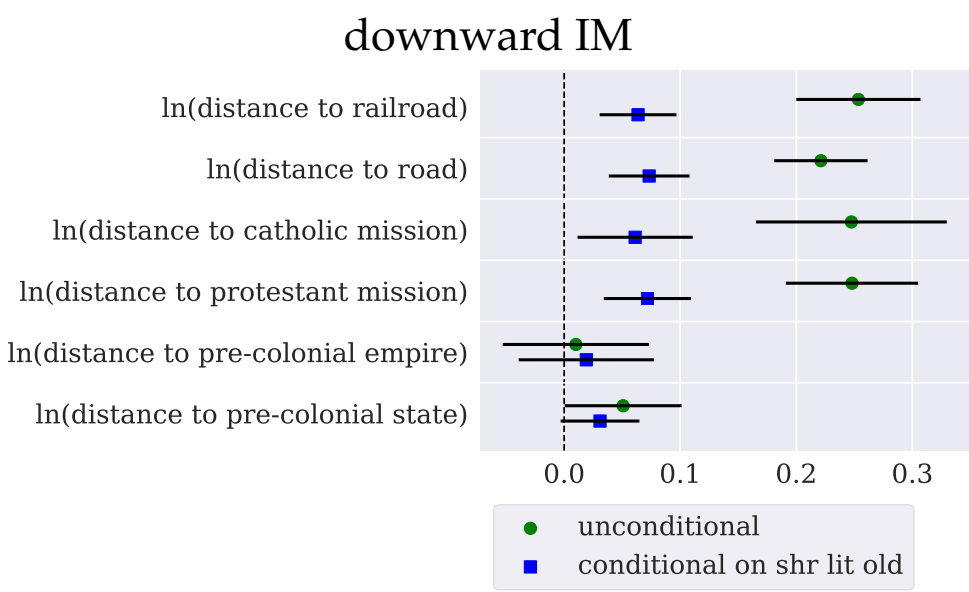




Correlates of Regional Intergenerational Mobility

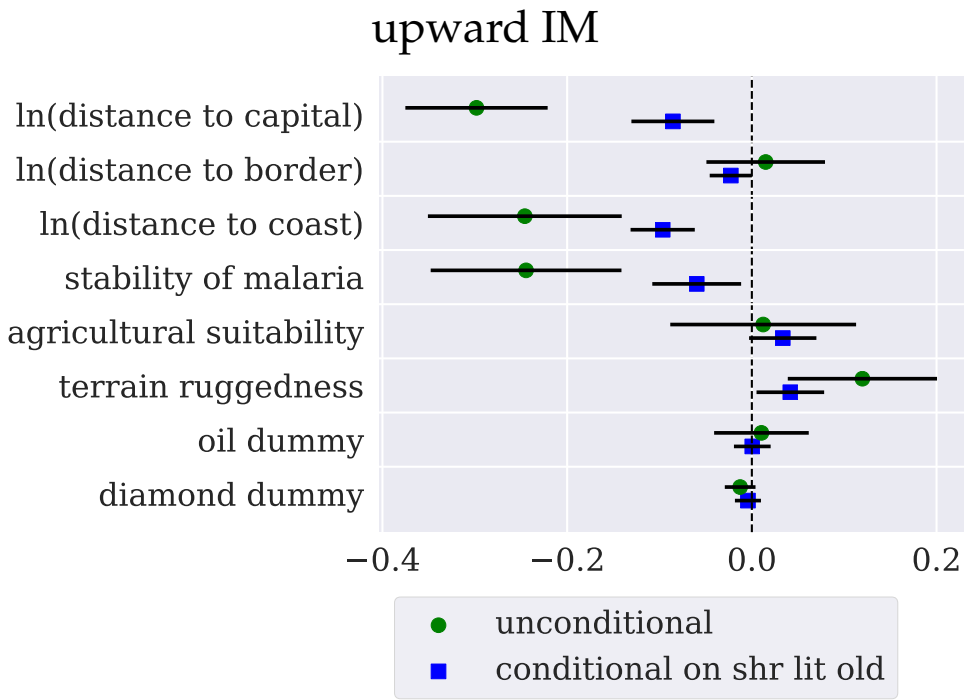
Results: Historical (Colonial and Precolonial) Features

