

The Interdependence of Economic Growth, Human Development and Political Institutions

A General Equilibrium Framework

1980

Honors Thesis in Economics

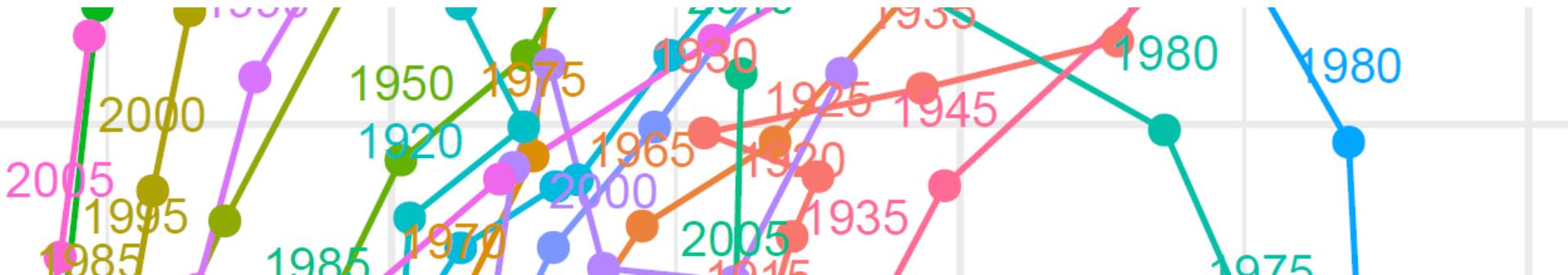


INSTITUT DE HAUTES
ÉTUDES INTERNATIONALES
ET DU DÉVELOPPEMENT
GRADUATE INSTITUTE
OF INTERNATIONAL AND
DEVELOPMENT STUDIES

Sebastian Krantz



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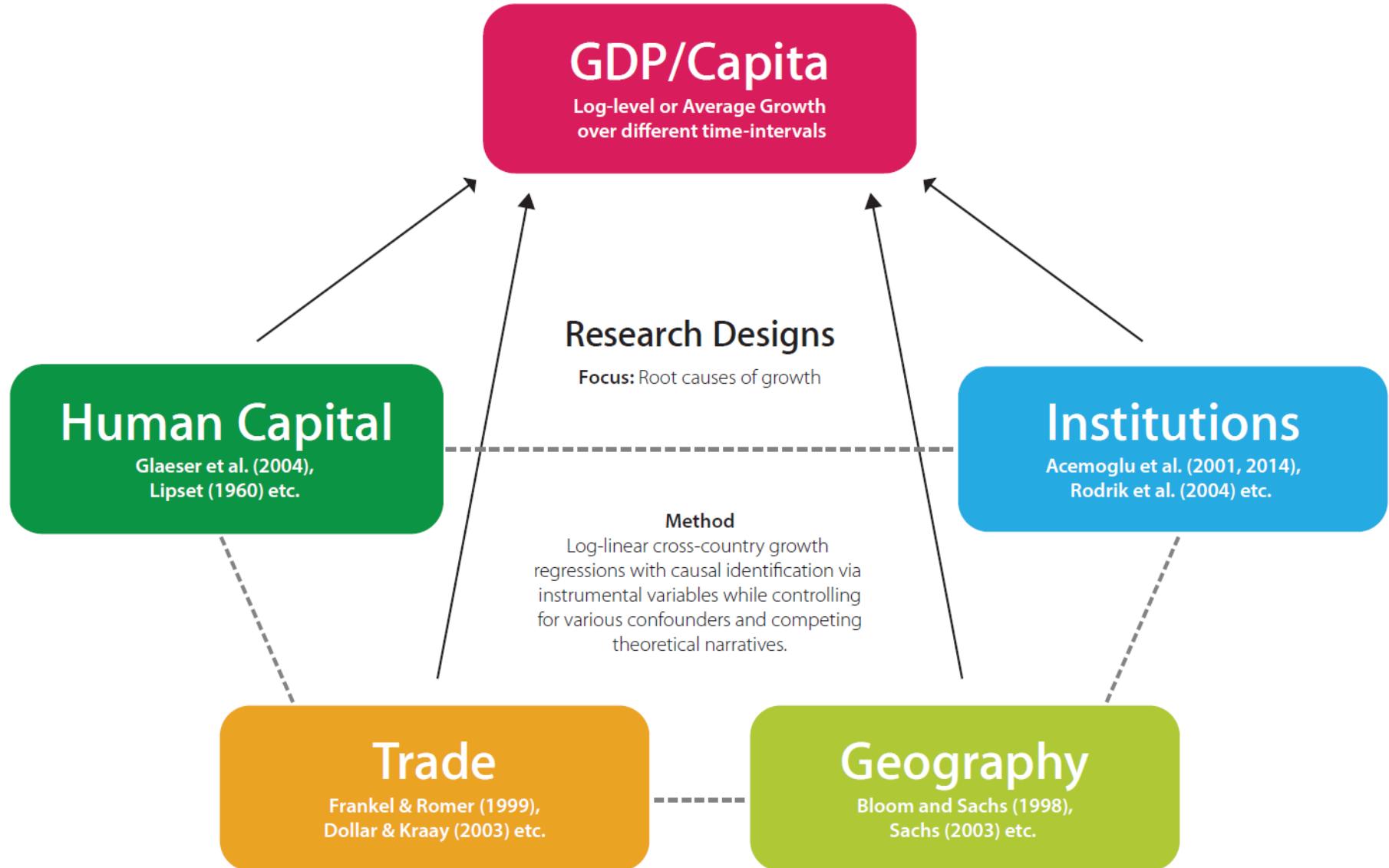


The Quest for the Drivers of Growth and Development

- Since 1950: **Solow Growth Model** → Capital Accumulation
- 1990's: **Endogenous Growth** → Modelling Technological Progress
- Late 90's-Present: **Fundamental Causes of Growth and Development:**
 - **Geographic Determinism** [Sachs and Warner (1995, 1997), Bloom and Sachs (1998), Sachs(2003)] (Malthus, Montesqieu)
 - **Institutions** [Hall& Jones (1999), Acemoglu et al. (2001, 2014), Rodrik et al. (2004)] (Modernization Theory)
 - **Human Development** [Lipset (1960), Glaeser et al., 2004)](Aristotle)
 - **Trade and Policy** [Frankel & Romer (1999), Dollar & Kraay (2003)]
 - **Alternative** [Nunn (African Slave trade), Bhattacharyya (Stage Theory), Ranis et al. (interrelationship)]

The Right View?

(fundamental vs. proximate drivers)



The Right View?

(fundamental vs. proximate drivers)

Problems:

1. Lack of Formal Theory / Mechanisms
2. Deterministic View of Development
3. Disregard of General Equilibrium Effects

Note: *What is done today is a lot better than what has been done before, today we estimate causal effects rigorously and carefully (instead of just correlations). But we can still do better than just evaluating the impact of certain factors on development.*

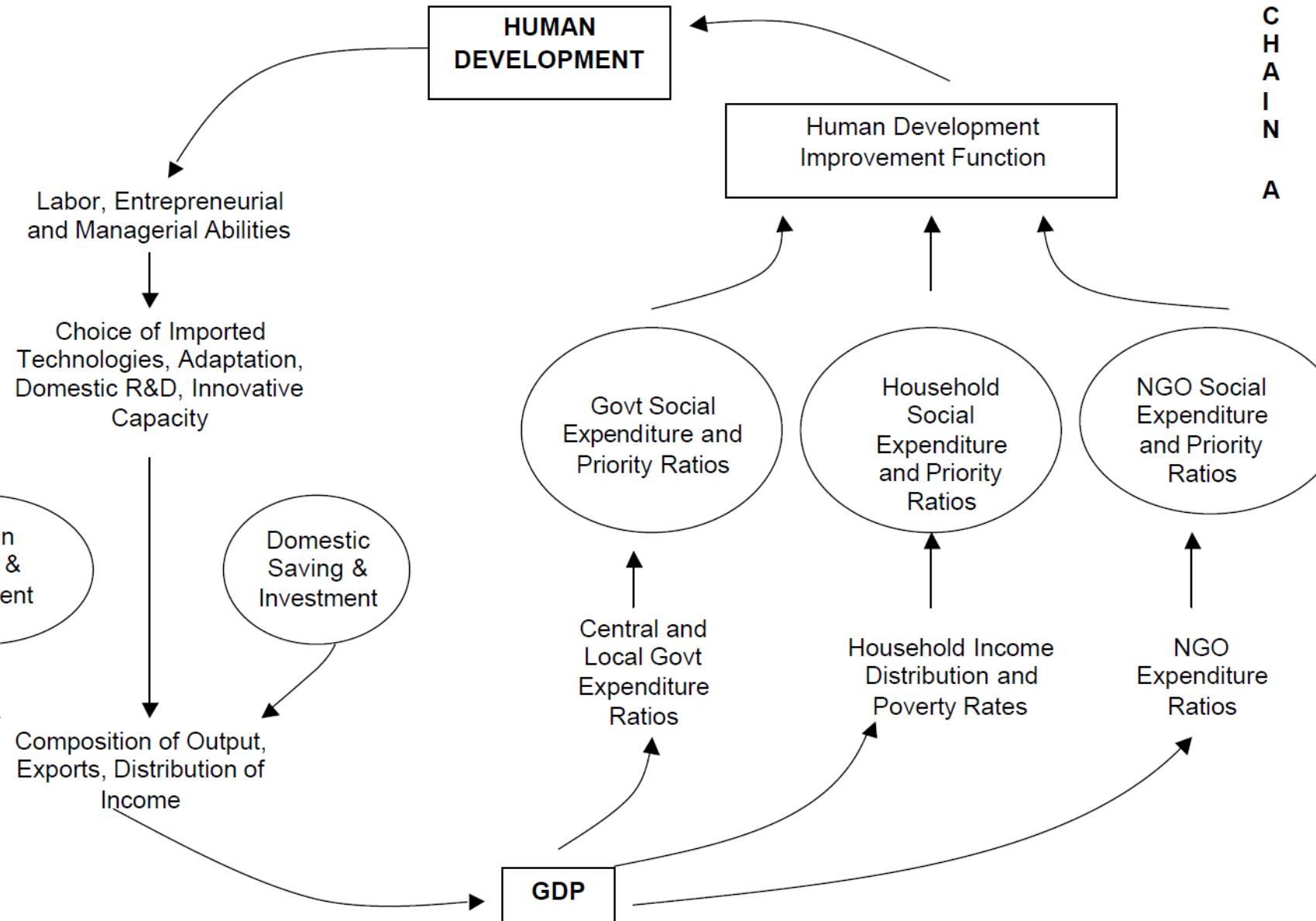
Conceiving of Development as an Equilibrium Process.

Perhaps development is not linear. Perhaps a given state of society is shaped by the simultaneous determination of all fundamental ingredients and their joint evolution.

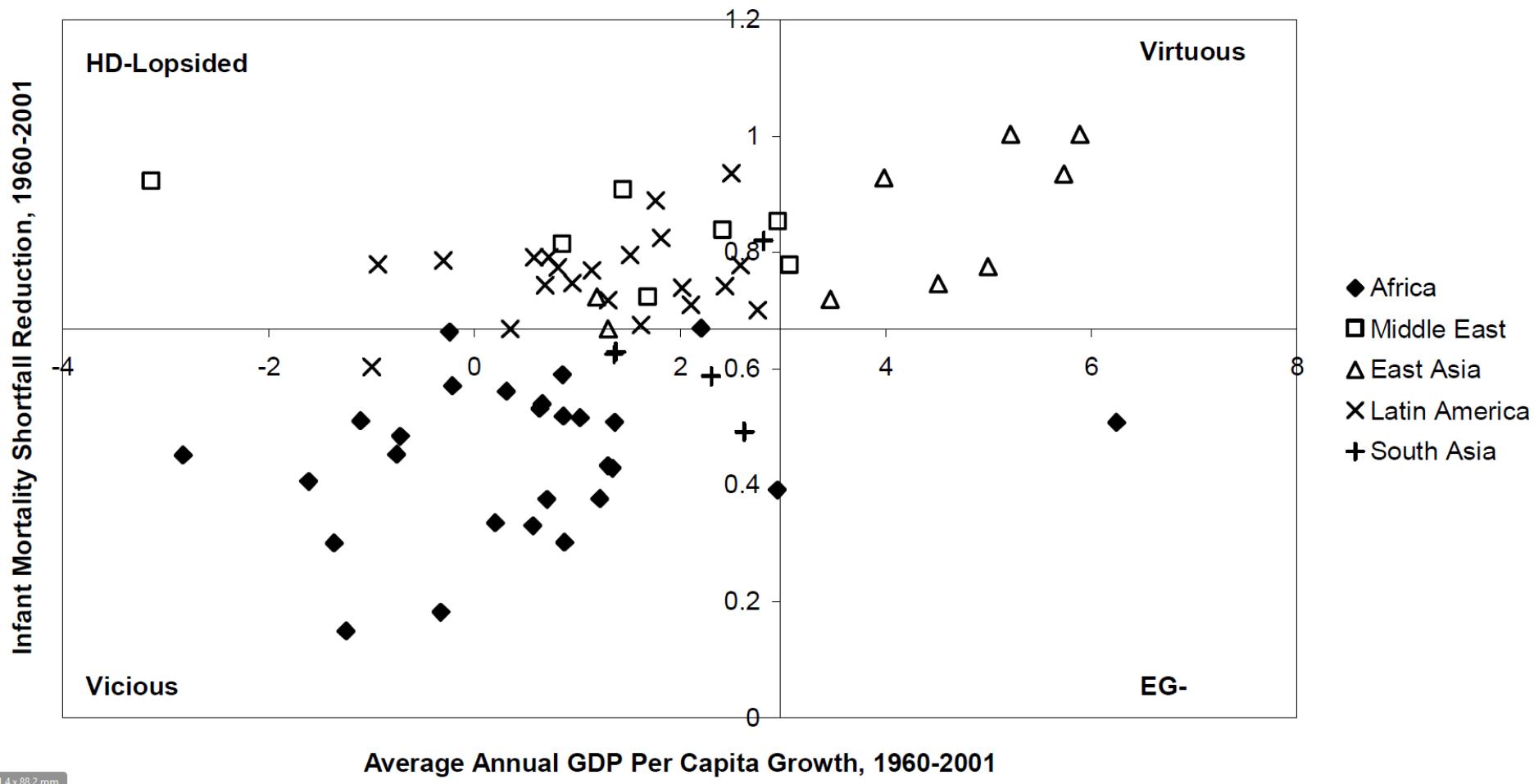
Progress in that direction:

- *“Economic Growth and Human Development”* by Ranis, Stewart and Ramires (2000) (published in World Development)
- *„Paths to Success: The Relationship Between Human Development and Economic Growth”* by Suri, Boozer, Ranis and Stewart (2011) (published in World Development)

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Conceiving of Development as an Equilibrium Process.

"HD upgrading early in the period is essential for greater subsequent growth. Improved growth in turn feeds back into improved HD. Strong long-run growth without accompanying strong HD improvements do not appear to yield a stable equilibrium over time" (Suri, Ranis et al., 2011)

Chain Strength:

- **Chain A ($GDP \rightarrow HD$):** social expenditure ratios and income distribution are important contributory factors.
- **Chain B ($HD \rightarrow GDP$):** levels and changes in HD and changes in investment ratios that are important contributing factors to the growth trajectory.

Conceiving of Development as an Equilibrium Process.

Problems with Ranis et al.:

1. Institutions not accounted for (important mediators (e.g. Inequality, social expenditure ratios) are not explained within the model but treated as exogenous)
2. Use of OLS makes results susceptible to endogeneity problems.
3. Panel-Data models uninvestigated.

This Paper:

Attempts to present progress on all 3.

