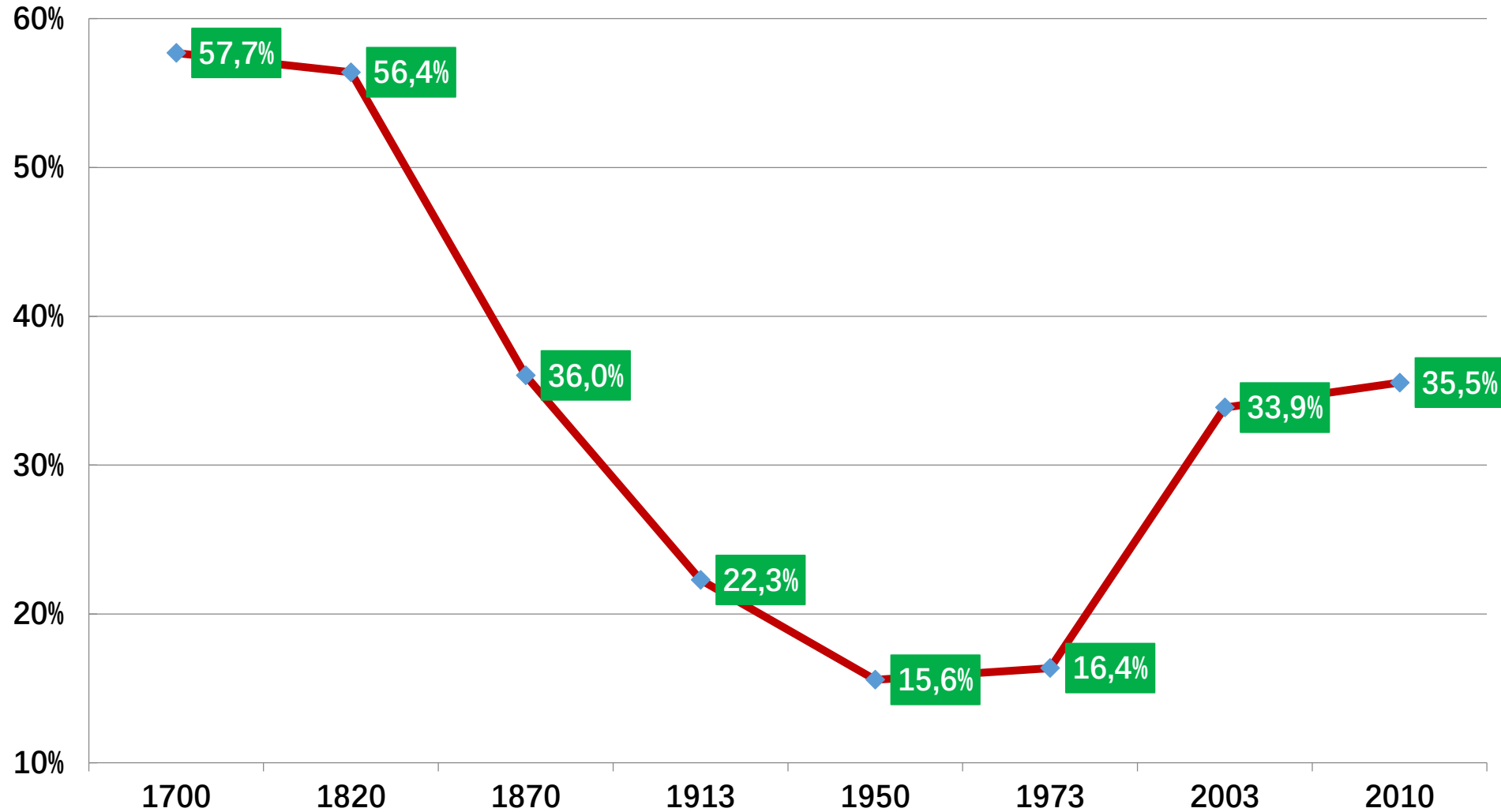


Poverty and Inequality in Asia: 1965-2014

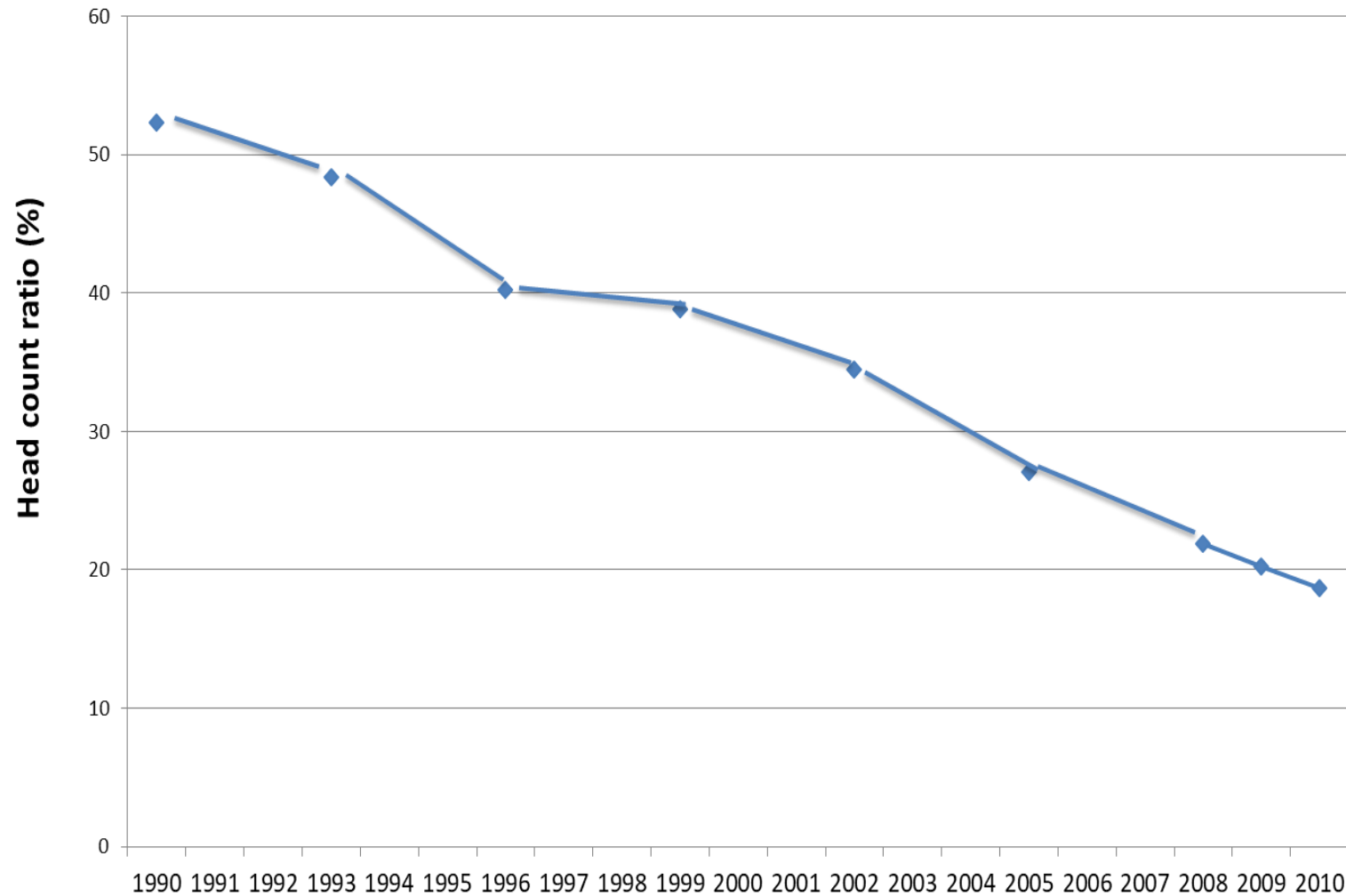
**Guanghua Wan
Fudan University**

The Rise of Asia

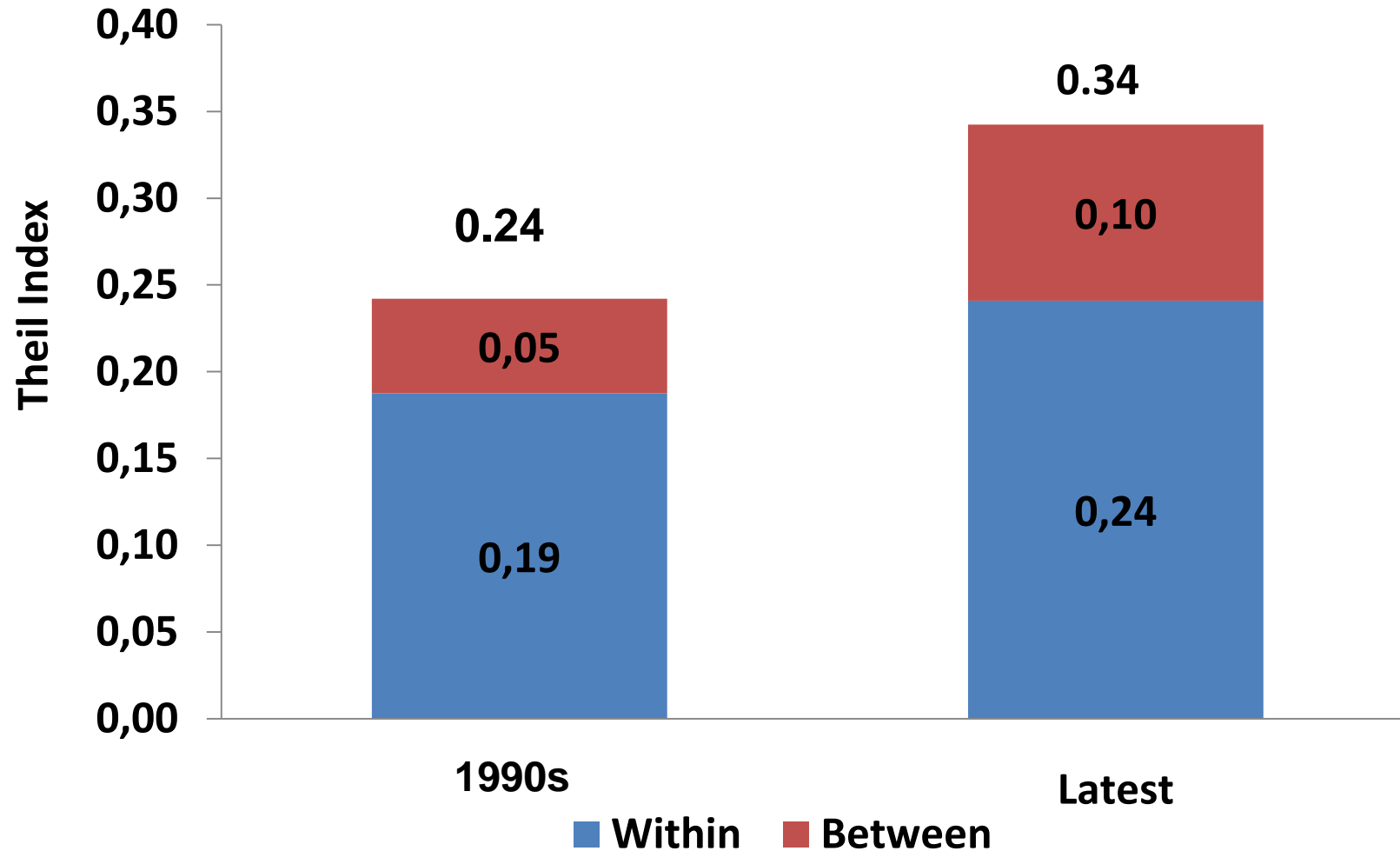


Nayyar (2013), ADB (2011), Fogel (2007)