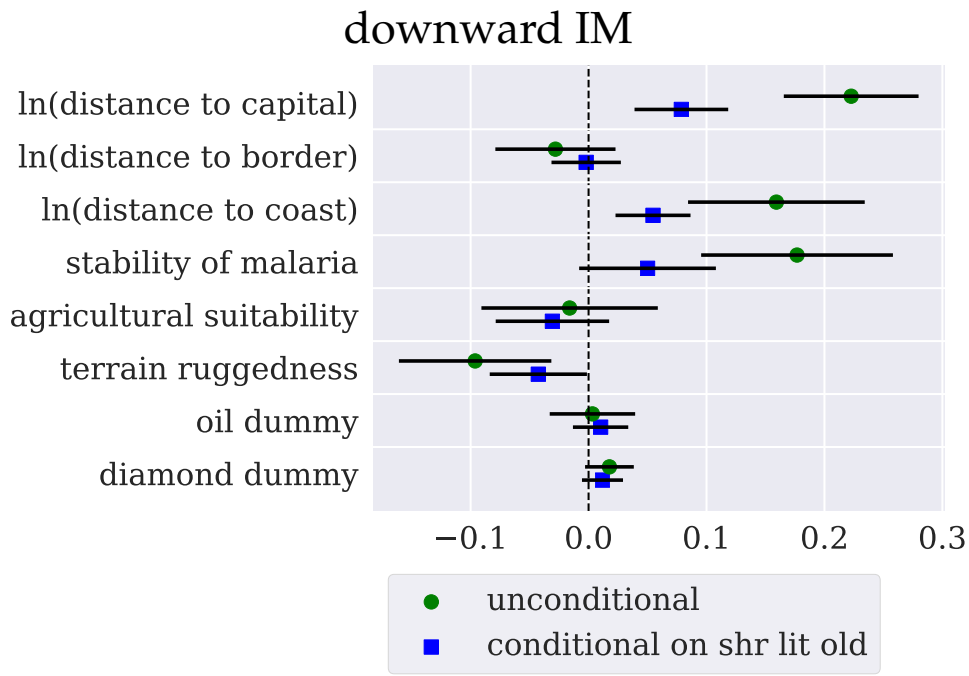




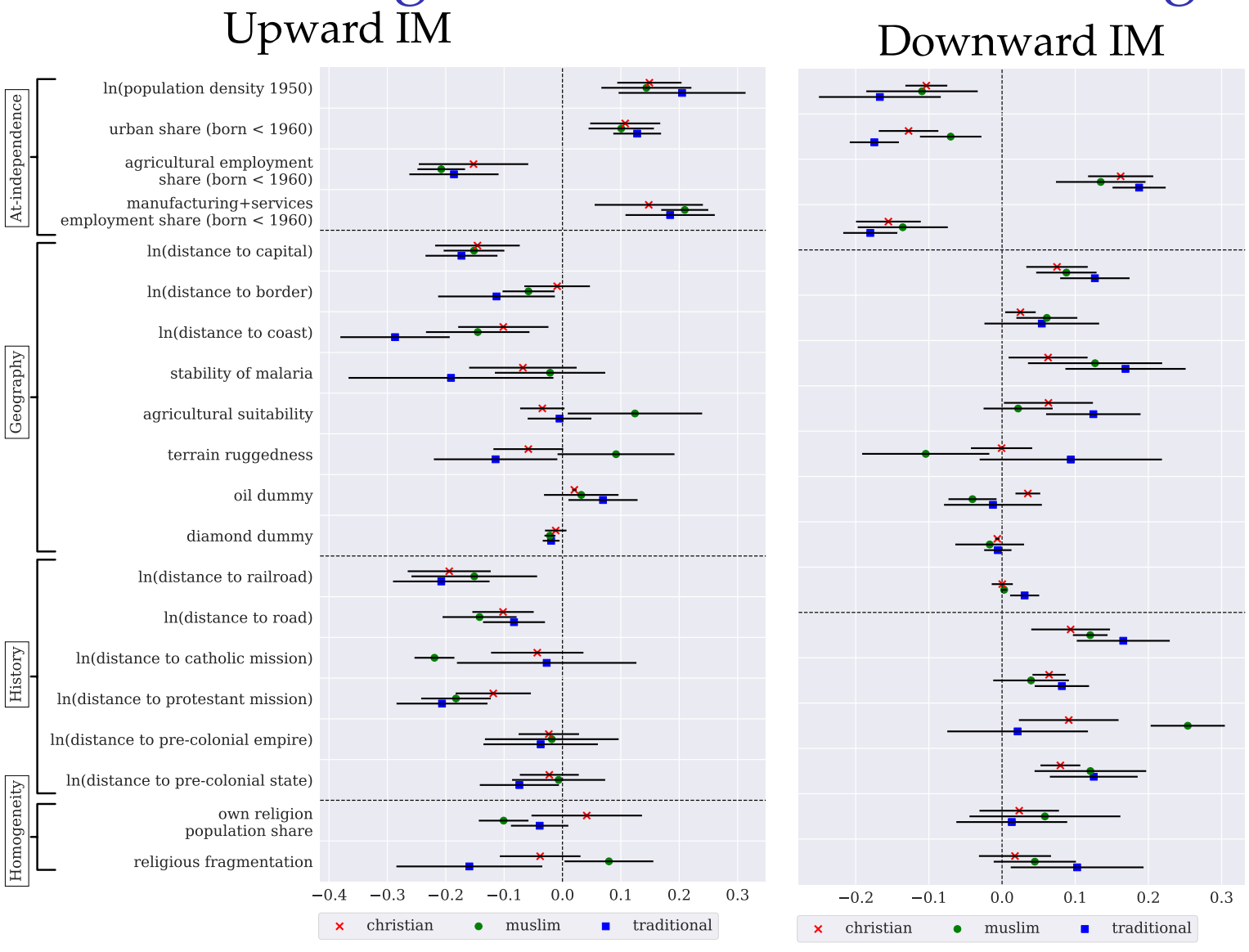
Correlates of Regional Intergenerational Mobility