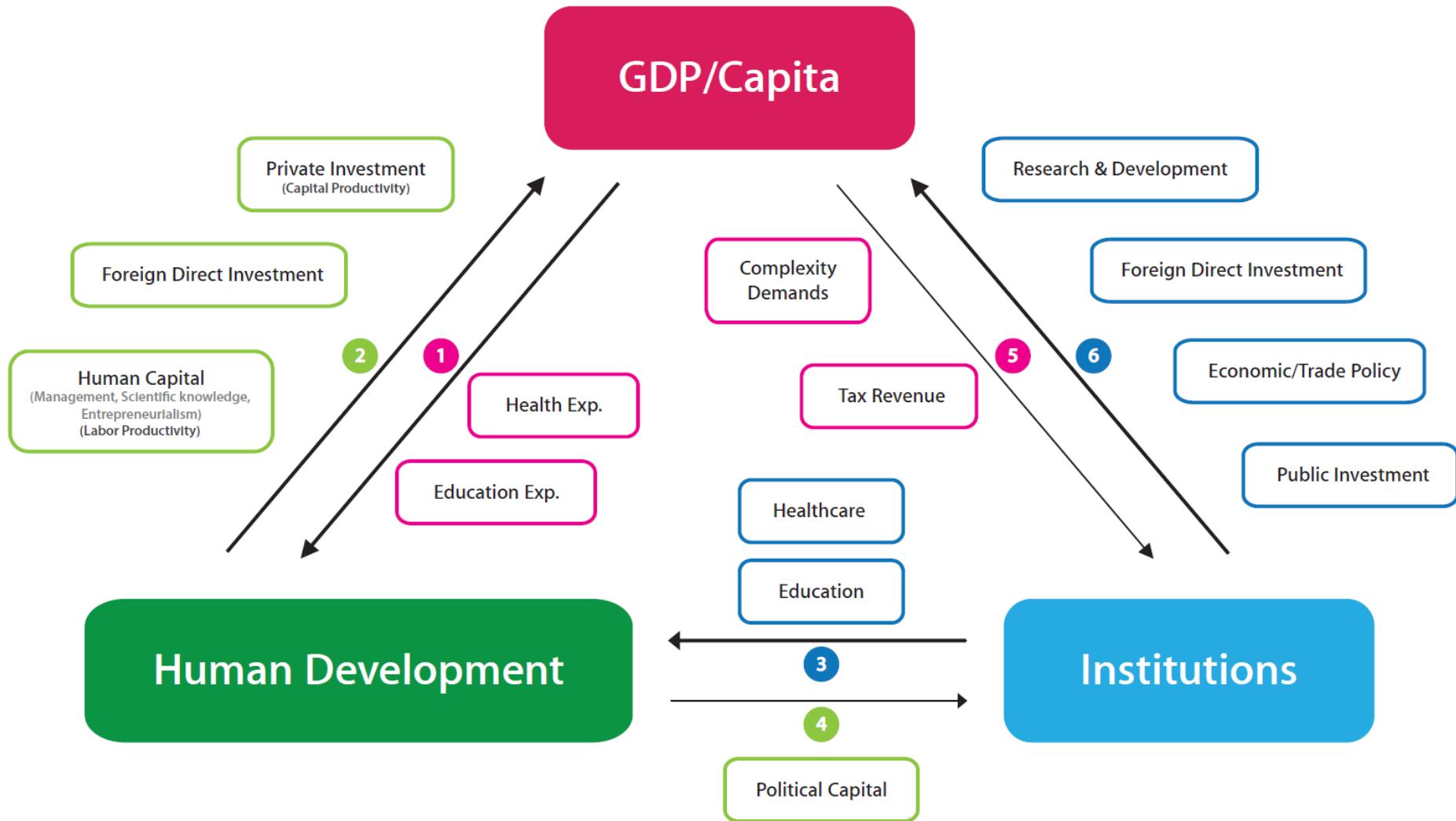
The Right View?

(fundamental vs. proximate drivers)

Central contributions of this paper:

- **Conception:** Development as General Equilibrium Process. (State of society follows a long term Equilibrium path subject to exogenous shocks (history))
- **Method:** Estimate multi-way relationships, establish causality.
- **Focus:** Links and equilibrium adjustment - gaining insight on long term development process.

Theoretical Model



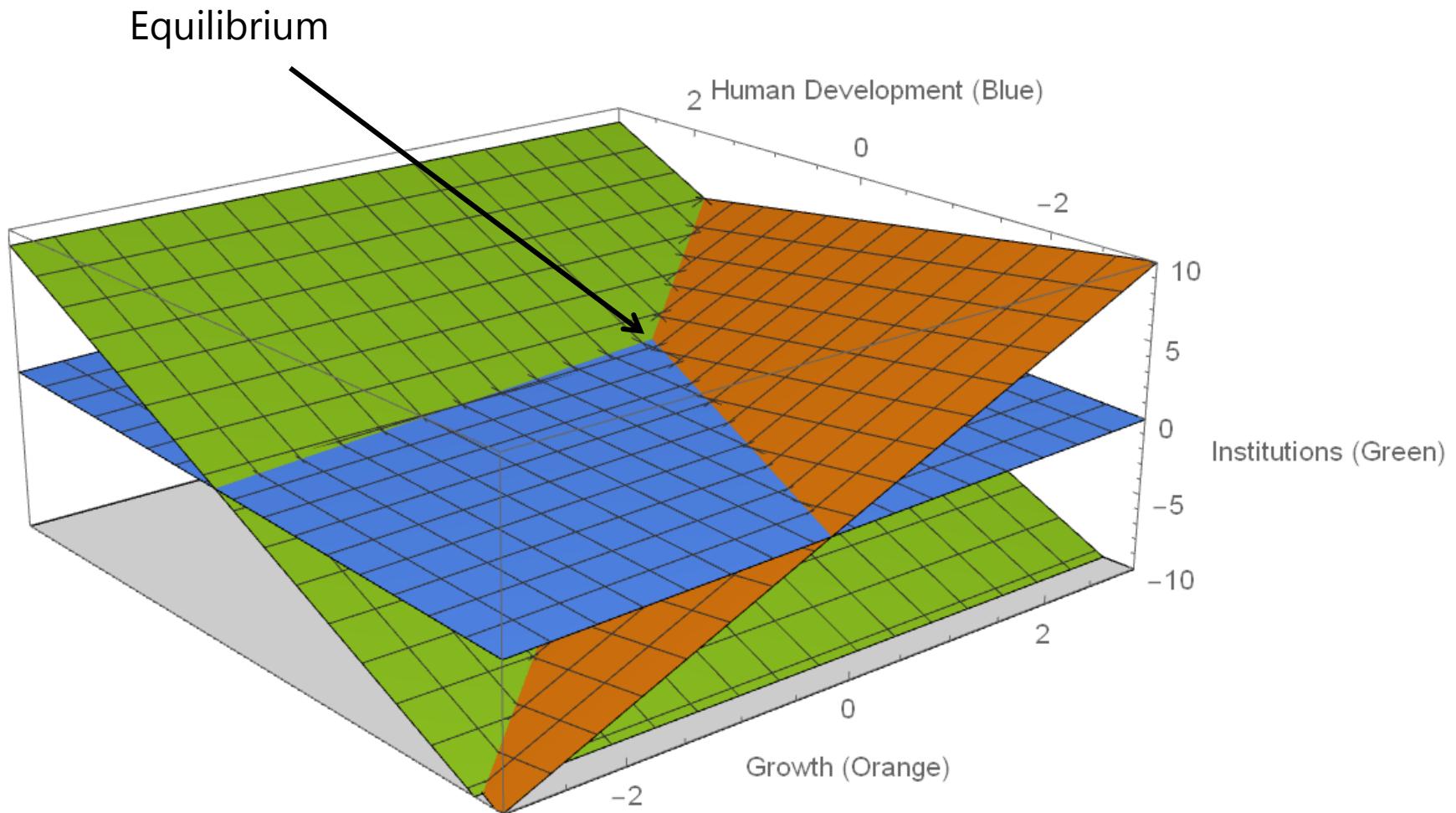
Theoretical Model

A 3-Equation System:

- I. $GDP/Capita = \beta_0 + \beta_1 * Institutions + \beta_2 * Human\ Development + controls + error$
- II. $Institutions = \beta_3 + \beta_4 * GDP/Capita + \beta_5 * Human\ Development + controls + error$
- III. $Human\ Development = \beta_6 + \beta_7 * GDP/Capita + \beta_8 * Institutions + controls + error$

All 3 are endogenous → We need valid Instruments for all 3 variables for identification.

Theoretical Model



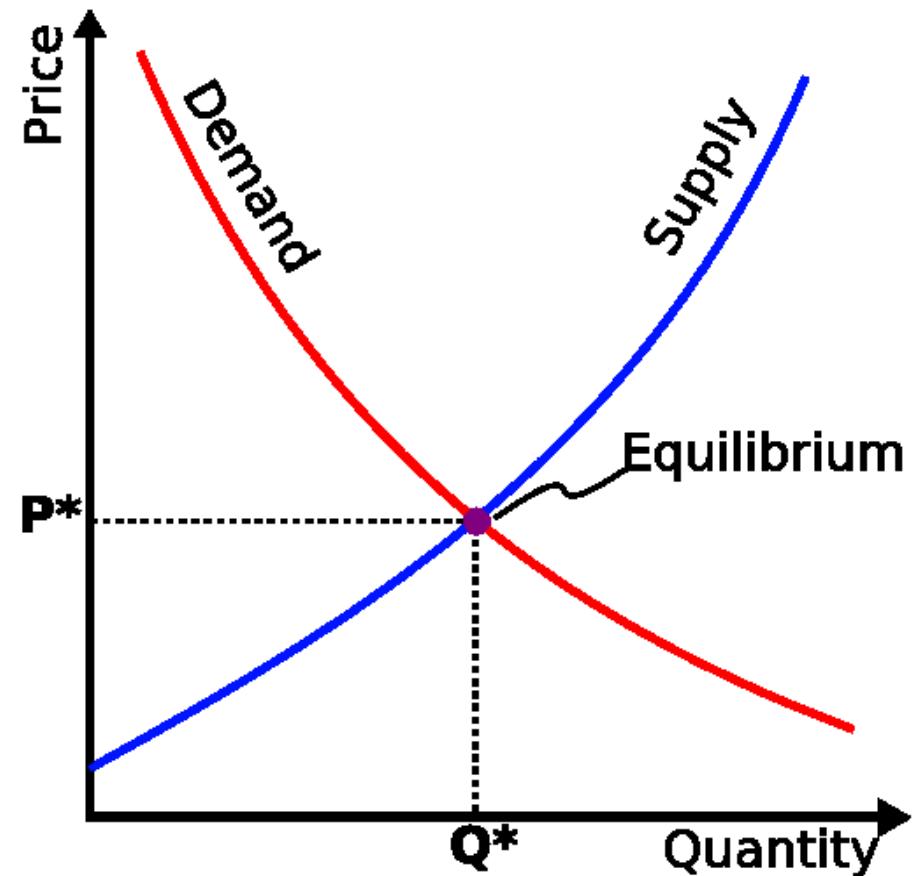
Excursus: The Endogeneity Problem and Instrumental Variables

System Estimation:

$$I. \text{ Supply} = \beta_0 + \beta_1 * \text{Demand} + c + e$$

$$II. \text{ Demand} = \beta_2 + \beta_3 * \text{Supply} + c + e$$

We need an **IV: Exogenous shifter**



Empirically Establishing the Model

- **Income:** UNDP log GDP per Capita PPP \$
(Data from Human Development Report 2005 & Gapminder Foundation)
- **Human Development:** Non-Income HDI
(Data from Human Development Report 2005, Gapminder Foundation, Barro & Lee, WDI)
- **Institutions:** Multidimensional Institutions Index
(Data from World Bank Worldwide Governance Indicators and Freedom House, VDEM Project, CNTS Data Archive, Quality of Governance Institute)

Empirically Establishing the Model

Human Development: Non-Income HDI

(Data from Human Development Report 2005)

Table 10: Goalposts for non-income HDI (source: UNDP (2016))

<i>Dimension</i>	<i>Indicator</i>	<i>Min</i>	<i>Max</i>
Health	Life expectancy at birth (years)	20	85
Education	Expected years of schooling (years)	0	18
	Mean years of schooling (years)	0	15

$$\text{Dimension index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

$$\text{NIHDI} = \sqrt{I_{\text{Health}} * I_{\text{Education}}}$$

Institutions: Multidimensional Institutions Index

(Data from World Bank Worldwide Governance Indicators and Freedom House)

Type of Measure	Variable Name	Source	Employed by
Political System	- Adjusted-combined index of democracy and autocracy	Polit IV	(Dias & Tebaldi, 2012a)
	- Democracy	Polit IV	(Bhattacharyya, 2009c)
	- Constraints on the executive	Polit IV	(Bhattacharyya, 2007)
	- Political Freedom		(Acemoglu et al., 2001)
	- Democracy		(Acemoglu et al., 2005)
	- Judicial Independence	Freedom House Jaggers & Marshall (2000) La Porta et al. (2004)	(Dollar & Kraay, 2003) (Glaeser et al., 2004) (Glaeser et al., 2004)
	- Strength and impartiality of the legal system	ICRG	(Vieira et al., 2012)
Governance Outcome	- Government Effectiveness	Kaufman et al. (2003)	(Glaeser et al., 2004)
	- Rule of Law	World Bank WGI / ICRG	(Acemoglu et al., 2014) (Dollar & Kraay, 2003) (Bhattacharyya, 2009c)
	- Expropriation risk	ICRG	
	- Institutional strength and quality of the bureaucracy	ICRG	(Glaeser et al., 2004) (Bhattacharyya, 2009c) (Vieira et al., 2012)

Institutions: Multidimensional Institutions Index

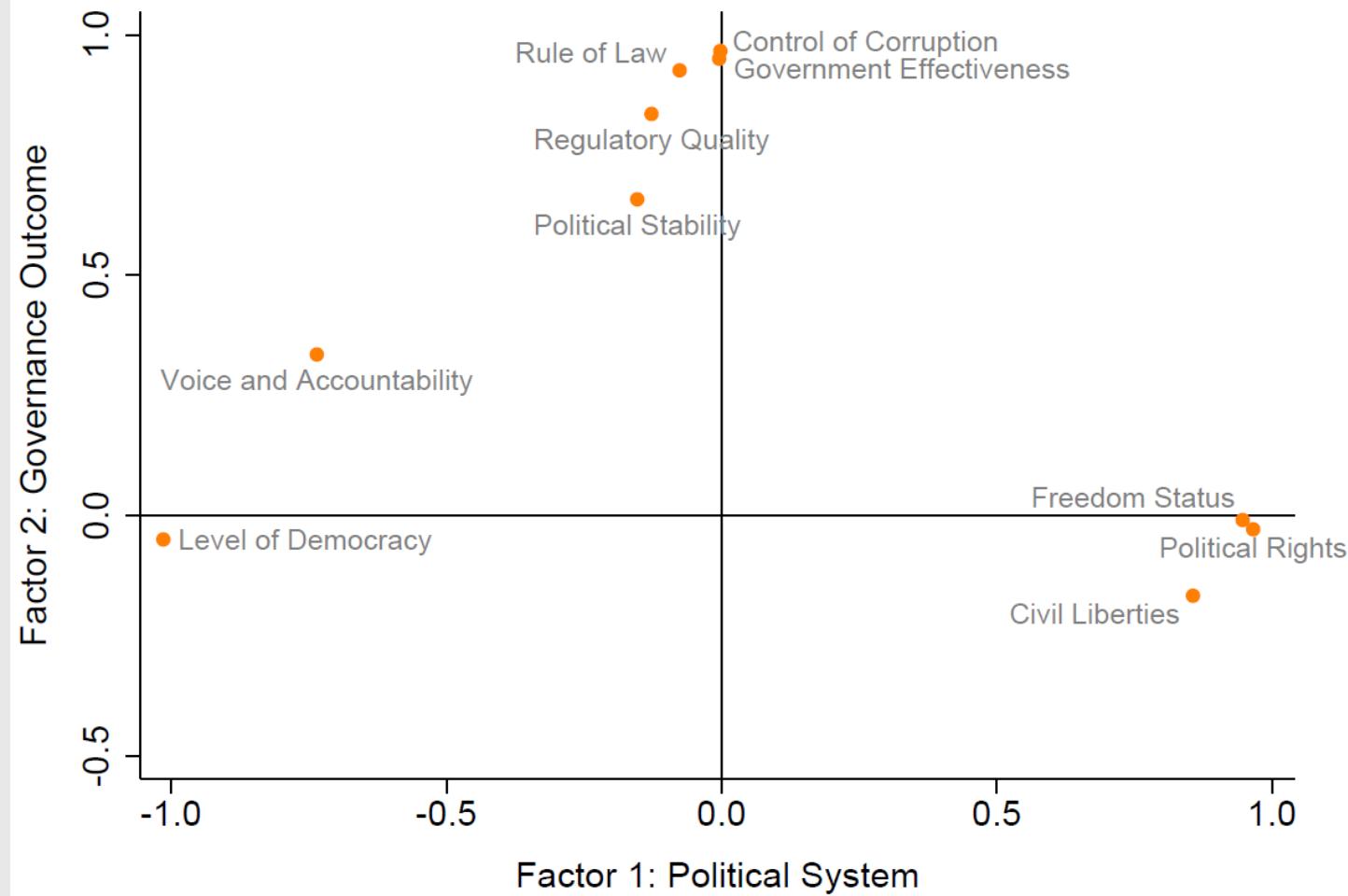
(Data from World Bank Worldwide Governance Indicators and Freedom House)

<i>Variables (in years)</i>	<i>Source</i>
Civil Liberties	Freedom House
Level of Democracy	Freedom House/Imputed Polity
Political Rights	Freedom House
Freedom Status	Freedom House
Control of Corruption	Worldbank World. Govern. Ind.
Government Effectiveness	Worldbank World. Govern. Ind.
Political Stability	Worldbank World. Govern. Ind.
Rule of Law	Worldbank World. Govern. Ind.
Regulatory Quality	Worldbank World. Govern. Ind.
Voice and Accountability	Worldbank World. Govern. Ind.