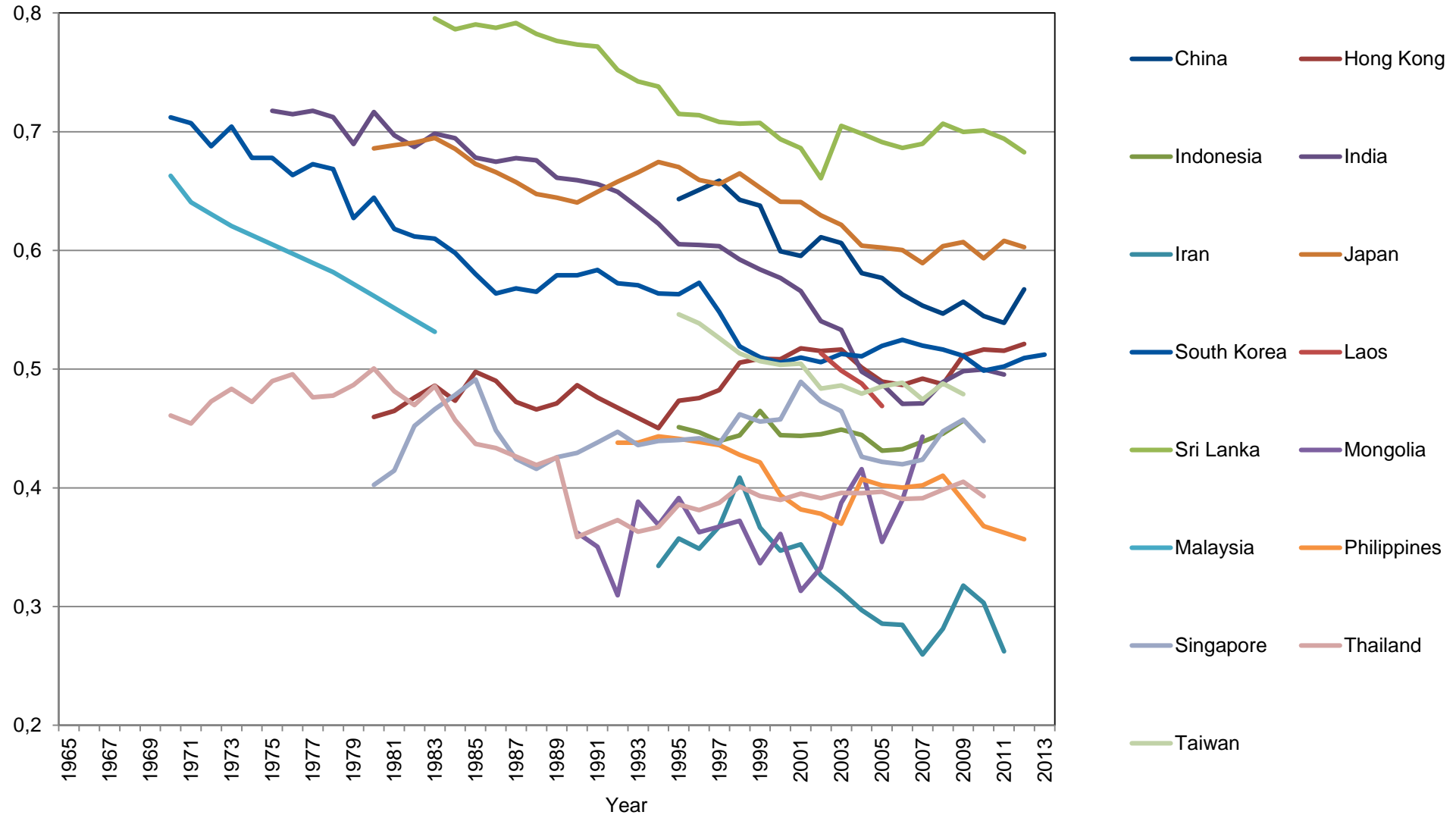
Asia: A winner in fighting poverty



Asia: A loser in containing **inequality**



The Labor Share in GDP



The Poverty-Growth-Inequality Triangle

Fast **growth**

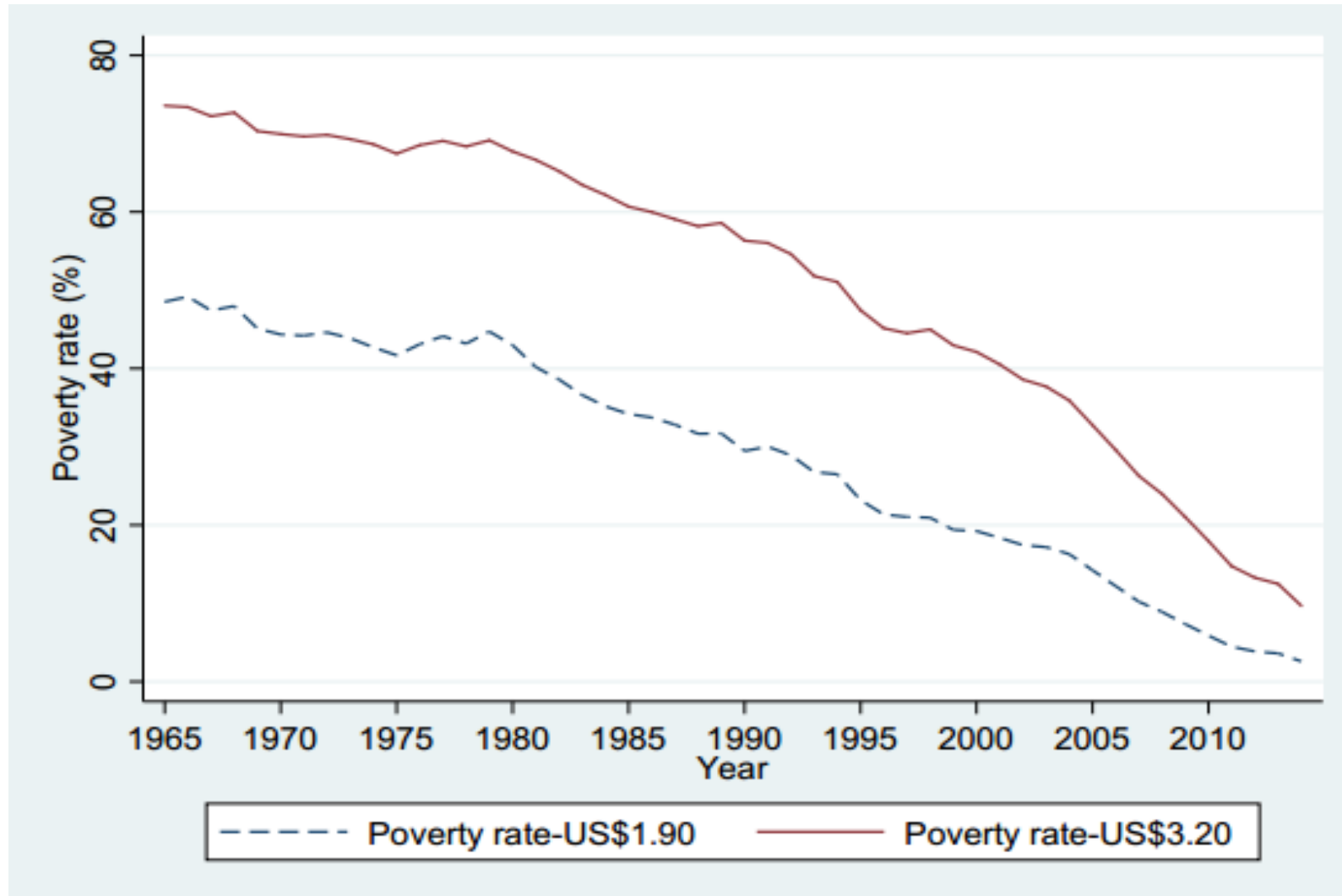
- Lift all boats => reducing poverty, hold inequality constant
- Raise inequality (Kuznets 1955) => increase poverty

$$\begin{aligned}\Delta P &= 0.5\{[P(Y_T; I_T) - P(Y_0, I_T)] + [P(Y_T, I_0) - P(Y_0; I_0)]\} + \\ &\quad 0.5\{[P(Y_0, I_T) - P(Y_0; I_0)] + [P(Y_T; I_T) - P(Y_T, I_0)]\} \\ &= \{\text{Growth Component}\} + \{\text{Inequality component}\}\end{aligned}$$

Data

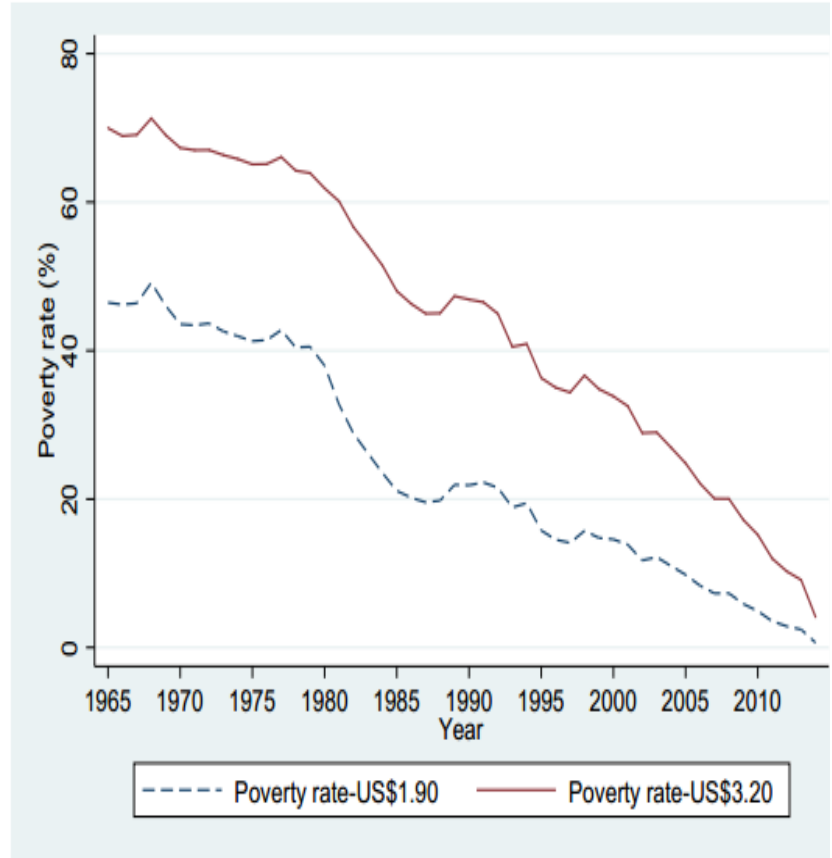
- **To maximize consistency, consumption data from the Penn World Table (PWT version 9)**
- **Observations are measured in 2011 \$ (PPP of ICP)**
- **Inequality data from WIID of WIDER**
- **\$1.9/\$3.2 poverty lines, using PWT **national accounts data****
- **World Bank uses household survey data**