Results: Geographical and Locational Features





Correlates of Religious IM across African Regions



Taking Stock (a). Correlates Educational Mobility across African Regions

Summary

- **At-independence Development.** Agglomeration Effects
- **Location.** Proximity to the Coast and the Capital
- **Proximity to Colonial Investments.** Railroads and missions

Taking Stock (). Correlates Religious IM Gaps across Regions

Summary

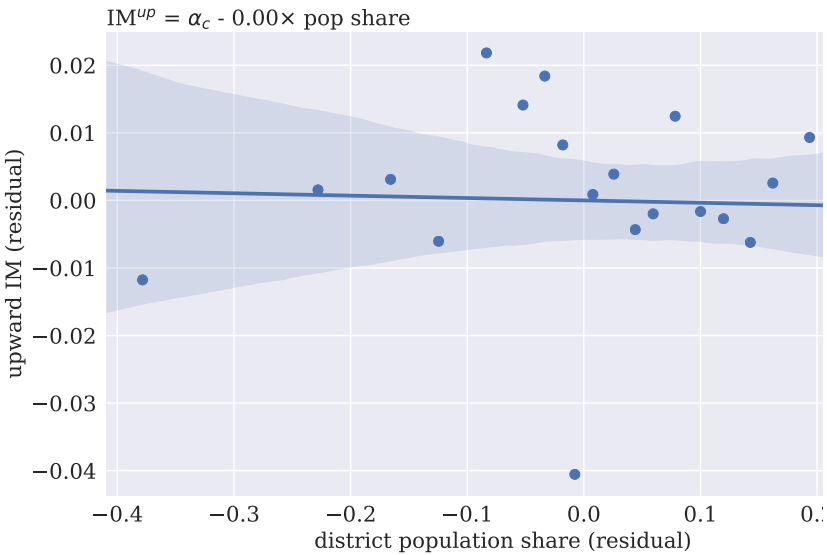
- **Muslims and Animists reside in less developed, with relatively unfavorable location-geography regions**
- **Correlation between regional features** (at-independence development, good geography-location, and early colonial investments) **and IM equally strong for Muslims, Christians, and Animists** [not causal]
  - **Common Correlates of Regional Development do not predict religious IM gaps**