Institutions: Multidimensional Institutions Index

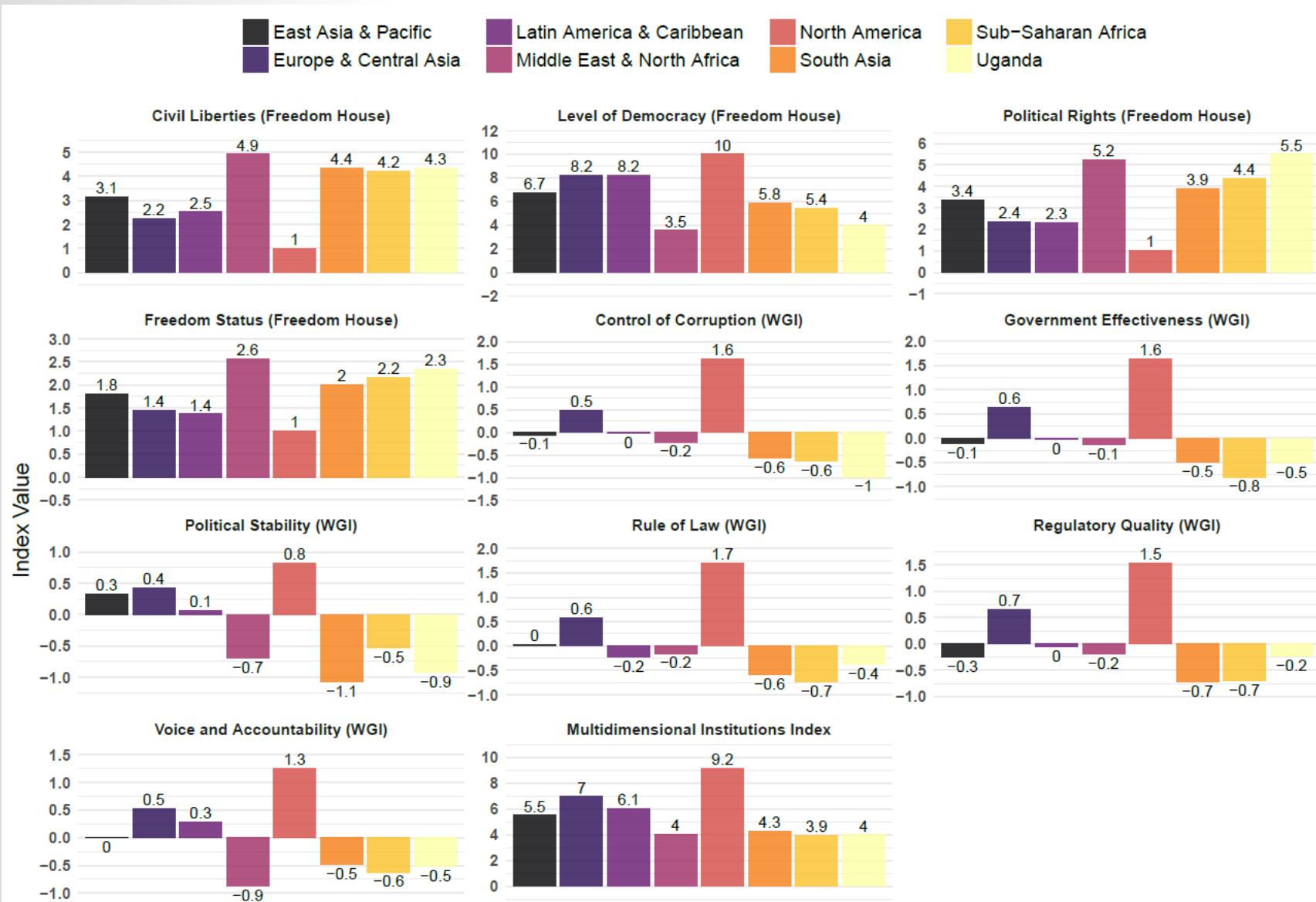
(Data from World Bank Worldwide Governance Indicators and Freedom House)

Figure 5: Factor Loadings Plot for 2 factors
Rotation: oblique promax(3) | Method: principal factors



Institutions: Multidimensional Institutions Index

(Data from World Bank Worldwide Governance Indicators and Freedom House)



Institutions: Multidimensional Institutions Index

(Data from World Bank Worldwide Governance Indicators and Freedom House)

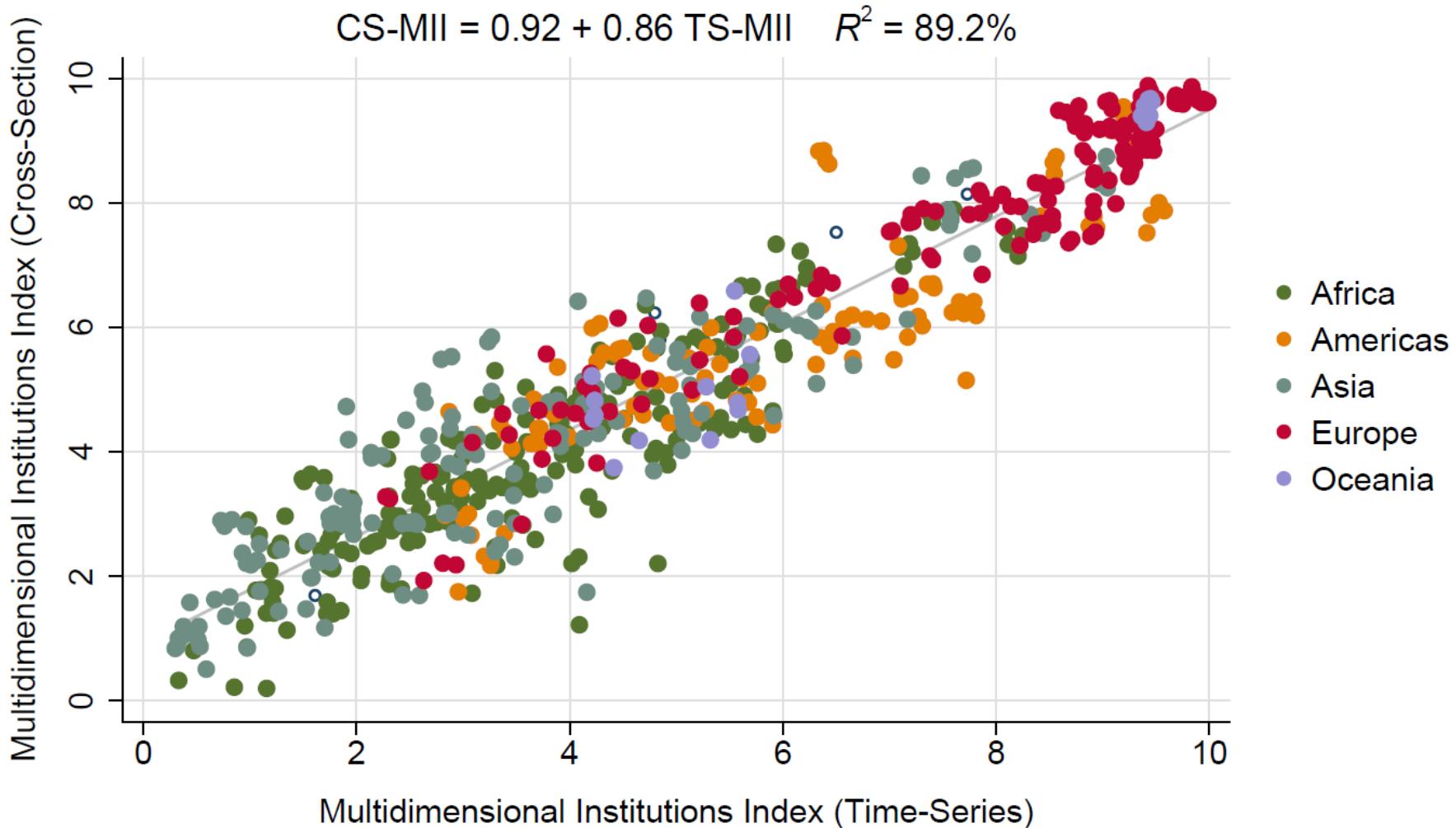
According to the Multidimensional Institutions Index (MII):

- 5 countries with the best institutions in 2005 were Denmark, Finland, Iceland, Sweden and Norway
- 5 countries with the worst institutions: Sudan, Turkmenistan, North Korea, Myanmar and Somalia.

Institutions: Multidimensional Institutions Index

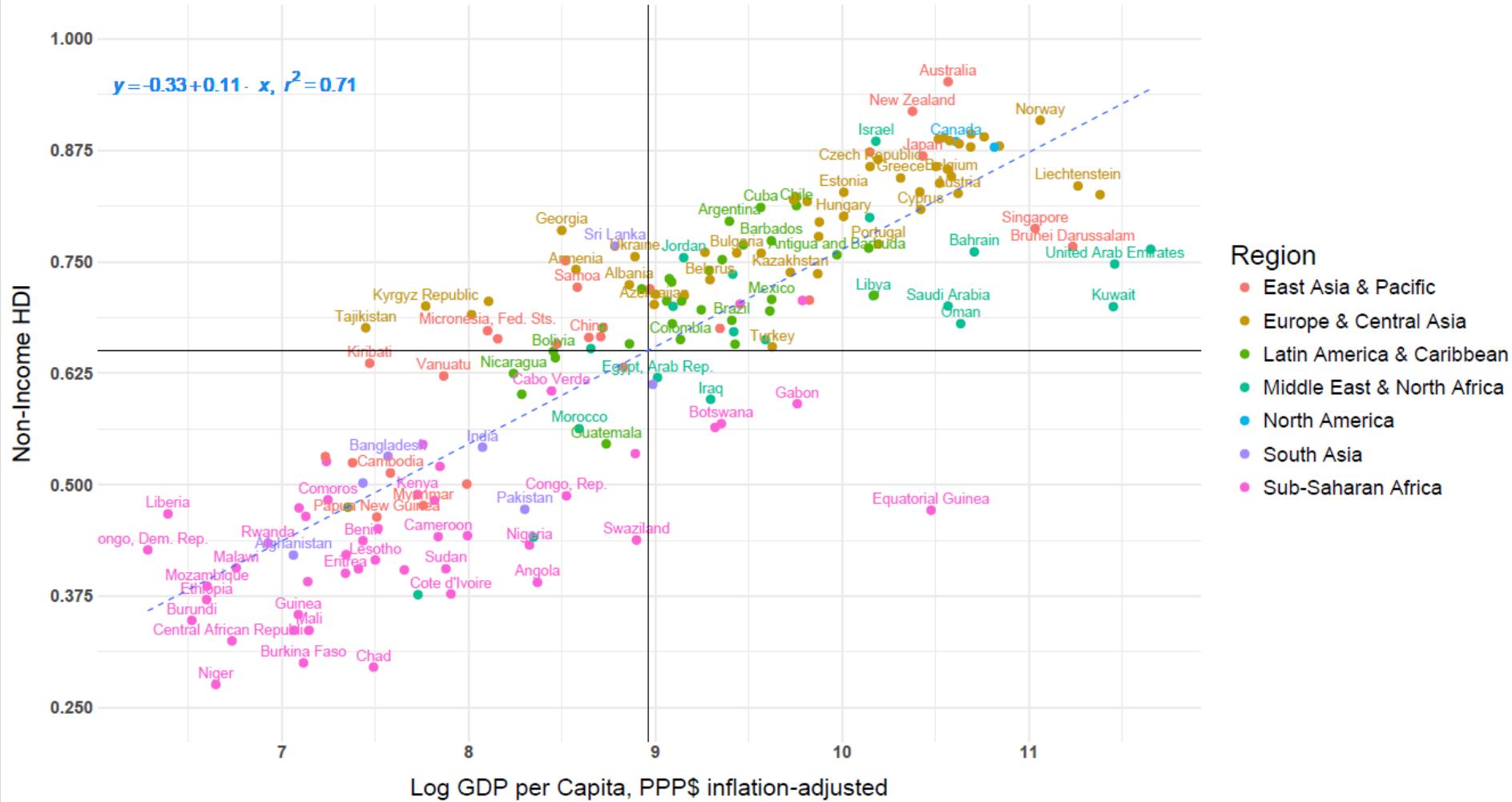
(Data from World Bank Worldwide Governance Indicators and Freedom House)