The Poverty Profile: Asia

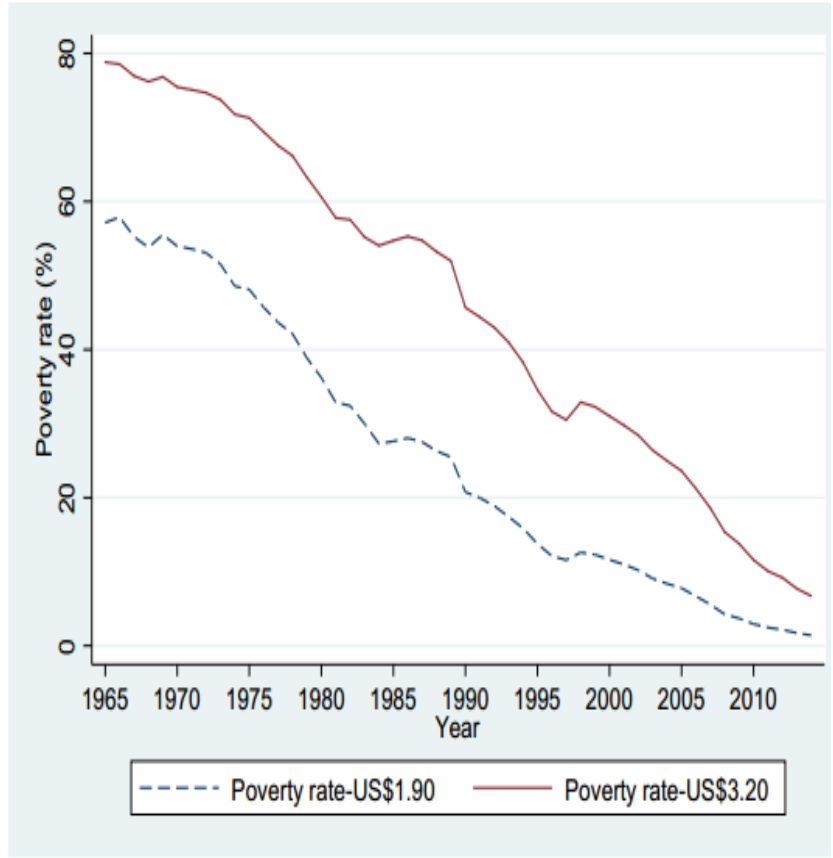


Sub-regional Poverty

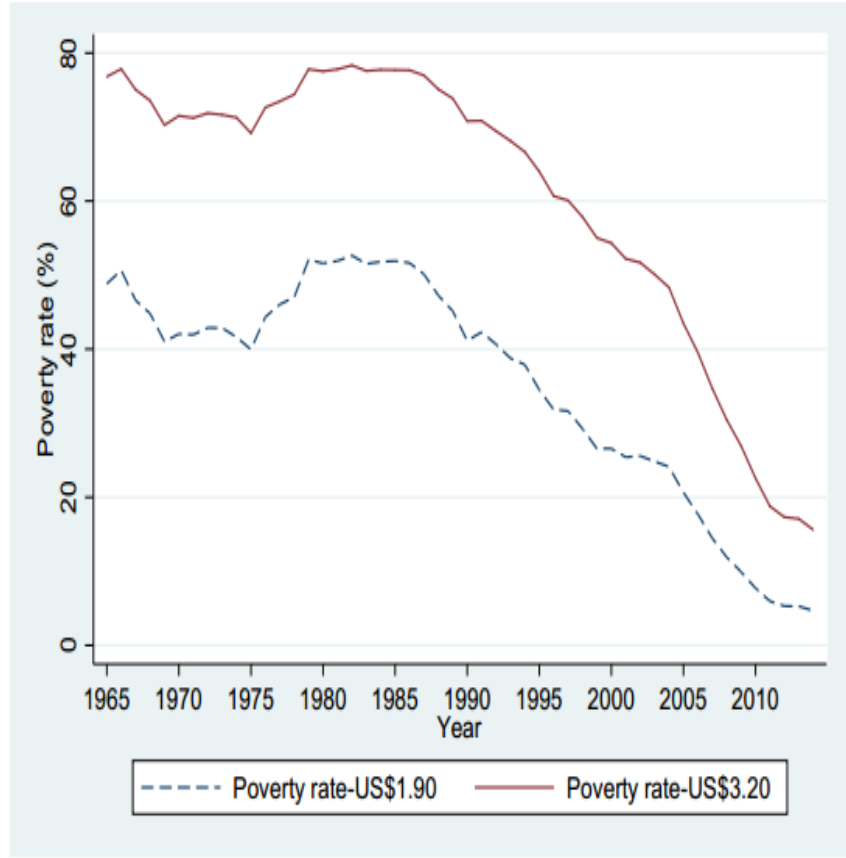
(a) East Asia



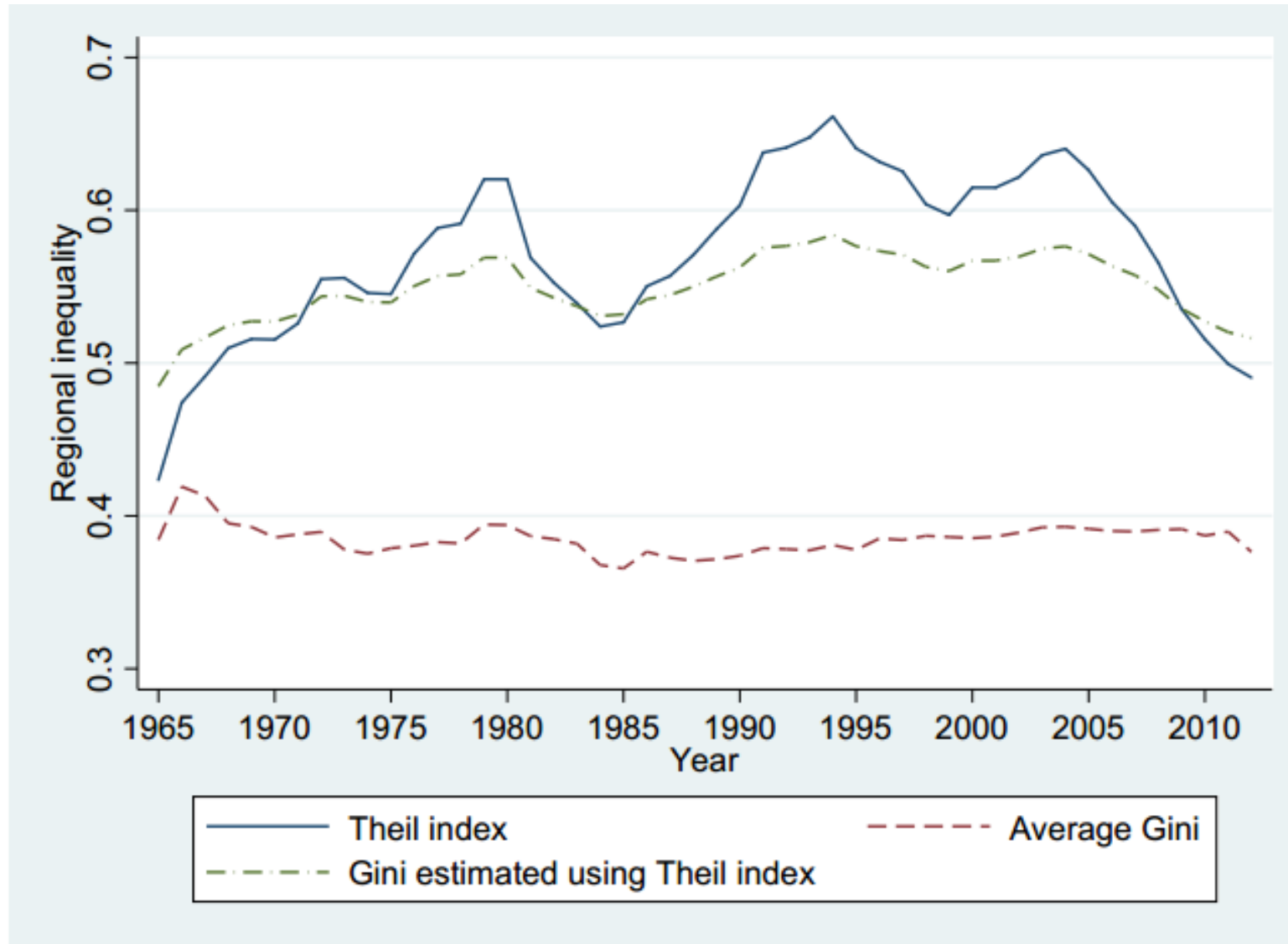
(b) Southeast Asia



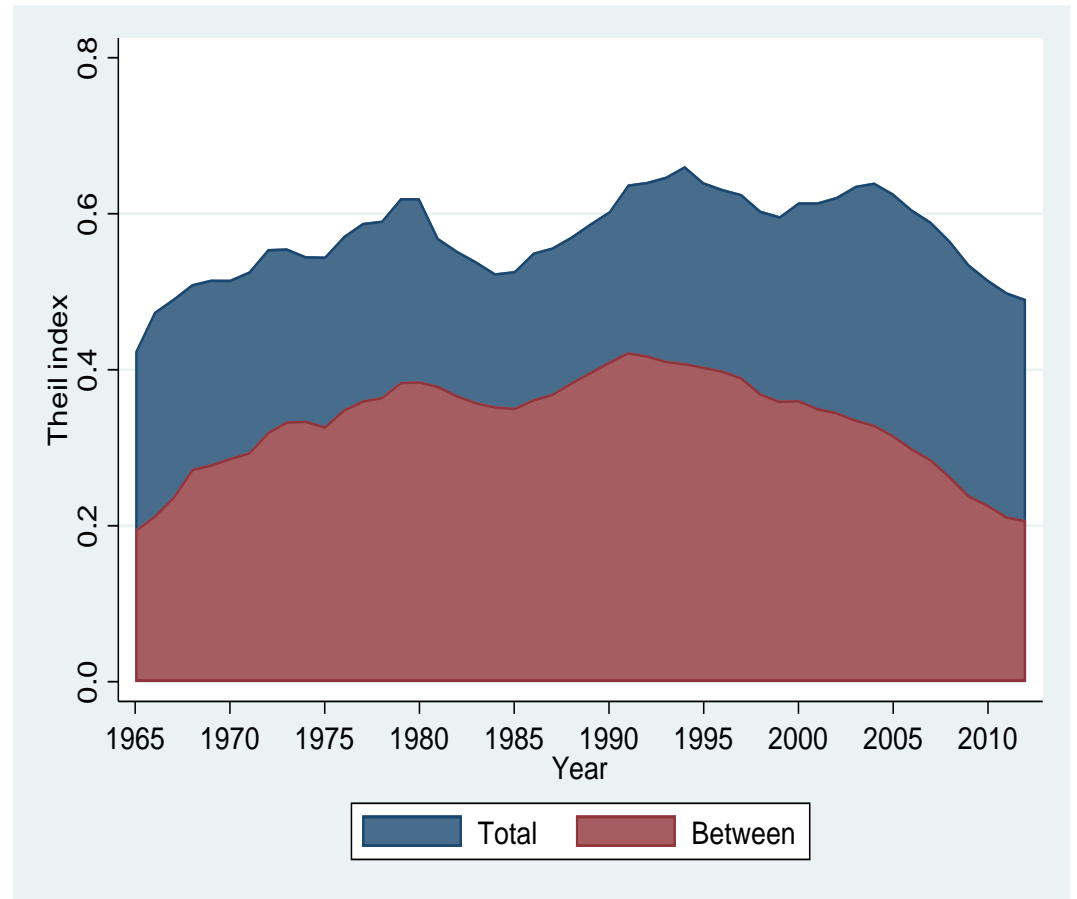
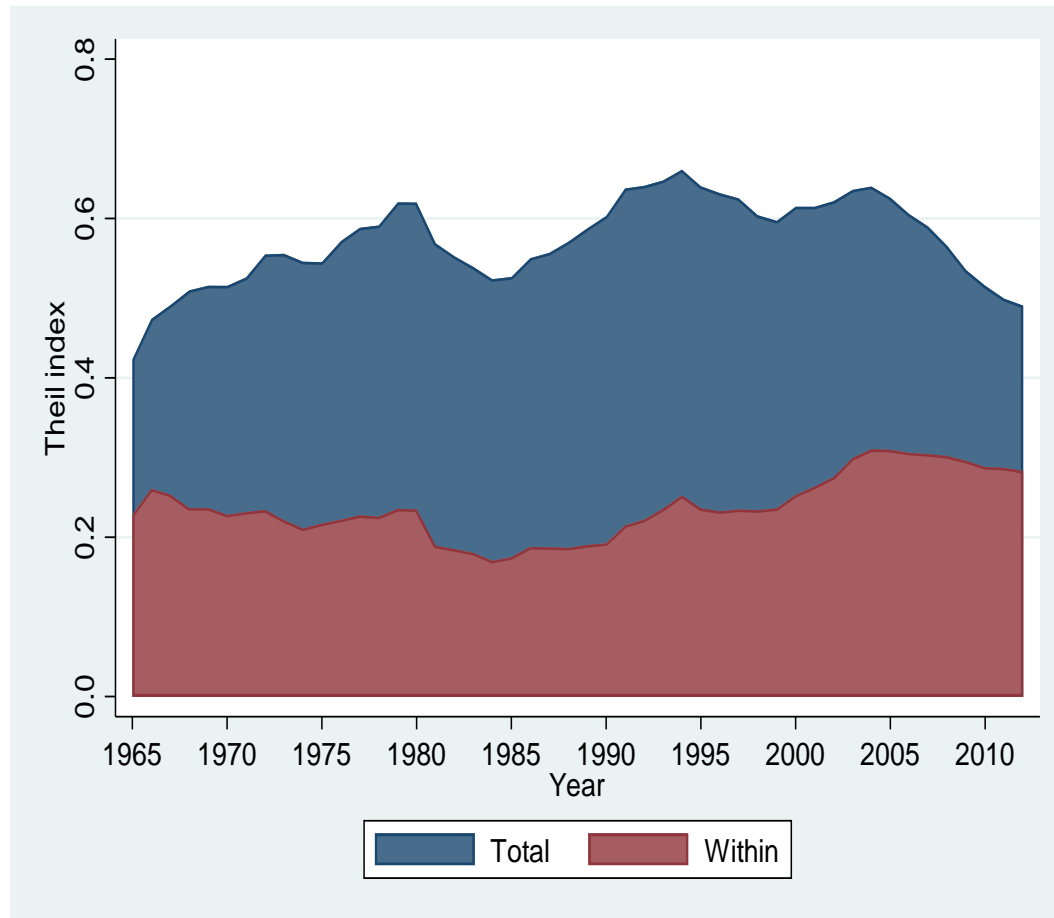
(c) South Asia