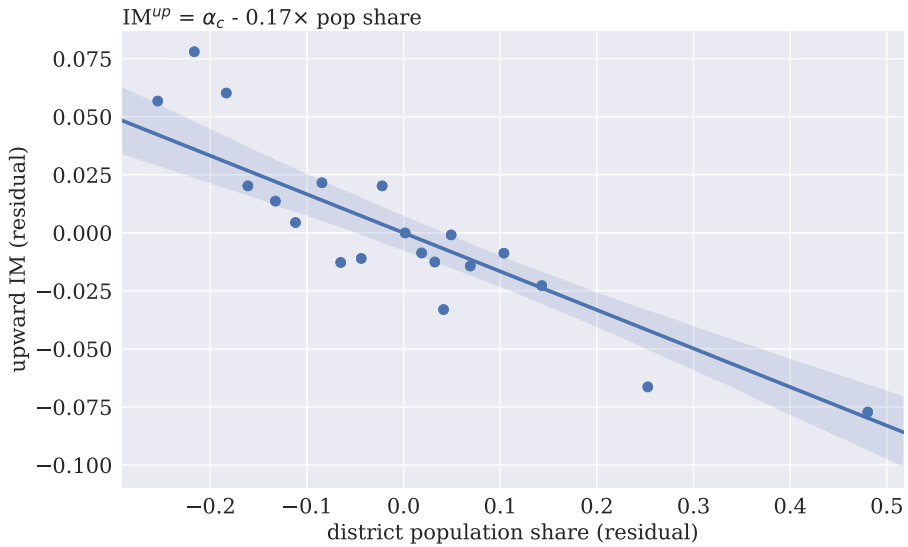
Segregation

- **Religious Segregation and religion IM gaps across countries**
- **Ethnic-Race Minorities, Segregation, and Education-Income in the US (ghettos)** [e.g., Cutler and Glaeser (QJE 1997, 1999), Cutler et al. (JUE 2008)]
- **Spillovers?**
- **Test. Regional Specifications Regress IM on own religion share, cond. on country (province) fixed effects and share of illiterate in the district by religion**
  - Do Muslims and Animists fare worse in areas where they are minorities? [minority discrimination]
  - How about Christians?

Religious IM across Regions and Own Religion Share

Bin Scatters Upward IM Christians (left panel) and Muslims (right panel)





Religious IM across African Regions and Own Religion Share, cont.

Summary

- **Muslims fare worse in regions where they are majorities or significant minorities** [also Platas Izama (2018)]
  - In line with US evidence on segregation and ghettos
- For Animists small and statistically insignificant correlation between IM and own religion share
- Christians, if anything, do somewhat better in regions with a high own religion share [unstable, weak correlations]

Presentation Structure

1. **Introduction and Motivation**
2. **Data and Approach**
3. **Intergenerational Mobility (IM) across Religious Affiliation**
4. **Drivers of Educational Mobility across Religious Affiliation**
5. **Regional Childhood Exposure Effects vs Spatial Sorting**
6. **Mapping and Correlates of IM Religious Gaps**
7. **Discussion. Further Evidence**
8. **Conclusion**

Explaining Religious IM Gaps

Summary, Evidence so far

1. **Muslims and Animists reside in less developed regions** (lower upward IM)
2. **Correlations between regional features** (favorable geography, early investments, and at-independence development) **and IM similar for Muslims, Animists, and Christians**
3. **Regions matter equally for female Africans of all religious denominations; less for male Muslims**
4. **Muslims fare worse (lower upward IM and higher downward IM) in regions where they form the majority or are a significant minority**; this is not the same for Christians and Animists

Why?