Figure 4: Cross-Sectional & Time-Series MII, 5-Year Averages since 1996



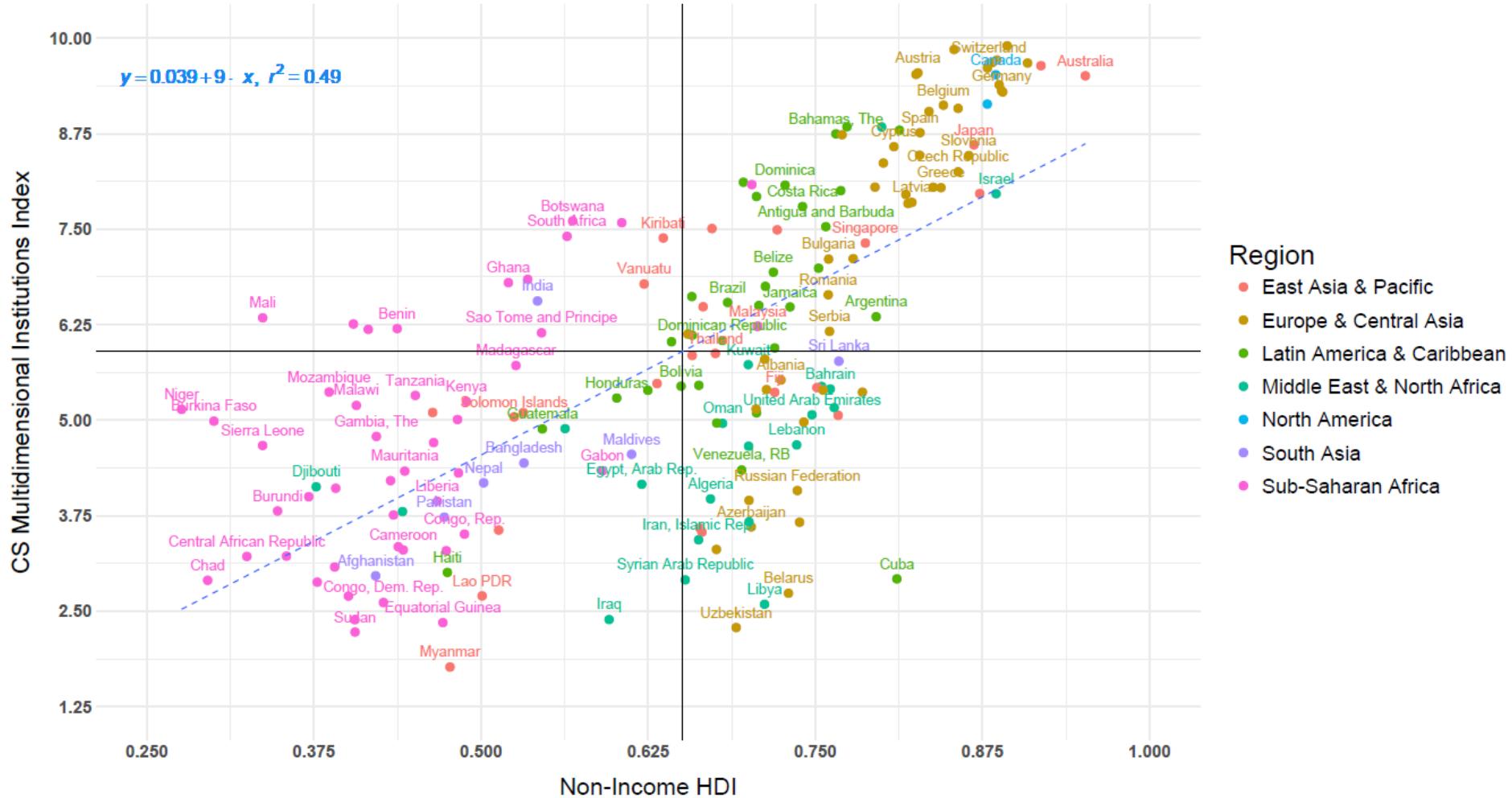
Data

Wealth and Human Development Levels in 2005

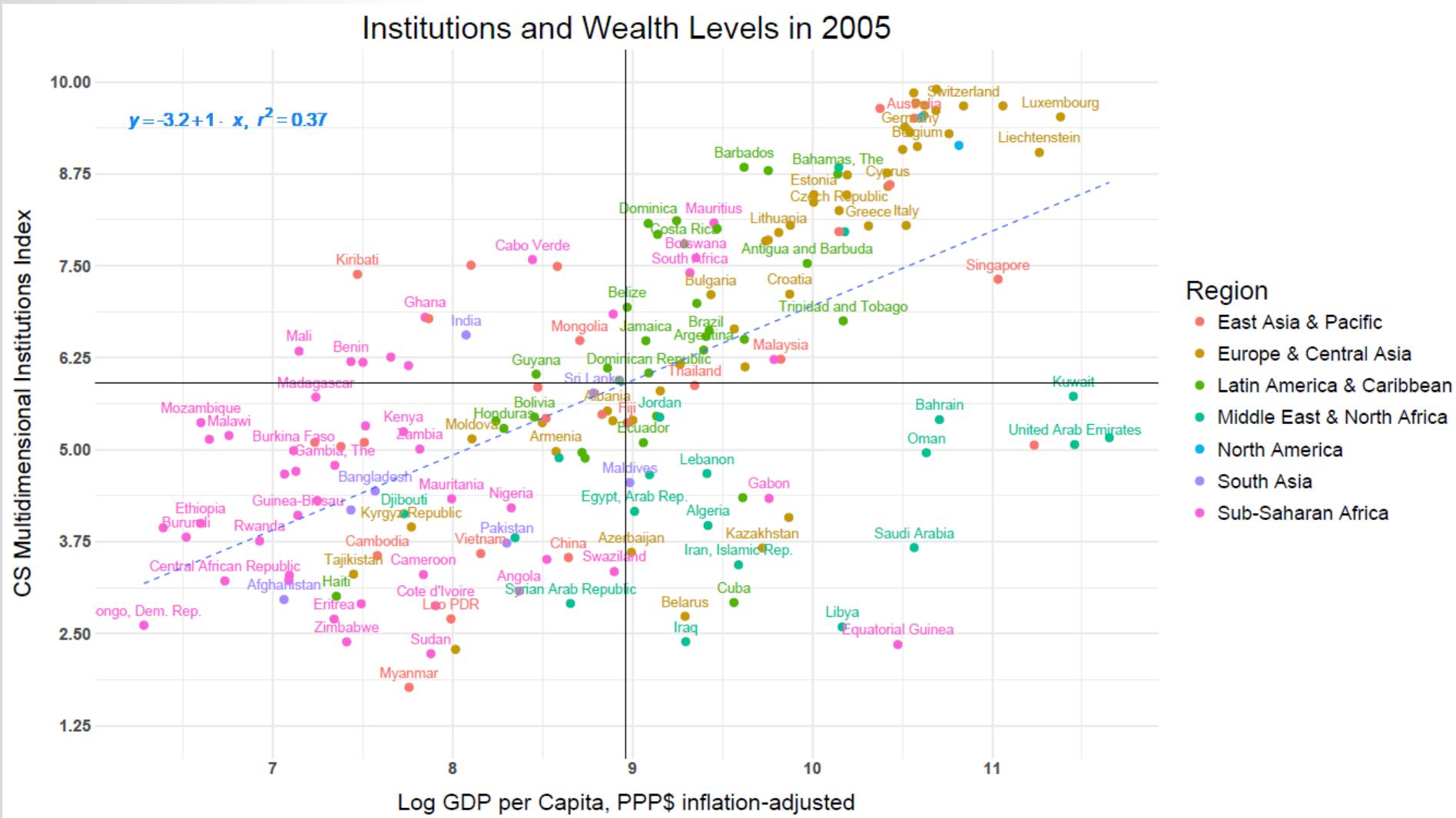


Data

Institutions and Human Development Levels in 2005



Data



Cross-Section Instruments

TABLE 1: CROSS-SECTION 2005: INSTRUMENTS

<i>Instrument</i>	<i>Source</i>	<i>Used for</i>
Primary enrolment in 1900	Acemoglu et al. (2014)	NIHDI
Protestant missionaries per 10,000 people in the 1920's	Acemoglu et al. (2014)	NIHDI
Dummy=1 if protmiss computed from Dennis et al.	Acemoglu et al. (2014)	NIHDI
Malaria Ecology, pop-weighted	Sachs (2003)	NIHDI
Log settler mortality, mortality capped at 250	Acemoglu et al. (2014)	MII
Log population density 1500 (baseline)	Acemoglu et al. (2014)	MII
Share of the population that speaks English	Dollar & Kraay (2003)	MII
Share of Pop. that speaks a major European language	Dollar & Kraay (2003)	MII
Legal Origin	La Porta et al. (1999)	MII
(Avg<2005) FDI % of GDP undet. by H.C. & Inst.	WDI / Authors Calc.	LCDPC
(Avg<2005) Net oil export value/capita, const. 2000 \$	WDI / Authors Calc.	LGDPC

Cross-Section Controls

- Geography
- Agriculture
- Population
- Fractionalization
- Religion
- War/conflict
- Climate
- Diseases
- Culture
- Colonial history
- Globalization/trade

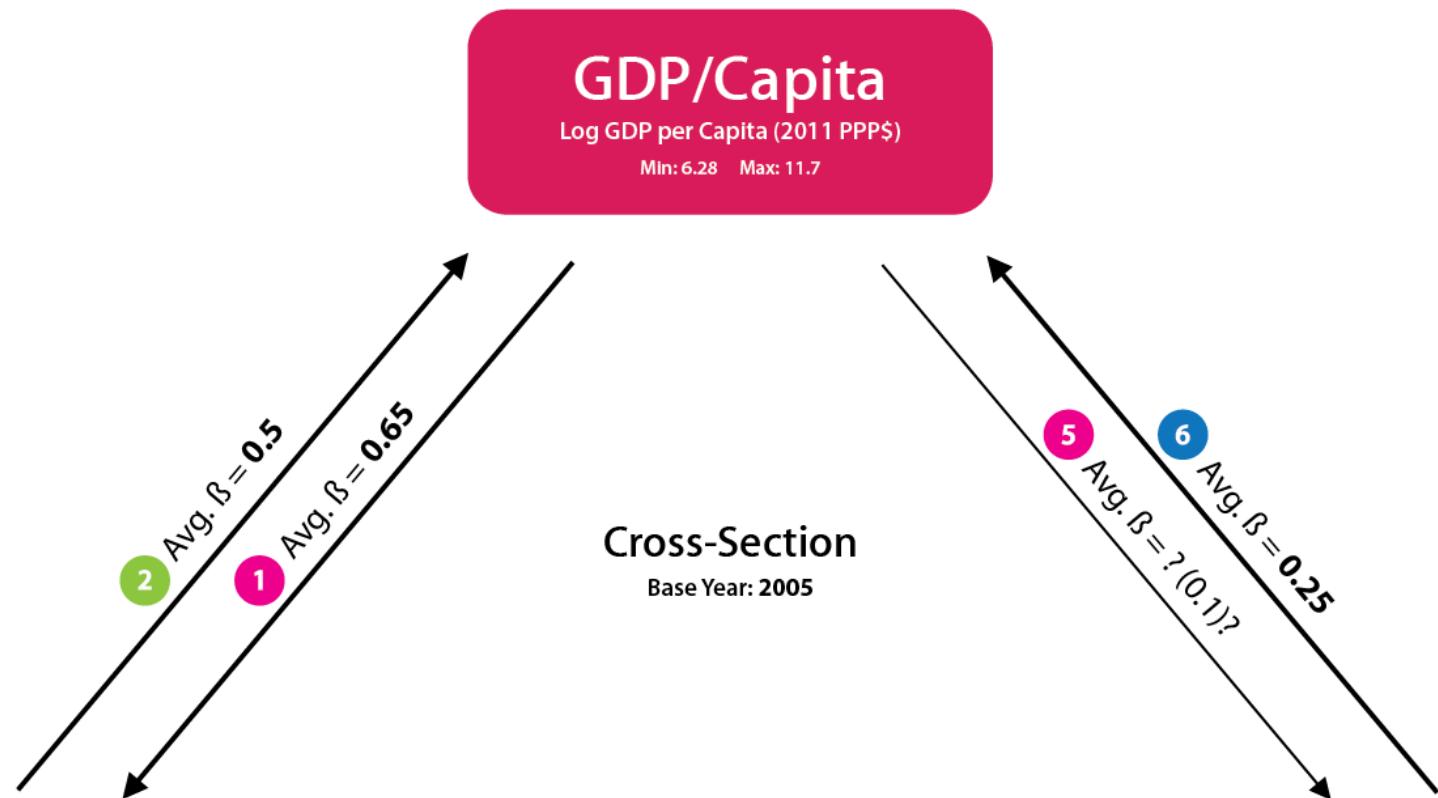
Table 19: Cross Sectional Regressions, Dep. Variable: **Log GDP/Capita PPP \$**, Year: 2005
 Estimation Method: Limited-Information Maximum Likelihood (LIML) | Error Matrix: Robust

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OLS												
10*Non-Income Human Development Index	0.63*** (0.04)	0.66*** (0.05)	0.75*** (0.06)	0.73*** (0.06)	0.73*** (0.06)	0.73*** (0.05)	0.57*** (0.04)	0.55*** (0.04)	0.62*** (0.05)	0.62*** (0.05)	0.62*** (0.05)	0.64*** (0.05)
Multidimensional Institutions Index (03-07 mean)	0.02 (0.04)	-0.04 (0.04)	-0.02 (0.04)	-0.04 (0.04)	-0.04 (0.04)	0.02 (0.05)	0.07* (0.04)	0.11*** (0.03)	0.02 (0.03)	0.02 (0.03)	0.02 (0.03)	0.04 (0.03)
Observations	178	144	144	141	141	136	150	151	122	122	121	122
R ²	0.72	0.76	0.78	0.79	0.79	0.79	0.83	0.88	0.88	0.88	0.88	0.88
IV1: ME+Prot+Prinr+Settmor+LPD15												
10*Non-Income Human Development Index	0.34** (0.16)	0.36*** (0.14)	0.50* (0.26)	0.34 (0.38)	0.38 (0.36)	0.54** (0.22)	0.40*** (0.10)	0.47*** (0.08)	0.36** (0.17)	0.39** (0.16)	0.56* (0.33)	0.45*** (0.17)
Multidimensional Institutions Index (03-07 mean)	0.34* (0.18)	0.33** (0.16)	0.32** (0.15)	0.38** (0.17)	0.42** (0.18)	0.46** (0.20)	0.23** (0.11)	0.17 (0.14)	0.27** (0.12)	0.24* (0.13)	0.56 (0.47)	0.44** (0.21)
Dummy=1 if protmiss computed from Dennis et al.	-0.45 (0.38)	-0.32 (0.36)	-0.10 (0.34)	-0.07 (0.47)	-0.14 (0.51)	-0.83** (0.38)	-0.12 (0.34)	0.07 (0.43)	-0.05 (0.50)	-0.09 (0.51)	-0.73 (0.95)	-0.26 (0.57)
Observations	61	61	61	61	61	59	60	58	58	58	57	58
R ²	0.67	0.68	0.71	0.68	0.66	0.65	0.75	0.84	0.85	0.86	0.60	0.78
Kleibergen-Paap rk LM statistic	9.21	9.43	6.52	10.28	8.40	7.52	10.43	11.67	9.92	9.00	9.30	10.31
Kleibergen-Paap P-Value	0.06	0.05	0.16	0.04	0.08	0.11	0.03	0.02	0.04	0.06	0.05	0.04
Hansen J statistic	3.59	3.97	4.17	4.04	3.94	2.36	4.35	1.14	2.08	1.78	3.23	3.73
Hansen J P-Value	0.31	0.27	0.24	0.26	0.27	0.50	0.23	0.77	0.56	0.62	0.36	0.29
IV2: Legor+ME+EngEur												
10*Non-Income Human Development Index	0.67*** (0.10)	0.56*** (0.07)	0.56*** (0.15)	0.52*** (0.17)	0.51*** (0.16)	0.71*** (0.12)	0.59*** (0.09)	0.58*** (0.07)	0.57*** (0.13)	0.56*** (0.13)	0.56*** (0.14)	0.61*** (0.13)
Multidimensional Institutions Index (03-07 mean)	-0.06 (0.11)	-0.00 (0.08)	0.15 (0.10)	0.21* (0.11)	0.20** (0.10)	-0.07 (0.11)	0.04 (0.09)	0.07 (0.08)	0.17* (0.09)	0.18** (0.09)	0.19** (0.09)	0.18*** (0.07)
Observations	131	131	131	131	131	125	120	120	120	120	119	120
R ²	0.76	0.76	0.75	0.75	0.75	0.79	0.82	0.86	0.86	0.85	0.85	0.87
Kleibergen-Paap rk LM statistic	14.54	22.42	15.33	16.50	16.90	12.62	14.66	15.94	18.69	19.12	19.15	18.01
Kleibergen-Paap P-Value	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Hansen J statistic	1.23	1.18	0.99	1.56	1.53	0.30	0.20	0.13	1.77	1.88	1.80	1.11
Hansen J P-Value	0.54	0.56	0.61	0.46	0.47	0.86	0.91	0.94	0.41	0.39	0.41	0.57
Control Variables												
Latitude	YES	YES	YES	YES	YES				YES	YES	YES	YES
Exog FDI & Net PC Oil Export value									YES	YES	YES	YES
Continent Dummies		YES	YES	YES					YES	YES	YES	YES
Landlocked Dummy		YES	YES						YES	YES	YES	YES
Log Population		YES	YES						YES	YES	YES	YES
Former Colonies Dummies				YES					YES	YES	YES	YES
Religious Affiliation in 1900/1980						YES						YES
Trade as % of GDP							YES					YES
Fractionalization Variables Rel. Ethn. Lan.							YES					