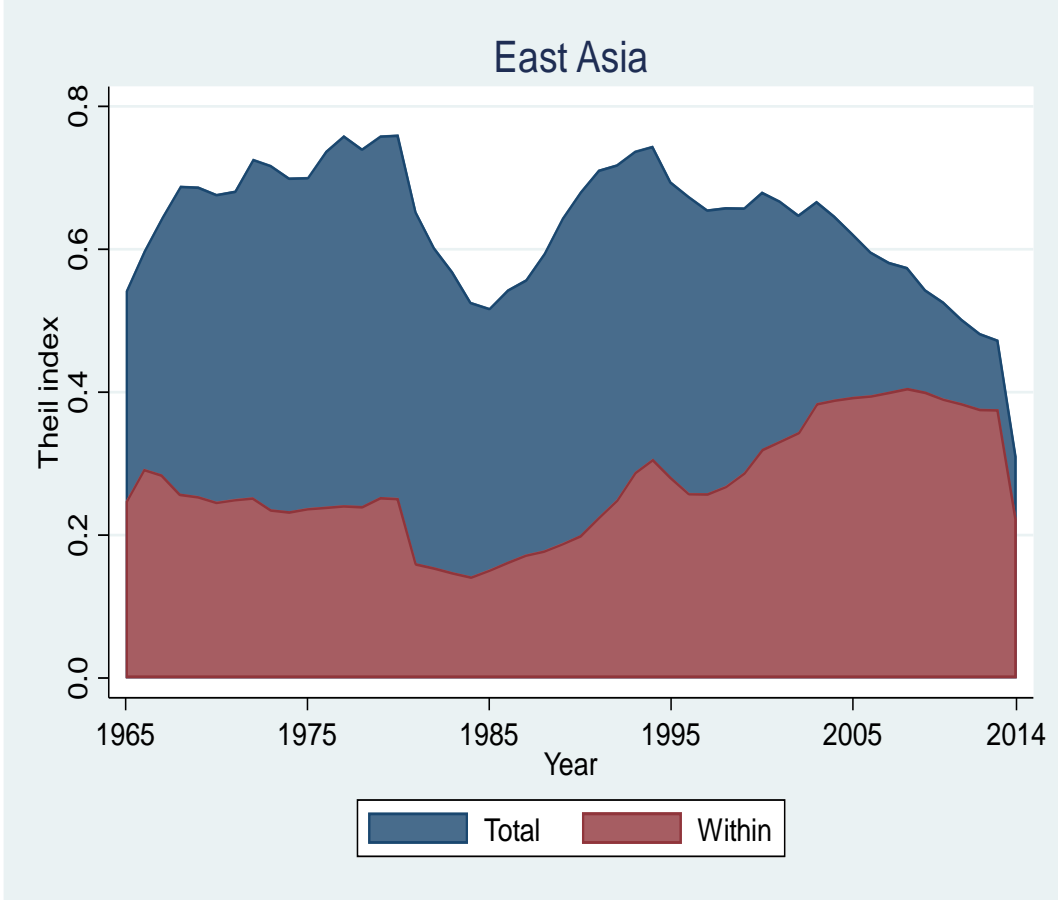
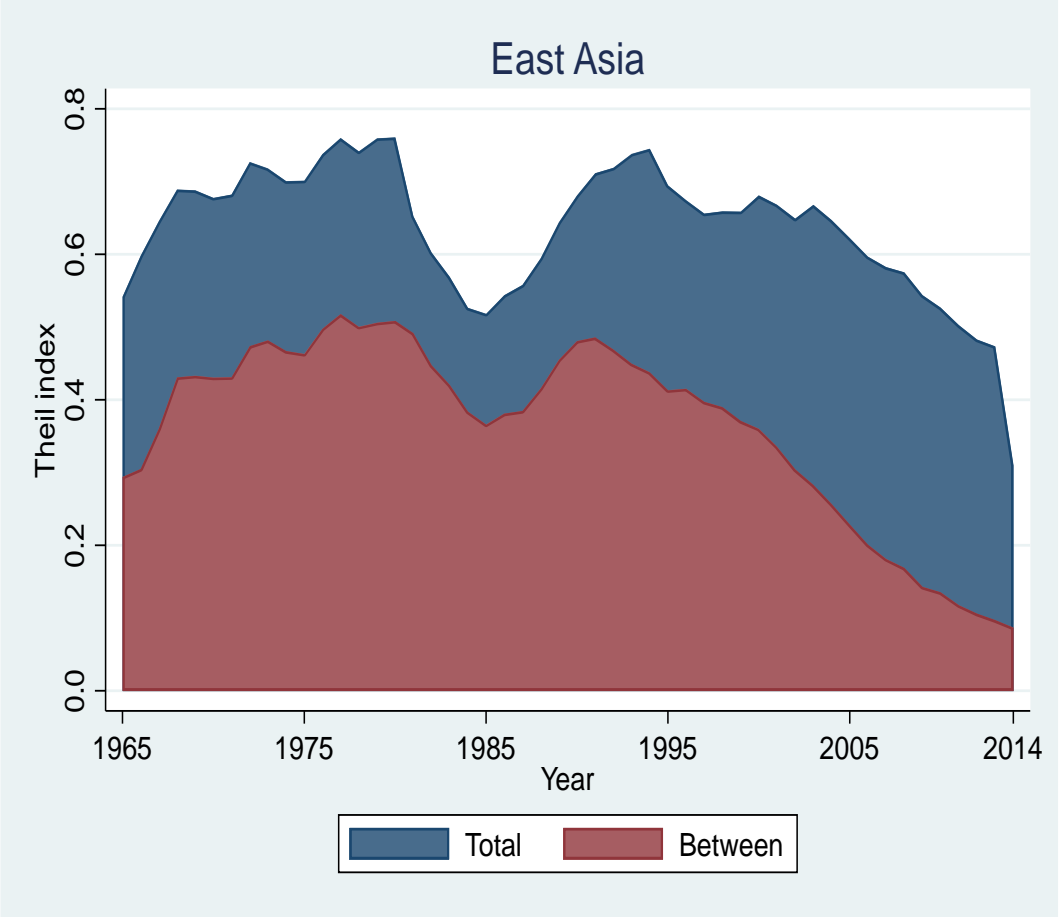
Inequality Profile of Asia



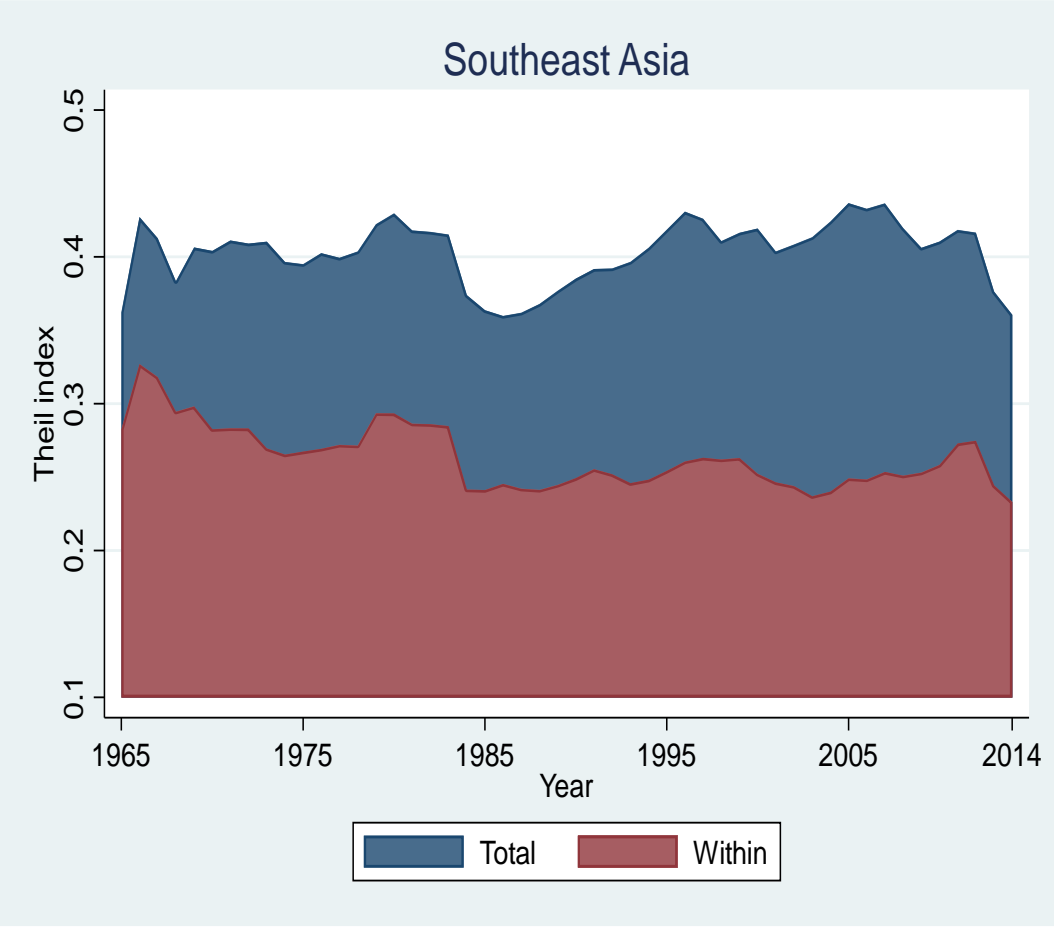
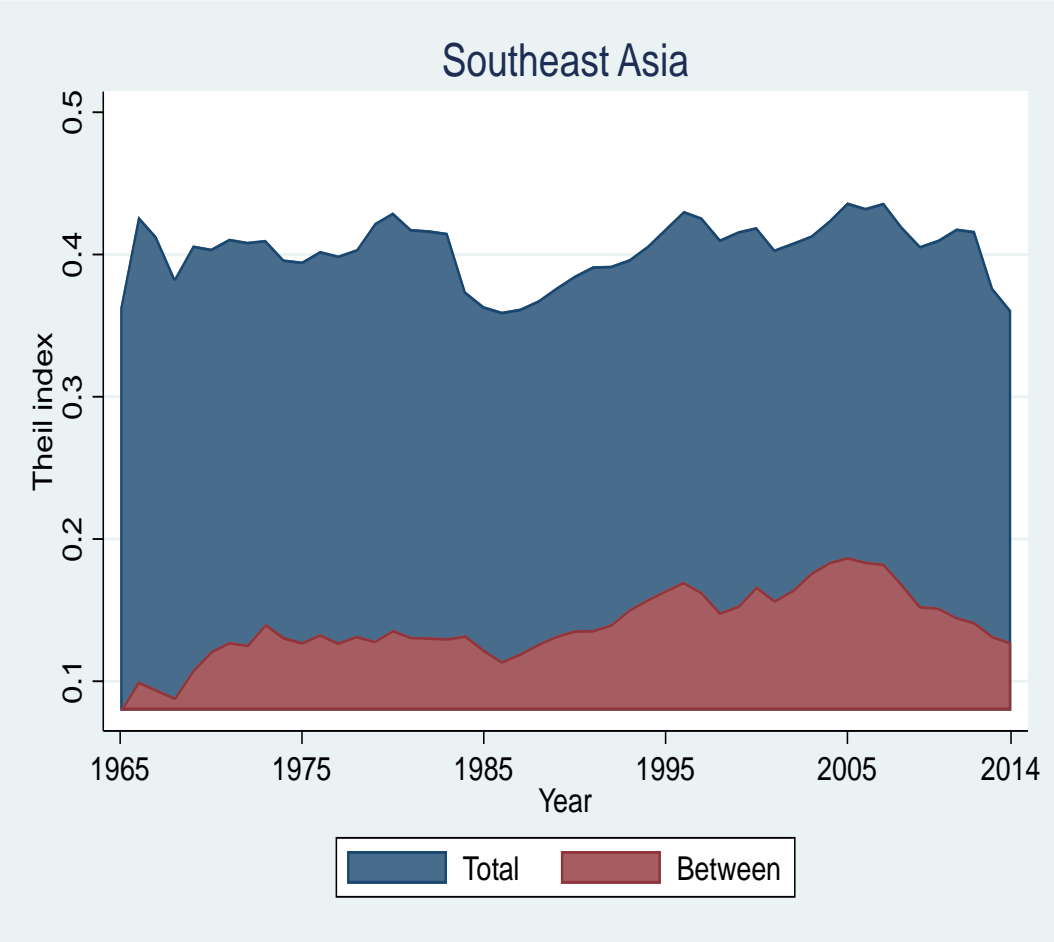
.... and its components