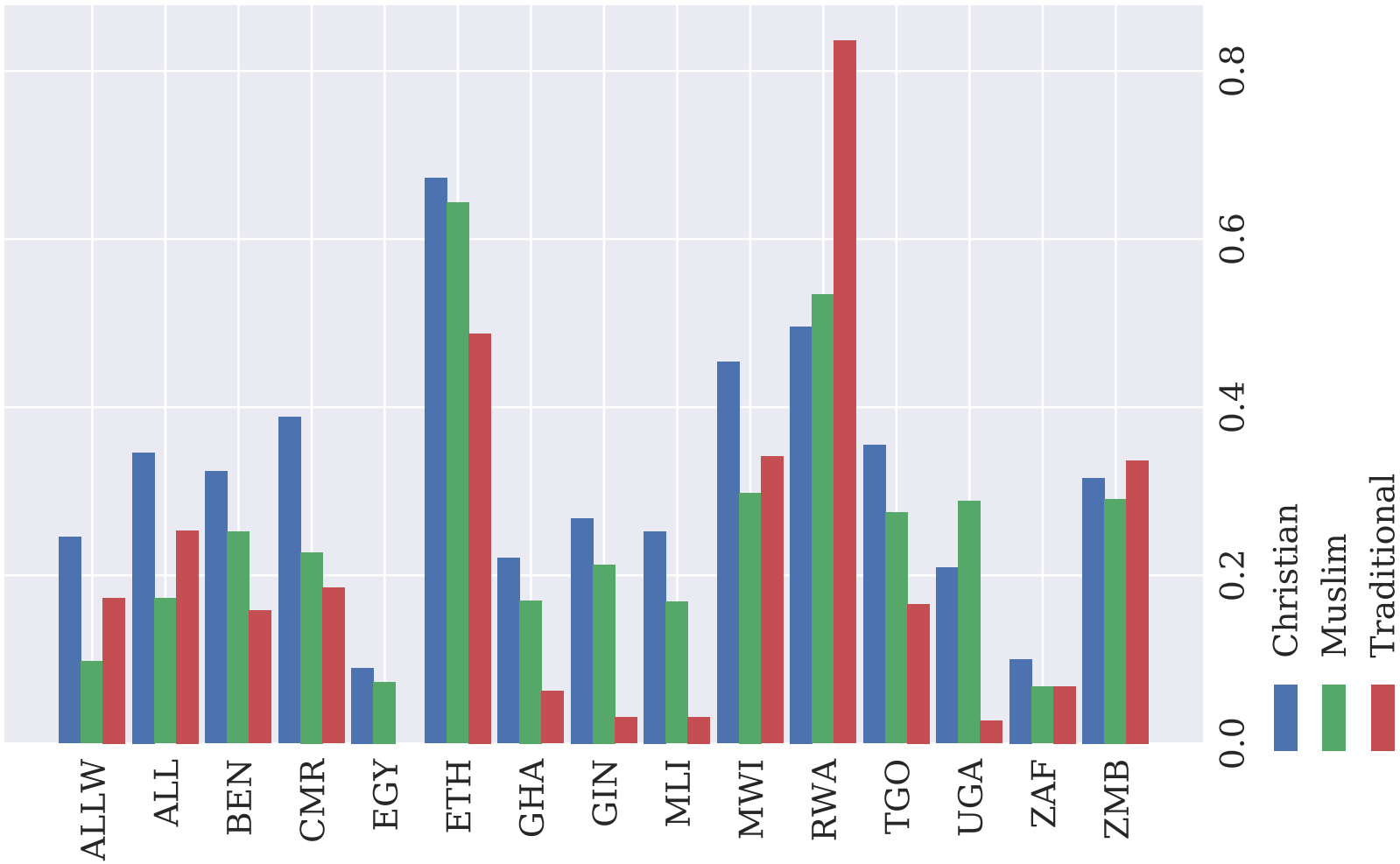
Further Evidence. Moving to Opportunity

Internal Migration across Religious Affiliation

- **Moving to Opportunity Literature**.
  - United States. Chetty et al. (2014, 2019, 2020, 2021)
  - Africa. Alesina et al. (2021); for all religious groups
- **Internal Migration Literature**
  - Review. Lagakos (JEP 2020)
  - Examples. Bryan et al. (2018), Bryan and Morten (2018), Tombe and Zhu (2019)

Out Migration across Religious Affiliation

IPUMS. All individuals



Conclusion. Results Summary

Educational Religious Upward and Downward IM across across African Countries and Regions

- Wide spatial differences in upward and downward educational mobility across African countries
- also sizable differences across religious affiliation, even in the same district (and with ”similar” educational backgrounds of the old generation)
- initial conditions and proximity to capitals and coastline correlate strongly with educational mobility
- regions matter causally; so out-migration also matters [moving to opportunity]

Future Research

Many Open Questions

- Role of educational policies, reforms, and school construction programs
- Local labor markets; educational returns, perhaps by religious affiliation
- Risk sharing mechanisms; deep cultural ethnic and modern-state
- Examine in detail seasonal and more permanent migration
- Case (country) studies, zooming also on Africa's mega cities
- Many other