Robust standard errors in parentheses

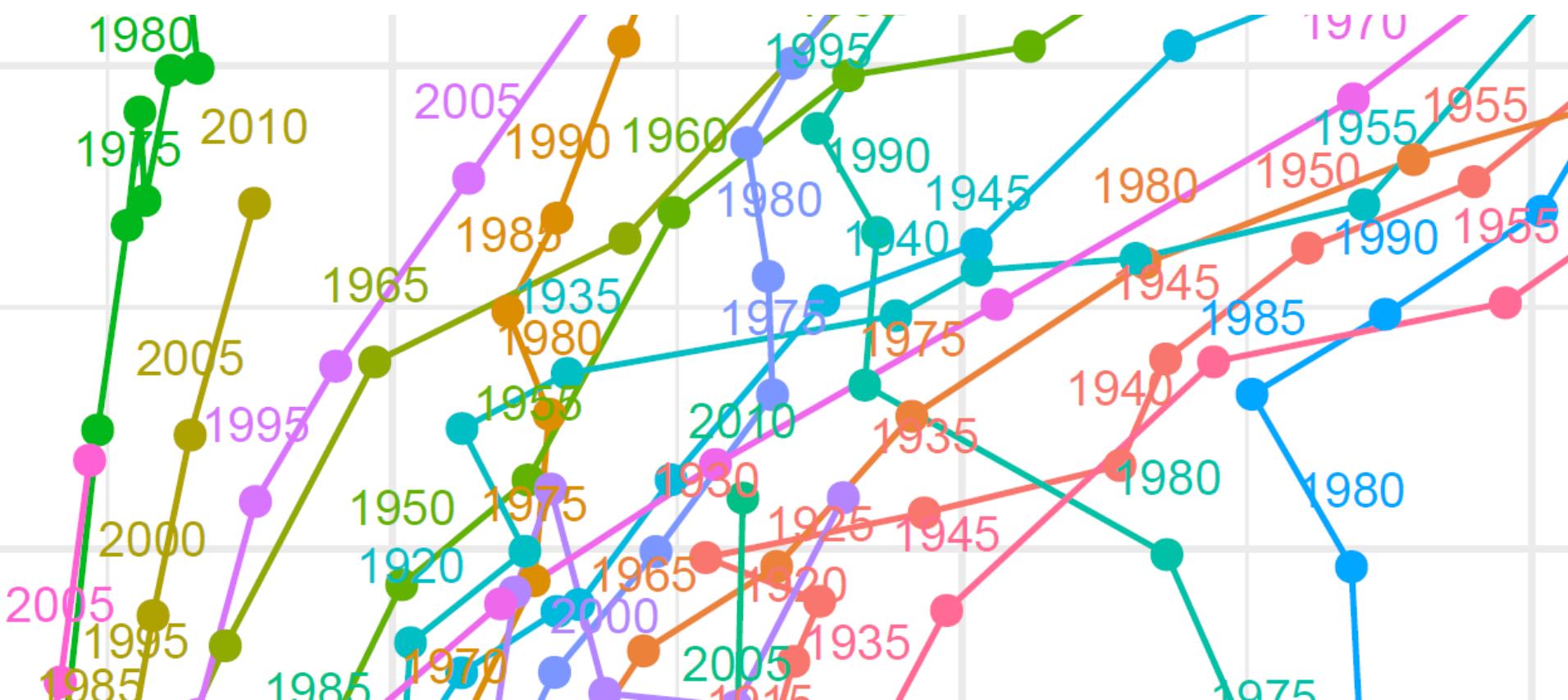
*** p<0.01, ** p<0.05, * p<0.1

Cross-Sectional Results





Panel-Data Estimations



Panel Data Estimations

3 Series of Models:

1. Panel Data with time-varying external Instruments, 10-year changes 1960-2010
2. Panel Data with lags as instruments, 5-year changes 1945-2010
3. Long-term Panel Data with lags as instruments, 10-year changes 1820-2010

Panel 1: Instruments

TABLE 2: DEC. AV. PANEL 1960-2010: INSTRUMENTS

<i>Instrument</i>	<i>Source</i>	<i>Used for</i>
Constant price of oil in 2000 \$/brl	Worldbank WDI	LGDPC
Constant price of gas in 2000 \$/mboe	Worldbank WDI	LGDPC
Financial Crisis Dummy (1=Crisis)	WDI / Authors Calc.	LGDPC/MII
Oil production in metric tons per Capita	WDI / Authors Calc.	LGDPC
Biol. Disaster (Epidemic etc.) Occurrence	EM-DAT at CRED	NIHDI
Biol. Disaster (Epidemic etc.) Total Deaths	EM-DAT at CRED	NIHDI
Biol. Disaster (Epidemic etc.) Total Affected	EM-DAT at CRED	NIHDI
Number of Revolutions	CNTS Data Archive	MII
Number of Coups d'Etat	CNTS Data Archive	MII
Number of Major Constitutional Changes	CNTS Data Archive	MII