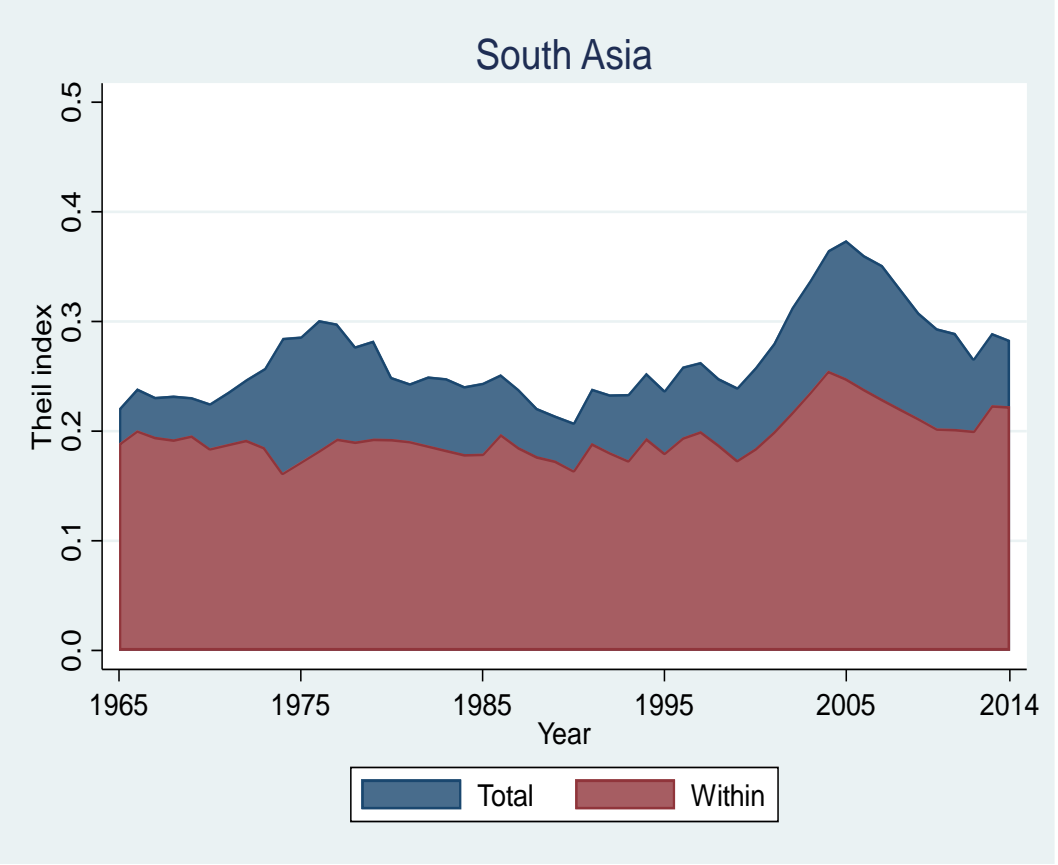
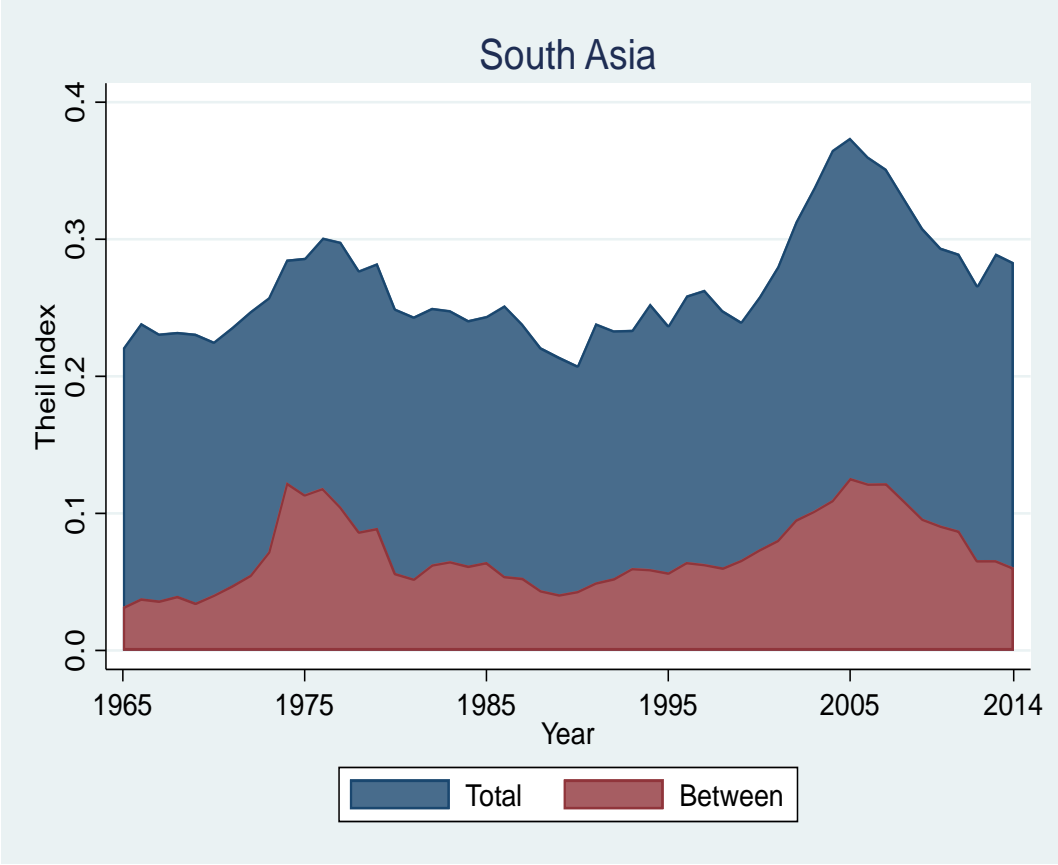
Sub-regional Inequality



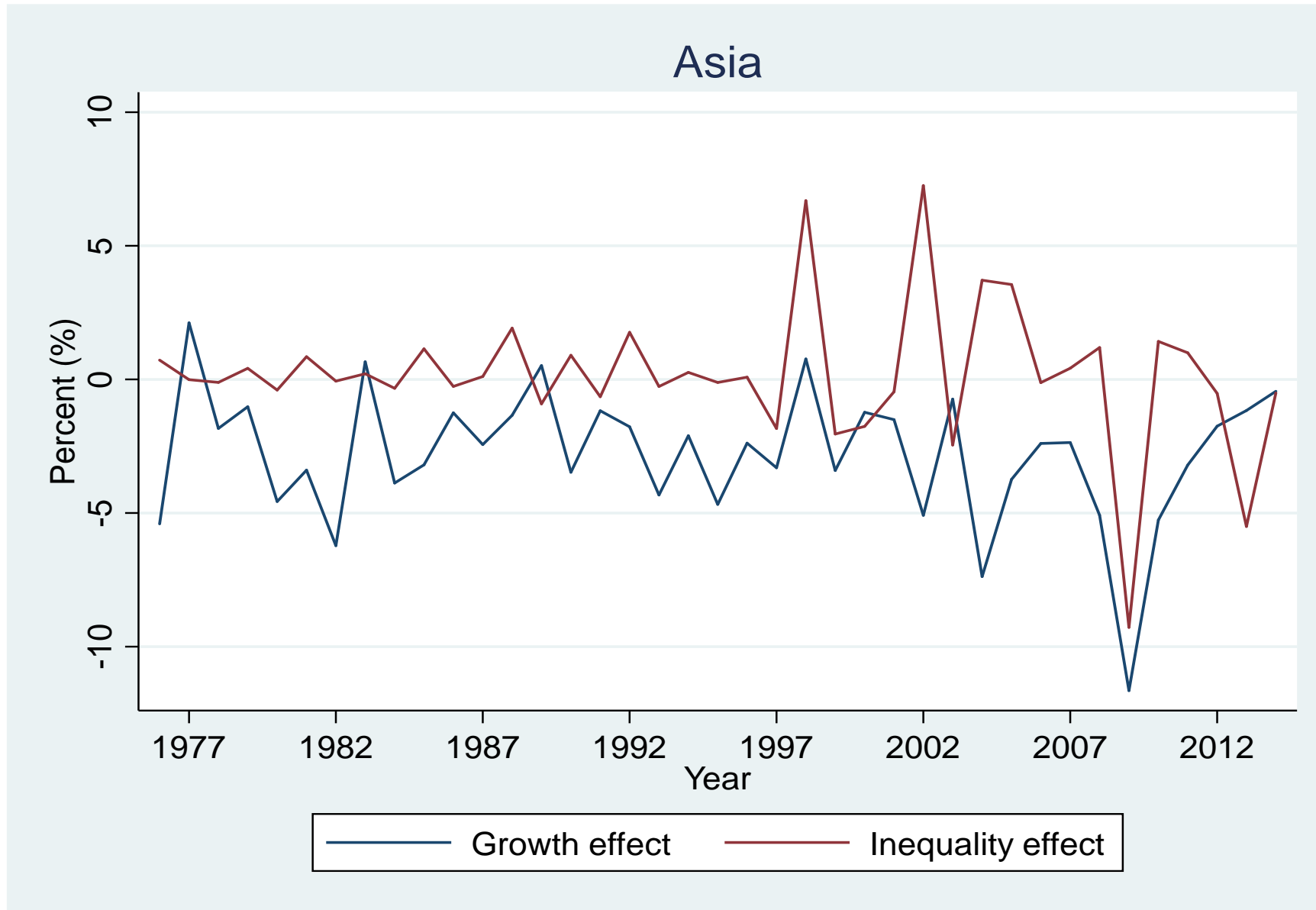
Sub-regional Inequality



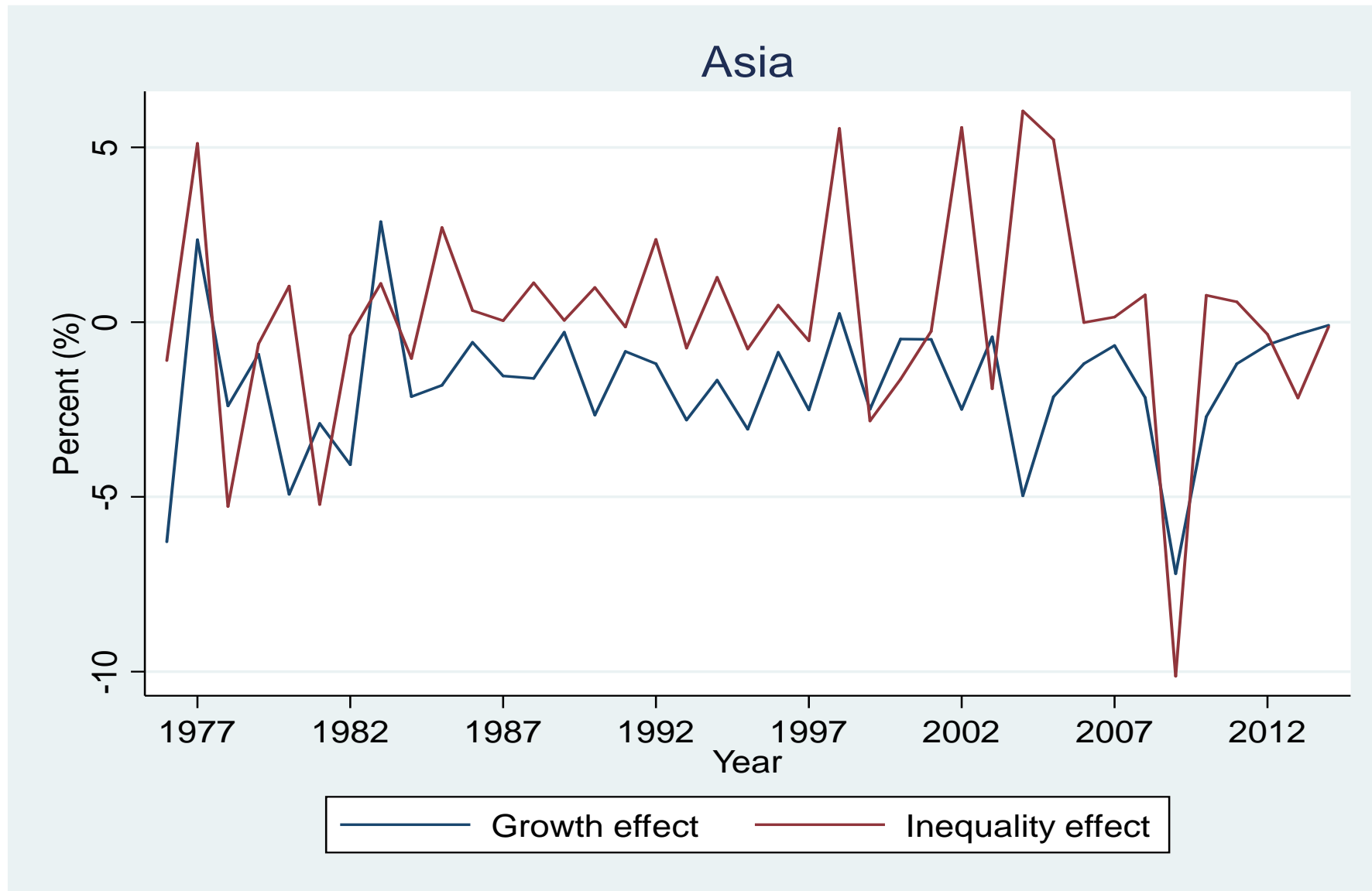
Sub-regional Inequality



Sources of Poverty Reduction (\$3.2)



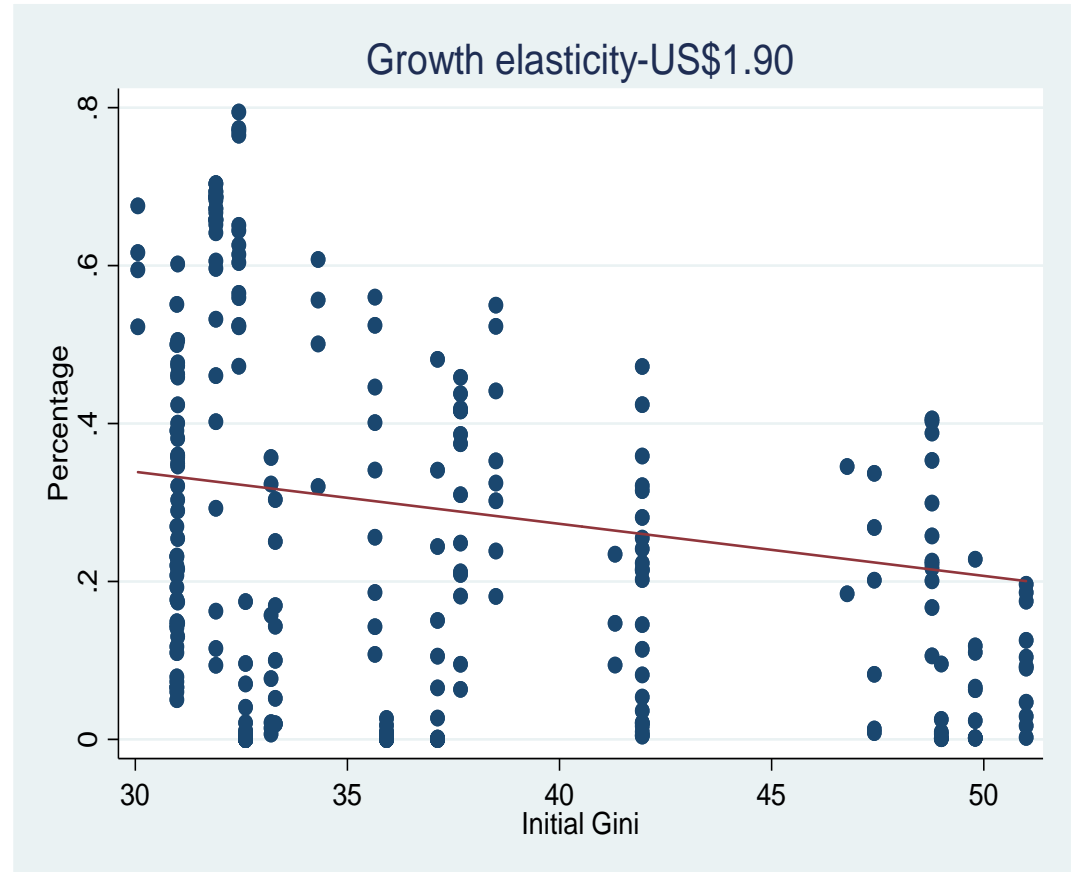
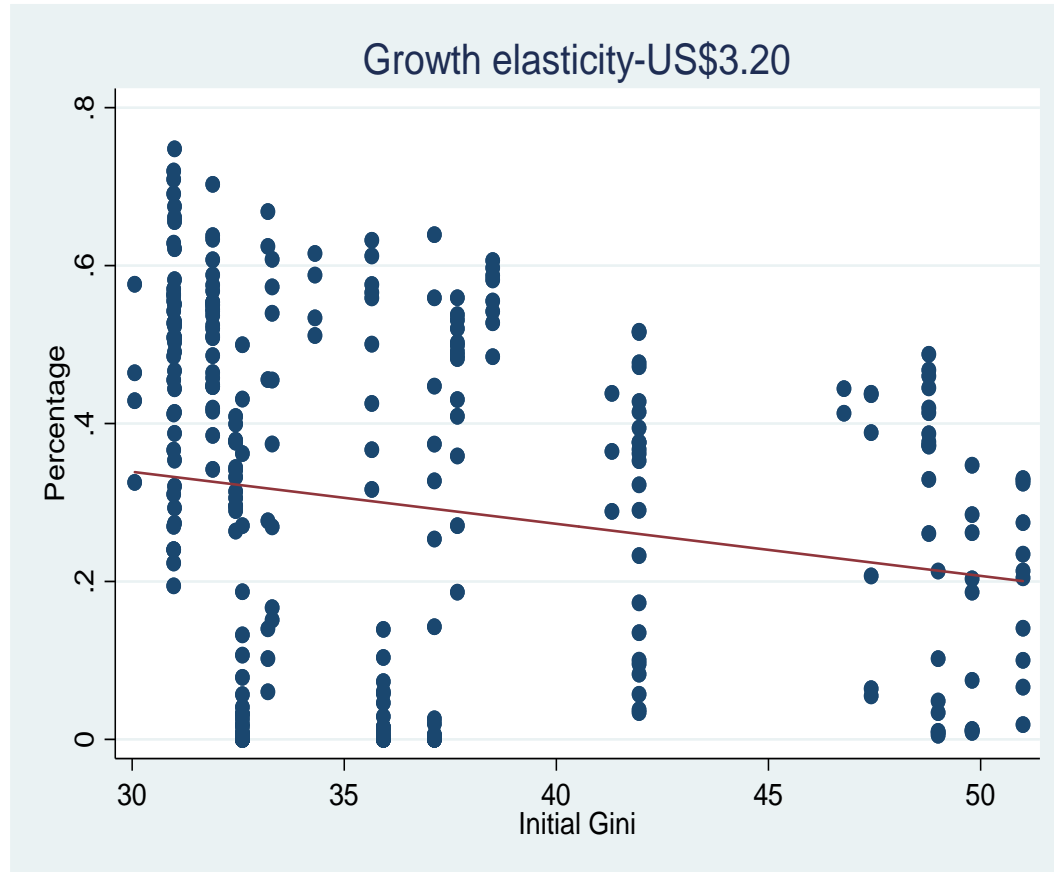
Sources of Poverty Reduction (\$1.9)



The Impact of Inequality on Poverty (in millions)

Economy	Period t_0-t_1	Poverty-reducing (US\$3.20)	Poverty-increasing (US\$3.20)	Poverty brought by inequality	Poverty-reducing (US\$1.90)	Poverty-increasing (US\$1.90)	Poverty brought by inequality	Gini t_0	Gini t_1	Gini t_1 -Gini t_0
Bangladesh	1973-2010	0.00	3.97	3.97	0.00	16.57	16.57	32.44	41.56	9.12
Bhutan	2003-12	0.10	0.00	-0.10	0.06	0.00	-0.06	46.78	35.95	-10.83
China	1981-2013	0.00	212.57	212.57	0.00	114.18	114.18	31	47.3	16.3
Hong Kong	1966-2011	0.00	0.00	0.00	0.00	0.00	0.00	49	48.7	-0.3
Indonesia	1984-2014	0.00	12.80	12.80	0.00	4.73	4.73	30.98	37.34	6.36
India	1965-2012	0.00	32.22	32.22	0.00	15.94	15.94	31.9	34.1	2.2
Iran	1986-2009	4.33	0.00	-4.33	2.06	0.00	-2.06	47.42	37.35	-10.07
Japan	1985-2008	0.00	0.02	0.02	0.00	0.00	0.00	35.92	36.18	0.26
Cambodia	1994-2012	1.47	0.00	-1.47	1.13	0.00	-1.13	38.5	30.76	-7.74
South Korea	1965-2012	0.58	0.00	-0.58	0.58	0.00	-0.58	37.13	30.7	-6.43
Laos	1992-2012	0.00	0.29	0.29	0.00	0.23	0.23	34.31	37.89	3.58
Sri Lanka	1973-2012	0.00	1.35	1.35	0.00	0.55	0.55	37.67	46.29	8.62
Maldives	2002-10	0.02	0.00	-0.02	0.01	0.00	-0.01	41.31	37	-4.31
Mongolia	1995-2014	0.01	0.00	-0.01	0.00	0.00	0.00	33.2	32.04	-1.16
Malaysia	1979-2014	1.39	0.00	-1.39	0.59	0.00	-0.59	51	38.23	-12.77
Nepal	1984-2010	0.00	0.58	0.58	0.00	0.99	0.99	30.06	32.84	2.78
Pakistan	1987-2013	3.96	0.00	-3.96	1.10	0.00	-1.10	33.3	30.7	-2.6
Philippines	1965-2012	4.39	0.00	-4.39	2.89	0.00	-2.89	48.78	44.77	-4.01
Singapore	1966-2011	0.04	0.00	-0.04	0.02	0.00	-0.02	49.8	47.3	-2.5
Thailand	1969-2013	1.12	0.00	-1.12	0.68	0.00	-0.68	41.95	37.85	-4.1
Taiwan	1968-2013	0.06	0.00	-0.06	0.02	0.00	-0.02	32.6	30.8	-1.8
Viet Nam	1992-2014	0.00	2.06	2.06	0.00	1.06	1.06	35.65	37.59	1.94
Total	—	-17.47	265.86	248.40	-9.17	154.26	145.09	—	—	—

Initial Inequality & Growth Elasticity of Poverty



Initial and Overall Inequality

	m1	m2
	Gini_WIID	Gini_WIID
Initial Gini coefficient	0.667 ^{***} (0.035)	0.668 ^{***} (0.039)
Constant	12.204 ^{***} (1.401)	12.751 ^{***} (1.835)
Country dummy	N	N
Year dummy	N	Y
<i>N</i>	327	327
Adjusted <i>R</i> ²	0.482	0.470

Inequality Modelling

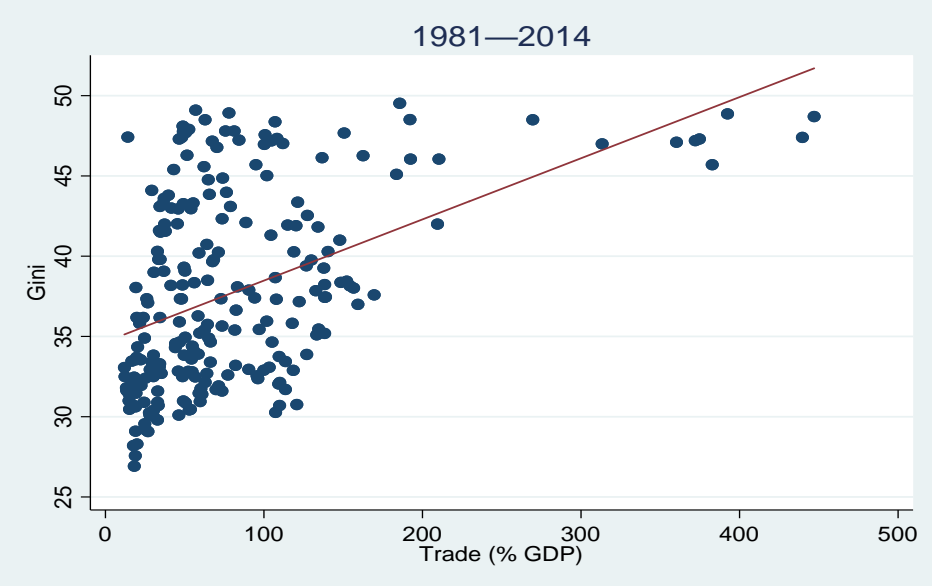
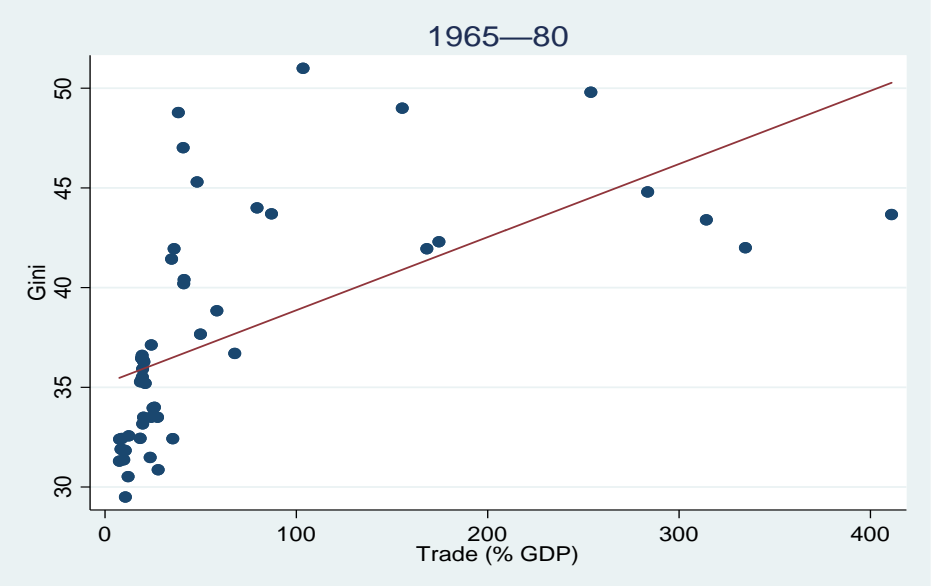
	m1	m2	m3	m4	m5	m6	m7
	Gini_WIID	Gini_WIID	Gini_WIID	Gini_WIID	Gini_WIID	Gini_WIID	Gini_WIID
<i>Ln(GDP per capita)</i>	-45.418** (12.155)	-34.511** (13.225)	-74.941*** (10.710)	-73.633*** (10.133)	-72.331*** (12.220)	-76.151*** (12.306)	-81.083*** (11.557)
<i>Ln(GDP per capita)²</i>	2.539** (0.710)	2.097** (0.688)	4.321*** (0.641)	4.268*** (0.614)	4.188*** (0.701)	4.404*** (0.721)	4.558*** (0.669)
<i>TFP</i>		-6.910 (4.346)	-7.594 (3.836)	-8.691* (4.128)	-8.573 (4.270)	-8.865 (4.433)	-7.325 (4.550)
<i>Unemployment rate</i>			0.188** (0.072)	0.199** (0.068)	0.194** (0.069)	0.200* (0.079)	0.178* (0.086)
<i>Urbanization</i>				-0.103 (0.100)	-0.097 (0.121)	-0.074 (0.110)	-0.061 (0.107)
<i>Trade</i>					0.004 (0.012)	0.010 (0.015)	0.007 (0.015)
<i>FDI</i>						-0.002 (0.002)	-0.002 (0.002)
<i>Population share aged >65 years</i>							0.573*** (0.133)