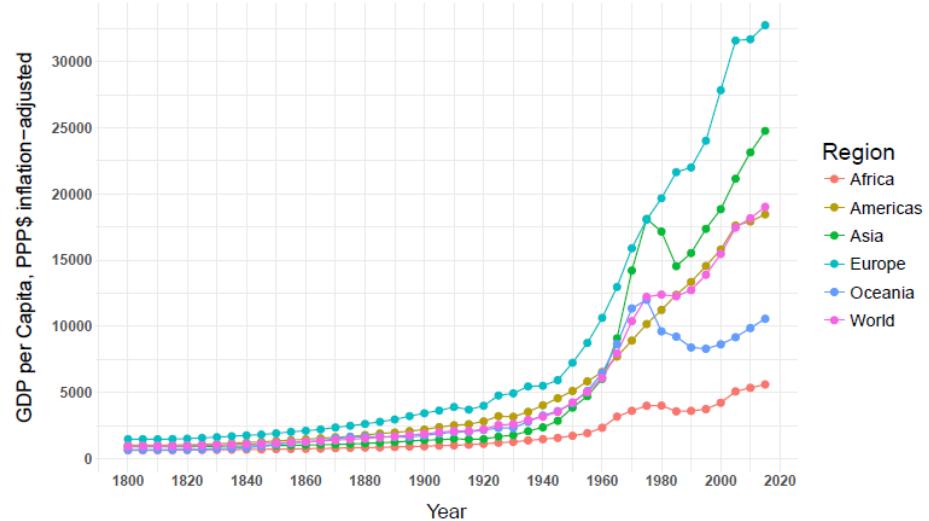
Panel Data Controls

- Conflict
- Population Development
- Weather
- Agriculture
- Trade

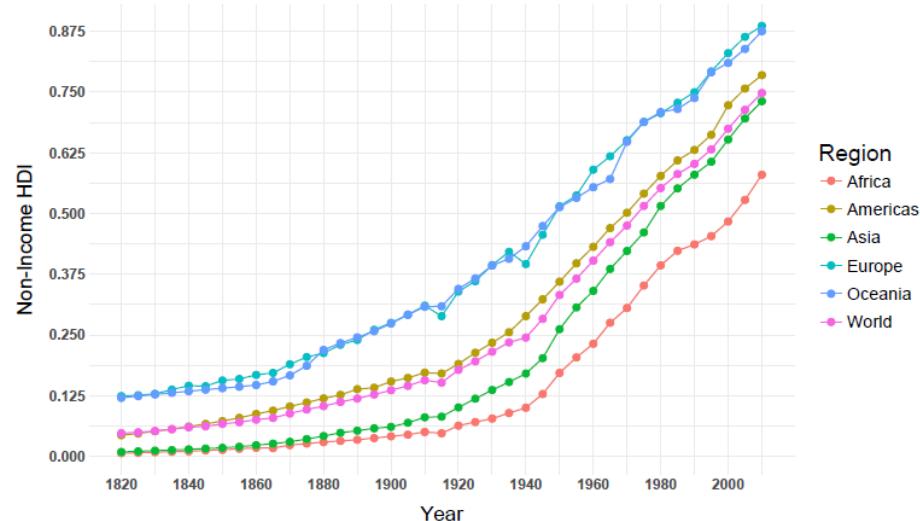
All with Country & Time Fixed Effects

World Development Since 1800

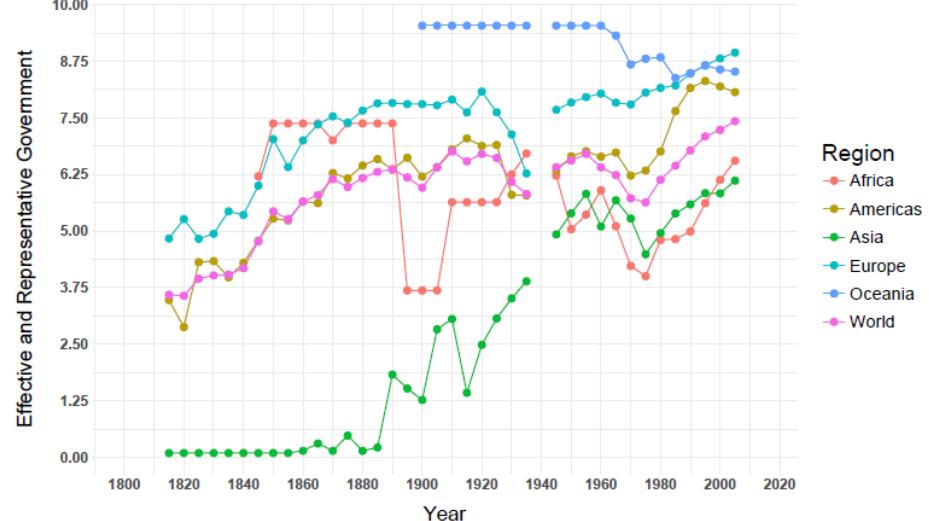
World Income Growth



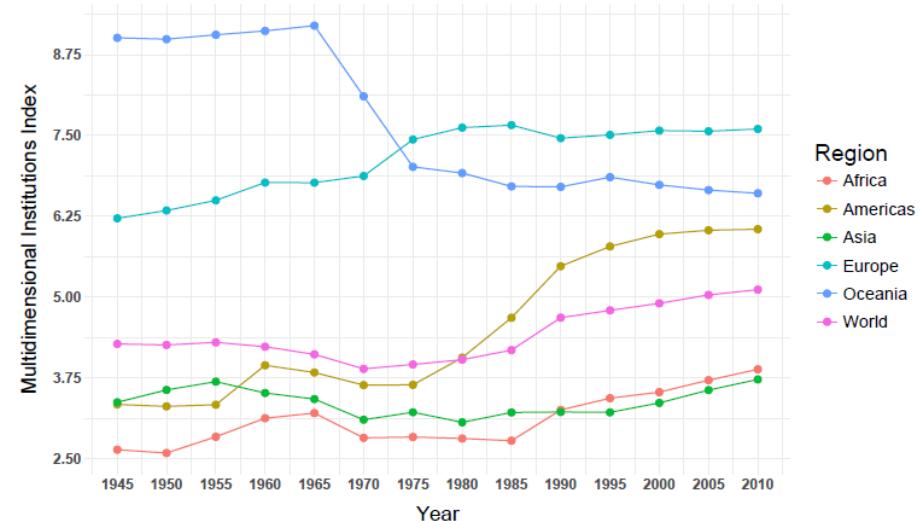
World Human Development



World Institutional Development

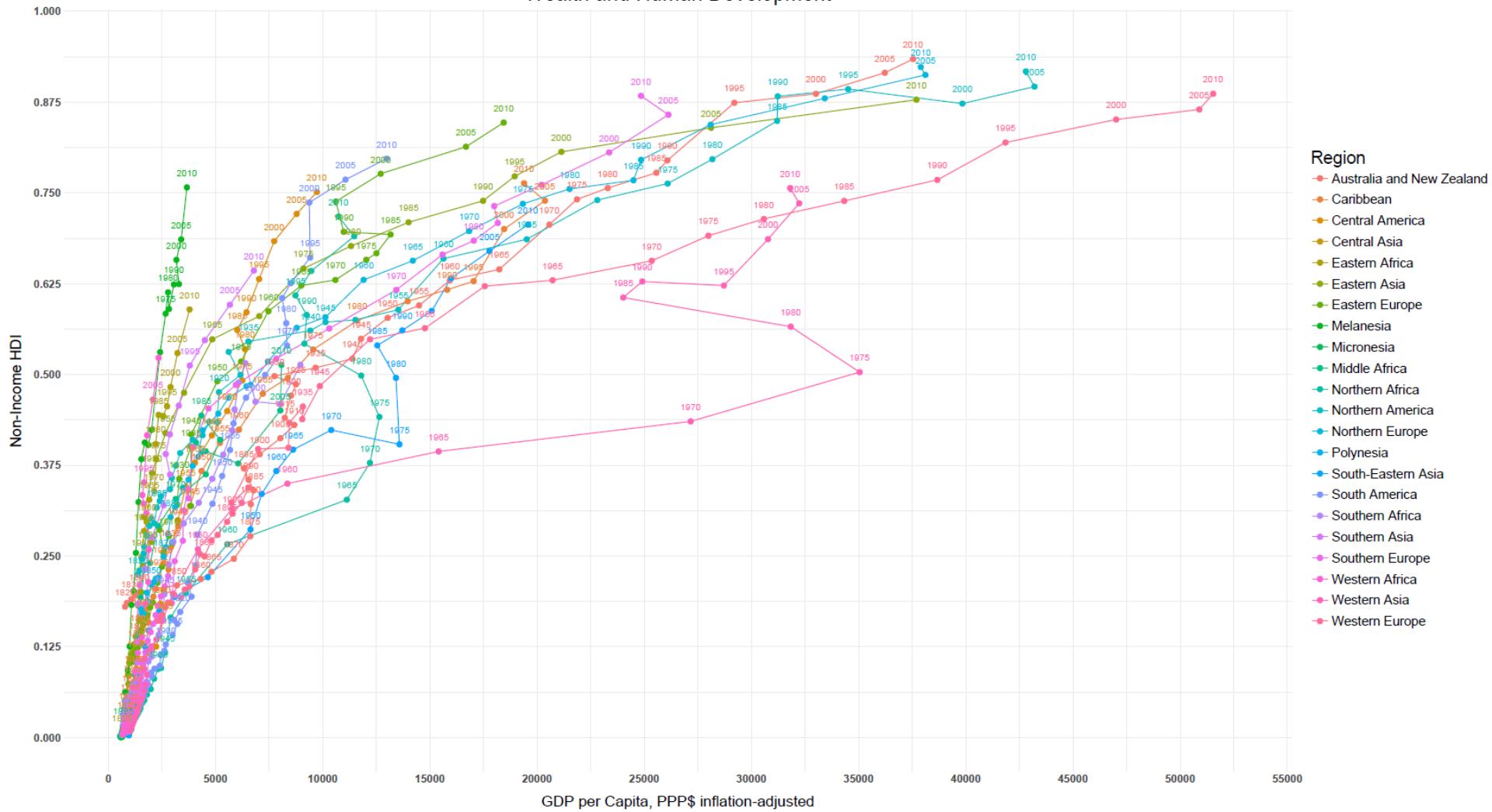


World Institutional Development



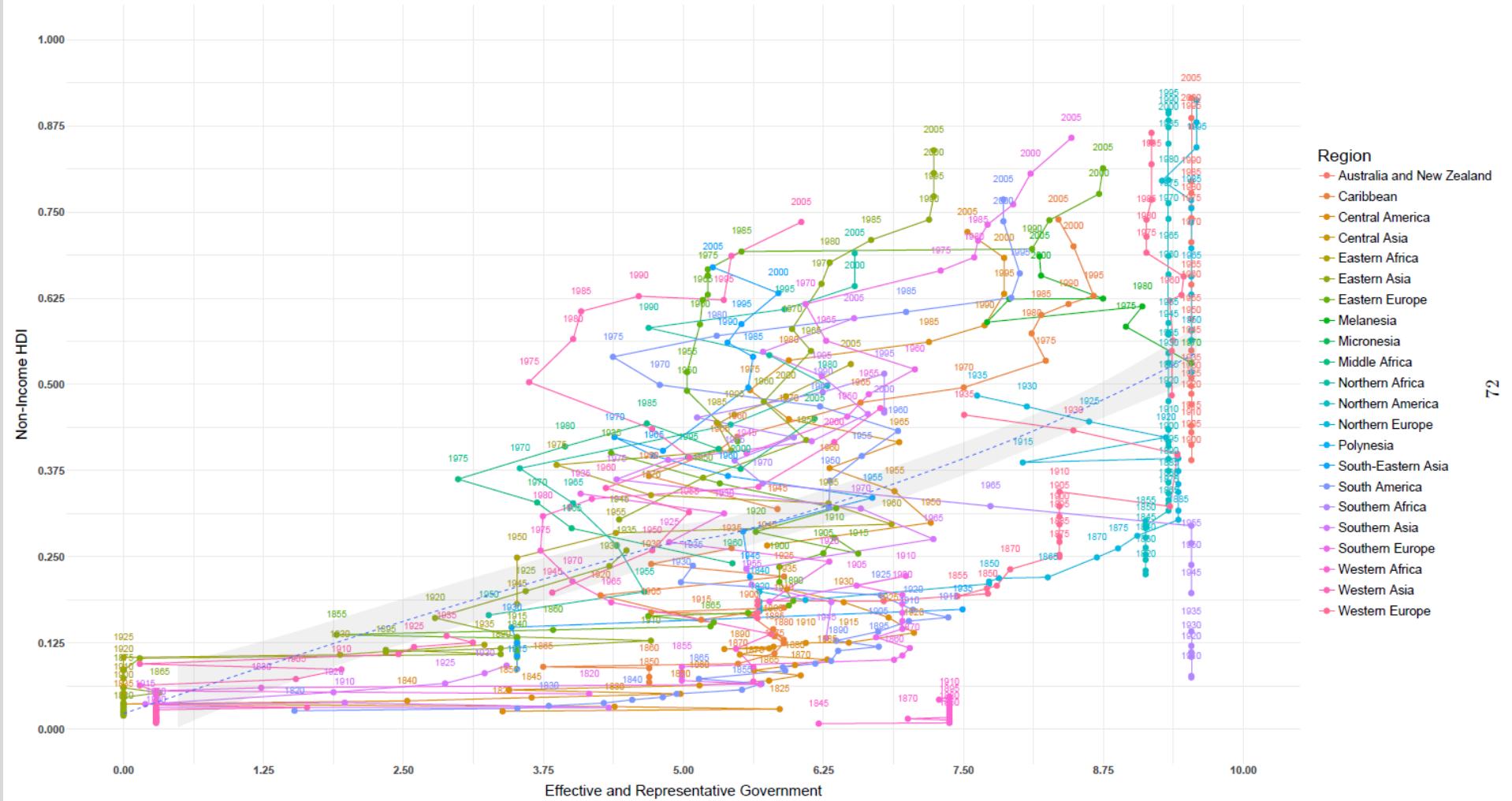
World Development Since 1800

Wealth and Human Development