Inequality Modelling

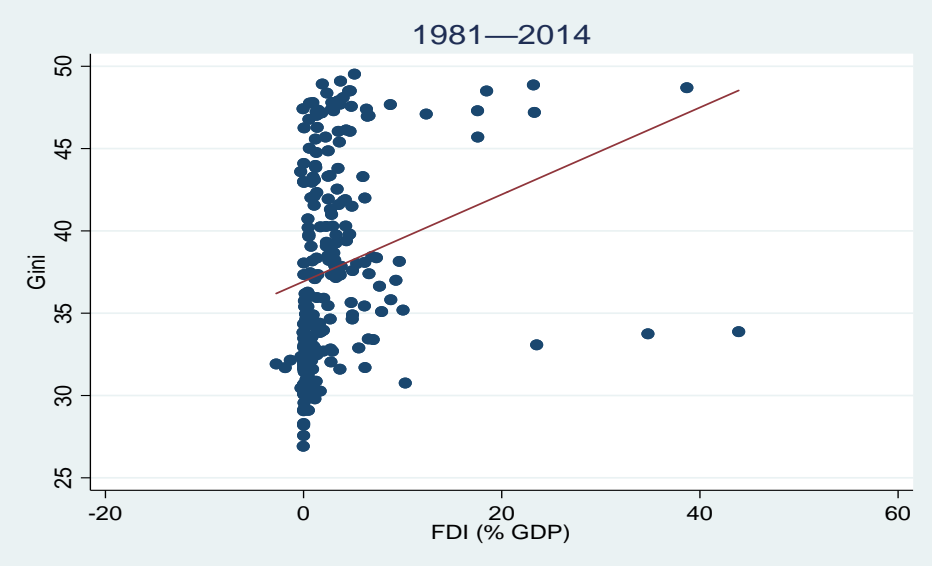
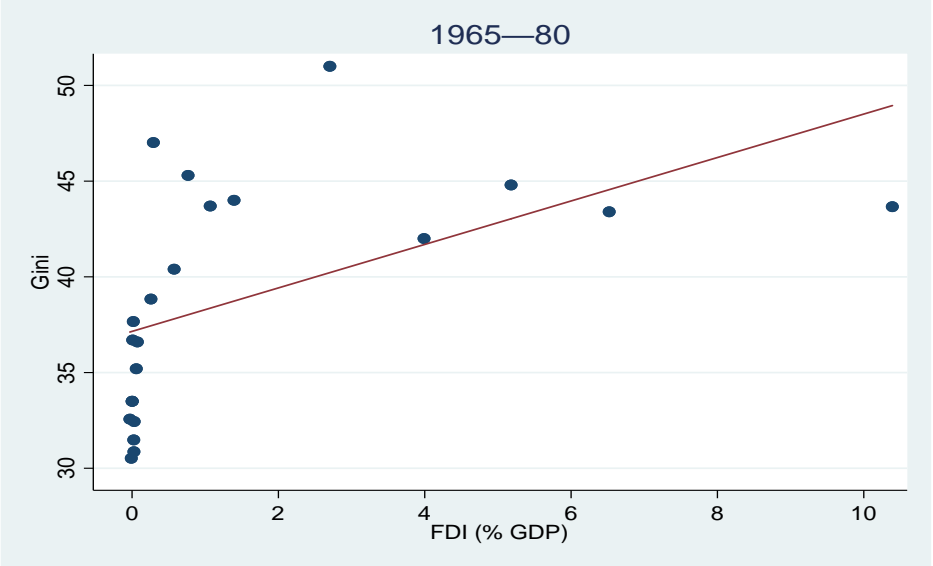
<i>Asia</i> ×Ln(<i>GDP per capita</i>)	74.637 ^{***} (13.534)	74.770 ^{***} (15.722)	119.925 ^{***} (7.524)	115.175 ^{***} (6.633)	113.592 ^{***} (9.711)	116.420 ^{***} (9.948)	122.236 ^{***} (9.717)
<i>Asia</i> ×Ln(<i>GDP per capita</i>) ²	-3.998 ^{***} (0.754)	-4.273 ^{***} (0.846)	-6.752 ^{***} (0.435)	-6.401 ^{***} (0.423)	-6.294 ^{***} (0.559)	-6.397 ^{***} (0.578)	-6.601 ^{***} (0.557)
<i>Asia</i> × <i>TFP</i>		14.014 ^{***} (3.169)	20.927 ^{***} (3.341)	20.063 ^{***} (3.613)	19.813 ^{***} (3.750)	17.233 ^{**} (4.874)	16.250 ^{**} (4.728)
<i>Asia</i> × <i>Unemployment rate</i>			-0.097 (0.109)	-0.029 (0.071)	-0.020 (0.083)	-0.058 (0.114)	-0.054 (0.124)
<i>Asia</i> × <i>Urbanization</i>				-0.014 ^{**} (0.004)	-0.018 (0.012)	-0.025 (0.014)	-0.024 (0.015)
<i>Asia</i> × <i>Trade</i>					-0.016 (0.088)	-0.040 (0.076)	-0.047 (0.070)
<i>Asia</i> × <i>FDI</i>						0.062 (0.041)	0.071 (0.041)
<i>Asia</i> × <i>Population share aged >65 years</i>							-0.425 ^{**} (0.130)
Constant	187.117 ^{***} (45.555)	132.742 [*] (57.864)	287.351 ^{***} (42.268)	289.373 ^{***} (33.577)	284.322 ^{***} (42.595)	295.917 ^{***} (42.919)	316.460 ^{**} (40.262)
Country dummy	Y	Y	Y	Y	Y	Y	Y
Year dummy	Y	Y	Y	Y	Y	Y	Y
<i>N</i>	1344	1106	987	982	982	960	960
Adjusted <i>R</i> ²	0.841	0.867	0.898	0.901	0.901	0.900	0.900

Globalization and Inequality

Trade



FDI



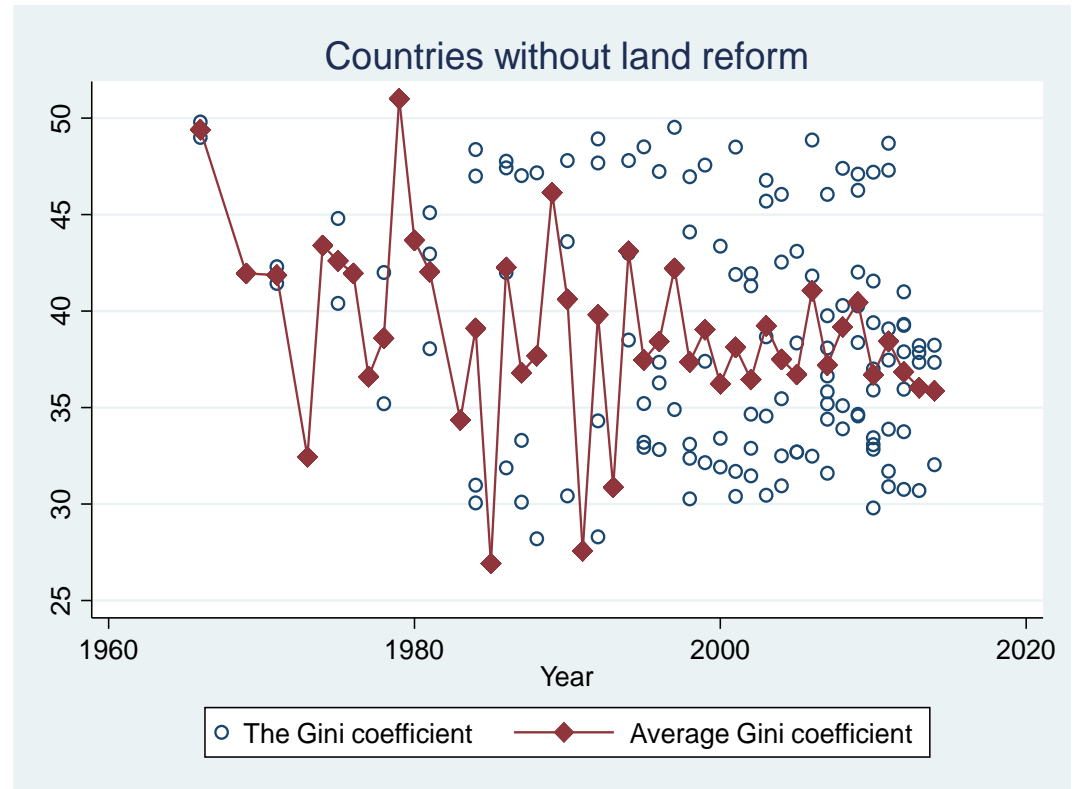
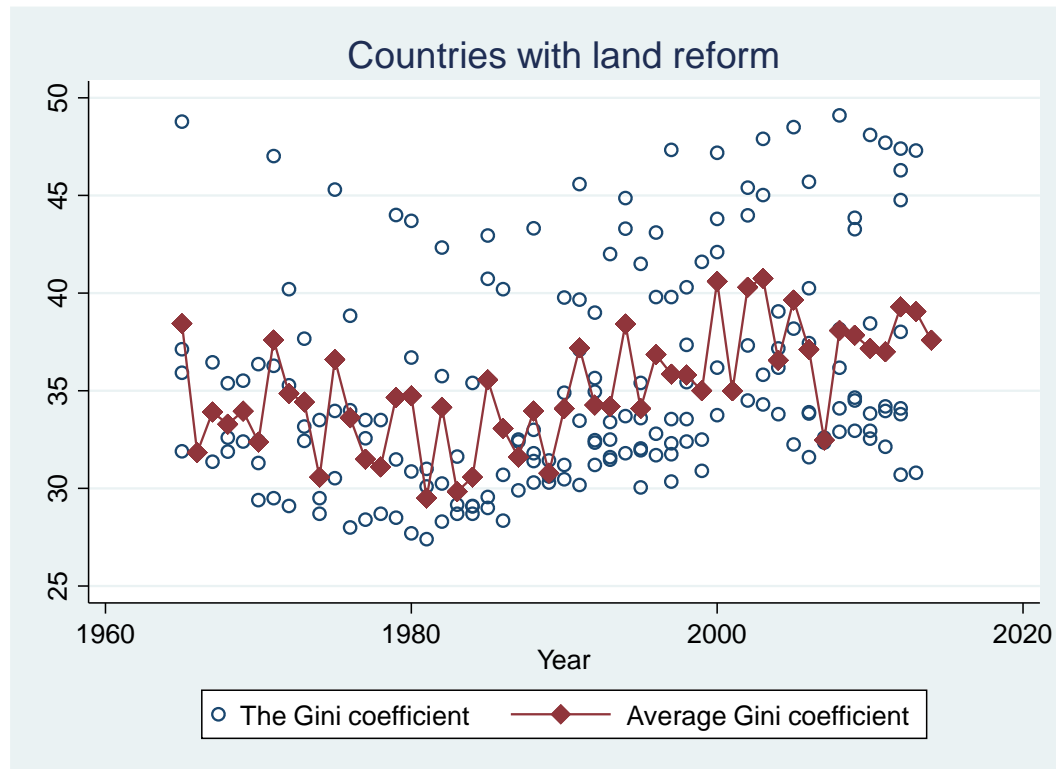
Land Reforms in Asia