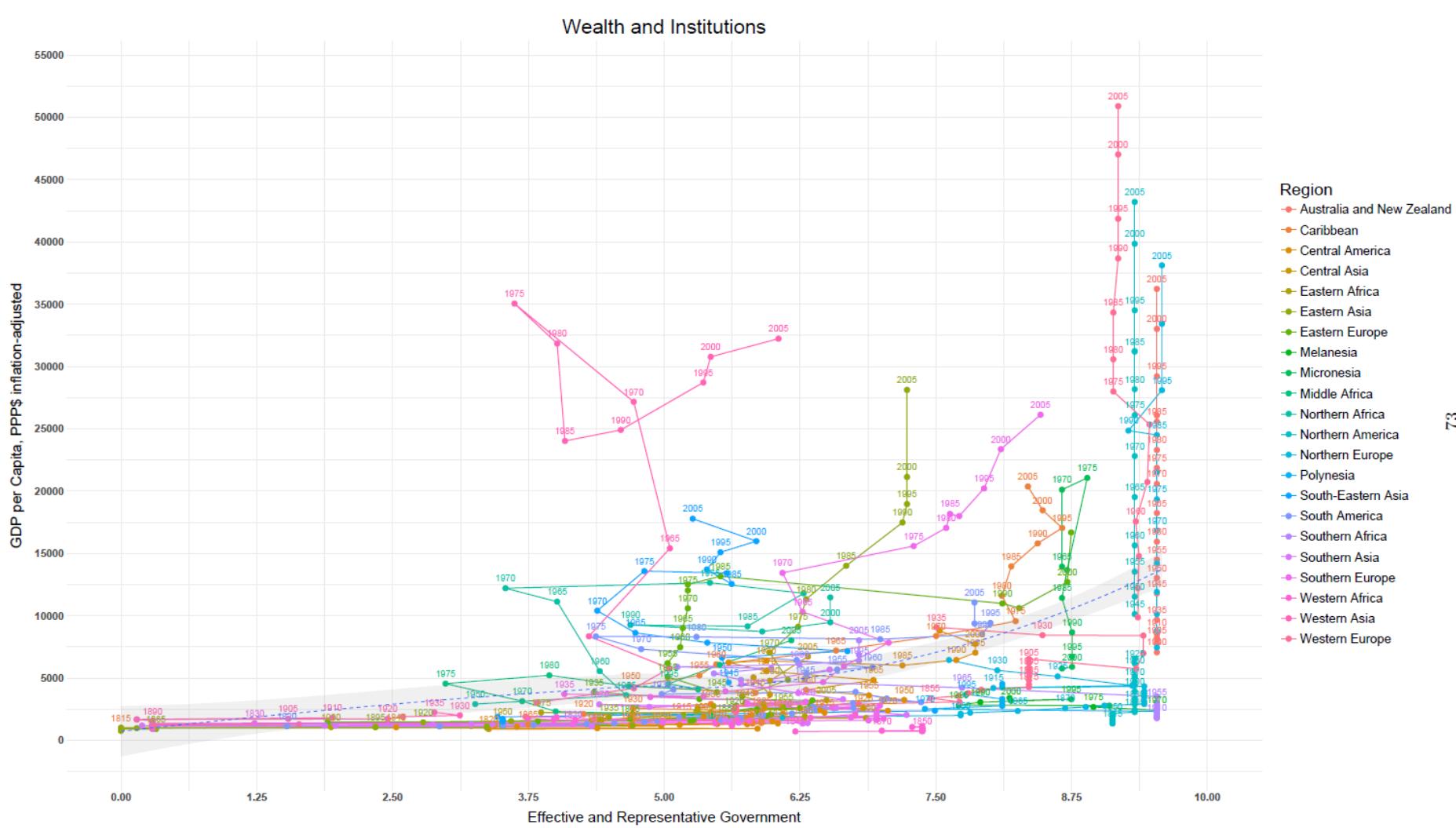


World Development Since 1800

Institutions and Human Development

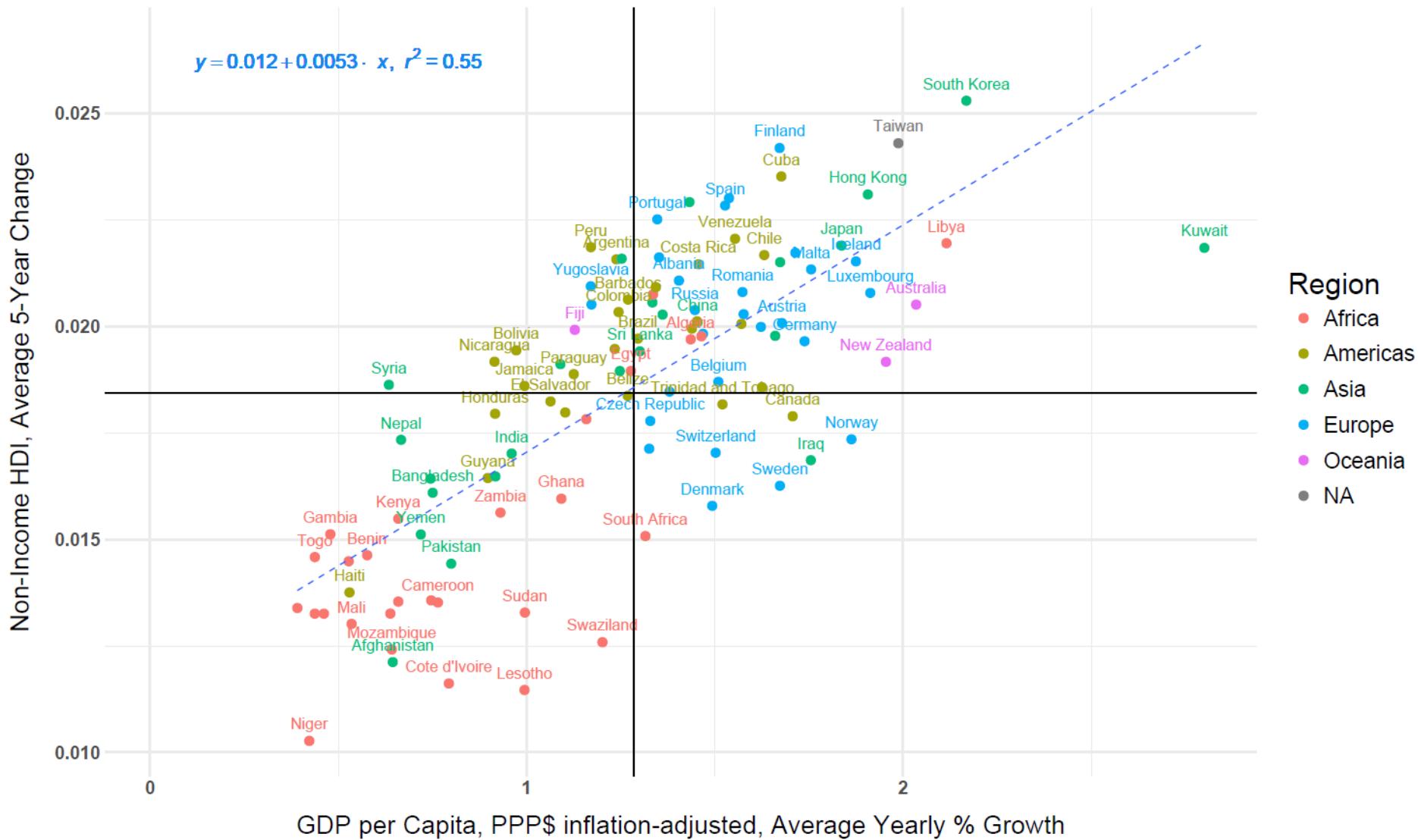


World Development Since 1800



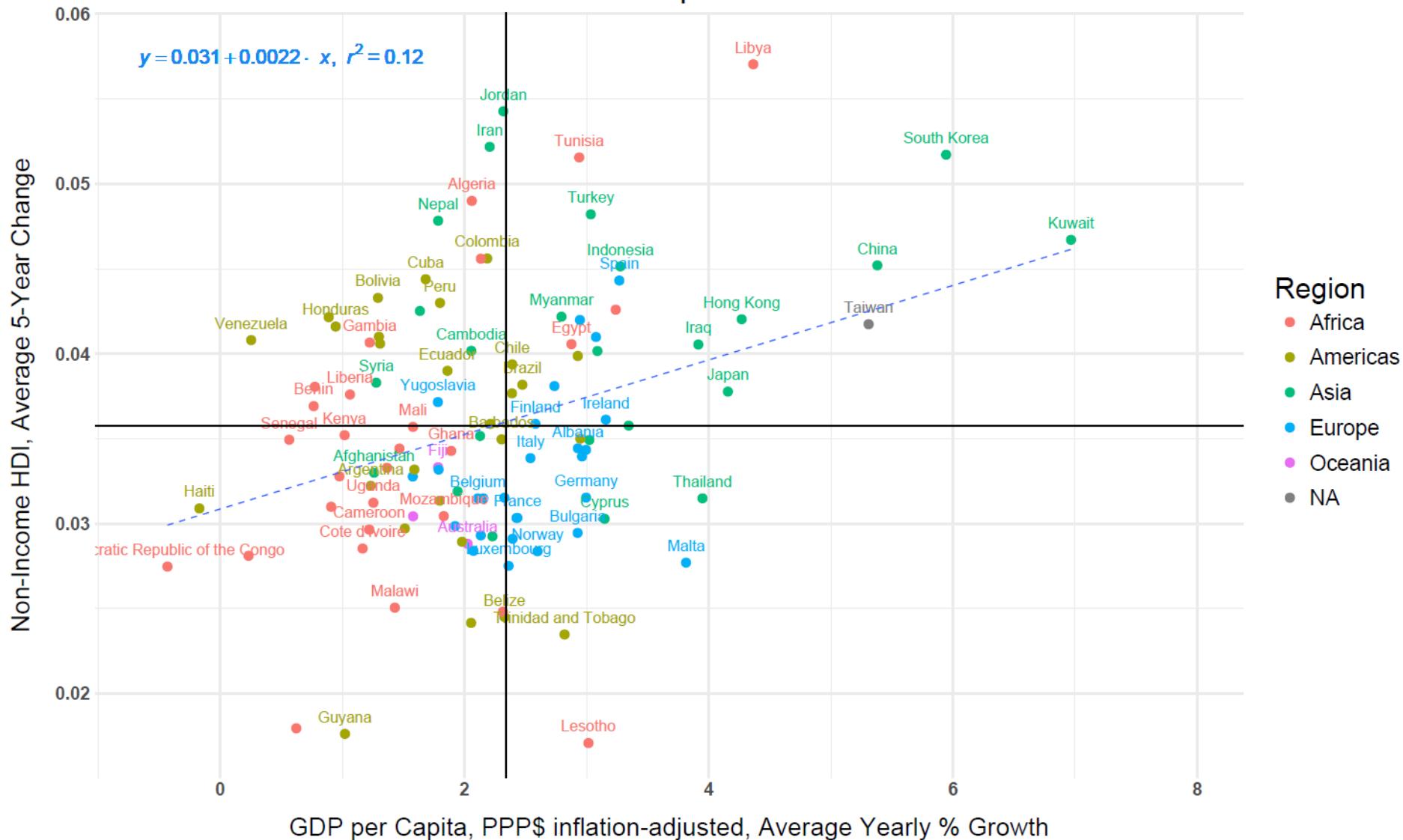
Short-Term Average Growth Rates

Wealth and Human Development Growth 1820-2005



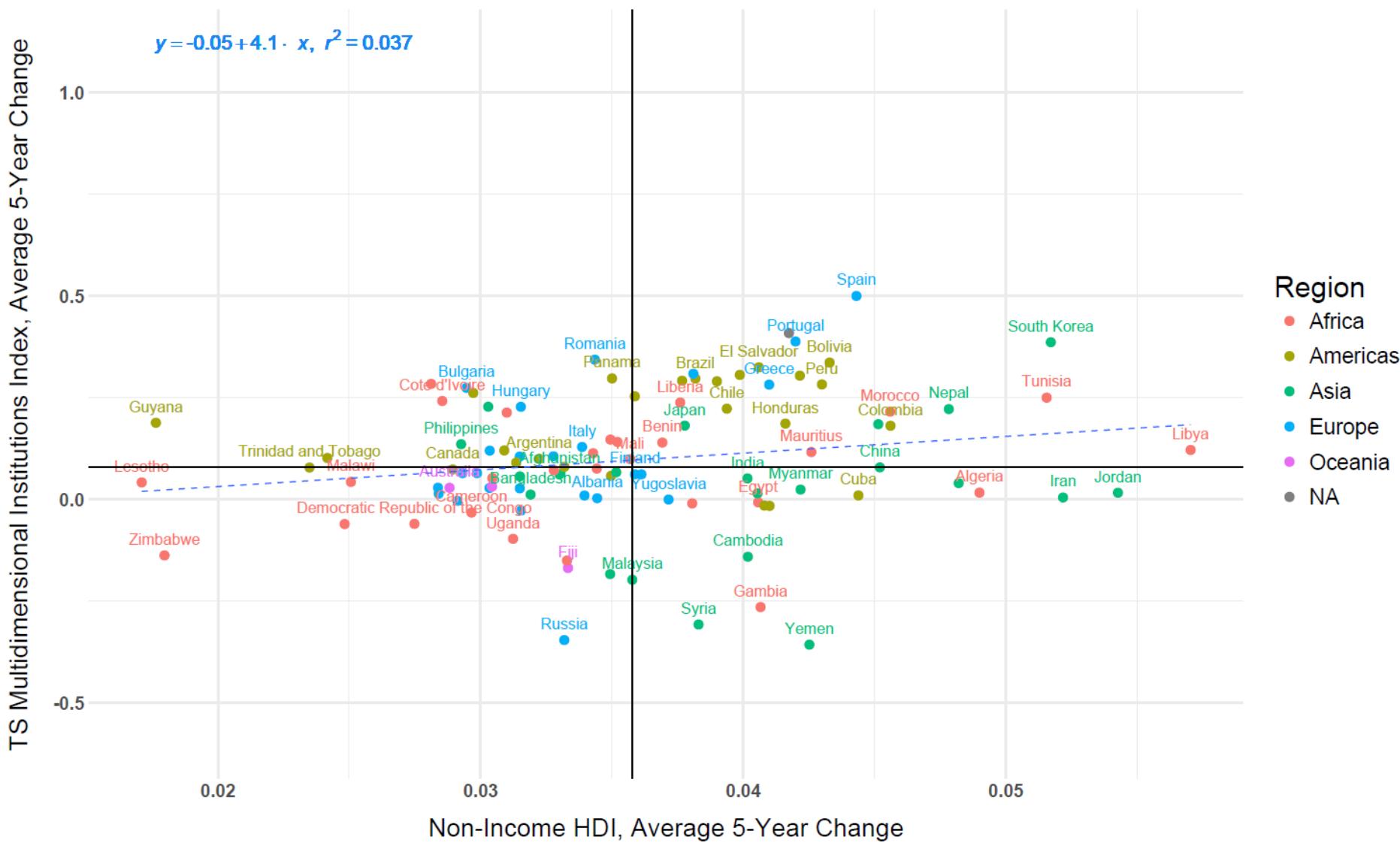
Short-Term Average Growth Rates

Wealth and Human Development Growth 1950-2015

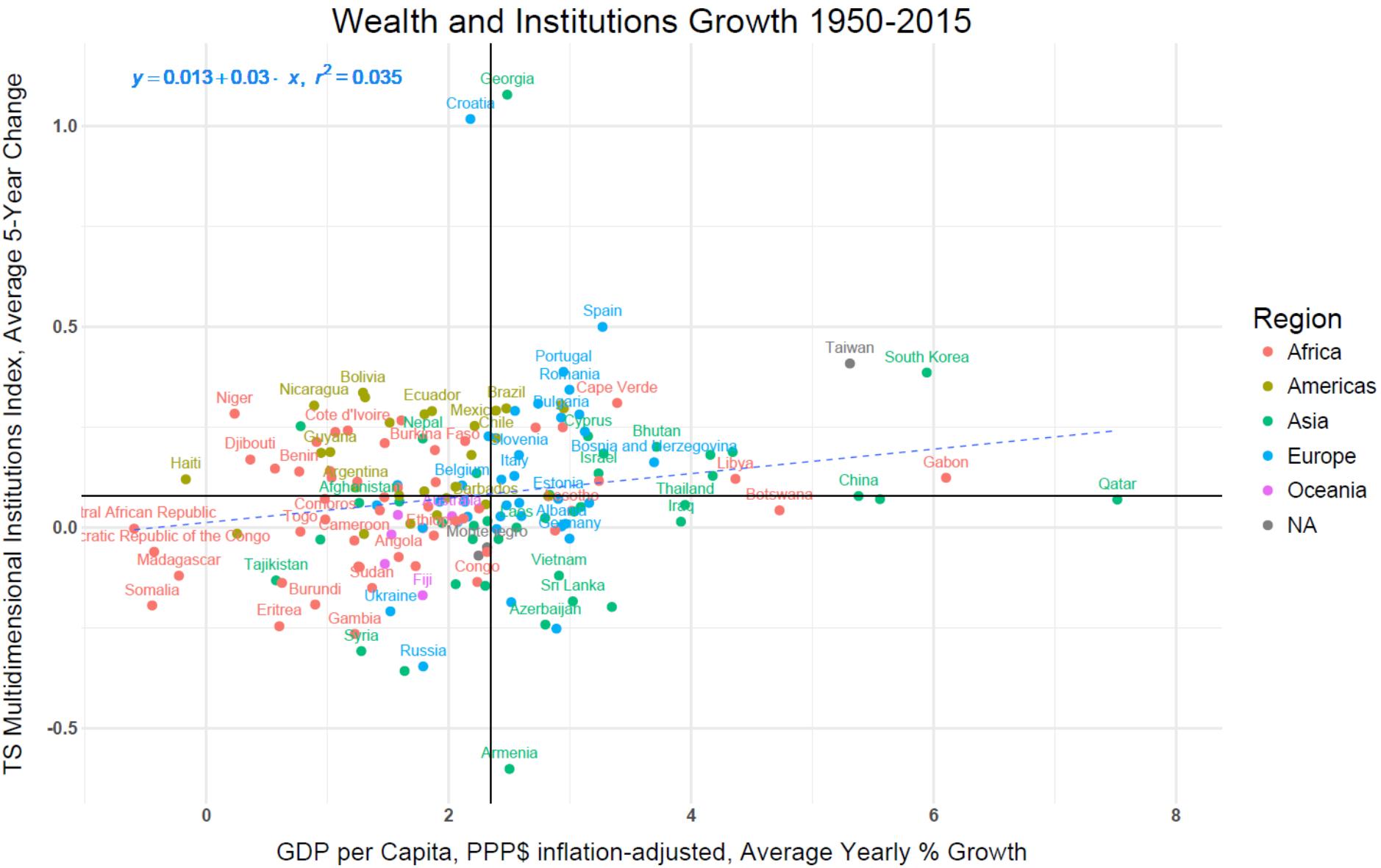


Short-Term Average Growth Rates

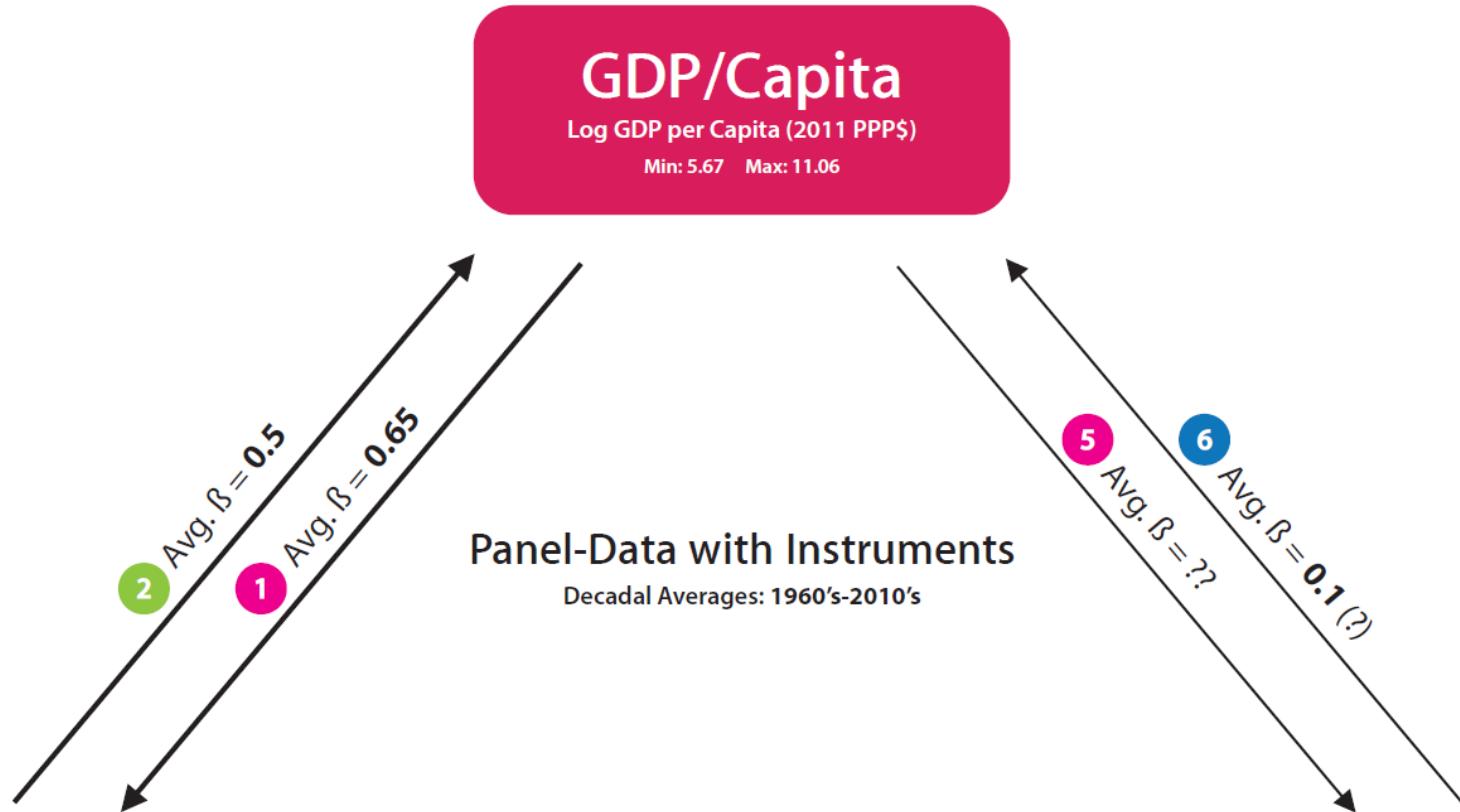
Institutions and Human Development Growth 1950-2015