Afghanistan	<p>The land reform law proposed in 1975 limited individual holdings to a maximum of 20 hectares of irrigated, double-cropped land. Larger holdings were allowed for less productive land. However, the government lacked the technical data and organizational bodies to pursue related programs after it was announced.</p> <p>After the 1978 Saur Revolution, the government canceled gerau and other mortgage debts of agricultural laborers, tenants, and small landowners with less than two hectares of land.</p>
China	<p>In October 1947, the government launched land reform campaigns that established control in North China villages.</p> <p>In the mid-1950s, a second land reform during the Great Leap Forward compelled individual farmers to join collectives.</p> <p>A third land reform beginning in the late 1970s re-introduced the family-based contract system known as the Household Responsibility System.</p>
India	<p>The 1949 Constitution left the adoption and implementation of land and tenancy reforms to state governments.</p> <p>Land reform legislation in India consisted of four main categories - tenancy reform, abolition of intermediaries, land ceiling, and land consolidation.</p>
Japan	<p>The first land reform was passed in 1873. It established the right of private land ownership in Japan for the first time and was a major restructuring of the previous land taxation system.</p> <p>Another major land reform was carried out in 1947. Between 1947 and 1949, around 38% of Japan's cultivated land was purchased from the landlords under the reform program and re-sold at extremely low prices to the farmers.</p>

Land Reforms in Asia

Sri Lanka	<p>In 1972, the government, through the Land Reform Law, imposed a ceiling of twenty hectares on privately owned land and sought to distribute lands in excess of the ceiling for the benefit of landless peasants.</p> <p>Between 1972 and 1974, the Land Reform Commission took over nearly 228,000 hectares.</p> <p>In 1975 the Land Reform (Amendment) Law brought over 169,000 hectares of plantations owned by companies under state control.</p>
South Korea	<p>From 1945 to 1950, a land reform was carried out that retained the institution of private property. They confiscated and redistributed all land held by the Japanese colonial government, Japanese companies, and individual Japanese colonists. A new class of independent, family proprietors was created.</p>
Taiwan	<p>In the 1950s, after the Nationalist government came to Taiwan, land reform and community development was carried out by the Sino-American Joint Commission on Rural Reconstruction.</p>
The Philippines	<p>During the Macapagal administration in the early 1960s, a limited land reform program was initiated in Central Luzon covering rice fields.</p> <p>During the martial law era of the Ferdinand Marcos Administration, Presidential Decree 27 instituted a land reform program supporting rice and corn production. The country produced enough rice for local consumption and became a rice exporter during that period.</p> <p>The Corazon Aquino Administration in the mid-1980s instituted a very controversial land reform known as CARP, which covered all agricultural lands. The program led to rice shortages in the succeeding years and lasted for 20 years without accomplishing the goal of land distribution. CARP expired at the end of December 2008.</p>
Vietnam	<p>In the years after World War II, land redistribution to poor and landless peasants was initiated by the communist Viet Minh insurgents. The communist land reform during 1953–1956 redistributed land to more than 2 million poor peasants, but at a cost of thousands, possibly tens of thousands of lives.</p> <p>South Vietnam made several further attempts in the post-Diem years, the most ambitious being the Land to the Tiller program instituted in 1970. This limited individuals to 15 hectares, compensated the owners of expropriated tracts, and extended legal title to peasants who in areas under control of the South Vietnamese government to whom had land had previously been distributed by the Viet Cong.</p>

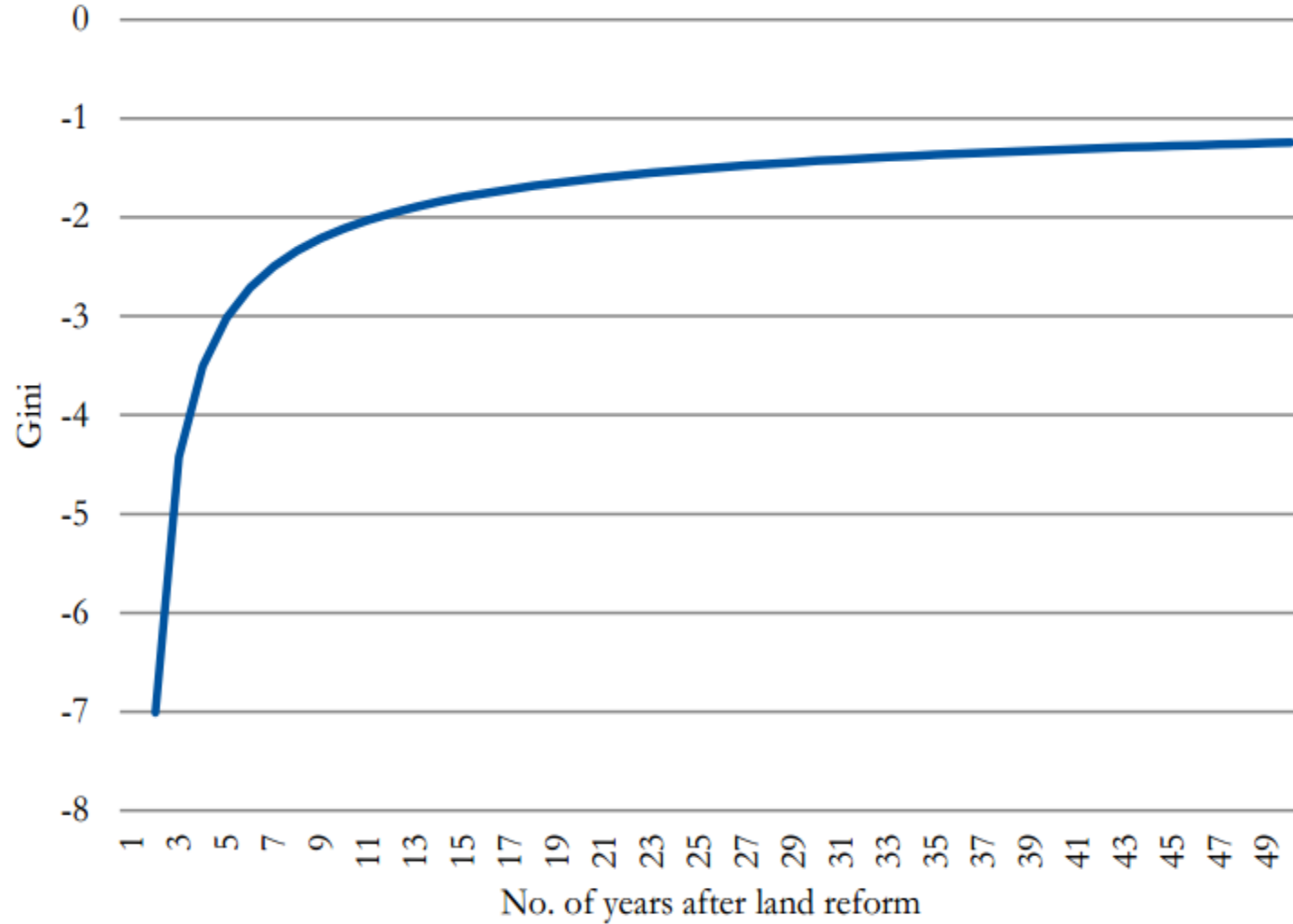
Inequality with/without Land Reform



Land Reform & Inequality

	m1	m2	m3	m4	m5	m6	m7
	Gini WIID	Gini WIID	Gini WIID	Gini WIID	Gini WIID	Gini WIID	Gini WIID
<i>Ln(GDP per capita)</i>	22.089*** (3.118)	20.392*** (3.688)	14.253** (6.310)	8.771 (6.324)	10.682* (6.012)	10.099* (5.957)	10.595* (5.674)
<i>Ln(GDP per capita)²</i>	-1.401*** (0.171)	-1.391*** (0.199)	-1.118*** (0.330)	-0.916*** (0.330)	-1.015*** (0.314)	-0.999*** (0.311)	-0.748** (0.296)
<i>Land reform</i>	-7.751*** (2.237)	-6.900*** (2.549)	-5.857** (2.726)	-2.852 (2.857)	-2.860 (3.007)	-1.699 (3.089)	-4.859 ^a (3.316)
<i>TFP</i>		71.807*** (15.497)	98.843*** (20.329)	105.414*** (20.668)	103.337*** (20.875)	107.535*** (21.195)	30.239* (16.887)
<i>TFP²</i>		-32.512*** (8.923)	-43.367*** (11.418)	-47.141*** (11.662)	-46.030*** (11.745)	-47.800*** (11.934)	-9.412 (9.167)
<i>Unemployment rate</i>			-0.084 (0.067)	-0.094 (0.070)	-0.122* (0.068)	-0.129* (0.069)	-0.014 (0.061)
<i>Urbanization</i>				0.122*** (0.021)	0.125*** (0.022)	0.152*** (0.022)	0.111*** (0.020)
<i>Trade</i>					-0.001 (0.007)	0.008 (0.007)	-0.004 (0.006)
<i>FDI</i>						-0.040*** (0.007)	-0.027*** (0.006)
<i>Population share aged 65+ years</i>							-1.020*** (0.072)
Constant	-46.976*** (14.351)	-71.220*** (17.717)	-50.808* (28.840)	-27.213 (28.627)	-35.412 (27.322)	-36.137 (27.065)	-16.879 (26.442)
Country dummy	N	N	N	N	N	N	N
Year dummy	Y	Y	Y	Y	Y	Y	Y
<i>N</i>	1344	1106	987	987	982	960	960
Adjusted <i>R</i> ²	0.204	0.296	0.346	0.370	0.370	0.376	0.517

Land Reform & Inequality



The Effect of Inequality on Growth

	m1	m2	m3	m4	m5	m6
	GDP per capita	GDP per capita	GDP per capita	GDP per capita	GDP per capita	GDP per capita
<i>Gini coefficient</i>	108.434* (45.961)	25.289 (41.634)	38.611 (33.510)	43.223 (23.206)	43.695 (25.741)	29.962 (22.742)
<i>Capital stock per capita</i>		9.4e+04*** (1.2e+04)	9.3e+04*** (1.3e+04)	1.0e+05*** (9261.137)	5.3e+04*** (1.1e+04)	5.0e+04*** (6765.451)
<i>Human capital index</i>			-1.6e+03 (4081.721)	263.301 (3717.562)	176.738 (3897.517)	-1.3e+03 (3569.102)
<i>TFP</i>				1.2e+04*** (2608.077)	1.1e+04*** (2628.943)	1.2e+04*** (1865.266)
<i>Ratio of manufacturing industry to primary industry</i>					394.522*** (32.538)	346.926*** (34.701)
<i>Trade</i>						43.786*** (6.678)

The Effect of Inequality on Growth

<i>Asia</i> × <i>Gini coefficient</i>	-211.995** (60.709)	-137.154** (48.045)	-160.447*** (33.972)	-231.866*** (47.420)	-223.370*** (47.829)	-209.261*** (41.207)
<i>Asia</i> × <i>Capital stock per capita</i>		2.8e+04*** (3100.348)	5.3e+04** (1.8e+04)	4.6e+04** (1.8e+04)	6.5e+04*** (1.2e+04)	6.9e+04*** (1.1e+04)
<i>Asia</i> × <i>Human capital index</i>			-3.2e+03 (3517.043)	-2.9e+03 (2373.827)	-788.000 (2605.179)	229.355 (1470.570)
<i>Asia</i> × <i>TFP</i>				-3.8e+03 (2046.457)	-3.8e+03 (2412.322)	-4.2e+03** (1337.840)
<i>Asia</i> × <i>Ratio of manufacturing industry to primary industry</i>					-367.360*** (37.677)	-317.682*** (39.385)
<i>Asia</i> × <i>Trade</i>						-37.259** (9.935)
Constant	2.0e+04*** (1554.350)	1.5e+04*** (2053.074)	2.1e+04 (1.1e+04)	4199.864 (9355.659)	4345.825 (1.1e+04)	5266.407 (1.0e+04)
Country dummy	Y	Y	Y	Y	Y	Y
Year dummy	Y	Y	Y	Y	Y	Y
<i>N</i>	1343	1309	1224	1105	1027	1018
Adjusted. <i>R</i> ²	0.979	0.985	0.986	0.988	0.991	0.992

Policy Implications & Outlook

- Growth is paramount for poverty reduction but rising inequality remains a huge challenge: offset growth impact/hurt growth/lead to higher inequality
- Absolute poverty will be eradicated but relative poverty?
- Income poverty dropped significantly but non-income poverty?
- Can India speed up and repeat China's fast growth?
- The fourth industrial revolution and (both within/between) inequality?
- The future of the international governance?