Short-Term Average Growth Rates



Panel-Data Results



Human Development

10*Non-Income Human Development Index

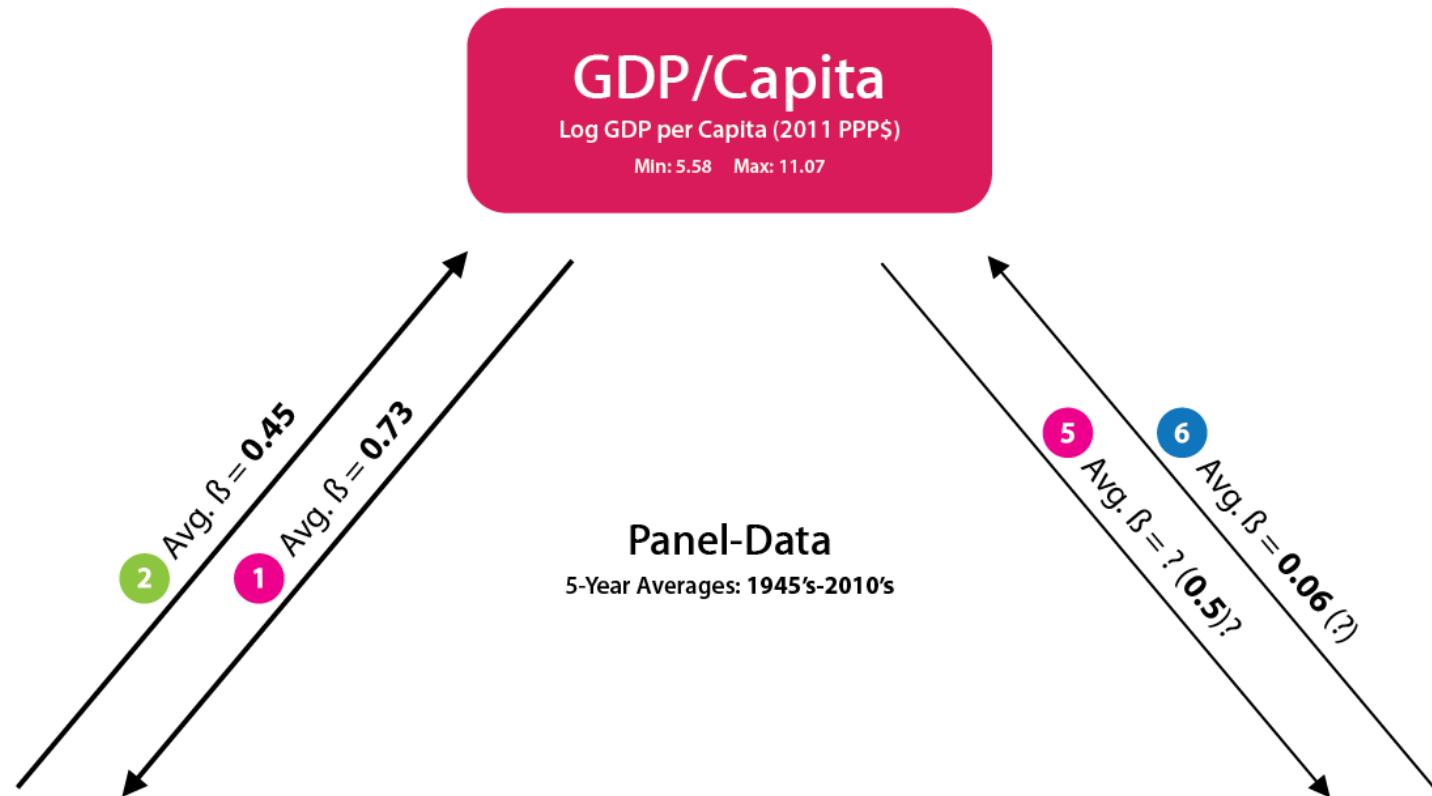
Min: 0.16 Max: 9.62

Institutions

TS Multidimensional Institutions Index

Min: 0 Max: 10

Panel-Data Results



Human Development

10*Non-Income Human Development Index

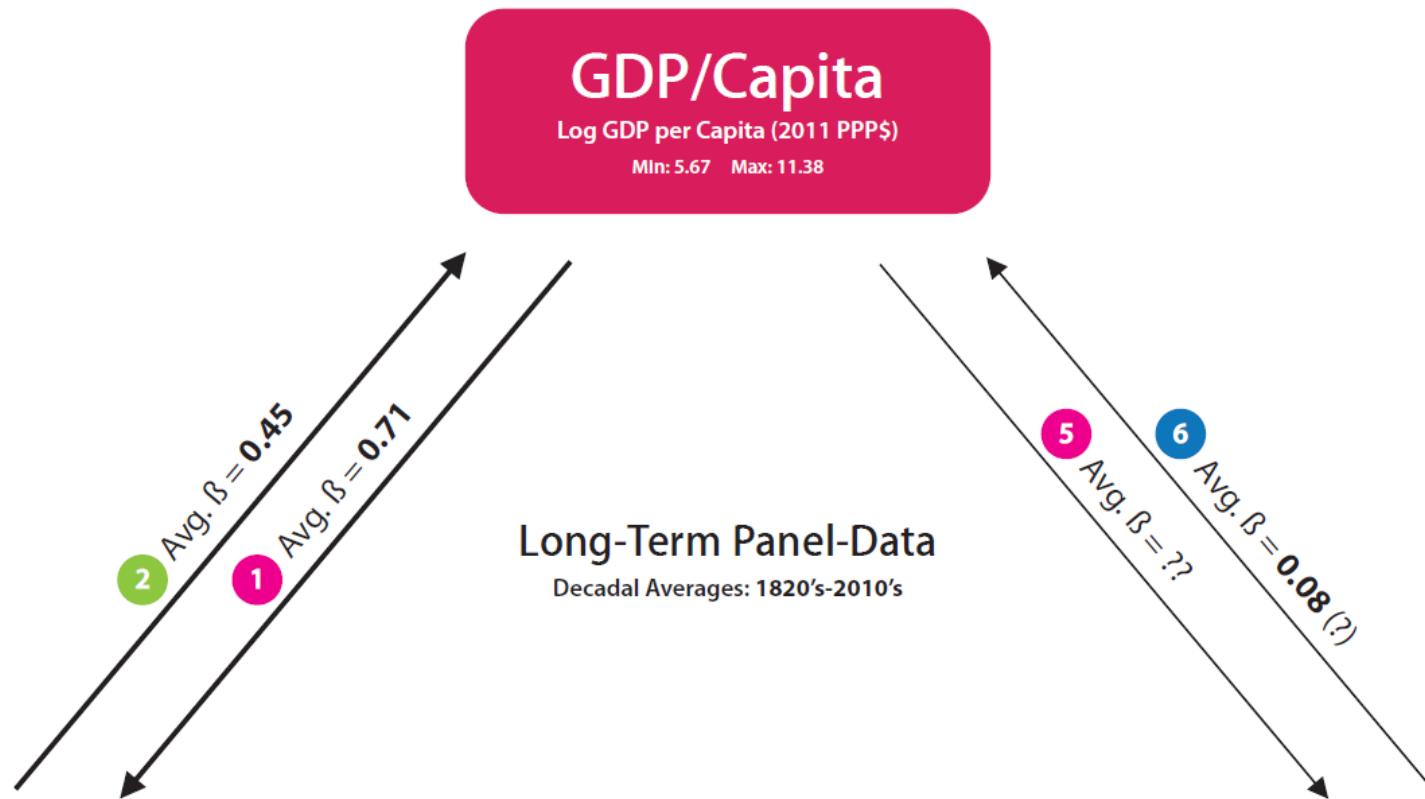
Min: 0.15 Max: 9.62

Institutions

TS Multidimensional Institutions Index

Min: 0 Max: 9.99

Panel-Data Results



Human Development

10*Non-Income Human Development Index

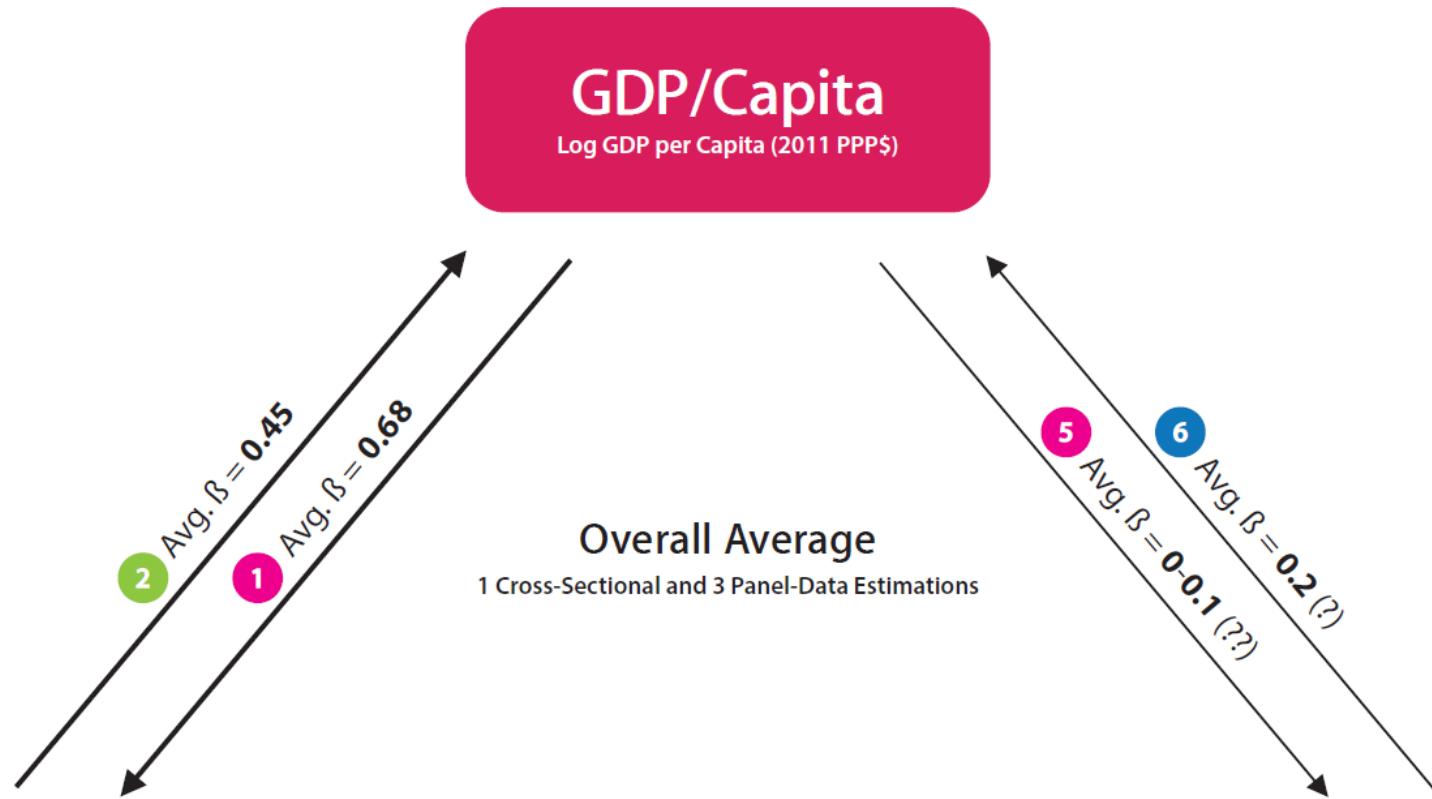
Min: 0 Max: 9.3

Institutions

Effective and Representative Government

Min: 0 Max: 10

FINAL RESULT



Human Development

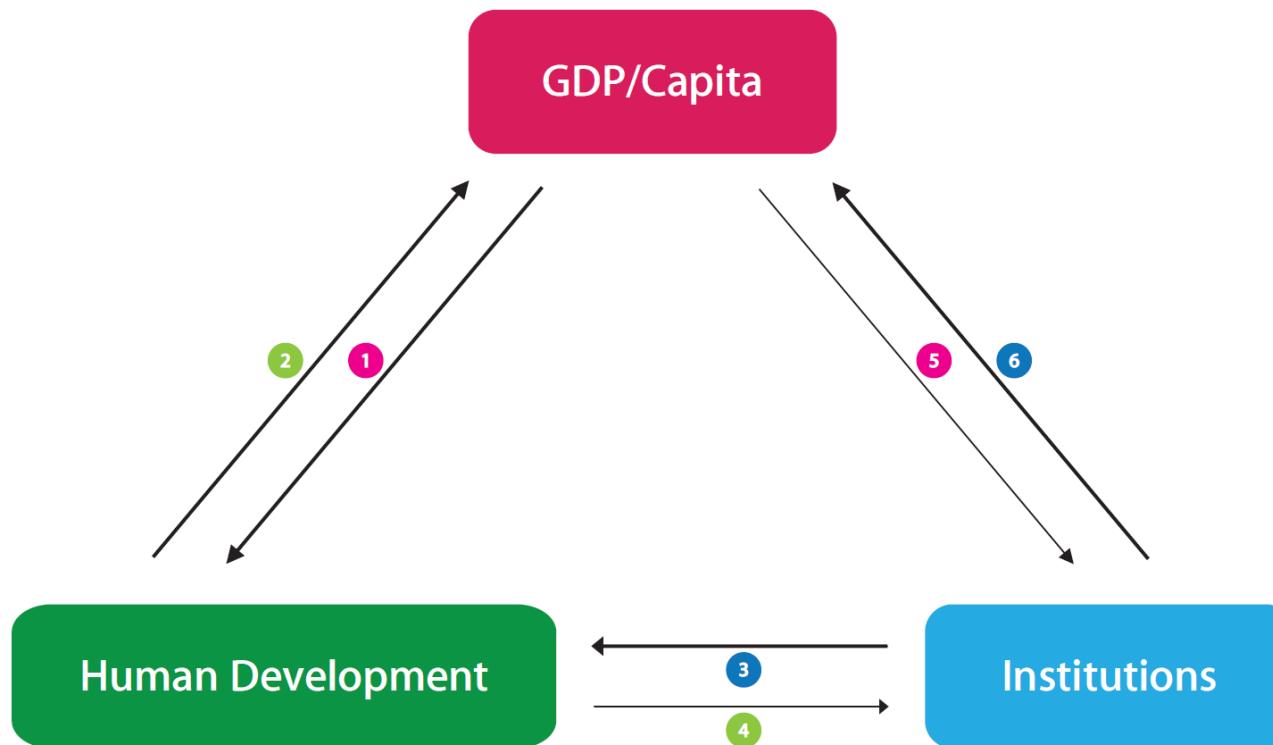
10*Non-Income Human Development Index

Institutions

Either ERG or MII

TABLE 3: EMPIRICAL RESULTS FROM 4 STRATEGIES

Chain in Figure 1	(6)	(2)	(1)	(3)	(4)	(5)
β in Equation 1	β_1	β_2	β_4	β_5	β_7	β_8
Cross-Section (2005)	0.25	0.5	0.65	0.45	0.9 (?)	?(0.1)?
Decadal Panel (1960-2010)	0.1 (?)	0.5	0.65	0.3	0.6 (?)	??
5-Year Panel (1945-2010)	0.06 (?)	0.35	0.73	0.1	0.63	?(0.05)?
Long Panel (1820-2000)	0.08 (?)	0.45	0.71	0.11	0.66	??



Conclusions and Implications

- Human development is most important focal point in long run development dynamics.
- Development process more dynamic and less deterministic than the literature implies, although Institutions last long.
- Equilibrium modeling in the macro-development context is fruitful and can generate insights on very important issues.
→ Understanding long-run development process might require a further shift in focus and method.
- Possibility for more complex or regional long run development models
→ Study regional dynamics and use for medium-long term policy predictions.

A Research Agenda for the Future

- Trying to understand long-term development mechanisms using structural general equilibrium models appears promising:
- Investigation of Channels (What determines their strength, what are the most important mediators?)
- Understand Persistence of Institutions and long-run social adjustment mechanisms
- Analyze the performance of the model over different regions (countries) and time-periods
- Make the model more complex (by allowing for non-linearities, interactions, stochastic and dynamic elements). Level-Growth relationships.
- Incorporate Technology and Trade?
- Microfoundations? (DSGE-like stuff?)

Specific Ideas to Improve the Paper?

- Introduce Dynamics: SVAR, BVAR, identified with external instruments
- Causal Mediation Analysis to investigate transmission channels, potentially using an extended VAR with restrictions on mediators?
- Better Instruments?? (For GDP/growth, time-varying instrument for education?)
- Possibly a Theoretical Structure:

Example: OLG Model, Agents Maximize lifetime wealth by investing in Health & Education, the wealthier their parents the more they can invest (circular causality between growth and human development). But Agents also care about political freedom. The more they get to invest in Education, the more they are willing and able to build better institutions, and being born with better institutions boosts their Health and Education expenditures (circular causality between institutions and human development).



The Interdependence of Economic Growth, Human Development and Political Institutions

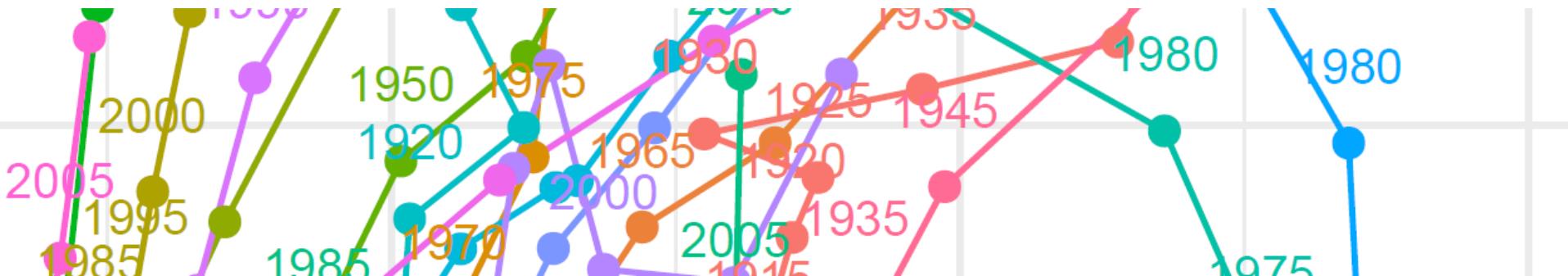
A General Equilibrium Framework



Thank You for Your
Attention!



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Model Selection Exercize

Sala-i-Martin (1997) Method + Random Forrest

$$y = \beta_0 + \beta_1 z + \beta_j x^j + u$$

Table 13: Averaged Tuple Regressions of 46 Predictors on Log GDP/Capita 2005 PPP
Number of Regression: 15180 (990 per predictor) | Robust error matrix

Variable	b	se	t	p	sig	signpos	N	r2
Non-Income HDI	6.58	.34	20.54	0	1	1	102	.84
Number of Years Open Economy	2.15	.27	7.87	0	1	1	100	.6
Equipment Investment	23.92	3.24	7.39	0	1	1	79	.66
Non-Equipment Investment	11.13	2.18	5.06	0	1	1	79	.55
Public Consumption Share (fraction of GDP)	-8.59	1.43	-5.94	0	1	0	89	.52
Fraction of population living in cities (1960)	3.57	.36	10.25	0	.97	1	100	.66
Absolute Latitude	.04	.01	7.71	0	.97	1	102	.56
Multidimensional Institutions Index	.38	.04	9.73	.01	.96	1	102	.62
Sub-Saharan African Dummy	-1.64	.22	-7.7	.02	.96	0	102	.58

Model Selection Exercize

Table 14: Averaged Tuple Regressions of 46 Predictors on the Multidimensional Institutions Index
 Number of Regression: 15180 (990 per predictor) | Robust error matrix

<i>Variable</i>	<i>b</i>	<i>se</i>	<i>t</i>	<i>p</i>	<i>sig</i>	<i>signpos</i>	<i>N</i>	<i>r2</i>
Non-Income HDI	9.6	.87	11.71	0	1	1	102	.69
Number of Years Open Economy	3.58	.51	7.22	0	1	1	100	.56
Fraction of Protestant	2.97	.58	5.23	0	1	1	102	.37
Growth Rate of Population (1960-1990)	-106.36	20.3	-5.88	0	1	0	102	.54
Absolute Latitude	.07	.01	8.37	0	.99	1	102	.53
Fraction of Muslim	-2.31	.44	-5.33	0	.99	0	102	.41
Fraction of primary exports in tot. exp. in 1970	-3.69	.6	-6.51	0	.99	0	98	.47
Ratio of liquid liabilities to GDP	4.69	1.36	3.5	.01	.98	1	65	.52
Equipment Investment	34.17	6.57	5.25	0	.97	1	79	.56
Log GDP/Capita 2005 PPP	1.08	.14	8.47	.01	.96	1	102	.6
Fraction of Population Able to Speak English	2.12	.55	3.94	.01	.96	1	102	.34
Degree of Capitalism	.46	.12	3.7	.01	.96	1	102	.37
Revolutions and Coups	-3.25	.77	-4.26	0	.96	0	102	.4
Fraction of population living in cities (1960)	4.88	.71	7.2	.01	.95	1	100	.53
War Dummy (war between 1960 and 1990)	-1.19	.36	-3.26	.01	.95	0	99	.35

Model Selection Exercize

Table 15: Averaged Tuple Regressions of 46 Predictors on the Non-Income HDI
Number of Regression: 15180 (990 per predictor) | Robust error matrix

<i>Variable</i>	<i>b</i>	<i>se</i>	<i>t</i>	<i>p</i>	<i>sig</i>	<i>signpos</i>	<i>N</i>	<i>r2</i>
Log GDP/Capita 2005 PPP	.12	.01	18.03	0	1	1	102	.85
Multidimensional Institutions Index	.06	0	13.19	0	1	1	102	.71
Fraction of population living in cities (1960)	.5	.05	10.78	0	1	1	100	.7
Ethnolinguistic Fractionalization	-.26	.05	-5.59	0	1	0	96	.5
Sub-Saharan African Dummy	-.26	.02	-10.8	0	1	0	102	.68
Absolute Latitude	.01	0	8.64	0	.99	1	102	.58
Number of Years Open Economy	.29	.04	7.72	0	.98	1	100	.6
Fraction of Population Able to Speak English	.17	.04	4.12	0	.98	1	102	.37
French Colony (dummy)	-.15	.03	-4.16	.01	.97	0	102	.41
Exchange Rate Distortions	0	0	-5.29	.01	.96	0	98	.47
Non-Equipment Investment	1.37	.31	4.38	.02	.95	1	79	.52
Public Consumption Share (fraction of GDP)	-1.08	.21	-5.18	.02	.95	0	89	.5